INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: Interested Parties / Applicant

DATE: June 13, 2011

RE: Cargill, Inc. / 089-27009-00203

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision: Approval – Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-6-1(b) or IC 13-15-6-1(a) require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204.

For an **initial Title V Operating Permit**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **thirty (30)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(b).

For a **Title V Operating Permit renewal**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **fifteen (15)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(a).

The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:
(1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
(2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
(3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

(1) the name and address of the person making the request;
(2) the interest of the person making the request;
(3) identification of any persons represented by the person making the request;
(4) the reasons, with particularity, for the request;
(5) the issues, with particularity, proposed for considerations at any hearing; and
(6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of an initial Title V operating permit, permit renewal, or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impractible to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency
401 M Street
Washington, D.C. 20406

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures

IDEM

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Part 70 Operating Permit Renewal
OFFICE OF AIR QUALITY

Cargill, Inc.
1100 Indianapolis Blvd
Hammond, Indiana 46320

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17. This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-7-10.5, applicable to those conditions.

Operation Permit Renewal No.: T089-27009-00203	
Issued by: Donald F. Robin Donald F. Robin, P.E., Section Chief Permits Branch Office of Air Quality	Issuance Date: June 13,2011 Expiration Date: June 13, 2016

TABLE OF CONTENTS

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(15)][326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary wet corn milling facility.

Source Address:	1100 Indianapolis Blvd, Hammond, Indiana 46320
General Source Phone Number:	(219)659-2000
SIC Code:	2046
County Location:	Lake
Source Location Status:	Nonattainment for PM2.5 standard Attainment for all other criteria pollutants
Source Status:	Part 70 Operating Permit Program Major Source, under PSD and Nonattainment NSR programs Major Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)][326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

I. Anaerobic Wastewater Treatment Process

(a) One (1) anaerobic wastewater treatment process installed in July 1995. Biogas is generated in the wastewater treatment plant by anaerobic reaction. The biogas can be controlled by:

(1) Diverted to a plant process burner for energy recovery, which is the normal scenario; or

(2) One (1) Biogas Flare (Unit ID 800-05-E), installed in July 1995. The biogas flare converts the hydrogen sulfide (H_2S) in the biogas to sulfur dioxide (SO_2). The biogas flare exhausts to stack ID S800-05-E.

(b) Two (2) wastewater treatment process centrifuges (WWTP - North and WWTP - South), installed in July 1995. The centrifuges dewater the excess biomass from wastewater treatment process. Exhaust from the process vents inside the WWTP building.

II. Alternate Carbohydrate Area

(c) Alternate Carbohydrate Mill Feed Hopper (Unit 127-30-B), installed in May 1993 and repurposed in 2008, with a maximum capacity of 0.836 tons per hour. Particulate emissions are controlled by dust collector (CE127-30-B) that exhausts to stack S127-30-B.

(d) No. 1 and No. 2 Alternate Carbohydrate Storage Bins (Unit ID 127-28-B and 127-29-B), installed in May 1993 and repurposed in 2008, each with a maximum throughput of 15 tons per hour. Carbohydrate is pneumatically conveyed to these hoppers equipped with bag filter dust collectors (CE127-28-B and CE127-29-B) that exhaust to stacks S127-28-B and S127-29-B.

(e) No. 1 and No. 2 Vacuum Cleaner Systems (Unit ID 127-21-B and 127-22-B), installed in May 1993, each with a maximum throughput of 0.3 tons per hour. These systems are for building dust. Particulate emissions are controlled by dust collectors that exhaust to stacks S127-21-B and S127-22-B.

III. Grind and Feedhouse Area

(f) Gluten Dryer System (Unit ID 121-01-G), installed in March 1995. Gluten meal is fed to a 12.5 MMBtu/hr natural and bio gas-fired ring dryer at a maximum throughput of 15,800 lb/hr. Particulate emissions are controlled by wet scrubber (CE121-01-G) that exhausts to stack S121-01-G.

(g) No. 2 Gluten Dryer (Unit ID 121A-01-G), approved for construction in 2008. Gluten meal is fed to a 17 MMBtu/hr natural and bio gas-fired ring dryer at a maximum throughput of 19,700 lb/hr. Particulate emissions are controlled by two (2) wet scrubbers operating in series, one venturi-type followed by one tray-type scrubber (collectively identified as Unit ID CE121A-01-G) that exhausts to stack S121A-01-G.

(h) One (1) Germ Dryer/Cooler (Unit ID 203-01-G), approved for construction in 2008. Corn germ is fed to a 30 MMBtu/hr natural and bio gas-fired germ dryer and cooler at a maximum throughput of 38,600 lb/hr. Particulate emissions are controlled by one (1) wet scrubber (Unit ID CE203-01-G) that exhausts to stack S203-01-G.

(i) No. 1 Bran Bunker (Unit ID 89-06-G), approved for construction in 2008, with a maximum throughput rate of 107,433 tons per year, using a bin vent filter (Unit ID CE089-06-G) with an outlet grain loading of 0.01 gr/dscf as control, and exhausting to stack S89-06-G.

(j) No. 2 Bran Bunker (Unit ID 89-07-G), approved for construction in 2008, with a maximum throughput rate of 107,433 tons per year, using a bin vent filter (Unit ID CE89-07-G) with an outlet grain loading of 0.01 gr/dscf as control, and exhausting to stack S89-07-G.

(k) One (1) Bran Conveyor System (Unit ID 89-08-G), approved for construction in 2008, with a maximum throughput rate of 107,433 tons per year, using existing scrubber CE89-01-G (constructed in 1995) as control, and exhausting to stack S89-01-G.

(l) One (1) Bran Preweigh Hopper (Unit ID 89-09-G), approved for construction in 2008, with a maximum throughput rate of 107,433 tons per year, using a bin vent filter (Unit ID CE89-09-G) with an outlet grain loading of 0.01 gr/dscf as control, and exhausting to stack S89-09-G.

(m) Fiber Drying Equipment (Unit ID 89-01-G), installed in October 1995. Wet fiber is fed to this 78 MMBtu/hr natural gas-fired dryer at a maximum throughput of 79,695 lb/hr. Particulate matter is controlled by a scrubber (CE89-01-G) that exhausts to stack S89-01-G.

(n) Germ Dryer/Cooler (Unit ID 124A-01-G), installed in November 1994. Corn germ is fed to this 12.9 MMBtu/hr natural and bio gas-fired germ dryer and cooler at a maximum throughput of 16,580 lb/hr. Particulate emissions are controlled by one (1) scrubber (CE124A-01-G) that exhausts to stack S124A-01-G.

(o) Central Vacuum Loadout (Unit ID 200-07-G), installed in October 2000, with a maximum throughput of 100 lb/hr. Particulate emissions are controlled by a dust collector (CE200-07-G) that exhausts to stack S200-07-G.

(p) Germ Tank 1310 (Unit ID 200-01-G), installed in October 2000, with a maximum throughput of 80,000 lb/hr. Particulate emissions are controlled by a dust collector (CE200-01-G) that exhausts to stack S200-01-G.

(q) Gluten Tank 1410 (Unit ID 200-02-G), installed in October 2000, with a maximum throughput of 80,000 lb/hr. Particulate emissions are controlled by a dust collector (CE200-02-G) that exhausts to stack S200-02-G.

(r) Corn Screenings Silo (Unit ID 200-06-G), installed in October 2000, with a maximum throughput of 11,000 lb/hr. Particulate emissions are controlled by a dust collector (CE200-06-G) that exhausts to stack S200-06-G.

(s) Gluten Tank 1010 (Unit ID 200-04-G), installed in October 2000, with a maximum throughput of 21,000 lb/hr. Particulate emissions are controlled by a dust collector (CE200-04-G) that exhausts to stack S200-04-G.

(t) Germ Tank 1110 (Unit ID 200-03-G), installed in October 2000, with a maximum throughput of 30,000 lb/hr. Particulate emissions are controlled by a dust collector (CE200-03-G) that exhausts to stack S200-03-G.

(u) Bulk Loadout (Unit ID 200-05-G), installed in October 2000, with a maximum throughput of 95,900 lb/hr. Particulate emissions are controlled by a dust collector (CE200-05-G) that exhausts to stack S200-05-G.

(v) Corn Dump Pit (Unit ID 140-05-G), installed in December 1995, with a maximum throughput of 840 tons/hr. Particulate emissions are controlled by filter baghouse (CE140-05-G) that exhausts to stack S140-05-G.

(w) Corn Elevator Conveying (Unit ID 140-07-G), installed in December 1995, with a maximum throughput of 140 tons/hr. Material is transferred from corn belt 1 to corn belt 2. Particulate emissions are controlled by a filter baghouse (CE140-07-G) that exhausts to stack S140-07-G.

(x) Corn Receiving and Storage, installed in December 1995. This system includes six Storage Bins, each with its own bin vent for control of particulate emissions, and each with a maximum throughput of 420 ton/hr:

(1) Bin #1: Unit ID 140-01-G
(2) Bin #2: Unit ID 140-02-G
(3) Bin #3: Unit ID 140-03-G
(4) Bin #4: Unit ID 140-04-G
(5) Bin #5: Unit ID 33-01-G
(6) Bin #6: Unit ID 33-02-G

(y) Gravity Take-up Conveyor (Corn Scale) (Unit ID 140-06-G), installed in December 1995, with a maximum throughput of 140 ton/hr. Corn is transferred from corn belt 2 to corn belt 3. Particulate emissions are controlled by baghouse (CE140-06-G) that exhausts to stack S140-06-G.

(z) Corn Cleaner (Unit ID 33-03-G), installed in December 1995, with a maximum throughput of 140 ton/hr. Corn passes through mechanical cleaners. Particulate emissions are controlled by a filter baghouse (CE33-03-G) that exhausts to stack S33-03-G.

(aa) Corn Screenings System (Unit ID 30-16-G), installed in July 1976, with a maximum throughput of 8.4 ton/hr. This system includes a dirt storage silo equipped with bag filter collector (CE30-16-G) that exhausts to stack S30-16-G.

(bb) Three (3) Gluten Filters, installed in December 1995. Gluten slurry is applied to the surface of a filter drum where an internal vacuum on the drum removes moisture from the slurry. The Gluten is then removed from the drum by a roller. Exhaust from the removal process is collected by a hood and exhausted from the building.

(cc) Three (3) Gluten Vacuum Pumps, installed in December 1995. The pumps create the vacuum used to remove moisture from the gluten slurry on the gluten filter. Exhaust from the pumps is vented from the building.

(dd) Twenty-four (24) steep tanks (Unit ID Steephouse - Grind 1), consisting of 21 steep tanks installed prior to 1973 and 3 steep tanks installed in December 1995. The steep tanks contain a mildly acidic solution to soften the corn prior to milling. Tanks are individually vented and have only working/breathing losses.

IV. Utility Area

The Utility area includes the following boiler used to supply steam for plant processes.

(ee) Natural gas-fired Package Boiler #1 (Unit ID 89-03-U), installed in 2006, with a maximum heat input capacity of 274 million Btu/hr, and exhausting to stack S89-03-U. Under NSPS 40 CFR 60 Subpart Db, Package Boiler #1 is a steam-generating unit with a heat input capacity greater than 100 million Btu/hr.

V. Refinery Area

(ff) Corn Syrup Solids Manufacturing System #2 (Unit ID 18-03-R), installed in July 1992, with a maximum throughput of 3.0 ton/hr. Corn syrup solids are fed through a cooling tunnel, milled, screened, and dropped to a receiver for packing. Particulate emissions are controlled by a jet pulse dust collector (CE18-03-R) that exhausts to stack S18-03-R.

(gg) Corn Syrup Spray Dryer #4 (Unit ID 100-03-R), installed in April 1992. Corn syrup is fed to a dryer at a maximum throughput of 4.8 ton/hr. The solids are sent through cyclones to a packing area. Particulate emissions are controlled by a wet scrubber (CE100-03-R) that exhausts to stack S100-03-R.

(hh) Corn Syrup Spray Dryer/Cooler System #3 (Unit ID 100-01-R), installed in July 1987. Corn syrup is fed to a dryer at a maximum rate of 4.8 ton/hr. The solids are sent through cyclones to a packing area. Particulate emissions are controlled by a wet venturi scrubber (CE100-01-R) that exhausts through stack S100-01-R.

(ii) Activated Carbon Regeneration Furnace #2 (Unit ID 104-01-R), installed in July 1995. Spent carbon is regenerated in this 13.2 MMBtu/hr natural gas-fired furnace at a maximum throughput of 1.146 ton/hr. Emissions are controlled by a venturi scrubber and an impingement furnace scrubber (CE104-01-R) that exhaust through stack S104-01-R.

(jj) Liquid Soda Ash Tank (Unit ID 104-02-R), installed in July 1995, with a maximum throughput of 15 ton/hr. Particulate emissions from loading this tank are controlled by a venturi scrubber (CE104-02-R) that exhausts to stack S104-02-R.

(kk) Filter Aid Hopper (Unit ID 104-03-R), installed in July 1995, with a maximum throughput of 0.75 ton/hr. This hopper is equipped with a jet pulse baghouse (CE104-03-R) that exhausts to stack S104-03-R.

(ll) Sodium Bisulfite Bag Dump (Unit ID 104-05-R), installed in July 1995, with a maximum throughput of 0.7 ton/hr. This unit is controlled by a jet pulse baghouse (CE104-05-R) that exhausts to stack S104-05-R.

(mm) Diatomaceous Earth Unloading (Unit ID 104-08-R), installed in November 1998**,** with a maximum throughput of 1.75 ton/hr. Diatomaceous earth (filter aid) is unloaded from railcar to silo. Particulate emissions are controlled by a Bin Vent Filter (DC2312) that exhausts to stack S104-08-R.

(nn) Citric Acid Dump Station (Unit ID 104-09-R), installed in November 1998, with a maximum throughput of 30 lb/hr. Citric Acid is added during the production of corn syrup. Particulate emissions are controlled by a built-in dust collector (CE104-09-R) that exhausts to stack S104-09-R.

(oo) Refinery Vacuum Pumps (1-3) (Unit IDs RVF 1-1, RVF 1-2, and RVF 1-3 Precoating Vacuum Pump), installed in July 1995. The pumps create the vacuum used to pull liquid corn syrup through a filtering media. Exhaust from the pumps is vented from the building.

(pp) Refinery Vacuum Pumps (4-6) (Unit IDs RVF 3-1, RVF 3-2, and RVF 3-3 Precoating Vacuum Pump), installed in November 1999. The pumps create the vacuum used to pull liquid corn syrup through a filtering media. Exhaust from the pumps is vented from the building.

(qq) Refinery Vacuum Pumps (7-8) (Unit IDs RVF 2-1 and RVF 2-2), installed in July 1995. The pumps create the vacuum used to pull liquid corn syrup through a filtering media. Exhaust from the pumps is vented from the building.

(rr) Two (2) HCL tanks (Unit ID HCL Tank – Refinery), installed in July 1995 and December 2002. Tanks store HCl used in the corn syrup manufacturing process. The tanks vent to an acid fume scrubber.

VI. Starch Production Area

(ss) Batch Scale Hopper #1 (Unit ID 34-01-S), installed in January 1991, with a maximum throughput of 24 ton/hr. Starch is pneumatically conveyed to a hopper. Particulate emissions are controlled by a bag filter dust collector (CE34-01-S) that exhausts to stack S34-01-S.

(tt) Dextrin Starch Reactor #1 (Unit ID 34-02-S), installed in January 1991, with a maximum throughput of 6 ton/hr. Dried cornstarch is fed to a reactor heated by steam from the plant boiler. Particulate emissions are controlled by a bag filter dust collector (CE34-02-S) that exhausts to stack S34-02-S.

(uu) Dextrin Starch Cooler #1 (Unit ID 34-03-S), installed in January 1991, with a maximum throughput of 6 ton/hr. Roasted cornstarch is fed to a cooler and transferred to a hopper for storage. Particulate emissions are controlled by a bag filter dust collector (CE34-03-S) that exhausts to stack S34-03-S.

(vv) Surge Hopper #1 (Unit ID 34-05-S), installed in January 1991, with a maximum throughput of 6 ton/hr. Starch is pneumatically conveyed to a hopper. Particulate emissions are controlled by a bag filter dust collector (CE34-05-S) that exhausts to stack S34-05-S.

(ww) Dextrin Feed Hoppers #1 and #2 (System #1) (Unit IDs 34-06-S and 34-07-S), installed in April 1993, each with a maximum throughput of 6 ton/hr. Starch is gravity conveyed to these hoppers. Particulate emissions are controlled by bag filter dust collectors (CE34-06-S and CE34-07-S) that exhaust to stacks S34-06-S and S34-07-S.

(xx) Batch Scale Hopper #2 (Unit ID 34B-13-S), installed in October 1993, with a maximum throughput of 24 ton/hr. Starch is pneumatically conveyed to a hopper. Particulate emissions are controlled by a bag filter dust collector (CE34B-13-S) that exhausts to stack S34B-13-S.

(yy) Dextrin Starch Reactor #2 (Unit ID 34B-04-S), installed in October 1993, with a maximum throughput of 6 ton/hr. Dried cornstarch is fed to a reactor heated by steam from the plant boiler. Particulate emissions are controlled by a bag filter dust collector (CE34B-04-S) that exhausts to stack S34B-04-S.

(zz) Dextrin Starch Cooler #2 (Unit ID 34B-01-S), installed in October 1993, with a maximum throughput of 6 ton/hr. Roasted cornstarch is fed to a cooler and transferred to a hopper for storage. Particulate emissions are controlled by dust collector (CE34B-01-S) that exhausts to stack S34B-01-S.

(aaa) Surge Hopper #2 (Unit ID 34B-03-S), installed in October 1993, with a maximum throughput of 6 ton/hr. Starch is pneumatically conveyed to a hopper. Particulate emissions are controlled by a bag filter dust collector (CE34B-03-S) that exhausts to stack S34B-03-S.

(bbb) Dextrin Feed Hoppers #3 and #4 (System #2) (Unit IDs 34B-05-S and 34B-06-S), installed in October 1993, each with a maximum throughput of 6 ton/hr. Starch is gravity conveyed to these hoppers. Particulate emissions are controlled by bag filter dust collectors (CE34B-05-S and CE34B-06-S) that exhaust to stacks S34B-05-S and S34B-06-S.

(ccc) Dextrin Bulk Loading Equipment (Unit ID 48-09-S), installed before 1977, with a maximum throughput of 30 ton/hr. Starch is pneumatically conveyed to this hopper. Particulate emissions are controlled by a bag filter dust collector (CE48-09-S) that exhausts to stack S48-09-S.

(ddd) Starch Ring Dryer #2 (Unit ID 59-03-S), installed in November 1993. Starch is fed to this 25 MMBtu/hr natural gas-fired ring dryer at a maximum throughput of 13.5 ton/hr. Dried starch is collected with six cyclones in series. Particulate emissions are controlled by a wet scrubber (CE59-03-S) that exhausts to stack S59-03-S.

(eee) Starch Milling Systems #1 and #2 (Unit IDs 59-01-S and 59-02-S), installed in July 1976, each with a maximum throughput of 15 ton/hr. Dried corn starch is milled and transferred to storage. Particulate emissions are controlled by bag filter dust collectors (CE59-01-S and CE59-02-S) that exhaust to stacks S59-01-S and S59-02-S.

(fff) Starch Ring Dryer #3 (Unit ID 125-01-S), installed in May 1980. Cornstarch is fed to this 62 MMBtu/hr natural gas-fired ring dryer at a maximum throughput of 26.55 ton/hr. Dried starch is collected with six cyclones in series. Particulate emissions are controlled by a wet scrubber (CE125-01-S) that exhausts to stack S125-01-S.

(ggg) Special Starch Process with Starch Ring Dryer #4 (Unit ID 128-01-S), installed in December 1993. Cornstarch is fed to this 30 MMBtu/hr natural gas-fired dryer at a maximum throughput of 12.5 ton/hr. Dried starch is collected with six cyclones in series. Particulate emissions are controlled by wet scrubber (CE128-01-S) that exhausts to stack S128-01-S.

(hhh) Reactors #2 through #8 (Unit IDs 128-07-S through 128-13-S), installed in November 1988 (2-4) and December 1991 (5-8), each can process up to 40 tons of starch. Cornstarch and propylene oxide are reacted through Reactors 2, 3, 4, and 7 only. When propylene oxide is used, each reactor can use up to 5 tons of propylene oxide per batch. When propylene oxide is used in the starch reaction, VOC emissions are controlled by a thermal oxidizer that exhausts to stack S128-14-S.

(iii) Sodium Sulfate Storage Bin (Unit ID 128-25-S), installed in October 2000, with a maximum throughput of 1.1 ton/hr. Particulate emissions are controlled by a bin vent dust collector (FA1900), that exhausts to stack S128-25-S.

(jjj) Sodium Sulfate Weigh Bin (Unit ID 128-26-S), installed in October 2000, with a maximum throughput of 1.1 ton/hr. Particulate emissions are controlled by a bin vent dust collector (FA1950), that exhausts to stack S128-26-S.

(kkk) Cornstarch Storage Bins #20 through #36 (Unit IDs 120-01-S through 120-17-S), installed in July 1990, each with a maximum throughput of 75 ton/hr. Cornstarch is pneumatically conveyed to these storage bins. Particulate emissions are controlled by bag filter dust collectors that exhaust to stacks S120-01-S through S120-17-S.

(lll) Waxy Cornstarch Bulk Storage Bins #95 through #98 (Unit IDs 126-01-S through 126-04-S), replaced in January 1996, each with a maximum throughput of 20.5 ton/hr. Waxy cornstarch is conveyed to these bins. Particulate emissions are controlled by dust collectors (CE126-01-S through CE126-04-S) that exhaust to stacks S126-01-S through S126-04-S.

(mmm) Cornstarch Blending Systems #1 through #4 (Unit IDs 130-01-S through 130-04-S), installed in April 1988, each with a maximum throughput of 30 ton/hr. Cornstarch is blended and moved to the warehouse for packing. Particulate emissions are controlled by bag filter dust collectors (CE130-01-S through 130-04-S) that exhaust to stacks S130-01-S through S130-04-S.

(nnn) Dextrin Blender (Unit ID 130-05-S), installed in October 1993, with a maximum throughput of 30 ton/hr. Cornstarch is blended and moved to the warehouse for packing. Particulate emissions are controlled by a bag filter dust collector (CE130-05-S) that exhausts to stack S130-05-S.

(ooo) One (1) 28,000 gallon horizontal propylene oxide tank (Unit ID 93-18-S), installed in 1988, with 95% efficient vapor recovery (liquid nitrogen condenser). This tank also provides propylene oxide to other starch processes.

(ppp) Bldg 128 Tank Farm, installed in November 1999. Tanks include HCl, Acetic Anhydride, Sodium Bisulfate storage tanks, and the Acetic/Adipic mix tank. The tanks vent to an acid fume scrubber.

VII. Starch Warehouse Area

(qqq) Channel 2 Receiver (Unit ID 93-32-W), installed in September 2000, with a maximum throughput of 15 ton/hr. Particulate emissions are controlled by a filter dust collector that exhausts to stack S93-32-W.

(rrr) Channel 3 Receiver (Unit ID 93-33-W), installed in September 2000, with a maximum throughput of 25 ton/hr. Particulate emissions are controlled by a filter dust collector that exhausts to stack S93-33-W.

(sss) Channel 4 Receiver (Unit ID 93-34-W), installed in September 2000, with a maximum throughput of 15 ton/hr. Particulate emissions are controlled by a filter dust collector that exhausts to stack S93-34-W.

(ttt) Channel 6 Receiver (Unit ID 93-35-W), installed in September 2000, with a maximum throughput of 4.5 ton/hr. Particulate emissions are controlled by a filter dust collector that exhausts to stack S93-35-W.

(uuu) Channel 4/6 Packing (Unit ID 93-37-W), installed in September 2000, with a maximum throughput of 40 ton/hr. Particulate emissions are controlled by a filter dust collector that exhausts to stack S93-37-W.

(vvv) Channel 2/3 Packing (Unit ID 93-36-W), installed in September 2000, with a maximum throughput of 40 ton/hr. Particulate emissions are controlled by a filter dust collector that exhausts to stack S93-36-W.

(www) Central Vacuum System (Unit ID 93-38-W), installed in October 2000, with a maximum throughput of 100 lb/hr. Particulate emissions are controlled by a filter dust collector that exhausts to stack S93-38-W.

(xxx) Dried Corn Syrup Conveying System (Unit ID 93-04-W), installed in July 1976, with a maximum throughput of 15 ton/hr. Particulate emissions are controlled by a baghouse (CE93-04-W) that exhausts to stack S93-04-W.

(yyy) Corn Syrup Solids Conveying System (Unit ID 93-05-W), installed in July 1976, with a maximum throughput of 10 ton/hr. Particulate emissions are controlled by a baghouse (CE93-05-W) that exhausts to stack S93-05-W.

(zzz) Frodex Semi-bulk Packing System (Unit ID 93-08-W), installed in September 1989, with a maximum throughput of 10 ton/hr. Particulate emissions are controlled by a baghouse (CE93-08-W) that exhausts to stack S93-08-W.

(aaaa) Cornstarch Bag Dumping Stations #1 and #2 (Unit IDs 93-09-W and 93-10-W), installed in April 1988, each with a maximum throughput of 1.2 ton/hr. Particulate emissions are controlled by bag filter dust collectors (CE93-09-W and CE93-10-W) that exhaust to stacks S93-09-W and S93-10-W.

(bbbb) Starch Bulk Loading (Unit ID 93-14-W), installed in April 1995, with a maximum throughput of 30 ton/hr. Particulate emissions are controlled by a baghouse (CE93-14-W) that exhausts to stack S93-14-W.

(cccc) Starch Bulk Loading Vacuum Cleanup System (Unit ID 93-15-W), installed in February 1994, with a maximum throughput of 1 ton/hr. Cleanup for cornstarch spills. Particulate emissions are controlled by bag filter dust collector (CE93-15-W) that exhausts to stack S93-15-W.

(dddd) Starch Mixing and Bulk Bagging Systems #1 and #2 (Unit IDs 93-16-W and 93-17-W), installed in August 1995, each with a maximum throughput of 25 ton/hr and 12.5 ton/hr, respectively. Particulate emissions are controlled by baghouses (CE93-16-W and CE93-17-W) that exhaust to stacks S93-16-W and S93-17-W.

(eeee) P.G. Starch Receiver (Unit ID 93-18-W), installed in September 1999, with a maximum throughput of 3 ton/hr. Starch is received from P.G. starch roll dryers for packaging. Particulate emissions are controlled by a dust collector (CE93-18-W) that exhausts to stack S93-18-W.

(ffff) P.G. Starch Packing (Unit ID 93-39-W), installed in January 2000, with a maximum throughput of 3 ton/hr. Particulate emissions are controlled by a dust collector (CE93-39-W) that exhausts to stack S93-39-W.

(gggg) Corn Syrup Solids Manufacturing System #5, approved in 2010 for construction, identified as Unit ID 93-40-W, with a maximum capacity of 6,000 lbs/hr (dry basis), using dust collector (CE93-40-W) as control, and exhausting to stack S93-40-W.

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-7-4(c)][326 IAC 2-7-5(15)]

This stationary source has the following insignificant activities, as defined in 326 IAC 2-7-1(21):

1. Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour [326 IAC 6-1-2].

2. Fuel oil-fired combustion sources with heat input equal to or less than 2 million (2,000,000) Btu per hour and firing fuel containing less than five-tenths (0.5) percent sulfur by weight [326 IAC 6-1-2].

3. Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hour.

4. Combustion source flame safety purging on startup.

5. A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons.

6. A petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month.

7. VOC and HAP storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons.

8. VOC and HAP vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.

9. Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings.

10. Machining where an aqueous cutting coolant continuously floods the machining interface.

11. Cleaners and solvents characterized as follows:

    A) having a vapor pressure equal to or less than 2 kPa; 15mm Hg; or 0.3 psi measured at 38°C (100°F) or;

    B) having a vapor pressure equal to or less than 0.7 kPa; 5mm Hg; or 0.1 psi measured at 20°C (68°F); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.

12. The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-1-2]

13. Closed loop heating and cooling systems.

14. Structural steel and bridge fabricating activities using 80 tons or less of welding consumables.

15. Solvent recycling systems with batch capacity less than or equal to 100 gallons.

16. Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1% by volume.

17. Operation using aqueous solutions containing less than 1% by weight of VOCs excluding HAPs.

18. Noncontact cooling tower systems with forced and induced draft cooling tower system not regulated under a NESHAP.

19. Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.

20. Heat exchanger cleaning and repair.

21. Process vessel degassing and cleaning to prepare for internal repairs.

22. Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]

23. Asbestos abatement projects regulated by 326 IAC 14-10.

24. Purging of gas lines and vessels that is regulated to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process.

25. Equipment used to collect any material that might be released during a malfunction, process upset, or spill cleanup, including catch tanks, temporary liquid separators, tanks, and fluid handling equipment.

26. Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.

27. On-site fire and emergency response training approved by the department.

28. Diesel emergency generators not exceeding 1600 horsepower.

29. Stationary fire pumps.

30. Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations. [326 IAC 6-1-2]

31. Filter or coalesce media changeout.

32. A laboratory as defined in 326 IAC 2-7-1(21)(D).

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-7-5(2)][326 IAC 2-1.1-9.5][326 IAC 2-7-4(a)(1)(D)][IC 13-15-3-6(a)]

(a) This permit, T089-27009-00203, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

(b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

(a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or

(b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-7-7] [IC 13-17-12]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

(a) A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:

(1) it contains a certification by a "responsible official" as defined by 326 IAC 2-7-1(34), and

(2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

(c) A "responsible official" is defined at 326 IAC 2-7-1(34).

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than April 15 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

(b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and

(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)][326 IAC 2-7-6(1) and (6)][326 IAC 1-6-3]

(a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

The Permittee shall implement the PMPs.

(b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee’s control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

The Permittee shall implement the PMPs.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The

PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.11 Emergency Provisions [326 IAC 2-7-16]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, or Northwest Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865
Northwest Regional Office phone: (219) 757-0265; fax: (219) 757-0267.

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(9) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

B.12 Permit Shield [326 IAC 2-7-15][326 IAC 2-7-20][326 IAC 2-7-12]

(a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

(d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]

(g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]

(a) All terms and conditions of permits established prior to T089-27009-00203 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised under 326 IAC 2-7-10.5, or

(3) deleted under 326 IAC 2-7-10.5.

(b) Provided that all terms and conditions are accurately reflected in this permit, all previous registrations and permits are superseded by this Part 70 operating permit.

B.14 Termination of Right to Operate [326 IAC 2-7-10][326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source’s existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)][326 IAC 2-7-8(a)][326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]

(c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.16 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(b) A timely renewal application is one that is:

(1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the

document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-7-4(a)(2)(D), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.18 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)][326 IAC 2-7-12(b)(2)]

(a) No Part 70 permit revision or notice shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.19 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b),(c), or (e) without a prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;

(3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b),(c), or (e). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-7-20(b)(1), (c)(1), and (e)(2).

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

(1) A brief description of the change within the source;

(2) The date on which the change will occur;

(3) Any change in emissions; and

(4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.

(e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.20 Source Modification Requirement [326 IAC 2-7-10.5]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.21 Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy any records that must be kept under the conditions of this permit;

(c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.

(b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.24 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314] [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-7-5(1)]

C.1 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.2 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.3 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

C.4 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.5 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using ambient air quality modeling pursuant to 326 IAC 1-7-4. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

C.6 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Demolition and Renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

(g) Indiana Licensed Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

Testing Requirements [326 IAC 2-7-6(1)]

C.7 Performance Testing [326 IAC 3-6]

(a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.8 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

C.9 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]

Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or of initial start-up, whichever is later, to begin such monitoring. If due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance or the date of initial startup, whichever is later, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a source modification shall be implemented when operation begins.

C.10 Continuous Compliance Plan [326 IAC 6.8-8-1] [326 IAC 6.8-8-8]

(a) Pursuant to 326 IAC 326 IAC 6.8-8-1, the Permittee shall submit to IDEM and maintain at source a copy of the Continuous Compliance Plan (CCP). The Permittee shall perform the inspections, monitoring and record keeping in accordance with the information in 326 IAC 6.8-8-5 through 326 IAC 6.8-8-7 or applicable procedures in the CCP.

(b) Pursuant to 326 IAC 6.8-8-8, the Permittee shall update the CCP, as needed, retain a copy of any changes and updates to the CCP at the source and make the updated CCP available for inspection by the department. The Permittee shall submit the updated CCP, if required to IDEM, OAQ within thirty (30) days of the update.

(c) Pursuant to 326 IAC 6.8-8, failure to submit a CCP, maintain all information required by the CCP at the source, or submit update to a CCP is a violation of 326 IAC 6.8-8.

C.11 Maintenance of Continuous Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

(a) The Permittee shall install, calibrate, maintain, and operate all necessary continuous emission monitoring systems (CEMS) and related equipment.

(b) In the event that a breakdown of a continuous emission monitoring system occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem.

(c) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 40 CFR 60, Subpart Db.

C.12 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.

(b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps [326 IAC 2-7-5][326 IAC 2-7-6]

C.13 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.14 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.15 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]

Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:

(a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to normal or usual manner of operation.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records; and/or

(3) inspection of the control device, associated capture system, and the process.

(d) Failure to take reasonable response steps shall be considered a deviation from the permit.

(e) The Permittee shall record the reasonable response steps taken.

C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.

(b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.17 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit by July 1 of each year an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

(1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);

(2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(32) (“Regulated pollutant, which is used only for purposes of Section 19 of this rule”) from the source, for purpose of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

C.18 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2][326 IAC 2-3][326 IAC 2-1.1-5]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

(c) If there is a reasonable possibility (as defined in 40 CFR 51.165(a)(6)(vi)(A), 40 CFR 51.165(a)(6)(vi)(B), 40 CFR 51.166(r)(6)(vi)(a), and/or 40 CFR 51.166(r)(6)(vi)(b)) that a “project” (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a “major modification” (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee elects to utilize the “projected actual emissions” (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:

(1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, document and maintain the following records:

(A) A description of the project.

(B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.

(C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:

(i) Baseline actual emissions;

(ii) Projected actual emissions;

(iii) Amount of emissions excluded under section 326 IAC 2-2-1(rr)(2)(A)(iii) and/or 326 IAC 2-3-1 (mm)(2)(A)(iii); and

(iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.

(d) If there is a reasonable possibility (as defined in 40 CFR 51.165(a)(6)(vi)(A) and/or 40 CFR 51.166(r)(6)(vi)(a)) that a "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:

(1) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and

(2) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

C.19 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2][326 IAC 2-3][326 IAC 2-1.1-5]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

(b) The address for report submittal is:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

(e) If the Permittee is required to comply with the recordkeeping provisions of (d) in Section C - General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1 (qq) and/or 326 IAC 2-3-1 (ll)) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:

(1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C- General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1 (xx) and/or 326 IAC 2-3-1 (qq), for that regulated NSR pollutant, and

(2) The emissions differ from the preconstruction projection as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(ii).

(f) The report for project at an existing emissions unit shall be submitted no later than sixty (60) days after the end of the year and contain the following:

(1) The name, address, and telephone number of the major stationary source.

(2) The annual emissions calculated in accordance with (d)(1) and (2) in Section C - General Record Keeping Requirements.

(3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3).

(4) Any other information that the Permittee wishes to include in this report such as an explanation as to why the emissions differ from the preconstruction projection.

Reports required in this part shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(g) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C- General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

Stratospheric Ozone Protection

C.20 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with applicable standards for recycling and emissions reduction.

SECTION D.0 FACILITY OPERATION CONDITIONS - Source Wide Limitations

Source-Wide Operations

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.0.1 Consent Decree Limitations

Pursuant to the Consent Decree entered by the United States District Court for the District of Minnesota on March 3, 2006 in United States v. Cargill, Inc. No. 05-2037 (D.Minn.), the Permittee shall comply with the following emission limitations:

Emission Source Description	EU or Emission Point ID	VOC (lb/hr)	CO (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)
Corn Syrup Solid Manufacturing System #2	18-03-R	0.45	-	-	-
Batch Scale Hopper #1	34-01-S	0.07	-	-	-
Dextrin Starch Reactor #1	34-02-S	0.27	-	-	-
Dextrin Starch Cooler #1	34-03-S	0.06	-	-	-
Surge Hopper #1	34-05-S	0.17	-	-	-
Dextrin Feed Hopper #1 (System #1)	34-06-S	0.02	-	-	-
Dextrin Feed Hopper #2 (System #1)	34-07-S	0.02	-	-	-
Dextrin Starch Cooler #2	34B-01-S	0.06	-	-	-
Surge Hopper #2	34B-03-S	0.17	-	-	-
Dextrin Starch Reactor #2	34B-04-S	0.27	-	-	-
Dextrin Feed Hopper #3 (System #2)	34B-05-S	0.02	-	-	-
Dextrin Feed Hopper #4 (System #2)	34B-06-S	0.02	-	-	-
Batch Scale Hopper #2	34B-13-S	0.10	-	-	-
Dextrin Bulk loading Equipment	48-09-S	0.39	-	-	-
Starch Milling System #1	59-01-S	0.16	-	-	-
Starch Milling System #2	59-02-S	0.16	-	-	-
Starch Ring Dryer #2	59-03-S	1.19	19.00	-	-
Dried Corn Syrup Conveying System	93-04-W	0.03	-	-	-
Corn Syrup Solids Conveying System	93-05-W	0.03	-	-	-
Frodex Semi-Bulk Packing System	93-08-W	0.03	-	-	-
Cornstarch Bag Dumping Station #1	93-09-W	0.02	-	-	-
Cornstarch Bag Dumping Station #2	93-10-W	0.02	-	-	-
Starch Bulk Loading	93-14-W	0.09	-	-	-
Starch Bulk loading Vacuum System	93-15-W	0.01	-	-	-
Starch Mixing and Bagging System #1	93-16-W	0.05	-	-	-

Emission Source Description	EU or Emission Point ID	VOC (lb/hr)	CO (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)
Starch Mixing and Bagging System #2	93-17-W	0.10	-	-	-
P.G. Starch Receiver	93-18-W	0.13	-	-	-
Channel 2 Receiver	93-32-W	0.08	-	-	-
Channel 3 Receiver	93-33-W	0.08	-	-	-
Channel 4 Receiver	93-34-W	0.08	-	-	-
Channel 6 Receiver	93-35-W	0.06	-	-	-
Channel 2/3 Packing	93-36-W	0.39	-	-	-
Channel 4/6 Packing	93-37-W	0.39	-		-
Central Vacuum System	93-38-W	0.02	-	-	-
P.G. Starch Packing	93.39-W	0.05	-	-	-
Corn Syrup Spray Dryer/Cooler System #3	100-01-R	0.50	1.00	-	-
Corn Spray Dryer #4	100-03-R	0.86	1.00	-	-
Activated Carbon Regeneration Furnace #2	104-01-R	10 ppm or 95% destruction	100 ppm or 90% destruction	0.11	5.0
Cornstarch Storage Bin #20	120-01-S	0.05	-	-	-
Cornstarch Storage Bin #21	120-02-S	0.05	-	-	-
Cornstarch Storage Bin #22	120-03-S	0.05	-	-	-
Cornstarch Storage Bin #23	120-04-S	0.05	-	-	-
Cornstarch Storage Bin #24	120-05-S	0.05	-	-	-
Cornstarch Storage Bin #25	120-06-S	0.05	-	-	-
Cornstarch Storage Bin #26	120-07-S	0.05	-	-	-
Cornstarch Storage Bin #27	120-08-S	0.05	-	-	--
Cornstarch Storage Bin #28	120-09-S	0.05	-	-	-
Cornstarch Storage Bin #29	120-10-S	0.05	-	-	-
Cornstarch Storage Bin #30	120-11-S	0.05	-	-	-
Cornstarch Storage Bin #31	120-12-S	0.05	-	-	-
Cornstarch Storage Bin #32	120-13-S	0.05	-	-	-
Cornstarch Storage Bin #33	120-14-S	0.05	-	-	-
Cornstarch Storage Bin #34	120-15-S	0.05	-	-	-
Cornstarch Storage Bin #35	120-16-S	0.05	-	-	-
Cornstarch Storage Bin #36	120-17-S	0.05	-	-	-
Fiber Drying Equipment	89-01-G	10.57	-	3.95	-
Gluten Dryer System	121-01-G	3.72	2.95	0.68	-
Germ Dryer/Cooler	124A-01-G	3.97	0.46	0.77	-
Starch Ring Dryer #3	125-01-S	0.86	6.00	-	-
Waxy Cornstarch Bulk Storage Bins #95	126-01-S	0.18	-	-	-
Waxy Cornstarch Bulk Storage Bins #96	126-02-S	0.18	-	-	-
Waxy Cornstarch Bulk Storage Bins #97	126-03-S	0.18	-	-	-
Waxy Cornstarch Bulk Storage Bins #98	126-04-S	0.18	-	-	-
Sp. Starch Process with Starch Ring Dryer #4	128-01-S	0.90	6.00	-	-
Thermal Oxidizer	S128-14-S	1.33	8.61	-	-

Emission Source Description	EU or Emission Point ID	VOC (lb/hr)	CO (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)
Cornstarch Blending System #1	130-01-S	0.04	-	-	-
Cornstarch Blending System #2	130-02-S	0.04	-	-	-
Cornstarch Blending System #3	130-03-S	0.04	-	-	-
Cornstarch Blending System #4	130-04-S	0.04	-	-	-
Dextrin Blender	130-05-S	0.09	-	-	-
Germ Tank 1310	200-01-G	0.16	-	-	-
Gluten Tank 1410	200-02-G	0.16	-	-	-
Germ Tank 1110	200-03-G	0.16	-	-	-
Gluten Tank 1010	200-04-G	0.16	-	-	-
Bulk Loadout	200-05-G	3.89	-	-	-
Biogas Flare	800-05-E	0.78	1.71	-	-
HCL Tank - Refinery		0.08	-	-	-
Bldg 128 Tank Farm		0.08	-	-	-
3 Gluten Filters		0.42	-	-	-
3 Gluten Vacuum Pumps		0.77	-		-
Refinery Vacuum Pumps (1-3)		0.43	-	-	-
Refinery Vacuum Pumps (4-6)		0.64	-	-	-
Refinery Vacuum Pumps (7-8)		0.64	-	-	-
WWTP Centrifuges (2)		0.04	-	-	-

*Note - in order to avoid duplication of requirements the above units are also subject to the following compliance determination, compliance monitoring, recordkeeping and reporting conditions: D.1.5, D.1.6, D.1.7, D.1.8, D.3.16, D.3.17, D.3.19, D.3.20, D.5.12, D.5.13, D.5.15, D.5.16, D.6.6, D.6.12, D.6.13, and D.6.15.

D.0.2 State Implementation Plan

Pursuant to the Consent Decree entered by the United States District Court for the District of Minnesota on March 3, 2006 in United States v. Cargill, Inc. No. 05-2037 (D.Minn.), the Permittee shall apply to have the limitations in Condition D.0.1 incorporated into the State Implementation Plan.

Compliance Determination Requirements

D.0.3 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(a) No later than 180 days after the issuance of permit number T089-27009-00203, in order to demonstrate compliance with Conditions D.0.1, D.3.6, D.5.3, and D.6.3, the Permittee shall perform VOC testing on the following units utilizing methods as approved by the Commissioner.

Emission Source Description	EU or Emission Point ID
Starch Ring Dryer #2	59-03-S
Corn Syrup Spray Dryer/Cooler System #3	100-01-R
Corn Spray Dryer #4	100-03-R
Fiber Drying Equipment	89-01-G
Gluten Dryer System	121-01-G
Germ Dryer/Cooler	124A-01-G
Starch Ring Dryer #3	125-01-S
Sp. Starch Process with Starch Ring Dryer #4	128-01-S
Thermal Oxidizer	S128-14-S
3 Gluten Filters	
3 Gluten Vacuum Pumps	
HCL Tank - Refinery	
Bldg 128 Tank Farm	

These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligation with regard to the testing required by this condition.

(b) No later than180 days after the issuance of permit number T089-27009-00203, in order to demonstrate compliance with Condition D.0.1, the Permittee shall perform CO testing on the following units utilizing methods as approved by the Commissioner.

Emission Source Description	EU or Emission Point ID
Thermal Oxidizer	S128-14-S
Activated Carbon Regeneration Furnace #2	104-01-R

These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligation with regard to the testing required by this condition.

(c) No later than 180 days after the issuance of permit number T089-27009-00203, in order to demonstrate compliance with Condition D.0.1, the Permittee shall perform SO_2 testing on the following units utilizing methods as approved by the Commissioner.

Emission Source Description	EU or Emission Point ID
Fiber Drying Equipment	89-01-G
Gluten Dryer System	121-01-G
Germ Dryer/Cooler	124A-01-G
Activated Carbon Regeneration Furnace #2	104-01-R

These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligation with regard to the testing required by this condition.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]

D.0.4 Parametric Monitoring for Temperature

(a) Desorption inlet temperature shall be measured with a thermocouple located in the inlet of the desorption zone.

(b) The accuracy of the thermocouple shall be verified by a second, or redundant, thermocouple probe inserted at the inlet to the desorption zone. This validation check will be conducted annually. The acceptance criterion is ±30°F. Alternatively, the thermocouple can be recalibrated annually. The minimum tolerance of the thermocouple is ±4°F or ±0.75% of the temperature, whichever is greater.

(c) The three (3) hour average temperature shall be calculated as the average of the readings (except that the average need only be calculated if readings occur below the specified temperature level).

(d) The temperature shall be monitored continuously and the temperature recorded at least once every fifteen (15) minutes (a minimum of four (4) equally spaced readings per hour).

(e) An excursion is defined as a three (3) hour period during which the average temperature measured is lower than the specified indicator value as determined in the most recent valid compliance stack test. The three (3) hour average temperature will be calculated when the temperature recorder indicates readings below the specified temperature.

If a condition exists which would result in response steps, the Permittee shall take reasonable response steps. Section C - Response to Excursion or Exceedances contains the Permittee's obligations with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.0.5 Parametric Monitoring for Scrubbers

The Permittee shall monitor and record the recirculation water flow rate (if applicable) and pH of the scrubbing liquid for the wet gas scrubbers associated with units 89-01-G, 121-01-G, 124A-01-G, and 104-01-R at least once per day when the process is in operation. When for any one reading each parametric range or the minimum operating parameter for the scrubbers in below table is outside its normal range, or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee’s obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Scrubber ID	Minimum Flow Rate of Scrubbing Liquor (gallons/minute)	pH of Scrubbing Liquor
CE89-01-G	400	7.0
CE121-01-G	N/A	5.5
CE124A-01-G	N/A	5.5
CE104-01-R	N/A	7.0

The instrument used for determining the scrubbing liquid flow rate and pH shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replaced at least once every six (6) months.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.0.6 Record Keeping Requirements

(a) To document the compliance status with Conditions D.0.4, the following record keeping shall be maintained onsite:

(1) Description of measuring device (digital data acquisition systems),

(2) Data from the device and any temporary data logged manually as back-up,

(3) Excursions,

(4) Corrective actions taken, and

(5) Calibration records.

(b) In order to document the compliance status with condition D.0.5, the Permittee shall maintain the once per day records of the water recirculation flow rate and pH during normal operation. The Permittee shall include in its daily record when recirculation water flow and pH are not taken and the reason for the lack of recirculation water flow rate and pH (e.g. the process did not operate that day).

(c) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.1 FACILITY OPERATION CONDITIONS - Wastewater Treatment Process

Facility Description [326 IAC 2-7-5(15)]: **I. Wastewater Treatment Process**

(a) One (1) anaerobic wastewater treatment process installed in July 1995. Biogas is generated in the wastewater treatment plant by anaerobic reaction. The biogas can be controlled by:

(1) Diverted to a plant process burner for energy recovery, which is the normal scenario; or

(2) One (1) Biogas Flare (Unit ID 800-05-E), installed in July 1995. The biogas flare converts the hydrogen sulfide (H_2S) in the biogas to sulfur dioxide (SO_2). The biogas flare exhausts to stack ID S800-05-E.

(b) Two (2) wastewater treatment process centrifuges (WWTP - North and WWTP - South), installed in July 1995. The centrifuges dewater the excess biomass from wastewater treatment process. Exhaust from the process vents inside the WWTP building.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 H_2S PSD Minor Limit [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following:

All biogas shall either be combusted for energy recovery in a plant process or combusted in the Biogas Flare (Unit ID 800-05-E) such that H_2S emissions shall be limited to less than ten (10) tons per twelve (12) consecutive month period.

Compliance with the above limit shall limit H_2S emissions from the anaerobic wastewater treatment process to less than ten (10) tons per twelve (12) consecutive month period and render 326 IAC 2-2 not applicable.

D.1.2 SO_2 PSD Minor Limit [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following:

All biogas shall either be combusted for energy recovery in a plant process or combusted in the Biogas Flare (Unit ID 800-05-E) such that SO_2 emissions shall be limited to less than forty (40) tons per twelve (12) consecutive month period.

Compliance with the above limit shall limit SO_2 emissions from the anaerobic wastewater treatment process to less than forty (40) tons per twelve (12) consecutive month period and render 326 IAC 2-2 not applicable.

D.1.3 Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4.1-5]

Pursuant to 326 IAC 7-4.1-5 (Lake County Sulfur Dioxide Emission Limitations), emissions of sulfur dioxide from the Biogas Flare (Unit ID 800-05-E) shall not exceed 9.13 pounds per hour.

D.1.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan is required for this facility and its control device. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the Preventive Maintenance Plan required by this condition.

Compliance Determination Requirements

D.1.5 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.0.1, D.1.1, D.1.2, and D.1.3, the Permittee shall perform design and operation testing for the Biogas Flare (800-05-E), within one hundred eighty (180) days after issuance of permit number 089-27009-00203, utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligation with regard to the testing required by this condition.

D.1.6 Compliance Determination Requirements

To ensure compliance with Condition D.1.1, the biogas stream from anaerobic reaction shall be diverted to an active plant process burner or to the biogas flare at all times that a biogas stream is being generated.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]

D.1.7 Biogas Sampling

The Permittee shall perform bimonthly sampling of the biogas generated by the anaerobic digester. Samples shall be analyzed for H2S and SO2 content and H2S and SO2 emissions calculated using the following mass balance equations:

$$H2Ss\left({}^{lb}/_{hr}\right)*CE=H2S\left({}^{lb}/_{hr}\right)*8760\left({}^{hr}/_{yr}\right)*\frac{1\ ton}{2000\ lb}=H2S\left({}^{ton}/_{yr}\right)$$

$$\left[H2S\left({}^{lb}/_{hr}\right)*\frac{MWSO2}{MWH2S}\right]+SO2s=SO2\left({}^{lb}/_{hr}\right)*8760\left({}^{hr}/_{yr}\right)*\frac{1\ ton}{2000\,lb}=SO2\left({}^{ton}/_{yr}\right)$$

Where:

$H2S_s$ = The H2S emissions from the sample in pounds per hour.
CE = The control efficiency/ rate at which the flare converts H2S to SO2 is 99.9%.
MWH2S = The molecular weight of H2S is 34.08.
MWSO2 = The molecular weight of SO2 is 64.06.
SO2s = The SO2 emissions from the sample in pounds per hour.

D.1.8 Flame Presence [40 CFR 64]

The Permittee shall monitor and record the flame presence for the Biogas Flare once during each shift of operation that the biogas stream is venting to the flare. The flame presence shall be determined using either a thermal sensor or flame detector at the point of the flame.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.9 Record Keeping Requirements

(a) To document the compliance status with Condition D.1.7, the Permittee shall maintain a record of the bimonthly samples of biogas and the calculated H2S and SO2 emissions based on those samples.

(b) To document the compliance status with Condition D.1.8, the Permittee shall maintain a daily record of the flame presence. The Permittee shall include in its daily record when a flame presence notation is not taken and the reason for the lack of a flame presence notation (e.g. the process did not operate that day).

(c) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.1.10 Reporting Requirements [326 IAC 7-4.1-5(b)]

(a) A quarterly report of all H2S and SO_2 emissions from unit 800-04-E shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee’s obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official,” as defined by 326 IAC 2-7-1 (34).

(b) A quarterly report of all SO_2 emissions from units' 121-01-G, 89-01-G, 124A-01-G, 104-01-R, and 800-04-E, to document the compliance status with 326 IAC 7-4.1-5(b) shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee’s obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official,” as defined by 326 IAC 2-7-1 (34).

SECTION D.2 FACILITY OPERATION CONDITIONS - Alternate Carbohydrate Area

Facility Description [326 IAC 2-7-5(15)]: II. Alternate Carbohydrate Area

(c) Alternate Carbohydrate Mill Feed Hopper (Unit 127-30-B), installed in May 1993 and repurposed in 2008, with a maximum capacity of 0.836 tons per hour. Particulate emissions are controlled by dust collector (CE127-30-B) that exhausts to stack S127-30-B.

(d) No. 1 and No. 2 Alternate Carbohydrate Storage Bins (Unit ID 127-28-B and 127-29-B), installed in May 1993 and repurposed in 2008, each with a maximum throughput of 15 tons per hour. Carbohydrate is pneumatically conveyed to these hoppers equipped with bag filter dust collectors (CE127-28-B and CE127-29-B) that exhaust to stacks S127-28-B and S127-29-B.

(e) No. 1 and No. 2 Vacuum Cleaner Systems (Unit ID 127-21-B and 127-22-B), installed in May 1993, each with a maximum throughput of 0.3 tons per hour. These systems are for building dust. Particulate emissions are controlled by dust collectors that exhaust to stacks S127-21-B and S127-22-B.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 PM/PM10 PSD and Nonattainment NSR Minor Limit [326 IAC 2-2] [326 IAC 2-1.1-5]

In order to make the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-1.1-5 (Nonattainment NSR) not applicable, the PM and PM10 emissions from the following operations shall not exceed the emissions limits listed in the table below:

Unit	Unit ID	PM/PM10 Emission Limit (lb/hr)
No. 1 Alternate Carbohydrate Storage Bin	127-28-B	0.18
No. 2 Alternate Carbohydrate Storage Bin	127-29-B	0.18
Alternate Carbohydrate Mill Feed Hopper	127-30-B	0.028

Compliance with these limits in conjunction with the PM and PM10 limits in Condition D.3.1, will ensure that the PM emissions from Significant Source Modification No. 089-25241-00203 are less than 25 tons per twelve (12) consecutive month period and PM10 emissions from Significant Source Modification No. 089-25241-00203 are less than 15 tons per twelve (12) consecutive month period. Therefore, the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-1.1-5 (Nonattainment NSR) are rendered not applicable.

D.2.2 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2]

Pursuant to 326 IAC 6.8-2 (Lake County: PM10 Emission Requirements), emissions of particulate matter less than ten microns in diameter (PM10) shall not exceed the emissions limits listed in the table below:

Unit ID	PM10 Limit (gr/dscf)	PM10 Limit (lbs/hr)
Alternate Carbohydrate Mill Feed Hopper (127-30-B)	0.01	0.028
No. 1 & No. 2 Alternate Carbohydrate Storage Bins (127-28-B) & (127-29-B)	0.01 each	0.18 each
Vacuum Cleaners #1 & #2 (127-21-B) & (127-22-B)	0.01 each	0.031 each

D.2.3 VOC Emissions [326 IAC 8-7] [326 IAC 2-7-6(3)] [326 IAC 2-7-15]

Pursuant to 326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark and Floyd Counties), the BCD Reaction and Separation (Unit ID 127-03-B) has been removed from the source. The shutdown of this unit shall be permanent.

D.2.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan is required for each Alternate Carbohydrate Area facility and its control device. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.2.5 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.2.1 and D.2.2, the Permittee shall perform PM and PM10 testing for the No. 1 and No. 2 Alternate Carbohydrate Storage Bins (127-28-B & 127-29-B) and the Alternate Carbohydrate Mill Feed Hopper (127-30-B), within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup, utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition. PM-10 includes filterable and condensible PM-10.

D.2.6 Particulate Matter [326 IAC 6.8-2] [326 IAC 2-7-6(6)][326 IAC 2-2][326 IAC 2-1.1-5]

(a) In order to comply with D.2.1 and D.2.2, the bag filter dust collectors for PM and PM10 control shall be in operation and control emissions from their associated facilities at all times that the facilities are in operation.

(b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]

D.2.7 Parametric Monitoring (Dust Collectors)

The Permittee shall record the pressure drop across all baghouses or dust collectors used in conjunction with each Alternate Carbohydrate Area facility at least once per day when the associated facilities are in operation. When for any one reading, the pressure drop across the dust collector is outside the following ranges or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee’s obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the following ranges or a range established during the latest stack test is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Unit ID	Control Equipment	Pressure Drop Range (“H_2O)
Alternate Carbohydrate Mill Feed Hopper (127-30-B)	Dust Collector	0.1 - 6
No. 1 &No. 2 Alternate Carbohydrate Storage (127-28-B) & (127-29-B)	Dust Collector	0.1 – 6 each
Vacuum Cleaners #1 & #2 (127-21-B) & (127-22-B)	Dust Collector	0.1 – 6 each

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replaced at least once every six (6) months.

D.2.8 Broken or Failed Bag Detection

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks or dust traces.

D.2.9 Visible Emissions Notations

(a) Visible emission notations of each Alternate Carbohydrate Area stack exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee’s obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.10 Record Keeping Requirements

(a) To document the compliance status with Condition D.2.7, the Permittee shall maintain a daily record of the pressure drops across the baghouses controlling the processes. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(b) To document the compliance status with Condition D.2.9, the Permittee shall maintain a daily record of visible emission notations of the Alternate Carbohydrate Area facility stack exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(c) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.3 FACILITY OPERATION CONDITIONS - Grind and Feedhouse Area

Facility Description [326 IAC 2-7-5(15)]: **III. Grind and Feedhouse Area**

(f) Gluten Dryer System (Unit ID 121-01-G), installed in March 1995. Gluten meal is fed to a 12.5 MMBtu/hr natural and bio gas-fired ring dryer at a maximum throughput of 15,800 lb/hr. Particulate emissions are controlled by wet scrubber (CE121-01-G) that exhausts to stack S121-01-G.

(g) No. 2 Gluten Dryer (Unit ID 121A-01-G), approved for construction in 2008. Gluten meal is fed to a 17 MMBtu/hr natural and bio gas-fired ring dryer at a maximum throughput of 19,700 lb/hr. Particulate emissions are controlled by two (2) wet scrubbers operating in series, one venturi-type followed by one tray-type scrubber (collectively identified as Unit ID CE121A-01-G) that exhausts to stack S121A-01-G.

(h) One (1) Germ Dryer/Cooler (Unit ID 203-01-G), approved for construction in 2008. Corn germ is fed to a 30 MMBtu/hr natural and bio gas-fired germ dryer and cooler at a maximum throughput of 38,600 lb/hr. Particulate emissions are controlled by one (1) wet scrubber (Unit ID CE203-01-G) that exhausts to stack S203-01-G.

(i) No. 1 Bran Bunker (Unit ID 89-06-G), approved for construction in 2008, with a maximum throughput rate of 107,433 tons per year, using a bin vent filter (Unit ID CE089-06-G) with an outlet grain loading of 0.01 gr/dscf as control, and exhausting to stack S89-06-G.

(j) No. 2 Bran Bunker (Unit ID 89-07-G), approved for construction in 2008, with a maximum throughput rate of 107,433 tons per year, using a bin vent filter (Unit ID CE89-07-G) with an outlet grain loading of 0.01 gr/dscf as control, and exhausting to stack S89-07-G.

(k) One (1) Bran Conveyor System (Unit ID 89-08-G), approved for construction in 2008, with a maximum throughput rate of 107,433 tons per year, using existing scrubber CE89-01-G (constructed in 1995) as control, and exhausting to stack S89-01-G.

(l) One (1) Bran Preweigh Hopper (Unit ID 89-09-G), approved for construction in 2008, with a maximum throughput rate of 107,433 tons per year, using a bin vent filter (Unit ID CE89-09-G) with an outlet grain loading of 0.01 gr/dscf as control, and exhausting to stack S89-09-G.

(m) Fiber Drying Equipment (Unit ID 89-01-G), installed in October 1995. Wet fiber is fed to this 78 MMBtu/hr natural gas-fired dryer at a maximum throughput of 79,695 lb/hr. Particulate matter is controlled by a scrubber (CE89-01-G) that exhausts to stack S89-01-G.

(n) Germ Dryer/Cooler (Unit ID 124A-01-G), installed in November 1994. Corn germ is fed to this 12.9 MMBtu/hr natural and bio gas-fired germ dryer and cooler at a maximum throughput of 16,580 lb/hr. Particulate emissions are controlled by one (1) scrubber (CE124A-01-G) that exhausts to stack S124A-01-G.

(o) Central Vacuum Loadout (Unit ID 200-07-G), installed in October 2000, with a maximum throughput of 100 lb/hr. Particulate emissions are controlled by a dust collector (CE200-07-G) that exhausts to stack S200-07-G.

(p) Germ Tank 1310 (Unit ID 200-01-G), installed in October 2000, with a maximum throughput of 80,000 lb/hr. Particulate emissions are controlled by a dust collector (CE200-01-G) that exhausts to stack S200-01-G.

(q) Gluten Tank 1410 (Unit ID 200-02-G), installed in October 2000, with a maximum throughput of 80,000 lb/hr. Particulate emissions are controlled by a dust collector (CE200-02-G) that exhausts to stack S200-02-G.

(r) Corn Screenings Silo (Unit ID 200-06-G), installed in October 2000, with a maximum throughput of 11,000 lb/hr. Particulate emissions are controlled by a dust collector (CE200-06-G) that exhausts to stack S200-06-G.

(s) Gluten Tank 1010 (Unit ID 200-04-G), installed in October 2000, with a maximum throughput of 21,000 lb/hr. Particulate emissions are controlled by a dust collector (CE200-04-G) that exhausts to stack S200-04-G.

(t) Germ Tank 1110 (Unit ID 200-03-G), installed in October 2000, with a maximum throughput of 30,000 lb/hr. Particulate emissions are controlled by a dust collector (CE200-03-G) that exhausts to stack S200-03-G.

(u) Bulk Loadout (Unit ID 200-05-G), installed in October 2000, with a maximum throughput of 95,900 lb/hr. Particulate emissions are controlled by a dust collector (CE200-05-G) that exhausts to stack S200-05-G.

(v) Corn Dump Pit (Unit ID 140-05-G), installed in December 1995, with a maximum throughput of 840 tons/hr. Particulate emissions are controlled by filter baghouse (CE140-05-G) that exhausts to stack S140-05-G.

(w) Corn Elevator Conveying (Unit ID 140-07-G), installed in December 1995, with a maximum throughput of 140 tons/hr. Material is transferred from corn belt 1 to corn belt 2. Particulate emissions are controlled by a filter baghouse (CE140-07-G) that exhausts to stack S140-07-G.

(x) Corn Receiving and Storage, installed in December 1995. This system includes six Storage Bins, each with its own bin vent for control of particulate emissions, and each with a maximum throughput of 420 ton/hr:

(1) Bin #1: Unit ID 140-01-G
(2) Bin #2: Unit ID 140-02-G
(3) Bin #3: Unit ID 140-03-G
(4) Bin #4: Unit ID 140-04-G
(5) Bin #5: Unit ID 33-01-G
(6) Bin #6: Unit ID 33-02-G

(y) Gravity Take-up Conveyor (Corn Scale) (Unit ID 140-06-G), installed in December 1995, with a maximum throughput of 140 ton/hr. Corn is transferred from corn belt 2 to corn belt 3. Particulate emissions are controlled by baghouse (CE140-06-G) that exhausts to stack S140-06-G.

(z) Corn Cleaner (Unit ID 33-03-G), installed in December 1995, with a maximum throughput of 140 ton/hr. Corn passes through mechanical cleaners. Particulate emissions are controlled by a filter baghouse (CE33-03-G) that exhausts to stack S33-03-G.

(aa) Corn Screenings System (Unit ID 30-16-G), installed in July 1976, with a maximum throughput of 8.4 ton/hr. This system includes a dirt storage silo equipped with bag filter collector (CE30-16-G) that exhausts to stack S30-16-G.

(bb) Three (3) Gluten Filters, installed in December 1995. Gluten slurry is applied to the surface of a filter drum where an internal vacuum on the drum removes moisture from the slurry. The Gluten is then removed from the drum by a roller. Exhaust from the removal process is collected by a hood and exhausted from the building.

(cc) Three (3) Gluten Vacuum Pumps, installed in December 1995. The pumps create the vacuum used to remove moisture from the gluten slurry on the gluten filter. Exhaust from the pumps is vented from the building.

(dd) Twenty-four (24) steep tanks (Unit ID Steephouse - Grind 1), consisting of 21 steep tanks installed prior to 1973 and 3 steep tanks installed in December 1995. The steep tanks contain a mildly acidic solution to soften the corn prior to milling. Tanks are individually vented and have only working/breathing losses.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 PM/PM10 PSD and Nonattainment NSR Minor Limit [326 IAC 2-2] [326 IAC 2-1.1-5]

In order to make the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-1.1-5 (Nonattainment NSR) not applicable:

(a) The PM and PM10 emissions from the following operations shall not exceed the emissions limits listed in the tables below:

Unit	Unit ID	Control Device ID	PM/PM10 Emission Limit (lb/hr)
Corn Screening System	30-16-G	CE30-16-G	0.06
Storage Bin No. 5 (Grind 1)	33-01-G	CE33-01-G	0.171
Storage Bin No. 6 (Grind 2)	33-02-G	CE33-02-G	0.171
Corn Cleaner	33-03-G	CE33-03-G	0.21
Fiber Dryer & Bran Conveyor System	89-01-G / 89-08-G	CE-89-01-G	3.746
No. 1 Gluten Dryer	121-01-G	CE121-01-G	2.245
Storage Bin #3	140-03-G	CE140-03-G	0.343
Storage Bin #4	140-04-G	CE140-04-G	0.343
Storage Bin #1	140-01-G	CE140-01-G	0.343
Storage Bin #2	140-02-G	CE140-02-G	0.343
Corn Dump Pit	140-05-G	CE140-05-G	1.286
Gravity Take-Up Conveyor	140-06-G	CE140-06-G	0.154
Corn Elevator Conveying	140-07-G	CE140-07-G	0.086
Germ Tank 1310	200-01-G	CE200-01-G	0.05
Gluten Tank 1410	200-02-G	CE200-02-G	0.05
Germ Tank 1110	200-03-G	CE200-03-G	0.05
Gluten Tank 1010	200-04-G	CE200-04-G	0.05
Bulk Loadout	200-05-G	CE200-05-G	1.21
Corn Screening Silo	200-06-G	CE200-06-G	0.02
Central Vacuum Loadout	200-07-G	CE200-07-G	0.02
No. 1 Bran Bunker	89-06-G	CE89-06-G	0.006
No. 2 Bran Bunker	89-07-G	CE89-07-G	0.006
Bran Preweigh Hopper	89-09-G	CE89-09-G	0.006

Unit	Unit ID	Control Device ID	PM/PM10 Emission Limit (lb/hr)
No. 2 Gluten Dryer	121A-01-G	CE121A-01-G	2.4
Germ Dryer/Cooler	203-01-G	CE203-01-G	2.81

(b) Pursuant to 326 IAC 2-2 (PSD), the following units shall be removed from operation once the modification permitted under SSM 089-25241-00203 has been constructed:

(1) Rotary Feed Dryer (89-03-G)
(2) Dry Feed Transfer (89-05-G)
(3) Germ Storage Silo (121-14-G)
(4) Waxy Feed Drum Dryer (124-01-G)
(5) Waxy Feed Mill Equipment (124-22-G)
(6) Wet Feed Transfer (124-23-G)
(7) Hammermill No. 1 (201-01-G)
(8) Hammermill No. 2 (201-02-G)
(9) Pellet Cooler No. 1 (201-03-G)
(10) Pellet Cooler No. 2 (201-04-G)
(11) Loose Feed Bin Vent (201-05-G)
(12) Central Vacuum Pelletizing (201-06-G)
(13) Receiver 1st Stage Germ Dryer (21A-01-G)
(14) 1st Stage Germ Dryer (21A-02-G)
(15) Receiver 2nd Stage Germ Dryer (51A-01-G)
(16) 2nd Stage Germ Dryer (51A-02-G)

The shutdown of these units shall be permanent.

(c) The existing Germ Dryer/Cooler (124A-01-G) shall be shutdown and removed from the source no later than 180 days after the startup of the new Germ Dryer/Cooler (Unit ID 203-01-G). The shutdown and removal of this unit shall be permanent.

Compliance with these limits in conjunction with the PM and PM10 limits in Condition D.2.1, will ensure that the PM emissions from Significant Source Modification No. 089-25241-00203 are less than 25 tons per twelve (12) consecutive month period and PM10 emissions from Significant Source Modification No. 089-25241-00203 are less than 15 tons per twelve (12) consecutive month period. Therefore, the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-1.1-5 (Nonattainment NSR) are rendered not applicable for PM/PM10 for Significant Source Modification No. 089-25241-00203.

D.3.2 VOC Emission Offset [326 IAC 2-3]

(a) Pursuant to 326 IAC 2-3 (Emission Offset), the following units shall be removed from operation once the modification permitted under SSM 089-25241-00203 has been constructed:

(1) Rotary Feed Dryer (89-03-G)
(2) Waxy Feed Drum Dryer (124-01-G)
(3) 1st Stage Germ Dryer (21A-02-G)
(4) 2nd Stage Germ Dryer (51A-02-G)
(5) Hammermill No. 1 (201-01-G)
(6) Hammermill No. 2 (201-020-G)
(7) Pellet Cooler No. 1 (201-03-G)
(8) Pellet Cooler No. 2 (201-04-G)
(9) Loose Feed Bin Vent (201-05-G)

(10) Central Vacuum Pelletizing (201-06-G)

The shutdown of these units shall be permanent.

(b) The existing Germ Dryer/Cooler (124A-01-G) shall be shutdown and removed from the source no later than 180 days after the startup of the new Germ Dryer/Cooler (Unit ID 203-01-G). The shutdown and removal of this unit shall be permanent.

Compliance with these requirements will ensure that the VOC emissions from Significant Source Modification No. 089-25241-00203, are less than twenty-five (25) tons per twelve (12) consecutive month period. Therefore, the requirements of 326 IAC 2-3 (EO) are rendered not applicable for VOC for Significant Source Modification No. 089-25241-00203.

D.3.3 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2]

Pursuant to 326 IAC 6.8-2 (Lake County: PM10 Emission Requirements), emissions of particulate matter less than ten microns in diameter (PM10) shall not exceed the following:

Unit ID	PM10 Limit (gr/dscf)	PM10 Limit (lbs/hr)
Gluten Dryer System (121-01-G)	0.03	3.0
Fiber Drying Equipment (89-01-G)	0.01	4.5
Germ Dryer/Cooler (124A-01-G)	0.02	1.872
Corn Dump Pit (140-05-G)	0.01	1.286
Corn Elevator Conveying (140-07-G)	0.01	0.086
Corn Receiving and Storage Bins 1, 2, 3, & 4	0.02 each	0.343 each
Corn Receiving and Storage Day Tanks 5 & 6	0.02 each	0.171 each
Gravity Take-up Conveyor (140-06-G)	0.01	0.154
Corn Cleaner (33-03-G)	0.01	0.21
Corn Screenings System (30-16-G)	0.01	0.06

D.3.4 Particulate Matter Limitations for Lake County [326 IAC 6.8-1-2(h)]

Pursuant to 326 IAC 6.8-1-2(h) (Nonattainment Area Particulate Limitations), emissions of particulate matter from the following units shall not exceed the following limitations:

Unit ID	PM Limit (gr/dscf)	PM Limit (lbs/hr)
Central Vacuum Loadout (200-07-G)	0.005	0.02
Germ Tank 1310 (200-01-G)	0.005	0.05
Gluten Tank 1410 (200-02-G),	0.005	0.05
Corn Screenings Silo (200-06-G)	0.005	0.02
Gluten Tank 1010 (200-04-G)	0.005	0.05
Germ Tank 1110 (200-03-G)	0.005	0.05
Bulk Loadout (200-05-G)	0.005	1.21

D.3.5 Particulate Matter Limitations for Lake County [326 IAC 6.8-1-2]

Pursuant to 326 IAC 6.8-1-2 (Nonattainment Area Particulate Limitations), emissions of particulate matter from the following units shall not exceed the following limitations:

Unit ID	PM Limit (gr/dscf)	PM Limit (lbs/hr)
No. 2 Gluten Dryer (121A-01-G)	0.03	3.0
Germ Dryer/Cooler (203-01-G)	0.03	3.0
No. 1 Bran Bunker (89-06-G)	0.03	3.0
No. 2 Bran Bunker (89-07-G)	0.03	3.0
Bran Conveyor System (89-08-G)	0.03	3.0
Bran Preweigh Hopper (89-09-G)	0.03	3.0

D.3.6 VOC Emissions [326 IAC 8-7] [326 IAC 2-7-6(3)] [326 IAC 2-7-15]

Pursuant to 326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark and Floyd Counties):

(a) Emissions of VOC from the following units shall not exceed the following limitations:

Unit Name	Unit ID	VOC Limit (lbs/hr)
Gluten Dryer System	121-01-G	3.72
Germ Dryer/Cooler	124A-01-G	3.97
Steephouse – Grind 1	Bldg 23	0.0039 [1]

1 – Units are lbs per bushel

(b) The following units have been removed from the source:

Unit Name	Unit ID
Gluten Ring Dryer #1	19-03-G
Waxy Feed Drum Dryer	124-01-G
1st Stage Germ Dryer – Grind 1	21A-02-G
1st Stage Germ Dryer – Grind 2	Bldg 123
2nd Stage Germ Dryer	51A-02-G
Feed Flash Dryer #1	Bldg 21
Feed Flash Dryer #2	Bldg 21A
Rotary Feed Dryer #1	Bldg 20A
Rotary Feed Dryer #2	Bldg 20A
Rotary Feed Dryer #3	Bldg 20A
Rotary Feed Dryer #4	Bldg 20A
Rotary Feed Dryer #5	Bldg 20A
Rotary Feed Dryer – Grind 2	Bldg 124
Millhouse Aspiration System – Grind 1	Bldg 15
Millhouse Aspiration System – Grind 2	Bldg 123
Steephouse – Grind 2	Bldg 53
Feed Pelletizing System – Point A	91-13-G
Feed Pelletizing System – Point B	91-14-G
Feed Pelletizing System – Point C	91-15-G
Feed Pelletizing System – Point D	91-16-G

The shutdown of these units shall be permanent.

D.3.7 Sulfur Dioxide Limitations for Lake County [326 IAC 7-4.1-5]

Pursuant to 326 IAC 7-4.1-5 (Sulfur Dioxide Limitations), emissions of sulfur dioxide from the following units shall not exceed the following limitations:

Unit Name	Unit ID	PM Limit (lbs/hr)
Gluten Dryer System	121-01-G	0.68
Fiber Drying Equipment	89-01-G	3.95
Germ Dryer/Cooler	124A-01-G	0.77

D.3.8 SO2 Emissions [326 IAC 7-4.1]

Pursuant to 326 IAC 7-4.1 (Lake County Sulfur Dioxide Emission Limitations), the sulfur dioxide emission rate from these units shall not exceed the following:

(a) SO2 emissions from the stack serving the No. 2 Gluten Dryer (121A-01-G) shall not exceed 0.3 lb/MMBtu.

(b) SO2 emissions from the stack serving the Germ Dryer/ Cooler (203-01-G) shall not exceed 0.3 lb/MMBtu.

D.3.9 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan is required for each Grind and Feedhouse Area facility and its control device. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.3.10 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Conditions D.3.1 and D.3.3, the Permittee shall perform PM and PM-10 testing on the Gluten Ring Dryer (121-01-G), utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM-10 includes filterable and condensible PM.

(b) In order to demonstrate compliance with Conditions D.3.1 and D.3.5, the Permittee shall perform PM and PM10 testing for the No. 2 Gluten Dryer (121A-01-G) and the Germ Dryer/Cooler (203-01-G), within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM-10 includes filterable and condensible PM.

(c) In order to demonstrate compliance with Condition D.3.1, the Permittee shall perform PM and PM10 testing for the Scrubber (CE89-01-G) controlling the Fiber Dryer (89-01-G) and the Bran Conveying System (89-08-G), within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source

Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM-10 includes filterable and condensible PM.

(d) In order to demonstrate compliance with Condition D.3.8, the Permittee shall perform SO2 testing for the No. 2 Gluten Dryer (121A-01-G) and the Germ Dryer/Cooler (203-01-G), within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

(e) In order to demonstrate compliance with Conditions D.3.1 and D.3.5, the Permittee shall perform PM and PM10 testing for the No. 1 and No. 2 Bran Bunker (89-06-G and 89-07-G) and the Bran Preweigh Hopper (89-09-G), within sixty (60) days after achieving the maximum capacity, but not later than one hundred eighty (180) days after initial startup, utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM-10 includes filterable and condensible PM.

D.3.11 Particulate Matter [326 IAC 6.8-2] [326 IAC 2-7-6(6)] [326 IAC 2-2] [326 IAC 2-1.1-5]

(a) In order to comply with D.3.1, D.3.3, D.3.4, and D.3.5, the control devices for PM and PM10 control shall be in operation and control emissions from their associated facilities at all times that the facilities are in operation.

(b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]

D.3.12 Visible Emissions Notations

(a) Visible emission notations of each Grind and Feedhouse facility stack exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee’s obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.3.13 Visible Emissions Notations [40 CFR 64]

(a) Visible emission notations of units' 121-01-G, 121A-01-G, 203-01-G, 89-08-G, 124A-01-G, 200-05-G, 140-05-G, 140-01-G, 140-02-G, 140-03-G, and 140-04-G stack exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee’s obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.3.14 Parametric Monitoring (Dust Collectors)

The Permittee shall record the pressure drop across each particulate control device used in the Grind and Feedhouse Area at least once per day when the associated system is in operation. When for any one reading, the pressure drop across the control device is outside any of the following ranges or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee’s obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the following ranges or a range established during the latest stack test is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Unit ID	Control Equipment	Pressure Drop Range (inches of water)
Central Vacuum Loadout (200-07-G)	Dust Collector	0.1 - 6
Germ Tank 1310 (200-01-G)	Dust Collector	0.1 - 6
Gluten Tank 1410 (200-02-G)	Dust Collector	0.1 - 6
Corn Screenings Silo (200-06-G)	Dust Collector	0.1 - 6
Gluten Tank 1010 (200-04-G)	Dust Collector	0.1 - 6
Germ Tank 1110 (200-03-G)	Dust Collector	0.1 - 6
Corn Elevator Conveying (140-07-G)	Dust Collector	0.1 - 6
Gravity Take-up Conveyor (140-06-G)	Dust Collector	0.1 - 6
Corn Cleaner (33-03-G)	Dust Collector	0.1 - 6
Corn Screenings System (30-16-G)	Dust Collector	0.1 - 6
No. 1 and No. 2 Bran Bunkers (89-06-G)	Bin Vent	0.1-6
No. 2 Bran Bunker (89-07-G)	Bin Vent	0.1-6
Bran Preweigh Hopper (89-09-G)	Bin Vent	0.1-6

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replaced at least once every six (6) months.

D.3.15 Parametric Monitoring (Dust Collectors) [40 CFR 64]

The Permittee shall record the pressure drop across each particulate control device used in the Grind and Feedhouse Area at least once per day when the associated system is in operation. When for any one reading, the pressure drop across the control device is outside any of the following ranges or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the following ranges or a range established during the latest stack test is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Unit ID	Control Equipment	Pressure Drop Range (inches of water)
Bulk Loadout (200-05-G)	Dust Collector	0.1 - 6
Corn Dump Pit (140-05-G)	Dust Collector	0.1 - 6

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replaced at least once every six (6) months.

D.3.16 Parametric Monitoring (Scrubbers)

The Permittee shall record the pressure drop across each scrubber used in the Grind and Feedhouse Area, at least once per day when the associated system is in operation. When for any one reading, the pressure drop across a scrubber is outside the following range or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the following range or a range established during the latest stack test is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Unit ID	Control Equipment	Pressure Drop Range (inches of water)
Fiber Drying Equipment (89-01-G)	Scrubber	0.1 - 6

The instruments used for determining the pressure drop shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replaced at least once every six (6) months.

D.3.17 Parametric Monitoring (Scrubbers) [40 CFR 64]

The Permittee shall record the pressure drop across each scrubber used in the Grind and Feedhouse Area, at least once per day when the associated system is in operation. When for any one reading, the pressure drop across a scrubber is outside the following ranges or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the following ranges or a range established during the latest stack test is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Unit ID	Control Equipment	Pressure Drop Range (inches of water)
Gluten Ring Dryer System (121-01-G)	Wet Scrubber	12 -19
No. 2 Gluten Dryer (121A-01-G)	Wet Scrubber	12-19
Germ Dryer/Cooler (203-01-G)	Wet Scrubber	6-12
Bran conveyor System (89-08-G)	Scrubber	0.1-6
Germ Dryer/Cooler (124A-01-G)	Scrubber	10-19

The instruments used for determining the pressure drop shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replaced at least once every six (6) months.

D.3.18 Broken or Failed Bag Detection

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks or dust traces.

D.3.19 Scrubber Failure Detection

In the event that a scrubber's failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). Failure to take response steps shall be considered a deviation from this permit.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.20 Record Keeping Requirements

(a) To document the compliance status with Conditions D.3.12 and D.3.13, the Permittee shall maintain a daily record of visible emission notations of the Grind and Feedhouse Area Facility stack exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) To document the compliance status with Condition D.3.14, D.3.15, D.3.16, and D.3.17, the Permittee shall maintain a daily record of the pressure drop readings. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(c) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.3.21 Reporting Requirements [326 IAC 7-4.1-5(b)]

A quarterly report of all SO_2 emissions from units' 121-01-G, 89-01-G, 124A-01-G, 104-01-R, and 800-04-E, to document the compliance status with 326 IAC 7-4.1-5(b) shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official," as defined by 326 IAC 2-7-1 (34).

SECTION D.4 FACILITY OPERATION CONDITIONS - Utility Area

Facility Description [326 IAC 2-7-5(15)]: **IV. Utility Area**

The Utility area includes the following boiler used to supply steam for plant processes.

(ee) Natural gas-fired Package Boiler #1 (Unit ID 89-03-U), installed in 2006, with a maximum heat input capacity of 274 million Btu/hr, and exhausting to stack S89-03-U. Under NSPS 40 CFR 60 Subpart Db, Package Boiler #1 is a steam-generating unit with a heat input capacity greater than 100 million Btu/hr.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Particulate Matter Limitations for Lake County [326 IAC 6.8]

Pursuant to 326 IAC 6.8-1-2(b)(3), Package Boiler #1 shall burn natural gas only and particulate matter emissions shall not exceed 0.01 grains per dry standard cubic foot (dscf).

D.4.2 VOC Emissions [326 IAC 8-7] [326 IAC 2-7-6(3)] [326 IAC 2-7-15]

Pursuant to 326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark and Floyd Counties), the following units have been removed from the source:

Unit Name	Unit ID
Boiler #1	10-01-U
Boiler #2	10-02-U
Boiler #6	10-03-U
Boiler #7	10-04-U
Boiler #8	10-05-U
Boiler #10	10-06-U

The shutdown of these units shall be permanent.

D.4.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan is required for this facility. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

SECTION D.5 FACILITY OPERATION CONDITIONS - Refinery Area

Facility Description [326 IAC 2-7-5(15)]: V. Refinery Area

(ff) Corn Syrup Solids Manufacturing System #2 (Unit ID 18-03-R), installed in July 1992, with a maximum throughput of 3.0 ton/hr. Corn syrup solids are fed through a cooling tunnel, milled, screened, and dropped to a receiver for packing. Particulate emissions are controlled by a jet pulse dust collector (CE18-03-R) that exhausts to stack S18-03-R.

(gg) Corn Syrup Spray Dryer #4 (Unit ID 100-03-R), installed in April 1992. Corn syrup is fed to a dryer at a maximum throughput of 4.8 ton/hr. The solids are sent through cyclones to a packing area. Particulate emissions are controlled by a wet scrubber (CE100-03-R) that exhausts to stack S100-03-R.

(hh) Corn Syrup Spray Dryer/Cooler System #3 (Unit ID 100-01-R), installed in July 1987. Corn syrup is fed to a dryer at a maximum rate of 4.8 ton/hr. The solids are sent through cyclones to a packing area. Particulate emissions are controlled by a wet venturi scrubber (CE100-01-R) that exhausts through stack S100-01-R.

(ii) Activated Carbon Regeneration Furnace #2 (Unit ID 104-01-R), installed in July 1995. Spent carbon is regenerated in this 13.2 MMBtu/hr natural gas-fired furnace at a maximum throughput of 1.146 ton/hr. Emissions are controlled by a venturi scrubber and an impingement furnace scrubber (CE104-01-R) that exhaust through stack S104-01-R.

(jj) Liquid Soda Ash Tank (Unit ID 104-02-R), installed in July 1995, with a maximum throughput of 15 ton/hr. Particulate emissions from loading this tank are controlled by a venturi scrubber (CE104-02-R) that exhausts to stack S104-02-R.

(kk) Filter Aid Hopper (Unit ID 104-03-R), installed in July 1995, with a maximum throughput of 0.75 ton/hr. This hopper is equipped with a jet pulse baghouse (CE104-03-R) that exhausts to stack S104-03-R.

(ll) Sodium Bisulfite Bag Dump (Unit ID 104-05-R), installed in July 1995, with a maximum throughput of 0.7 ton/hr. This unit is controlled by a jet pulse baghouse (CE104-05-R) that exhausts to stack S104-05-R.

(mm) Diatomaceous Earth Unloading (Unit ID 104-08-R), installed in November 1998, with a maximum throughput of 1.75 ton/hr. Diatomaceous earth (filter aid) is unloaded from railcar to silo. Particulate emissions are controlled by a Bin Vent Filter (DC2312) that exhausts to stack S104-08-R.

(nn) Citric Acid Dump Station (Unit ID 104-09-R), installed in November 1998, with a maximum throughput of 30 lb/hr. Citric Acid is added during the production of corn syrup. Particulate emissions are controlled by a built-in dust collector (CE104-09-R) that exhausts to stack S104-09-R.

(oo) Refinery Vacuum Pumps (1-3) (Unit IDs RVF 1-1, RVF 1-2, and RVF 1-3 Precoating Vacuum Pump), installed in July 1995. The pumps create the vacuum used to pull liquid corn syrup through a filtering media. Exhaust from the pumps is vented from the building.

(pp) Refinery Vacuum Pumps (4-6) (Unit IDs RVF 3-1, RVF 3-2, and RVF 3-3 Precoating Vacuum Pump), installed in November 1999. The pumps create the vacuum used to pull liquid corn syrup through a filtering media. Exhaust from the pumps is vented from the building.

(qq) Refinery Vacuum Pumps (7-8) (Unit IDs RVF 2-1 and RVF 2-2), installed in July 1995. The pumps create the vacuum used to pull liquid corn syrup through a filtering media. Exhaust from the pumps is vented from the building.

(rr) Two (2) HCL tanks (Unit ID HCL Tank – Refinery), installed in July 1995 and December 2002. Tanks store HCl used in the corn syrup manufacturing process. The tanks vent to an acid fume scrubber.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.5.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2]

Pursuant to 326 IAC 6.8-2 (Lake County: PM10 Emission Requirements), emissions of particulate matter less than ten microns in diameter (PM10) shall be limited to the following:

Unit ID	PM10 Limit (gr/dscf)	PM10 Limit (lbs/hr)
Corn Syrup Solids Mfg System #2 (18-03-R)	0.01	0.30
Corn Syrup Spray Dryer #4 (100-03-R)	0.01	4.2
Corn Syrup Spray Dryer/Cooler System #3 (100-01-R)	0.015	4.96
Activated Carbon Regeneration Furnace #2 (104-01-R)	0.015	0.728
Liquid Soda Ash Tank (104-02-R)	0.02	0.154
Filter Aid Hopper (104-03-R)	0.02	0.044
Sodium Bisulfite Bag Dump (104-05-R)	0.02	0.080

D.5.2 Particulate Matter Limitations for Lake County [326 IAC 6.8-1-2(h)]

Pursuant to CP 089-1230-00203, issued November 1998, and 326 IAC 6.8-1-2(h) (Nonattainment Area Particulate Limitations), emissions of particulate matter shall be limited to the following:

Unit ID	PM Limit (gr/dscf)	PM Limit (lbs/hr)
Diatomaceous Earth Unloading Silo (104-08-R)	0.01	0.064
Citric Acid Dump Station (104-09-R)	0.01	0.026

D.5.3 VOC Emissions [326 IAC 8-7] [326 IAC 2-7-6(3)] [326 IAC 2-7-15]

Pursuant to 326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark and Floyd Counties):

(a) Emissions of VOC from the following units shall not exceed the following limitations:

Unit Name	Unit ID	VOC Limit (lbs/hr)
Corn Syrup Spray Dryer/Cooler System #3	100-01-R	0.50
Corn Syrup Spray Dryer #4	100-03-R	0.86
Corn Syrup Solids Mfg System #2	18-03-R	0.45

(b) The following units have been removed from the source:

Unit Name	Unit ID
Carbon Furnace – Old Refinery	Bldg 15
HCL Tanks – Old Refinery	17-04-R & 17-05-R

The shutdown of these units shall be permanent.

D.5.4 Lake County Sulfur Dioxide Emission Limitations [326 IAC 7-4.1-5]

Pursuant to 326 IAC 7-4.1-5 (Lake County Sulfur Dioxide Emission Limitations), emissions of sulfur dioxide from the Activated Carbon Regeneration Furnace #2 (Unit ID 104-01-R) shall not exceed 0.11 pounds per hour.

D.5.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan is required for each Refinery Area facility and its control device. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.5.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with Condition D.5.1, the Permittee shall perform PM-10 testing of the Corn Syrup Spray Dryer #4 (100-03-R) and the Corn Syrup Spray Dryer/Cooler System #3 (100-01-R) utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition. PM-10 includes filterable and condensible PM.

D.5.7 Particulate Matter

(a) In order to comply with D.5.1 and D.5.2, the control devices for PM and PM10 control shall be in operation and control emissions from each facility at all times that the facility is in operation.

(b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]

D.5.8 Visible Emissions Notations

(a) Visible emission notations of units' 104-02-R, 104-03-R, 104-05-R, 104-08-R, and 104-09-R stack exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.5.9 Visible Emissions Notations [40 CFR 64]

(a) Visible emission notations of units' 18-03-R, 100-03-R, 100-01-R, and 104-01-R stack exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.5.10 Parametric Monitoring (Dust Collectors)

The Permittee shall record the pressure drop across the control device used in conjunction with each Refinery Area facility as listed below, at least once per day, when the associated facility is in operation. When for any one reading, the pressure drop across the baghouse or dust collector is outside any of the following ranges or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the following ranges or a range established during the latest stack test is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Unit ID	Control Equipment	Pressure Drop Range (inches of water)
Filter Aid Hopper (104-03-R)	Dust Collector	0.1 - 6
Sodium Bisulfite Bag Dump (104-05-R)	Dust Collector	0.1 - 6
Diatomaceous Earth Unloading Silo (104-08-R)	Bin Vent Filter	0.1 - 6
Citric Acid Dump Station (Unit ID 104-09-R).	Dust Collector	0.1 - 6

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replaced at least once every six (6) months.

D.5.11 Parametric Monitoring (Dust Collectors) [40 CFR 64]

The Permittee shall record the pressure drop across the control device used in conjunction with each Refinery Area facility as listed below, at least once per day, when the associated facility is in operation. When for any one reading, the pressure drop across the baghouse or dust collector is outside any of the following range or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the following range or a range established during the latest stack test is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Unit ID	Control Equipment	Pressure Drop Range (inches of water)
Corn Syrup Solids Mfg System #2 (18-03-R)	Dust Collector	5 - 15

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replaced at least once every six (6) months.

D.5.12 Parametric Monitoring (Scrubbers)

The Permittee shall record the pressure drop across each scrubber used in the Refinery Area, at least once per day when the associated system is in operation. When for any one reading, the pressure drop across a scrubber is outside the following range or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the following range or a range established during the latest stack test is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Unit ID	Control Equipment	Pressure Drop Range (inches of water)
Liquid Soda Ash Tank (104-02-R)	Wet Scrubber	0.25 – 10.0

The instrument used for determining the pressure drop shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replaced at least once every six (6) months.

D.5.13 Parametric Monitoring (Scrubbers) [40 CFR 64]

The Permittee shall record the pressure drop across each scrubber used in the Refinery Area, at least once per day when the associated system is in operation. When for any one reading, the pressure drop across a scrubber is outside the following range or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the following range or a range established during the latest stack test is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Unit ID	Control Equipment	Pressure Drop Range (inches of water)
Corn Syrup Spray Dryer #4 (100-03-R)	Wet Scrubber	1.0 – 8.0
Corn Syrup Spray Dryer/Cooler System #3 (100-01-R)	Wet Scrubber	0.1 – 6.0
Activated Carbon Regeneration Furnace #2 (104-01-R)	Wet Scrubber	0.1 - 8.0

The instrument used for determining the pressure drop shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replaced at least once every six (6) months.

D.5.14 Broken or Failed Bag Detection

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks or dust traces.

D.5.15 Scrubber Failure Detection

In the event that a scrubber’s failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). Failure to take response steps shall be considered a deviation from this permit.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.5.16 Record Keeping Requirements

(a) To document the compliance status with Conditions D.5.8 and D.5.9, the Permittee shall maintain a daily record of the visible emission notations of the Refinery Area Facility stack exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) To document the compliance status with Conditions D.5.10, D.5.11, D.5.12, and D.5.13, the Permittee shall maintain a daily record of the pressure drop readings. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(c) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.5.17 Reporting Requirements [326 IAC 7-4.1-5(b)]

A quarterly report of all SO_2 emissions from units' 121-01-G, 89-01-G, 124A-01-G, 104-01-R, and 800-04-E, to document the compliance status with 326 IAC 7-4.1-5(b) shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official," as defined by 326 IAC 2-7-1 (34).

SECTION D.6 **FACILITY OPERATION CONDITIONS - Starch Production Area**

Facility Description [326 IAC 2-7-5(15)]: **VI. Starch Production Area**

(ss) Batch Scale Hopper #1 (Unit ID 34-01-S), installed in January 1991, with a maximum throughput of 24 ton/hr. Starch is pneumatically conveyed to a hopper. Particulate emissions are controlled by a bag filter dust collector (CE34-01-S) that exhausts to stack S34-01-S.

(tt) Dextrin Starch Reactor #1 (Unit ID 34-02-S), installed in January 1991, with a maximum throughput of 6 ton/hr. Dried cornstarch is fed to a reactor heated by steam from the plant boiler. Particulate emissions are controlled by a bag filter dust collector (CE34-02-S) that exhausts to stack S34-02-S.

(uu) Dextrin Starch Cooler #1 (Unit ID 34-03-S), installed in January 1991, with a maximum throughput of 6 ton/hr. Roasted corn starch is fed to a cooler and transferred to a hopper for storage. Particulate emissions are controlled by a bag filter dust collector (CE34-03-S) that exhausts to stack S34-03-S.

(vv) Surge Hopper #1 (Unit ID 34-05-S), installed in January 1991, with a maximum throughput of 6 ton/hr. Starch is pneumatically conveyed to a hopper. Particulate emissions are controlled by a bag filter dust collector (CE34-05-S) that exhausts to stack S34-05-S.

(ww) Dextrin Feed Hoppers #1 and #2 (System #1) (Unit IDs 34-06-S and 34-07-S), installed in April 1993, each with a maximum throughput of 6 ton/hr. Starch is gravity conveyed to these hoppers. Particulate emissions are controlled by bag filter dust collectors (CE34-06-S and CE34-07-S) that exhaust to stacks S34-06-S and S34-07-S.

(xx) Batch Scale Hopper #2 (Unit ID 34B-13-S), installed in October 1993, with a maximum throughput of 24 ton/hr. Starch is pneumatically conveyed to a hopper. Particulate emissions are controlled by a bag filter dust collector (CE34B-13-S) that exhausts to stack S34B-13-S.

(yy) Dextrin Starch Reactor #2 (Unit ID 34B-04-S), installed in October 1993, with a maximum throughput of 6 ton/hr. Dried cornstarch is fed to a reactor heated by steam from the plant boiler. Particulate emissions are controlled by a bag filter dust collector (CE34B-04-S) that exhausts to stack S34B-04-S.

(zz) Dextrin Starch Cooler #2 (Unit ID 34B-01-S), installed in October 1993, with a maximum throughput of 6 ton/hr. Roasted cornstarch is fed to a cooler and transferred to a hopper for storage. Particulate emissions are controlled by dust collector (CE34B-01-S) that exhausts to stack S34B-01-S.

(aaa) Surge Hopper #2 (Unit ID 34B-03-S), installed in October 1993, with a maximum throughput of 6 ton/hr. Starch is pneumatically conveyed to a hopper. Particulate emissions are controlled by a bag filter dust collector (CE34B-03-S) that exhausts to stack S34B-03-S.

(bbb) Dextrin Feed Hoppers #3 and #4 (System #2) (Unit IDs 34B-05-S and 34B-06-S), installed in October 1993, each with a maximum throughput of 6 ton/hr. Starch is gravity conveyed to these hoppers. Particulate emissions are controlled by bag filter dust collectors (CE34B-05-S and CE34B-06-S) that exhaust to stacks S34B-05-S and S34B-06-S.

(ccc) Dextrin Bulk Loading Equipment (Unit ID 48-09-S), installed before 1977, with a maximum throughput of 30 ton/hr. Starch is pneumatically conveyed to this hopper. Particulate emissions are controlled by a bag filter dust collector (CE48-09-S) that exhausts to stack S48-09-S.

(ddd) Starch Ring Dryer #2 (Unit ID 59-03-S), installed in November 1993. Starch is fed to this 25 MMBtu/hr natural gas-fired ring dryer at a maximum throughput of 13.5 ton/hr. Dried starch is collected with six cyclones in series. Particulate emissions are controlled by a wet scrubber (CE59-03-S) that exhausts to stack S59-03-S.

(eee) Starch Milling Systems #1 and #2 (Unit IDs 59-01-S and 59-02-S), installed in July 1976, each with a maximum throughput of 15 ton/hr. Dried corn starch is milled and transferred to storage. Particulate emissions are controlled by bag filter dust collectors (CE59-01-S and CE59-02-S) that exhaust to stacks S59-01-S and S59-02-S.

(fff) Starch Ring Dryer #3 (Unit ID 125-01-S), installed in May 1980. Cornstarch is fed to this 62 MMBtu/hr natural gas-fired ring dryer at a maximum throughput of 26.55 ton/hr. Dried starch is collected with six cyclones in series. Particulate emissions are controlled by a wet scrubber (CE125-01-S) that exhausts to stack S125-01-S.

(ggg) Special Starch Process with Starch Ring Dryer #4 (Unit ID 128-01-S), installed in December 1993. Corn starch is fed to this 30 MMBtu/hr natural gas-fired dryer at a maximum throughput of 12.5 ton/hr. Dried starch is collected with six cyclones in series. Particulate emissions are controlled by wet scrubber (CE128-01-S) that exhausts to stack S128-01-S.

(hhh) Reactors #2 through #8 (Unit IDs 128-07-S through 128-13-S), installed in November 1988 (2-4) and December 1991 (5-8), each can process up to 40 tons of starch. Cornstarch and propylene oxide are reacted through Reactors 2, 3, 4, and 7 only. When propylene oxide is used, each reactor can use up to 5 tons of propylene oxide per batch. When propylene oxide is used in the starch reaction, VOC emissions are controlled by a thermal oxidizer that exhausts to stack S128-14-S.

(iii) Sodium Sulfate Storage Bin (Unit ID 128-25-S), installed in October 2000, with a maximum throughput of 1.1 ton/hr. Particulate emissions are controlled by a bin vent dust collector (FA1900), that exhausts to stack S128-25-S.

(jjj) Sodium Sulfate Weigh Bin (Unit ID 128-26-S), installed in October 2000, with a maximum throughput of 1.1 ton/hr. Particulate emissions are controlled by a bin vent dust collector (FA1950), that exhausts to stack S128-26-S.

(kkk) Cornstarch Storage Bins #20 through #36 (Unit IDs 120-01-S through 120-17-S), installed in July 1990, each with a maximum throughput of 75 ton/hr. Cornstarch is pneumatically conveyed to these storage bins. Particulate emissions are controlled by bag filter dust collectors that exhaust to stacks S120-01-S through S120-17-S.

(lll) Waxy Cornstarch Bulk Storage Bins #95 through #98 (Unit IDs 126-01-S through 126-04-S), replaced in January 1996, each with a maximum throughput of 20.5 ton/hr. Waxy cornstarch is conveyed to these bins. Particulate emissions are controlled by dust collectors (CE126-01-S through CE126-04-S) that exhaust to stacks S126-01-S through S126-04-S.

(mmm) Cornstarch Blending Systems #1 through #4 (Unit IDs 130-01-S through 130-04-S), installed in April 1988, each with a maximum throughput of 30 ton/hr. Cornstarch is blended and moved to the warehouse for packing. Particulate emissions are controlled by bag filter dust collectors (CE130-01-S through 130-04-S) that exhaust to stacks S130-01-S through S130-04-S.

(nnn) Dextrin Blender (Unit ID 130-05-S), installed in October 1993, with a maximum throughput of 30 ton/hr. Cornstarch is blended and moved to the warehouse for packing. Particulate emissions are controlled by a bag filter dust collector (CE130-05-S) that exhausts to stack S130-05-S.

(ooo) One (1) 28,000 gallon horizontal propylene oxide tank (Unit ID 93-18-S), installed in 1988, with 95% efficient vapor recovery (liquid nitrogen condenser). This tank also provides propylene oxide to other starch processes.

(ppp) Bldg 128 Tank Farm, installed in November 1999. Tanks include HCl, Acetic Anhydride, Sodium Bisulfate storage tanks, and the Acetic/Adipic mix tank. The tanks vent to an acid fume scrubber.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.6.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2]

Pursuant to 326 IAC 6.8-2 (Lake County: PM10 Emission Requirements) emissions of particulate matter less than ten microns in diameter (PM10) shall be limited to the following.

Unit ID	PM10 Limit (gr/dscf)	PM10 Limit (lbs/hr)
Batch Scale Hopper #1 (34-01-S)	0.01	0.04
Dextrin Starch Reactor #1 (34-02-S)	0.01	0.180
Dextrin Starch Cooler #1 (34-03-S)	0.01	0.042
Surge Hopper #1 (34-05-S)	0.01	0.11
Dextrin Feed Hoppers #1 and #2 (34-06-S & 34-07-S)	0.01 each	0.030 each
Batch Scale Hopper #2 (34B-13-S)	0.01	0.067
Dextrin Starch Reactor #2 (34B-04-S)	0.01	0.179
Dextrin Starch Cooler #2 (34B-01-S)	0.01	0.042
Surge Hopper #2 (34B-03-S)	0.01	0.114
Dextrin Feed Hoppers #3 and #4 (34B-05-S & 34B-06-S)	0.01 each	0.030 each
Dextrin Bulk Loading Equipment (48-09-S)	0.01	0.26
Starch Ring Dryer #2 (59-03-S)	0.006	3.50
Starch Milling Systems #1 and #2 (59-01-S and 59-02-S)	0.01 each	0.43 each
Starch Ring Dryer #3 (125-01-S)	0.006	3.50
Special Starch Process / Starch Ring Dryer #4 (128-01-S)	0.01	3.5
Cornstarch Storage Bins 20-36 (120-01-S to 120-17-S) only 5 may operate at one time	0.01 each	0.56 each
Waxy Cornstarch Storage Bins 95-98 (126-01-S to 126-04-S) only 1 may operate at a time	0.01 each	0.16 each
Cornstarch Blending Systems 1-4 (130-01-S to 130-04-S)	0.01	0.42
Dextrin Blender (130-05-S)	0.01	0.248

D.6.2 Particulate Matter Limitation for Lake County [326 IAC 6.8-1-2(h)]

Pursuant to 326 IAC 6.8-1-2(h) (Non-attainment Area Particulate Limitations), emissions of particulate matter shall be limited to the following.

Unit ID	PM Limit (gr/dscf)	PM Limit (lbs/hr)
Sodium Sulfate Storage Bin (128-25-S)	0.005	0.03
Sodium Sulfate Weigh Bin (128-26-S)	0.005	0.03

D.6.3 VOC Emissions [326 IAC 8-7] [326 IAC 2-7-6(3)] [326 IAC 2-7-15]

Pursuant to 326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark and Floyd Counties):

(a) Emissions of VOC from the following units shall not exceed the following limitations:

Unit Name	Unit ID	VOC Limit (lbs/hr)
Cornstarch Storage Bin 20	120-01-S	0.05
Cornstarch Storage Bin 21	120-02-S	0.05
Cornstarch Storage Bin 22	120-03-S	0.05
Cornstarch Storage Bin 23	120-04-S	0.05
Cornstarch Storage Bin 24	120-05-S	0.05
Cornstarch Storage Bin 25	120-06-S	0.05
Cornstarch Storage Bin 26	120-07-S	0.05
Cornstarch Storage Bin 27	120-08-S	0.05
Cornstarch Storage Bin 28	120-09-S	0.05
Cornstarch Storage Bin 29	120-10-S	0.05
Cornstarch Storage Bin 30	120-11-S	0.05
Cornstarch Storage Bin 31	120-12-S	0.05
Cornstarch Storage Bin 32	120-13-S	0.05
Cornstarch Storage Bin 33	120-14-S	0.05
Cornstarch Storage Bin 34	120-15-S	0.05
Cornstarch Storage Bin 35	120-16-S	0.05
Cornstarch Storage Bin 36	120-17-S	0.05
Starch Ring Dryer #3	125-01-S	0.86
Starch Ring Dryer #4	128-01-S	0.90
Starch Reactors (4)	128-02-S thru 128-04-S & 128-07-S	0.06
Cornstarch Blending System 1	130-01-S	0.04
Cornstarch Blending System 2	130-02-S	0.04
Cornstarch Blending System 3	130-03-S	0.04
Cornstarch Blending System 4	130-04-S	0.04
Dextrin Blender	130-05-S	0.09
Batch Scale Hopper #1	34-01-S	0.07
Dextrin Starch Reactor #1	34-02-S	0.27
Dextrin Starch Cooler #1	34-03-S	0.06
Surge Hopper #1	34-05-S	0.17
Dextrin Feed Hopper #1	34-06-S	0.02
Dextrin Feed Hopper #2	34-07-S	0.02
Dextrin Starch Cooler #2	34B-01-S	0.06
Surge Hopper #2	34B-03-S	0.17
Dextrin Starch Reactor #2	34B-04-S	0.27
Dextrin Feed Hopper #3	34B-05-S	0.02
Dextrin Feed Hopper #4	34B-06-S	0.02
Batch Scale Hopper #2	34B-13-S	0.10
Dextrin Bulk Loading	48-09-S	0.39
Starch Milling System #1	59-01-S	0.16

Unit Name	Unit ID	VOC Limit (lbs/hr)
Starch Milling System #2	59-02-S	0.16
Starch Ring Dryer #2	59-03-S	1.19

(b) The following units have been removed from the source:

Unit Name	Unit ID
Starch Reactors (9)	Bldg 54
South Dextrin Furnace #1	Bldg 47
North Dextrin Furnace #2	Bldg 47

The shutdown of these units shall be permanent.

D.6.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan is required for each Starch Production Area facility and its control device. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.6.5 Testing Requirements (PM10) [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with Condition D.6.1, the Permittee shall perform PM-10 testing of the Starch Ring Dryer #2 (59-03-S), Starch Ring Dryer #3 (125-01-S), and the Special Starch Process w/ Starch Ring Dryer #4 (128-01-S) utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM-10 includes filterable and condensible PM.

D.6.6 Volatile Organic Compounds (VOC) [326 IAC 2-1.1-5] [326 IAC 8-7-9] [326 IAC 8-7-10]

(a) The thermal oxidizer for VOC control for Reactors 2, 3, 4 and 7 shall be installed, calibrated, maintained, and operated, at a minimum, according to the manufacturer's specifications and recommendations.

(b) The Permittee shall operate the thermal oxidizer at all times propylene oxide is being added to special starch Reactors 2, 3, 4, and 7.

D.6.7 Particulate Matter

(a) In order to comply with D.6.1 and D.6.2, the control devices for PM and PM10 control shall be in operation and control emissions from each facility at all times that the facility is in operation.

(b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]

D.6.8 Visible Emissions Notations

(a) Visible emission notations of units' 34-01-S, 34-02-S, 34-03-S, 34-05-S, 34-06-S, 34-07-S, 34B-13-S, 34B-04-S, 34B-01-S, 34B-03-S, 34B-05-S, 34B-06-S, 128-25-S, and 128-26-S stack exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.6.9 Visible Emissions Notations [40 CFR 64]

(a) Visible emission notations of units' 48-09-S, 59-03-S, 59-01-S, 59-02-S, 125-01-S, 128-01-S, 120-01-S through 120-17-S, and 130-01-S through 130-05-S stack exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.6.10 Parametric Monitoring (Dust Collectors)

The Permittee shall record the pressure drop across each control device used in the Starch Production Area at least once per day when the associated facility is in operation. When for any one reading, the pressure drop across the control device is outside any of the following ranges or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the following ranges or a range established during the latest stack test is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Unit ID	Control Equipment	Pressure Drop Range (inches of water)
Batch Scale Hopper #1 (34-01-S)	Dust Collector	0.1 - 6
Dextrin Starch Reactor #1 (34-02-S)	Dust Collector	0.1 - 6
Dextrin Starch Cooler #1 (34-03-S)	Dust Collector	0.1 - 6
Surge Hopper #1 (34-05-S)	Dust Collector	0.1 - 6
Dextrin Feed Hoppers #1 and #2 (34-06-S & 34-07-S)	Dust Collectors	0.1 – 6 each
Batch Scale Hopper #2 (34B-13-S)	Dust Collector	0.1 - 6
Dextrin Starch Reactor #2 (34B-04-S)	Dust Collector	0.1 - 6
Dextrin Starch Cooler #2 (34B-01-S)	Dust Collector	0.1 - 6
Surge Hopper #2 (34B-03-S),	Dust Collector	0.1 - 6
Dextrin Feed Hoppers #3 and #4 (34B-05-S & 34B-06-S)	Dust Collector	0.1 – 6 each
Sodium Sulfate Storage Bin (128-25-S)	Dust Collector	0.1 - 6
Sodium Sulfate Weigh Bin (128-26-S)	Dust Collector	0.1 - 6
Waxy Cornstarch Storage Bins 95-98 (126-01-S to 126-04-S)	Dust Collectors	0.1 - 6 each

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replaced at least once every six (6) months.

D.6.11 Parametric Monitoring (Dust Collectors) [40 CFR 64]

The Permittee shall record the pressure drop across each control device used in the Starch Production Area at least once per day when the associated facility is in operation. When for any one reading, the pressure drop across the control device is outside any of the following ranges or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the following ranges or a range established during the latest stack test is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Unit ID	Control Equipment	Pressure Drop Range (inches of water)
Dextrin Bulk Loading Equipment (48-09-S)	Dust Collector	0.1 - 6
Starch Milling Systems #1 and #2 (59-01-S and 59-02-S)	Dust Collectors	0.1 - 6 each
Cornstarch Storage Bins 20-36 (120-01-S to 120-17-S)	Dust Collectors	0.1 - 6 each
Cornstarch Blending Systems 1-4 (130-01-S to130-04-S)	Dust Collectors	0.1 - 6 each
Dextrin Blender (130-05-S)	Dust Collector	0.1 - 6

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replaced at least once every six (6) months.

D.6.12 Parametric Monitoring (Scrubbers) [40 CFR 64]

The Permittee shall record the pressure drop across each scrubber used in the Starch Production Area, at least once per day when the associated system is in operation. When for any one reading, the pressure drop across a scrubber is outside the following ranges or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the following ranges or a range established during the latest stack test is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Unit ID	Control Equipment	Pressure Drop Range (inches of water)
Starch Ring Dryer #2 (59-03-S)	Wet Scrubber	1.0 – 11.0
Starch Ring Dryer #3 (125-01-S)	Wet Scrubber	5 - 17
Special Starch Process / Starch Ring Dryer #4 (128-01-S)	Wet Scrubber	0.1 - 10

The instrument used for determining the pressure drop shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replaced at least once every six (6) months.

D.6.13 Parametric Monitoring (Thermal Oxidizer) [326 IAC 2-1.1-5] [326 IAC 8-7-9] [326 IAC 8-7-10] [40 CFR 64]

(a) A continuous monitoring system shall be calibrated, maintained, and operated on the thermal oxidizer for measuring operating temperature. For the purpose of this condition, continuous means no less often than once per minute. The output of this system shall be recorded as a 3-hour average.

(b) The flow of propylene oxide shall be automatically interrupted when that temperature falls below 1300 °F or the temperature established during the most recent compliant stack test.

(c) 100% of the vapors, when using propylene oxide in starch Reactors 2, 3, 4, and 7, shall be captured and shall pass through the Thermal Oxidizer.

(d) A temperature reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.6.14 Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks or dust traces.

D.6.15 Scrubber Failure Detection

In the event that a scrubber's failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). Failure to take response steps shall be considered a deviation from this permit.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.6.16 Record Keeping Requirements

(a) To document the compliance status with Conditions D.6.8 and D.6.9, the Permittee shall maintain a daily record of visible emission notations of the Starch Production Area stack exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) To document the compliance status with Conditions D.6.10, D.6.11, and D.6.12, the Permittee shall maintain a daily record of the pressure drop readings. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(c) To document the compliance status with Condition D.6.13, the Permittee shall maintain a daily record of the thermal oxidizer temperature. The Permittee shall include in its daily record when a thermal oxidizer temperature reading is not taken and the reason for the lack of thermal oxidizer temperature reading (e.g. the process did not operate that day).

(d) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.7 FACILITY OPERATION CONDITIONS - Starch Warehouse Area

Facility Description [326 IAC 2-7-5(15)]: **VII. Starch Warehouse Area**

(qqq) Channel 2 Receiver (Unit ID 93-32-W), installed in September 2000, with a maximum throughput of 15 ton/hr. Particulate emissions are controlled by a filter dust collector that exhausts to stack S93-32-W.

(rrr) Channel 3 Receiver (Unit ID 93-33-W), installed in September 2000, with a maximum throughput of 25 ton/hr. Particulate emissions are controlled by a filter dust collector that exhausts to stack S93-33-W.

(sss) Channel 4 Receiver (Unit ID 93-34-W), installed in September 2000, with a maximum throughput of 15 ton/hr. Particulate emissions are controlled by a filter dust collector that exhausts to stack S93-34-W.

(ttt) Channel 6 Receiver (Unit ID 93-35-W), installed in September 2000, with a maximum throughput of 4.5 ton/hr. Particulate emissions are controlled by a filter dust collector that exhausts to stack S93-35-W.

(uuu) Channel 4/6 Packing (Unit ID 93-37-W), installed in September 2000, with a maximum throughput of 40 ton/hr. Particulate emissions are controlled by a filter dust collector that exhausts to stack S93-37-W.

(vvv) Channel 2/3 Packing (Unit ID 93-36-W), installed in September 2000, with a maximum throughput of 40 ton/hr. Particulate emissions are controlled by a filter dust collector that exhausts to stack S93-36-W.

(www) Central Vacuum System (Unit ID 93-38-W), installed in October 2000, with a maximum throughput of 100 lb/hr. Particulate emissions are controlled by a filter dust collector that exhausts to stack S93-38-W.

(xxx) Dried Corn Syrup Conveying System (Unit ID 93-04-W), installed in July 1976, with a maximum throughput of 15 ton/hr. Particulate emissions are controlled by a baghouse (CE93-04-W) that exhausts to stack S93-04-W.

(yyy) Corn Syrup Solids Conveying System (Unit ID 93-05-W), installed in July 1976, with a maximum throughput of 10 ton/hr. Particulate emissions are controlled by a baghouse (CE93-05-W) that exhausts to stack S93-05-W.

(zzz) Frodex Semi-bulk Packing System (Unit ID 93-08-W), installed in September 1989, with a maximum throughput of 10 ton/hr. Particulate emissions are controlled by a baghouse (CE93-08-W) that exhausts to stack S93-08-W.

(aaaa) Cornstarch Bag Dumping Stations #1 and #2 (Unit IDs 93-09-W and 93-10-W), installed in April 1988, each with a maximum throughput of 1.2 ton/hr. Particulate emissions are controlled by bag filter dust collectors (CE93-09-W and CE93-10-W) that exhaust to stacks S93-09-W and S93-10-W.

(bbbb) Starch Bulk Loading (Unit ID 93-14-W), installed in April 1995, with a maximum throughput of 30 ton/hr. Particulate emissions are controlled by a baghouse (CE93-14-W) that exhausts to stack S93-14-W.

(cccc) Starch Bulk Loading Vacuum Cleanup System (Unit ID 93-15-W), installed in February 1994, with a maximum throughput of 1 ton/hr. Cleanup for cornstarch spills. Particulate emissions are controlled by bag filter dust collector (CE93-15-W) that exhausts to stack S93-15-W.

(dddd) Starch Mixing and Bulk Bagging Systems #1 and #2 (Unit IDs 93-16-W and 93-17-W), installed in August 1995, each with a maximum throughput of 25 ton/hr and 12.5 ton/hr, respectively. Particulate emissions are controlled by baghouses (CE93-16-W and CE93-17-W) that exhaust to stacks S93-16-W and S93-17-W.

(eeee) P.G. Starch Receiver (Unit ID 93-18-W), installed in September 1999, with a maximum throughput of 3 ton/hr. Starch is received from P.G. starch roll dryers for packaging. Particulate emissions are controlled by a dust collector (CE93-18-W) that exhausts to stack S93-18-W.

(ffff) P.G. Starch Packing (Unit ID 93-39-W), installed in January 2000, with a maximum throughput of 3 ton/hr. Particulate emissions are controlled by a dust collector (CE93-39-W) that exhausts to stack S93-39-W.

(gggg) Corn Syrup Solids Manufacturing System #5, approved in 2010 for construction, identified as Unit ID 93-40-W, with a maximum capacity of 6,000 lbs/hr (dry basis), using dust collector (CE93-40-W) as control, and exhausting to stack S93-40-W.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.7.1 PSD and Nonattainment NSR Minor Limits [326 IAC 2-2][326 IAC 2-1.1-5]

In order to render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-1.1-5 (Nonattainment NSR) not applicable, the PM10 and PM2.5 emissions from stack S93-40-W shall be less than the emission limits listed in the table below:

Equipment Description	Stack ID	PM10 Emission Limit (lb/hr)	PM2.5 Emission Limit (lb/hr)
Corn Syrup Solids Manufacturing System #5 (new)	stack S93-40-W	3.31	2.17

Compliance with the above limits, shall limit the PM emissions from stack S93-40-W to less than twenty-five (25) tons per twelve (12) consecutive month period and the PM_{10} emissions from stack S93-40-W to less than fifteen (15) tons per twelve (12) consecutive month period and the PM2.5 emissions from stack S93-40-W to less than ten (10) tons per twelve (12) consecutive month period. Compliance with the above limits renders the requirements of 326 IAC 2-2 (PSD) not applicable. Compliance with the PM_{10} and $PM_{2.5}$ limits also satisfies the $PM_{2.5}$ requirements of 326 IAC 2-1.1-5 (Non-Attainment NSR).

D.7.2 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-1-2(a)]

Pursuant to 326 IAC 6.8-1-2(a), particulate matter (PM) emissions from the Corn Syrup Solids Manufacturing System #5 (Unit ID 93-40-W) shall not exceed three-hundredths (0.03) grain per dry standard cubic foot (dscf).

D.7.3 Particulate Matter Limitations for Lake County [326 IAC 6.8-1-2(h)]

Pursuant to 326 IAC 6.8-1-2(h) (Non-attainment Area Particulate Limitations), emissions of particulate matter from the following units shall be limited to the following:

Unit ID	PM Limit (gr/dscf)	PM Limit (lbs/hr)
Channel 2 Receiver (93-32-W)	0.005	0.10
Channel 3 Receiver (93-33-W)	0.005	0.10
Channel 4 Receiver (93-34-W)	0.005	0.10
Channel 6 Receiver (Dextrin) (93-35-W)	0.005	0.10
Channel 4/6 Packing (Dextrin)(93-37-W)	0.005	0.51
Channel 2/3 Packing (93-36-W)	0.005	0.51
Central Vacuum System (93-38-W)	0.005	0.02
P.G. Starch Receiver (93-18-W)	0.01	0.343
P.G. Starch Packing (Unit ID 93-39-W)	0.01	0.13

D.7.4 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2]

Pursuant to 326 IAC 6.8-2 (Lake County PM10 Emission Requirements), emissions of particulate matter less than ten microns in diameter (PM10) from the following units shall be limited to the following:

Unit ID	PM10 Limit (gr/dscf)	PM10 Limit (lbs/hr)
Dried Corn Syrup (Frodex) Conveying System (93-04-W)	0.01	0.069
Corn Syrup Solids Conveying System (93-05-W)	0.01	0.066
Frodex Semi-bulk Packing System (93-08-W)	0.01	0.083
Cornstarch Bag Dump Stations 1 & 2 (93-09-W and 93-10-W)	0.01 each	0.10 each
Starch Bulk Loading (93-14-W)	0.01	0.273
Starch Bulk Loading Vacuum Cleanup System (93-15-W)	0.01	0.021
Starch Mixing and Bulk Bagging System #1 (93-16-W)	0.01	0.130
Starch Mixing and Bulk Bagging System #2 (93-17-W)	0.01	0.264

D.7.5 VOC Emissions [326 IAC 8-7] [326 IAC 2-7-6(3)] [326 IAC 2-7-15]

Pursuant to 326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark and Floyd Counties), emissions of VOC from the following units shall not exceed the following limitations:

Unit Name	Unit ID	VOC Limit (lbs/hr)
Dried Corn Syrup Conveying System	93-04-W	0.03
Corn Syrup Solids Conveying System	93-05-W	0.03
Frodex Semi-Bulk Packing System	93-08-W	0.03
Corn Starch Bag Dumping Station #1	93-09-W	0.02
Corn Starch Bag Dumping Station #2	93-10-W	0.02
Starch Bulk Loading	93-14-W	0.09
Starch Bulk Loading Vacuum	93-15-W	0.01

D.7.6 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan is required for each Starch Production Area facility and its control device. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.7.7 Particulate Matter and Particulate Matter less than 10 microns in diameter (PM10) Control

(a) In order to comply with D.7.1, D.7.2, D.7.3, and D.7.4, the control devices for PM and PM10 control shall be in operation and control emissions from each facility at all times that the facility is in operation.

(b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]

D.7.8 Visible Emissions Notations

(a) Visible emission notations of 93-32-W, 93-33-W, 93-34-W, 93-35-W, 93-37-W, 93-36-W, 93-38-W, 93-04-W, 93-05-W, 93-08-W, 93-09-W, 93-10-W, 93-15-W, 93-18-W, 93-39-W, and 93-40-W stack exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.7.9 Visible Emissions Notations [40 CFR 64]

(a) Visible emission notations of units' 93-14-W, 93-16-W, and 93-17-W stack exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.7.10 Parametric Monitoring

The Permittee shall record the pressure drop across the control device used in conjunction with each Starch Warehouse Area facility as listed below, at least once per day when the associated facility is in operation. When for any one reading, the pressure drop across the baghouse or dust collector is outside any of the following ranges or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the following ranges or a range established during the latest stack test is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Unit ID	Control Equipment	Pressure Drop Range (inches of water)
Channel 2 Receiver (93-32-W)	Dust Collector	0.1 - 6
Channel 3 Receiver (93-33-W)	Dust Collector	0.1 - 6
Channel 4 Receiver (93-34-W)	Dust Collector	0.1 - 6
Channel 6 Receiver (Dextrin) (93-35-W)	Dust Collector	0.1 - 6
Channel 4/6 Packing (Dextrin) (93-37-W)	Dust Collector	0.1 - 6
Channel 2/3 Packing (93-36-W)	Dust Collector	0.1 - 6
Central Vacuum System (93-38-W)	Dust Collector	0.1 - 6
Dried Corn Syrup (Frodex) Conveying System (93-04-W)	Dust Collector	0.1 - 6
Corn Syrup Solids Conveying System (93-05-W)	Dust Collector	0.1 - 6
Frodex Semi-bulk Packing System (93-08-W)	Dust Collector	0.1 - 6
Cornstarch Bag Dump Stations 1 & 2 (93-09-W and 93-10-W)	Dust Collectors	0.1 - 6 each
Starch Bulk Loading Vacuum Cleanup System (93-15-W)	Dust Collector	0.1 - 6
P.G. Starch Receiver (93-18-W)	Dust Collector	0.1 - 6

Unit ID	Control Equipment	Pressure Drop Range (inches of water)
P.G. Starch Packing (Unit ID 93-39-W)	Dust Collector	0.1 - 6
Corn Syrup Solids Mfg System #5 (93-40-W)	Dust Collector	1.0 - 8.0

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replaced at least once every six (6) months.

D.7.11 Parametric Monitoring [40 CFR 64]

The Permittee shall record the pressure drop across the control device used in conjunction with each Starch Warehouse Area facility as listed below, at least once per day when the associated facility is in operation. When for any one reading, the pressure drop across the baghouse or dust collector is outside any of the following ranges or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee’s obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the following ranges or a range established during the latest stack test is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Unit ID	Control Equipment	Pressure Drop Range (inches of water)
Starch Bulk Loading (93-14-W)	Dust Collector	0.1 - 6
Starch Mix and Bulk Bag Systems 1 & 2 (93-16-W and 93-17-W)	Dust Collectors	0.1 - 6 each

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replaced at least once every six (6) months.

D.7.12 Broken or Failed Bag Detection

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks or dust traces.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.7.13 Record Keeping Requirements

(a) To document the compliance status with Conditions D.7.8 and D.7.9, the Permittee shall maintain a daily record of the visible emission notations of the Starch Warehouse Area stack exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) To document the compliance status with Conditions D.7.10 and D.7.11, the Permittee shall maintain a daily record of the pressure drop readings. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(c) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

SECTION E.1 NEW SOURCE PERFORMANCE STANDARDS FOR INDUSTRIAL-COMMERCIAL-INSTITUTIONAL STEAM GENERATING UNITS (40 CFR 60, Subpart Db)

Facility Description [326 IAC 2-7-5(15)]:

(ee) Natural gas-fired Package Boiler #1 (Unit ID 89-03-U), installed in 2006, with a maximum heat input capacity of 274 million Btu/hr, and exhausting to stack S89-03-U. Under NSPS 40 CFR 60, Subpart Db, Package Boiler #1 is a steam-generating unit with a heat input capacity greater than 100 million Btu/hr.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

E.1.1 General Provisions Relating to the NSPS for Industrial-Commercial-Institutional Steam Generating Units [326 IAC 12-1] [40 CFR 60, Subpart A]

(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1-1 for Industrial-Commercial-Institutional Steam Generating Units as specified in 40 CFR 60, Subpart Db.

(b) Pursuant to 40 CFR 60.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue,
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204

E.1.2 NSPS for Industrial-Commercial-Institutional Steam Generating Units Requirements [40 CFR 60, Subpart Db]

Pursuant to 40 CFR 60, Subpart Db, the Permittee shall comply with the provisions of the New Source Performance Standard for Industrial-Commercial-Institutional Steam Generating Units (included as attachment A of this permit), as specified as follows:

(1) 40 CFR 60.40 (a) and (j)
(2) 40 CFR 60.41
(3) 40 CFR 60.44 (a)(1), (h), and (i)
(4) 40 CFR 60.46 (a) and (e)(1)
(5) 40 CFR 60.48 (b)(1), (c), (d), (e)(2)(3), and (f)
(6) 40 CFR 60.49 (a)(1)(3), (b), (d), (g), (i), (o), (v), and (w)

E.1.3 One Time Deadlines Relating to NSPS 60, Subpart Db

(a) Pursuant to §60.46b(e), the Permittee must conduct the initial performance test for Package Boiler #1 no later than 180 days after the initial start-up.

(b) Pursuant to §60.48b(e), the Permittee must install the NOx CEM prior to the performance test.

SECTION E.2 NEW SOURCE PERFORMANCE STANDARDS FOR VOLATILE ORGANIC LIQUID STORAGE VESSELS FOR WHICH CONSTRUCTION, RECONSTRUCTION, OR MODIFICATION COMMENCED AFTER JULY 23, 1984 (40 CFR 60, Subpart Kb)

Facility Description [326 IAC 2-7-5(15)]:

(ooo) One (1) 28,000 gallon horizontal propylene oxide tank (Unit ID 93-18-S), installed in 1988, with 95% efficient vapor recovery (liquid nitrogen condenser). This tank also provides propylene oxide to other starch processes.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

E.2.1 General Provisions Relating to the NSPS for Volatile Organic Liquid Storage Vessels for which Construction, Reconstruction, or Modification Commenced after July 23, 1984 [326 IAC 12-1] [40 CFR 60, Subpart A]

(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1-1 for Volatile Organic Liquid Storage Vessels for which Construction, Reconstruction, or Modification Commenced after July 23, 1984 as specified in 40 CFR 60, Subpart Kb.

(b) Pursuant to 40 CFR 60.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue,
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204

E.2.2 NSPS for Volatile Organic Liquid Storage Vessels for which Construction, Reconstruction, or Modification Commenced after July 23, 1984 [40 CFR 60, Subpart Kb]

Pursuant to 40 CFR 60, Subpart Kb, the Permittee shall comply with the provisions of the New Source Performance Standard for Volatile Organic Liquid Storage Vessels for which Construction, Reconstruction, or Modification Commenced after July 23, 1984 (included as attachment B of this permit), as specified as follows:

(1) 40 CFR 60.110b(a)
(2) 40 CFR 60.111b
(3) 40 CFR 60.112b(a)(3)
(4) 40 CFR 60.113b(c)
(5) 40 CFR 60.115b(c)
(6) 40 CFR 60.116b(a), (b), (c), and (e)(3)(i)

SECTION E.3 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR ORGANIC LIQUIDS DISTRIBUTION (40 CFR 63, Subpart EEEE)

Facility Description [326 IAC 2-7-5(15)]:

(ooo) One (1) 28,000 gallon horizontal propylene oxide tank (Unit ID 93-18-S), installed in 1988, with 95% efficient vapor recovery (liquid nitrogen condenser). This tank also provides propylene oxide to other starch processes.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

E.3.1 General Provisions Relating to NESHAP EEEE [326 IAC 20-1] [40 CFR Part 63, Subpart A]

(a) Pursuant to 40 CFR 63.4480, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in 40 CFR Part 63, Subpart EEEE in accordance with schedule in 40 CFR 63 Subpart EEEE.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

E.3.2 Organic Liquids Distribution NESHAP [326 IAC 20-81][40 CFR Part 63, Subpart EEEE]

The Permittee which engages in organic liquid distribution with the following provisions of 40 CFR 63, Subpart EEEE (included as Attachment C of this permit), as specified as follows:

(1) 40 CFR 63.2330
(2) 40 CFR 63.2334(a)
(3) 40 CFR 63.2338(b)(2), (3)(ii) - (iv), and (4)
(4) 40 CFR 63.2341(b)(1)
(5) 40 CFR 63.2343(c)(1)(i), (c)(2)(i), (c)(2)(ii), (c)(3), (d)(1), and (d)(4)
(6) 40 CFR 63.2346(c)
(7) 40 CFR 63.2378(b)(1) - (3) and (c)
(8) 40 CFR 63.2382(b)(1)
(9) 40 CFR 63.2386(a), (b)(1) - (3), (c)(1) - (3), (c)(6), (c)(8), (c)(10), (d)(2)(i), (d)(3) - (4), and (e)
(10) 40 CFR 63.2390(a) and (d)
(11) 40 CFR 63.2394
(12) 40 CFR 63.2396(a)(3)
(13) 40 CFR 63.2398
(14) 40 CFR 63.2402
(15) 40 CFR 63.2406

SECTION E.4 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR MAJOR SOURCES: INDUSTRIAL, COMMERCIAL, AND INSTITUTIONAL BOILERS AND PROCESS HEATERS (40 CFR 63, Subpart DDDDD)

Facility Description [326 IAC 2-7-5(15)]:

(ee) Natural gas-fired Package Boiler #1 (Unit ID 89-03-U), installed in 2006, with a maximum heat input capacity of 274 million Btu/hr, and exhausting to stack S89-03-U. Under NSPS 40 CFR 60 Subpart Db, Package Boiler #1 is a steam-generating unit with a heat input capacity greater than 100 million Btu/hr.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

E.4.1 General Provisions Relating to NESHAP DDDDD [326 IAC 20-1] [40 CFR Part 63, Subpart A]

(a) Pursuant to 40 CFR 63.7565, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in 40 CFR Part 63, Subpart DDDDD in accordance with schedule in 40 CFR 63 Subpart DDDDD.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

E.4.2 Industrial, Commercial, and Institutional Boilers and Process Heaters NESHAP [326 IAC 20-95][40 CFR Part 63, Subpart DDDDD]

Pursuant to 40 CFR 63, Subpart DDDDD, the Permittee shall comply with the provisions of the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters (included as attachment D of this permit), as specified as follows:

(1) 40 CFR 63.7480
(2) 40 CFR 63.7485
(3) 40 CFR 63.7490(a)(1), (d)
(4) 40 CFR 63.7495(b), (d)
(5) 40 CFR 63.7499(l)
(6) 40 CFR 63.7500(a)(1), (3)
(7) 40 CFR 63.7501
(8) 40 CFR 63.7505(a)
(9) 40 CFR 63.7515(e)
(10) 40 CFR 63.7540(a)(10), (b)
(11) 40 CFR 63.7545(a), (b)

(12) 40 CFR 63.7550(a), (b), (c), (d)
(13) 40 CFR 63.7555(a)
(14) 40 CFR 63.7560
(15) 40 CFR 63.7565
(16) 40 CFR 63.7570
(17) 40 CFR 63.7575
(18) Table 3 - Work Practice Standards
(19) Table 9 - Reporting Requirements
(20) Table 10 - Applicability of General Provisions to Subpart DDDDD

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
PART 70 OPERATING PERMIT
CERTIFICATION

Source Name:	Cargill, Inc.
Source Address:	1100 Indianapolis Blvd, Hammond, Indiana 46320
Part 70 Permit No.:	T089-27009-00203

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

☐ Annual Compliance Certification Letter

☐ Test Result (specify)

☐ Report (specify)

☐ Notification (specify)

☐ Affidavit (specify)

☐ Other (specify)

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
Signature:
Printed Name:
Title/Position:
Phone:
Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

COMPLIANCE AND ENFORCEMENT BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: (317) 233-0178
Fax: (317) 233-6865

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name: Cargill, Inc.
Source Address: 1100 Indianapolis Blvd, Hammond, Indiana 46320
Part 70 Permit No.: T089-27009-00203

This form consists of 2 pages **Page 1 of 2**

☐ This is an emergency as defined in 326 IAC 2-7-1(12)

- The Permittee must notify the Office of Air Quality (OAQ), within four (**4**) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and
- The Permittee must submit notice in writing or by facsimile within two (**2**) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16.

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A **Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by:_______________________________

Title / Position: ________________________________

Date:____

Phone: ____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
100 N. Senate Avenue
Indianapolis, IN 46204-2251
Phone: 317-233-0178
Fax: 317-233-6865

Part 70 Quarterly Report

Source Name: Cargill, Inc.
Source Address: 1100 Indianapolis Blvd, Hammond, Indiana 46320
Part 70 Permit No.: T089-27009-00203
Facility: 800-04-E
Parameter: Total SO2 emissions
Limits: Less than forty (40) tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Quarter ___________ YEAR:_________

	Column 1	Column 2	Column 3 Column 1 + Column 2
Month	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviations occurred in this quarter.
☐ Deviation/s occurred in this quarter.

Submitted by: ______________________________________

Title/Position: ______________________________________

Signature: ______________________________________

Date: ______________________________________

Phone: ______________________________________

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
100 N. Senate Avenue
Indianapolis, IN 46204-2251
Phone: 317-233-0178
Fax: 317-233-6865

Part 70 Quarterly Report

Source Name: Cargill, Inc.
Source Address: 1100 Indianapolis Blvd, Hammond, Indiana 46320
Part 70 Permit No.: T089-27009-00203
Facility: 800-04-E
Parameter: Total H2S emissions
Limits: Less than ten (10) tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Quarter ___________ YEAR:_________

	Column 1	Column 2	Column 3 Column 1 + Column 2
Month	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviations occurred in this quarter.
☐ Deviation/s occurred in this quarter.

Submitted by: ______________________________

Title/Position: ______________________________

Signature: ______________________________

Date: ______________________________

Phone: ______________________________

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
100 N. Senate Avenue
Indianapolis, IN 46204-2251
Phone: 317-233-0178
Fax: 317-233-6865

Part 70 Quarterly Report

Source Name:	Cargill, Inc.
Source Address:	1100 Indianapolis Blvd, Hammond, Indiana 46320
Part 70 Permit No.:	T089-27009-00203
Facility:	121-01-G, 89-01-G, 124A-01-G, 104-01-R, and 800-04-E
Parameter:	Total SO2 emissions - 326 IAC 7-4.1-5(b)
Limits:	quarterly report of the 12 month rolling average of SO2 emissions

Quarter ____________ YEAR:__________

	Column 1	Column 2	Column 3 Column 1 + Column 2
Month	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviations occurred in this quarter.
☐ Deviation/s occurred in this quarter.

Submitted by: ________________________________

Title/Position: ________________________________

Signature: ________________________________

Date: ________________________________

Phone: ________________________________

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Cargill, Inc.
Source Address: 1100 Indianapolis Blvd, Hammond, Indiana 46320
Part 70 Permit No.: T089-27009-00203

Months: ______ to __________ Year: _________

Page 1 of 2

This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".
☐ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.
☐ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed by:______________________________

Title / Position: _________________________________

Date:____

Phone: ____

Indiana Department of Environmental Management
Office of Air Quality

Attachment A
to a Part 70 Operating Permit Renewal

Source Background and Description

Source Name:	Cargill, Inc.
Source Location:	1100 Indianapolis Blvd., Hammond, IN 46320
County:	Lake
SIC Code:	2046
Permit Renewal No.:	T089-27009-00203
Permit Reviewer:	Kristen Willoughby

Title 40: Protection of Environment
PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Subpart Db—Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

Source: 72 FR 32742, June 13, 2007, unless otherwise noted.

§ 60.40b Applicability and delegation of authority.

(a) The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)).

(b) Any affected facility meeting the applicability requirements under paragraph (a) of this section and commencing construction, modification, or reconstruction after June 19, 1984, but on or before June 19, 1986, is subject to the following standards:

(1) Coal-fired affected facilities having a heat input capacity between 29 and 73 MW (100 and 250 MMBtu/hr), inclusive, are subject to the particulate matter (PM) and nitrogen oxides (NO_X) standards under this subpart.

(2) Coal-fired affected facilities having a heat input capacity greater than 73 MW (250 MMBtu/hr) and meeting the applicability requirements under subpart D (Standards of performance for fossil-fuel-fired steam generators; §60.40) are subject to the PM and NO_X standards under this subpart and to the sulfur dioxide (SO_2) standards under subpart D (§60.43).

(3) Oil-fired affected facilities having a heat input capacity between 29 and 73 MW (100 and 250 MMBtu/hr), inclusive, are subject to the NO_X standards under this subpart.

(4) Oil-fired affected facilities having a heat input capacity greater than 73 MW (250 MMBtu/hr) and meeting the applicability requirements under subpart D (Standards of performance for fossil-fuel-fired steam generators; §60.40) are also subject to the NO_X standards under this subpart and the PM and SO_2standards under subpart D (§60.42 and §60.43).

(c) Affected facilities that also meet the applicability requirements under subpart J (Standards of performance for petroleum refineries; §60.104) are subject to the PM and NO_X standards under this subpart and the SO_2standards under subpart J (§60.104).

(d) Affected facilities that also meet the applicability requirements under subpart E (Standards of performance for incinerators; §60.50) are subject to the NO_X and PM standards under this subpart.

(e) Steam generating units meeting the applicability requirements under subpart Da (Standards of performance for electric utility steam generating units; §60.40Da) are not subject to this subpart.

(f) Any change to an existing steam generating unit for the sole purpose of combusting gases containing total reduced sulfur (TRS) as defined under §60.281 is not considered a modification under §60.14 and the steam generating unit is not subject to this subpart.

(g) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, the following authorities shall be retained by the Administrator and not transferred to a State.

(1) Section 60.44b(f).

(2) Section 60.44b(g).

(3) Section 60.49b(a)(4).

(h) Any affected facility that meets the applicability requirements and is subject to subpart Ea, subpart Eb, or subpart AAAA of this part is not covered by this subpart.

(i) Heat recovery steam generators that are associated with combined cycle gas turbines and that meet the applicability requirements of subpart KKKK of this part are not subject to this subpart. This subpart will continue to apply to all other heat recovery steam generators that are capable of combusting more than 29 MW (100 MMBtu/hr) heat input of fossil fuel. If the heat recovery steam generator is subject to this subpart, only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The gas turbine emissions are subject to subpart GG or KKKK, as applicable, of this part.)

(j) Any affected facility meeting the applicability requirements under paragraph (a) of this section and commencing construction, modification, or reconstruction after June 19, 1986 is not subject to subpart D (Standards of Performance for Fossil-Fuel-Fired Steam Generators, §60.40).

(k) Any affected facility that meets the applicability requirements and is subject to an EPA approved State or Federal section 111(d)/129 plan implementing subpart Cb or subpart BBBB of this part is not covered by this subpart.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5084, Jan. 28, 2009]

§ 60.41b Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.

Annual capacity factor means the ratio between the actual heat input to a steam generating unit from the fuels listed in §60.42b(a), §60.43b(a), or §60.44b(a), as applicable, during a calendar year and the potential heat input to the steam generating unit had it been operated for 8,760 hours during a calendar year at the maximum steady state design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility in a calendar year.

Byproduct/waste means any liquid or gaseous substance produced at chemical manufacturing plants, petroleum refineries, or pulp and paper mills (except natural gas, distillate oil, or residual oil) and combusted in a steam generating unit for heat recovery or for disposal. Gaseous substances with carbon dioxide (CO_2) levels greater than 50 percent or carbon monoxide levels greater than 10 percent are not byproduct/waste for the purpose of this subpart.

Chemical manufacturing plants mean industrial plants that are classified by the Department of Commerce under Standard Industrial Classification (SIC) Code 28.

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see §60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels, including but not limited to solvent refined coal, gasified coal not meeting the definition of natural gas, coal-oil mixtures, coke oven gas, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

Coal refuse means any byproduct of coal mining or coal cleaning operations with an ash content greater than 50 percent, by weight, and a heating value less than 13,900 kJ/kg (6,000 Btu/lb) on a dry basis.

Cogeneration, also known as combined heat and power, means a facility that simultaneously produces both electric (or mechanical) and useful thermal energy from the same primary energy source.

Coke oven gas means the volatile constituents generated in the gaseous exhaust during the carbonization of bituminous coal to form coke.

Combined cycle system means a system in which a separate source, such as a gas turbine, internal combustion engine, kiln, etc., provides exhaust gas to a steam generating unit.

Conventional technology means wet flue gas desulfurization (FGD) technology, dry FGD technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.

Distillate oil means fuel oils that contain 0.05 weight percent nitrogen or less and comply with the specifications for fuel oil numbers 1 and 2, as defined by the American Society of Testing and Materials in ASTM D396 (incorporated by reference, see §60.17) or diesel fuel oil numbers 1 and 2, as defined by the American Society for Testing and Materials in ASTM D975 (incorporated by reference, see §60.17).

Dry flue gas desulfurization technology means a SO_2control system that is located downstream of the steam generating unit and removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline reagent and water, whether introduced separately or as a premixed slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline slurries or solutions used in dry flue gas desulfurization technology include but are not limited to lime and sodium.

Duct burner means a device that combusts fuel and that is placed in the exhaust duct from another source, such as a stationary gas turbine, internal combustion engine, kiln, etc., to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.

Emerging technology means any SO_2control system that is not defined as a conventional technology under this section, and for which the owner or operator of the facility has applied to the Administrator and received approval to operate as an emerging technology under §60.49b(a)(4).

Federally enforceable means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State Implementation Plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 51.24.

Fluidized bed combustion technology means combustion of fuel in a bed or series of beds (including but not limited to bubbling bed units and circulating bed units) of limestone aggregate (or other sorbent materials) in which these materials are forced upward by the flow of combustion air and the gaseous products of combustion.

Fuel pretreatment means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

Full capacity means operation of the steam generating unit at 90 percent or more of the maximum steady-state design heat input capacity.

Gaseous fuel means any fuel that is a gas at ISO conditions. This includes, but is not limited to, natural gas and gasified coal (including coke oven gas).

Gross output means the gross useful work performed by the steam generated. For units generating only electricity, the gross useful work performed is the gross electrical output from the turbine/generator set. For cogeneration units, the gross useful work performed is the gross electrical or mechanical output plus 75 percent of the useful thermal output measured relative to ISO conditions that is not used to generate additional electrical or mechanical output or to enhance the performance of the unit (*i.e.,* steam delivered to an industrial process).

Heat input means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

Heat release rate means the steam generating unit design heat input capacity (in MW or Btu/hr) divided by the furnace volume (in cubic meters or cubic feet); the furnace volume is that volume bounded by the front furnace wall where the burner is located, the furnace side waterwall, and extending to the level just below or in front of the first row of convection pass tubes.

Heat transfer medium means any material that is used to transfer heat from one point to another point.

High heat release rate means a heat release rate greater than 730,000 J/sec-m^3 (70,000 Btu/hr-ft^3).

ISO Conditions means a temperature of 288 Kelvin, a relative humidity of 60 percent, and a pressure of 101.3 kilopascals.

Lignite means a type of coal classified as lignite A or lignite B by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see §60.17).

Low heat release rate means a heat release rate of 730,000 J/sec-m^3 (70,000 Btu/hr-ft^3) or less.

Mass-feed stoker steam generating unit means a steam generating unit where solid fuel is introduced directly into a retort or is fed directly onto a grate where it is combusted.

Maximum heat input capacity means the ability of a steam generating unit to combust a stated maximum amount of fuel on a steady state basis, as determined by the physical design and characteristics of the steam generating unit.

Municipal-type solid waste means refuse, more than 50 percent of which is waste consisting of a mixture of paper, wood, yard wastes, food wastes, plastics, leather, rubber, and other combustible materials, and noncombustible materials such as glass and rock.

Natural gas means:

(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or

(2) Liquefied petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see §60.17); or

(3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 34 and 43 megajoules (MJ) per dry standard cubic meter (910 and 1,150 Btu per dry standard cubic foot).

Noncontinental area means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

Oil means crude oil or petroleum or a liquid fuel derived from crude oil or petroleum, including distillate and residual oil.

Petroleum refinery means industrial plants as classified by the Department of Commerce under Standard Industrial Classification (SIC) Code 29.

Potential sulfur dioxide emission rate means the theoretical SO_2emissions (nanograms per joule (ng/J) or lb/MMBtu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems. For gasified coal or oil that is desulfurized prior to combustion, the *Potential sulfur dioxide emission rate* is the theoretical SO_2emissions (ng/J or lb/MMBtu heat input) that would result from combusting fuel in a cleaned state without using any post combustion emission control systems.

Process heater means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

Pulp and paper mills means industrial plants that are classified by the Department of Commerce under North American Industry Classification System (NAICS) Code 322 or Standard Industrial Classification (SIC) Code 26.

Pulverized coal-fired steam generating unit means a steam generating unit in which pulverized coal is introduced into an air stream that carries the coal to the combustion chamber of the steam generating unit where it is fired in suspension. This includes both conventional pulverized coal-fired and micropulverized coal-fired steam generating units. Residual oil means crude oil, fuel oil numbers 1 and 2 that have a nitrogen content greater than 0.05 weight percent, and all fuel oil numbers 4, 5 and 6, as defined by the American Society of Testing and Materials in ASTM D396 (incorporated by reference, see §60.17).

Spreader stoker steam generating unit means a steam generating unit in which solid fuel is introduced to the combustion zone by a mechanism that throws the fuel onto a grate from above. Combustion takes place both in suspension and on the grate.

Steam generating unit means a device that combusts any fuel or byproduct/waste and produces steam or heats water or heats any heat transfer medium. This term includes any municipal-type solid waste incinerator with a heat recovery steam generating unit or any steam generating unit that combusts fuel and is part of a cogeneration system or a combined cycle system. This term does not include process heaters as they are defined in this subpart.

Steam generating unit operating day means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

Very low sulfur oil means for units constructed, reconstructed, or modified on or before February 28, 2005, oil that contains no more than 0.5 weight percent sulfur or that, when combusted without SO_2emission control, has a SO_2emission rate equal to or less than 215 ng/J (0.5 lb/MMBtu) heat input. For units constructed, reconstructed, or modified after February 28, 2005 and not located in a noncontinental area, *very low sulfur oil* means oil that contains no more than 0.30 weight percent sulfur or that, when combusted without SO_2emission control, has a SO_2emission rate equal to or less than 140 ng/J (0.32 lb/MMBtu) heat input. For units constructed, reconstructed, or modified after February 28, 2005 and located in a noncontinental area, *very low sulfur oil* means oil that contains no more than 0.5 weight percent sulfur or that, when combusted without SO_2emission control, has a SO_2emission rate equal to or less than 215 ng/J (0.50 lb/MMBtu) heat input.

Wet flue gas desulfurization technology means a SO_2control system that is located downstream of the steam generating unit and removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gas with an alkaline slurry or solution and forming a liquid material. This definition applies to devices where the aqueous liquid material product of this contact is subsequently converted to other forms. Alkaline reagents used in wet flue gas desulfurization technology include, but are not limited to, lime, limestone, and sodium.

Wet scrubber system means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of PM or SO_2.

Wood means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including, but not limited to, sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5084, Jan. 28, 2009]

§ 60.42b Standard for sulfur dioxide (SO_2).

(a) Except as provided in paragraphs (b), (c), (d), or (j) of this section, on and after the date on which the performance test is completed or required to be completed under §60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal or oil shall cause to be discharged into the atmosphere any gases that contain SO_2in excess of 87 ng/J (0.20 lb/MMBtu) or 10 percent (0.10) of the potential SO_2emission rate (90 percent reduction) and the emission limit determined according to the following formula:

$$E_s = \frac{(K_a H_a + K_b H_b)}{(H_a + H_b)}$$

Where:

E_s= SO_2emission limit, in ng/J or lb/MMBtu heat input;

K_a= 520 ng/J (or 1.2 lb/MMBtu);

K_b= 340 ng/J (or 0.80 lb/MMBtu);

H_a= Heat input from the combustion of coal, in J (MMBtu); and

H_b= Heat input from the combustion of oil, in J (MMBtu).

For facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in this paragraph. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels or heat derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(b) On and after the date on which the performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal refuse alone in a fluidized bed combustion steam generating unit shall cause to be discharged into the atmosphere any gases that contain SO_2in excess of 87 ng/J (0.20 lb/MMBtu) or 20 percent (0.20) of the potential SO_2emission rate (80 percent reduction) and 520 ng/J (1.2 lb/MMBtu) heat input. If coal or oil is fired with coal refuse, the affected facility is subject to paragraph (a) or (d) of this section, as applicable. For facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in this paragraph. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels or heat derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(c) On and after the date on which the performance test is completed or is required to be completed under §60.8, whichever comes first, no owner or operator of an affected facility that combusts coal or oil, either alone or in combination with any other fuel, and that uses an emerging technology for the control of SO_2emissions, shall cause to be discharged into the atmosphere any gases that contain SO_2in excess of 50 percent of the potential SO_2emission rate (50 percent reduction) and that contain SO_2in excess of the emission limit determined according to the following formula:

$$E_s = \frac{(K_c H_c + K_d H_d)}{(H_c + H_d)}$$

Where:

E_s= SO2 emission limit, in ng/J or lb/MM Btu heat input;

K_c= 260 ng/J (or 0.60 lb/MMBtu);

K_d= 170 ng/J (or 0.40 lb/MMBtu);

H_c= Heat input from the combustion of coal, in J (MMBtu); and

H_d= Heat input from the combustion of oil, in J (MMBtu).

For facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in this paragraph. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels, or from the heat input derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(d) On and after the date on which the performance test is completed or required to be completed under §60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005 and listed in paragraphs (d)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere any gases that contain SO_2in excess of 520 ng/J (1.2 lb/MMBtu) heat input if the affected facility combusts coal, or 215 ng/J (0.5 lb/MMBtu) heat input if the affected facility combusts oil other than very low sulfur oil. Percent reduction requirements are not applicable to affected facilities under paragraphs (d)(1), (2), (3) or (4) of this section. For facilities complying with paragraphs (d)(1), (2), or (3) of this section, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in this paragraph. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels or heat derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(1) Affected facilities that have an annual capacity factor for coal and oil of 30 percent (0.30) or less and are subject to a federally enforceable permit limiting the operation of the affected facility to an annual capacity factor for coal and oil of 30 percent (0.30) or less;

(2) Affected facilities located in a noncontinental area; or

(3) Affected facilities combusting coal or oil, alone or in combination with any fuel, in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat entering the steam generating unit is from combustion of coal and oil in the duct burner and 70 percent (0.70) or more of the heat entering the steam generating unit is from the exhaust gases entering the duct burner; or

(4) The affected facility burns coke oven gas alone or in combination with natural gas or very low sulfur distillate oil.

(e) Except as provided in paragraph (f) of this section, compliance with the emission limits, fuel oil sulfur limits, and/or percent reduction requirements under this section are determined on a 30-day rolling average basis.

(f) Except as provided in paragraph (j)(2) of this section, compliance with the emission limits or fuel oil sulfur limits under this section is determined on a 24-hour average basis for affected facilities that (1) have a federally enforceable permit limiting the annual capacity factor for oil to 10 percent or less, (2) combust only very low sulfur oil, and (3) do not combust any other fuel.

(g) Except as provided in paragraph (i) of this section and §60.45b(a), the SO_2 emission limits and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(h) Reductions in the potential SO_2 emission rate through fuel pretreatment are not credited toward the percent reduction requirement under paragraph (c) of this section unless:

(1) Fuel pretreatment results in a 50 percent or greater reduction in potential SO_2 emissions and

(2) Emissions from the pretreated fuel (without combustion or post-combustion SO_2 control) are equal to or less than the emission limits specified in paragraph (c) of this section.

(i) An affected facility subject to paragraph (a), (b), or (c) of this section may combust very low sulfur oil or natural gas when the SO_2 control system is not being operated because of malfunction or maintenance of the SO_2 control system.

(j) Percent reduction requirements are not applicable to affected facilities combusting only very low sulfur oil. The owner or operator of an affected facility combusting very low sulfur oil shall demonstrate that the oil meets the definition of very low sulfur oil by: (1) Following the performance testing procedures as described in §60.45b(c) or §60.45b(d), and following the monitoring procedures as described in §60.47b(a) or §60.47b(b) to determine SO_2 emission rate or fuel oil sulfur content; or (2) maintaining fuel records as described in §60.49b(r).

(k)(1) Except as provided in paragraphs (k)(2), (k)(3), and (k)(4) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, natural gas, a mixture of these fuels, or a mixture of these fuels with any other fuels shall cause to be discharged into the atmosphere any gases that contain SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 8 percent (0.08) of the potential SO_2 emission rate (92 percent reduction) and 520 ng/J (1.2 lb/MMBtu) heat input. For facilities complying with the percent reduction standard and paragraph (k)(3) of this section, only the heat input supplied to the affected facility from the combustion of coal and oil is counted in paragraph (k) of this section. No credit is provided for the heat input to the affected facility from the combustion of natural gas, wood, municipal-type solid waste, or other fuels or heat derived from exhaust gases from other sources, such as gas turbines, internal combustion engines, kilns, etc.

(2) Units firing only very low sulfur oil, gaseous fuel, a mixture of these fuels, or a mixture of these fuels with any other fuels with a potential SO_2 emission rate of 140 ng/J (0.32 lb/MMBtu) heat input or less are exempt from the SO_2 emissions limit in paragraph (k)(1) of this section.

(3) Units that are located in a noncontinental area and that combust coal, oil, or natural gas shall not discharge any gases that contain SO_2 in excess of 520 ng/J (1.2 lb/MMBtu) heat input if the affected facility combusts coal, or 215 ng/J (0.50 lb/MMBtu) heat input if the affected facility combusts oil or natural gas.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5084, Jan. 28, 2009]

§ 60.43b Standard for particulate matter (PM).

(a) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005 that combusts coal or combusts mixtures of coal with other fuels, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 22 ng/J (0.051 lb/MMBtu) heat input, (i) If the affected facility combusts only coal, or

(ii) If the affected facility combusts coal and other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility combusts coal and other fuels and has an annual capacity factor for the other fuels greater than 10 percent (0.10) and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.

(3) 86 ng/J (0.20 lb/MMBtu) heat input if the affected facility combusts coal or coal and other fuels and

(i) Has an annual capacity factor for coal or coal and other fuels of 30 percent (0.30) or less,

(ii) Has a maximum heat input capacity of 73 MW (250 MMBtu/hr) or less,

(iii) Has a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) or less for coal or coal and other solid fuels, and

(iv) Construction of the affected facility commenced after June 19, 1984, and before November 25, 1986.

(4) An affected facility burning coke oven gas alone or in combination with other fuels not subject to a PM standard under §60.43b and not using a post-combustion technology (except a wet scrubber) for reducing PM or SO_2 emissions is not subject to the PM limits under §60.43b(a).

(b) On and after the date on which the performance test is completed or required to be completed under §60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, and that combusts oil (or mixtures of oil with other fuels) and uses a conventional or emerging technology to reduce SO_2 emissions shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(c) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, and that combusts wood, or wood with other fuels, except coal, shall cause to be discharged from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility has an annual capacity factor greater than 30 percent (0.30) for wood.

(2) 86 ng/J (0.20 lb/MMBtu) heat input if (i) The affected facility has an annual capacity factor of 30 percent (0.30) or less for wood;

(ii) Is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) or less for wood; and

(iii) Has a maximum heat input capacity of 73 MW (250 MMBtu/hr) or less.

(d) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts municipal-type solid waste or mixtures of municipal-type solid waste with other fuels, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 43 ng/J (0.10 lb/MMBtu) heat input;

(i) If the affected facility combusts only municipal-type solid waste; or

(ii) If the affected facility combusts municipal-type solid waste and other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 86 ng/J (0.20 lb/MMBtu) heat input if the affected facility combusts municipal-type solid waste or municipal-type solid waste and other fuels; and

(i) Has an annual capacity factor for municipal-type solid waste and other fuels of 30 percent (0.30) or less;

(ii) Has a maximum heat input capacity of 73 MW (250 MMBtu/hr) or less;

(iii) Has a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor of 30 percent (0.30) or less for municipal-type solid waste, or municipal-type solid waste and other fuels; and

(iv) Construction of the affected facility commenced after June 19, 1984, but on or before November 25, 1986.

(e) For the purposes of this section, the annual capacity factor is determined by dividing the actual heat input to the steam generating unit during the calendar year from the combustion of coal, wood, or municipal-type solid waste, and other fuels, as applicable, by the potential heat input to the steam generating unit if the steam generating unit had been operated for 8,760 hours at the maximum heat input capacity.

(f) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that can combust coal, oil, wood, or mixtures of these fuels with any other fuels shall cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. Owners and operators of an affected facility that elect to install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) for measuring PM emissions according to the requirements of this subpart and are subject to a federally enforceable PM limit of 0.030 lb/MMBtu or less are exempt from the opacity standard specified in this paragraph.

(g) The PM and opacity standards apply at all times, except during periods of startup, shutdown, or malfunction.

(h)(1) Except as provided in paragraphs (h)(2), (h)(3), (h)(4), (h)(5), and (h)(6) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input,

(2) As an alternative to meeting the requirements of paragraph (h)(1) of this section, the owner or operator of an affected facility for which modification commenced after February 28, 2005, may elect to meet the requirements of this paragraph. On and after the date on which the initial performance test is completed or required to be completed under §60.8, no owner or operator of an affected facility that commences modification after February 28, 2005 shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of both:

(i) 22 ng/J (0.051 lb/MMBtu) heat input derived from the combustion of coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels; and

(ii) 0.2 percent of the combustion concentration (99.8 percent reduction) when combusting coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels.

(3) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a maximum heat input capacity of 73 MW (250 MMBtu/h) or less shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(4) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a maximum

heat input capacity greater than 73 MW (250 MMBtu/h) shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 37 ng/J (0.085 lb/MMBtu) heat input.

(5) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, an owner or operator of an affected facility not located in a noncontinental area that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.30 weight percent sulfur, coke oven gas, a mixture of these fuels, or either fuel (or a mixture of these fuels) in combination with other fuels not subject to a PM standard in §60.43b and not using a post-combustion technology (except a wet scrubber) to reduce SO_2or PM emissions is not subject to the PM limits in (h)(1) of this section.

(6) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, an owner or operator of an affected facility located in a noncontinental area that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.5 weight percent sulfur, coke oven gas, a mixture of these fuels, or either fuel (or a mixture of these fuels) in combination with other fuels not subject to a PM standard in §60.43b and not using a post-combustion technology (except a wet scrubber) to reduce SO_2or PM emissions is not subject to the PM limits in (h)(1) of this section.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5084, Jan. 28, 2009]

§ 60.44b Standard for nitrogen oxides (NOX).

(a) Except as provided under paragraphs (k) and (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that is subject to the provisions of this section and that combusts only coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain NO_X(expressed as NO_2) in excess of the following emission limits:

	Nitrogen oxide emission limits (expressed as NO_2) heat input	
Fuel/steam generating unit type	**ng/J**	**lb/MMBTu**
(1) Natural gas and distillate oil, except (4):		
(i) Low heat release rate	43	0.10
(ii) High heat release rate	86	0.20
(2) Residual oil:		
(i) Low heat release rate	130	0.30
(ii) High heat release rate	170	0.40
(3) Coal:		
(i) Mass-feed stoker	210	0.50
(ii) Spreader stoker and fluidized bed combustion	260	0.60
(iii) Pulverized coal	300	0.70
(iv) Lignite, except (v)	260	0.60
(v) Lignite mined in North Dakota, South Dakota, or Montana and combusted in a slag tap furnace	340	0.80
(vi) Coal-derived synthetic fuels	210	0.50

Fuel/steam generating unit type	Nitrogen oxide emission limits (expressed as NO_2) heat input	
	ng/J	lb/MMBTu
(4) Duct burner used in a combined cycle system:		
(i) Natural gas and distillate oil	86	0.20
(ii) Residual oil	170	0.40

(b) Except as provided under paragraphs (k) and (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts mixtures of coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain NO_X in excess of a limit determined by the use of the following formula:

$$E_n = \frac{(EL_{go}H_{go}) + (EL_{ro}H_{ro}) + (EL_cH_c)}{(H_{go} + H_{ro} + H_c)}$$

Where:

E_n= NO_X emission limit (expressed as NO_2), ng/J (lb/MMBtu);

EL_{go}= Appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/MMBtu);

H_{go}= Heat input from combustion of natural gas or distillate oil, J (MMBtu);

EL_{ro}= Appropriate emission limit from paragraph (a)(2) for combustion of residual oil, ng/J (lb/MMBtu);

H_{ro}= Heat input from combustion of residual oil, J (MMBtu);

EL_c= Appropriate emission limit from paragraph (a)(3) for combustion of coal, ng/J (lb/MMBtu); and

H_c= Heat input from combustion of coal, J (MMBtu).

(c) Except as provided under paragraph (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts coal or oil, or a mixture of these fuels with natural gas, and wood, municipal-type solid waste, or any other fuel shall cause to be discharged into the atmosphere any gases that contain NO_X in excess of the emission limit for the coal or oil, or mixtures of these fuels with natural gas combusted in the affected facility, as determined pursuant to paragraph (a) or (b) of this section, unless the affected facility has an annual capacity factor for coal or oil, or mixture of these fuels with natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, or a mixture of these fuels with natural gas.

(d) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts natural gas with wood, municipal-type solid waste, or other solid fuel, except coal, shall cause to be discharged into the atmosphere from that affected facility any gases that contain NO_X in excess of 130 ng/J (0.30 lb/MMBtu) heat input unless the affected facility has an annual capacity factor for natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less for natural gas.

(e) Except as provided under paragraph (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts coal, oil, or natural gas with byproduct/waste shall cause to be discharged into the atmosphere any gases that contain NO_X in excess of the emission limit determined by the following formula unless the affected facility has an annual capacity factor for coal, oil, and natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less:

$$E_n = \frac{(EL_{go}H_{go}) + (EL_{ro}H_{ro}) + (EL_cH_c)}{(H_{go} + H_{ro} + H_c)}$$

Where:

E_n= NO_X emission limit (expressed as NO_2), ng/J (lb/MMBtu);

EL_{go}= Appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/MMBtu);

H_{go}= Heat input from combustion of natural gas, distillate oil and gaseous byproduct/waste, J (MMBtu);

EL_{ro}= Appropriate emission limit from paragraph (a)(2) for combustion of residual oil and/or byproduct/waste, ng/J (lb/MMBtu);

H_{ro}= Heat input from combustion of residual oil, J (MMBtu);

EL_c= Appropriate emission limit from paragraph (a)(3) for combustion of coal, ng/J (lb/MMBtu); and

H_c= Heat input from combustion of coal, J (MMBtu).

(f) Any owner or operator of an affected facility that combusts byproduct/waste with either natural gas or oil may petition the Administrator within 180 days of the initial startup of the affected facility to establish a NO_X emission limit that shall apply specifically to that affected facility when the byproduct/waste is combusted. The petition shall include sufficient and appropriate data, as determined by the Administrator, such as NO_X emissions from the affected facility, waste composition (including nitrogen content), and combustion conditions to allow the Administrator to confirm that the affected facility is unable to comply with the emission limits in paragraph (e) of this section and to determine the appropriate emission limit for the affected facility.

(1) Any owner or operator of an affected facility petitioning for a facility-specific NO_X emission limit under this section shall:

(i) Demonstrate compliance with the emission limits for natural gas and distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, by conducting a 30-day performance test as provided in §60.46b(e). During the performance test only natural gas, distillate oil, or residual oil shall be combusted in the affected facility; and

(ii) Demonstrate that the affected facility is unable to comply with the emission limits for natural gas and distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, when gaseous or liquid byproduct/waste is combusted in the affected facility under the same conditions and using the same technological system of emission reduction applied when demonstrating compliance under paragraph (f)(1)(i) of this section.

(2) The NO_X emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, shall be applicable to the affected facility until and unless the petition is approved by the Administrator. If the petition is approved by the Administrator, a facility-specific NO_X

emission limit will be established at the NO_X emission level achievable when the affected facility is combusting oil or natural gas and byproduct/waste in a manner that the Administrator determines to be consistent with minimizing NO_X emissions. In lieu of amending this subpart, a letter will be sent to the facility describing the facility-specific NO_X limit. The facility shall use the compliance procedures detailed in the letter and make the letter available to the public. If the Administrator determines it is appropriate, the conditions and requirements of the letter can be reviewed and changed at any point.

(g) Any owner or operator of an affected facility that combusts hazardous waste (as defined by 40 CFR part 261 or 40 CFR part 761) with natural gas or oil may petition the Administrator within 180 days of the initial startup of the affected facility for a waiver from compliance with the NO_X emission limit that applies specifically to that affected facility. The petition must include sufficient and appropriate data, as determined by the Administrator, on NO_X emissions from the affected facility, waste destruction efficiencies, waste composition (including nitrogen content), the quantity of specific wastes to be combusted and combustion conditions to allow the Administrator to determine if the affected facility is able to comply with the NO_X emission limits required by this section. The owner or operator of the affected facility shall demonstrate that when hazardous waste is combusted in the affected facility, thermal destruction efficiency requirements for hazardous waste specified in an applicable federally enforceable requirement preclude compliance with the NO_X emission limits of this section. The NO_X emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, are applicable to the affected facility until and unless the petition is approved by the Administrator. (See 40 CFR 761.70 for regulations applicable to the incineration of materials containing polychlorinated biphenyls (PCB's).) In lieu of amending this subpart, a letter will be sent to the facility describing the facility-specific NO_X limit. The facility shall use the compliance procedures detailed in the letter and make the letter available to the public. If the Administrator determines it is appropriate, the conditions and requirements of the letter can be reviewed and changed at any point.

(h) For purposes of paragraph (i) of this section, the NO_X standards under this section apply at all times including periods of startup, shutdown, or malfunction.

(i) Except as provided under paragraph (j) of this section, compliance with the emission limits under this section is determined on a 30-day rolling average basis.

(j) Compliance with the emission limits under this section is determined on a 24-hour average basis for the initial performance test and on a 3-hour average basis for subsequent performance tests for any affected facilities that:

(1) Combust, alone or in combination, only natural gas, distillate oil, or residual oil with a nitrogen content of 0.30 weight percent or less;

(2) Have a combined annual capacity factor of 10 percent or less for natural gas, distillate oil, and residual oil with a nitrogen content of 0.30 weight percent or less; and

(3) Are subject to a federally enforceable requirement limiting operation of the affected facility to the firing of natural gas, distillate oil, and/or residual oil with a nitrogen content of 0.30 weight percent or less and limiting operation of the affected facility to a combined annual capacity factor of 10 percent or less for natural gas, distillate oil, and residual oil with a nitrogen content of 0.30 weight percent or less.

(k) Affected facilities that meet the criteria described in paragraphs (j)(1), (2), and (3) of this section, and that have a heat input capacity of 73 MW (250 MMBtu/hr) or less, are not subject to the NO_X emission limits under this section.

(l) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction or reconstruction after July 9, 1997 shall cause to be discharged into the atmosphere from that affected facility any gases that contain NO_X (expressed as NO_2) in excess of the following limits:

(1) If the affected facility combusts coal, oil, natural gas, a mixture of these fuels, or a mixture of these fuels with any other fuels: A limit of 86 ng/J (0.20 lb/MMBtu) heat input unless the affected facility has an annual capacity factor for coal, oil, and natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, and natural gas; or

(2) If the affected facility has a low heat release rate and combusts natural gas or distillate oil in excess of 30 percent of the heat input on a 30-day rolling average from the combustion of all fuels, a limit determined by use of the following formula:

$$E_n = \frac{(0.10 \times H_{go}) + (0.20 \times H_r)}{(H_{go} + H_r)}$$

Where:

E_n= NO_X emission limit, (lb/MMBtu);

H_{go}= 30-day heat input from combustion of natural gas or distillate oil; and

H_r= 30-day heat input from combustion of any other fuel.

(3) After February 27, 2006, units where more than 10 percent of total annual output is electrical or mechanical may comply with an optional limit of 270 ng/J (2.1 lb/MWh) gross energy output, based on a 30-day rolling average. Units complying with this output-based limit must demonstrate compliance according to the procedures of §60.48Da(i) of subpart Da of this part, and must monitor emissions according to §60.49Da(c), (k), through (n) of subpart Da of this part.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5086, Jan. 28, 2009]

§ 60.45b Compliance and performance test methods and procedures for sulfur dioxide.

(a) The SO_2emission standards in §60.42b apply at all times. Facilities burning coke oven gas alone or in combination with any other gaseous fuels or distillate oil are allowed to exceed the limit 30 operating days per calendar year for SO_2control system maintenance.

(b) In conducting the performance tests required under §60.8, the owner or operator shall use the methods and procedures in appendix A (including fuel certification and sampling) of this part or the methods and procedures as specified in this section, except as provided in §60.8(b). Section 60.8(f) does not apply to this section. The 30-day notice required in §60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.

(c) The owner or operator of an affected facility shall conduct performance tests to determine compliance with the percent of potential SO_2emission rate (% P_s) and the SO_2emission rate (E_s) pursuant to §60.42b following the procedures listed below, except as provided under paragraph (d) and (k) of this section.

(1) The initial performance test shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the SO_2standards shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility.

(2) If only coal, only oil, or a mixture of coal and oil is combusted, the following procedures are used:

(i) The procedures in Method 19 of appendix A–7 of this part are used to determine the hourly SO_2emission rate (E_{ho}) and the 30-day average emission rate (E_{ao}). The hourly averages used to compute the 30-day averages are obtained from the CEMS of §60.47b(a) or (b).

(ii) The percent of potential SO_2emission rate (%P_s) emitted to the atmosphere is computed using the following formula:

$$\%P_s = 100\left(1 - \frac{\%R_g}{100}\right)\left(1 - \frac{\%R_f}{100}\right)$$

Where:

$\%P_s$= Potential SO_2 emission rate, percent;

$\%R_g$= SO_2 removal efficiency of the control device as determined by Method 19 of appendix A of this part, in percent; and

$\%R_f$= SO_2 removal efficiency of fuel pretreatment as determined by Method 19 of appendix A of this part, in percent.

(3) If coal or oil is combusted with other fuels, the same procedures required in paragraph (c)(2) of this section are used, except as provided in the following:

(i) An adjusted hourly SO_2 emission rate (E_{ho}^o) is used in Equation 19–19 of Method 19 of appendix A of this part to compute an adjusted 30-day average emission rate (E_{ao}^o). The Eho° is computed using the following formula:

$$E_{ho}^{o} = \frac{E_{ho} - E_w(1 - X_k)}{X_k}$$

Where:

E_{ho}^o = Adjusted hourly SO_2 emission rate, ng/J (lb/MMBtu);

E_{ho}= Hourly SO_2 emission rate, ng/J (lb/MMBtu);

E_w= SO_2 concentration in fuels other than coal and oil combusted in the affected facility, as determined by the fuel sampling and analysis procedures in Method 19 of appendix A of this part, ng/J (lb/MMBtu). The value E_w for each fuel lot is used for each hourly average during the time that the lot is being combusted; and

X_k= Fraction of total heat input from fuel combustion derived from coal, oil, or coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(ii) To compute the percent of potential SO_2 emission rate ($\%P_s$), an adjusted $\%R_g$($\%R_g^o$) is computed from the adjusted E_{ao}^o from paragraph (b)(3)(i) of this section and an adjusted average SO_2 inlet rate (E_{ai}^o) using the following formula:

$$\%R_g^{o} = 100\left(1.0 - \frac{E_{ao}^{o}}{E_{ai}^{o}}\right)$$

To compute E_{ai}^o , an adjusted hourly SO_2 inlet rate (E_{hi}^o) is used. The E_{hi}^o is computed using the following formula:

$$E_{hi}^{o} = \frac{E_{hi} - E_w(1 - X_k)}{X_k}$$

Where:

E_{hi}^{o} = Adjusted hourly SO_2 inlet rate, ng/J (lb/MMBtu); and

E_{hi} = Hourly SO_2 inlet rate, ng/J (lb/MMBtu).

(4) The owner or operator of an affected facility subject to paragraph (c)(3) of this section does not have to measure parameters E_w or X_k if the owner or operator elects to assume that X_k = 1.0. Owners or operators of affected facilities who assume X_k = 1.0 shall:

(i) Determine $\%P_s$ following the procedures in paragraph (c)(2) of this section; and

(ii) Sulfur dioxide emissions (E_s) are considered to be in compliance with SO_2 emission limits under §60.42b.

(5) The owner or operator of an affected facility that qualifies under the provisions of §60.42b(d) does not have to measure parameters E_w or X_k in paragraph (c)(3) of this section if the owner or operator of the affected facility elects to measure SO_2 emission rates of the coal or oil following the fuel sampling and analysis procedures in Method 19 of appendix A–7 of this part.

(d) Except as provided in paragraph (j) of this section, the owner or operator of an affected facility that combusts only very low sulfur oil, natural gas, or a mixture of these fuels, has an annual capacity factor for oil of 10 percent (0.10) or less, and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for oil of 10 percent (0.10) or less shall:

(1) Conduct the initial performance test over 24 consecutive steam generating unit operating hours at full load;

(2) Determine compliance with the standards after the initial performance test based on the arithmetic average of the hourly emissions data during each steam generating unit operating day if a CEMS is used, or based on a daily average if Method 6B of appendix A of this part or fuel sampling and analysis procedures under Method 19 of appendix A of this part are used.

(e) The owner or operator of an affected facility subject to §60.42b(d)(1) shall demonstrate the maximum design capacity of the steam generating unit by operating the facility at maximum capacity for 24 hours. This demonstration will be made during the initial performance test and a subsequent demonstration may be requested at any other time. If the 24-hour average firing rate for the affected facility is less than the maximum design capacity provided by the manufacturer of the affected facility, the 24-hour average firing rate shall be used to determine the capacity utilization rate for the affected facility, otherwise the maximum design capacity provided by the manufacturer is used.

(f) For the initial performance test required under §60.8, compliance with the SO_2 emission limits and percent reduction requirements under §60.42b is based on the average emission rates and the average percent reduction for SO_2 for the first 30 consecutive steam generating unit operating days, except as provided under paragraph (d) of this section. The initial performance test is the only test for which at least 30 days prior notice is required unless otherwise specified by the Administrator. The initial performance test is to be scheduled so that the first steam generating unit operating day of the 30 successive steam generating unit operating days is completed within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility. The boiler load during the 30-day period does not have to be the maximum design load, but must be representative of future operating conditions and include at least one 24-hour period at full load.

(g) After the initial performance test required under §60.8, compliance with the SO_2 emission limits and percent reduction requirements under §60.42b is based on the average emission rates and the average percent reduction for SO_2 for 30 successive steam generating unit operating days, except as provided under paragraph (d). A separate performance test is completed at the end of each steam generating unit operating day after the initial performance test, and a new 30-day average emission rate and percent reduction for SO_2 are calculated to show compliance with the standard.

(h) Except as provided under paragraph (i) of this section, the owner or operator of an affected facility shall use all valid SO_2 emissions data in calculating $\%P_s$ and E_{ho} under paragraph (c), of this section whether or not the minimum emissions data requirements under §60.46b are achieved. All valid emissions data, including valid SO_2 emission data collected during periods of startup, shutdown and malfunction, shall be used in calculating $\%P_s$ and E_{ho} pursuant to paragraph (c) of this section.

(i) During periods of malfunction or maintenance of the SO_2control systems when oil is combusted as provided under §60.42b(i), emission data are not used to calculate $\%P_s$ or E_s under §60.42b(a), (b) or (c), however, the emissions data are used to determine compliance with the emission limit under §60.42b(i).

(j) The owner or operator of an affected facility that only combusts very low sulfur oil, natural gas, or a mixture of these fuels with any other fuels not subject to an SO_2standard is not subject to the compliance and performance testing requirements of this section if the owner or operator obtains fuel receipts as described in §60.49b(r).

(k) The owner or operator of an affected facility seeking to demonstrate compliance in §§60.42b(d)(4), 60.42b(j), 60.42b(k)(2), and 60.42b(k)(3) (when not burning coal) shall follow the applicable procedures in §60.49b(r).

[72 FR 32742, June 13, 2007, as amended at 74 FR 5086, Jan. 28, 2009]

§ 60.46b Compliance and performance test methods and procedures for particulate matter and nitrogen oxides.

(a) The PM emission standards and opacity limits under §60.43b apply at all times except during periods of startup, shutdown, or malfunction. The NO_X emission standards under §60.44b apply at all times.

(b) Compliance with the PM emission standards under §60.43b shall be determined through performance testing as described in paragraph (d) of this section, except as provided in paragraph (i) of this section.

(c) Compliance with the NO_X emission standards under §60.44b shall be determined through performance testing under paragraph (e) or (f), or under paragraphs (g) and (h) of this section, as applicable.

(d) To determine compliance with the PM emission limits and opacity limits under §60.43b, the owner or operator of an affected facility shall conduct an initial performance test as required under §60.8, and shall conduct subsequent performance tests as requested by the Administrator, using the following procedures and reference methods:

(1) Method 3A or 3B of appendix A–2 of this part is used for gas analysis when applying Method 5 of appendix A–3 of this part or Method 17 of appendix A–6 of this part.

(2) Method 5, 5B, or 17 of appendix A of this part shall be used to measure the concentration of PM as follows:

(i) Method 5 of appendix A of this part shall be used at affected facilities without wet flue gas desulfurization (FGD) systems; and

(ii) Method 17 of appendix A–6 of this part may be used at facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of sections 8.1 and 11.1 of Method 5B of appendix A–3 of this part may be used in Method 17 of appendix A–6 of this part only if it is used after a wet FGD system. Do not use Method 17 of appendix A–6 of this part after wet FGD systems if the effluent is saturated or laden with water droplets.

(iii) Method 5B of appendix A of this part is to be used only after wet FGD systems.

(3) Method 1 of appendix A of this part is used to select the sampling site and the number of traverse sampling points. The sampling time for each run is at least 120 minutes and the minimum sampling volume is 1.7 dscm (60 dscf) except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(4) For Method 5 of appendix A of this part, the temperature of the sample gas in the probe and filter holder is monitored and is maintained at 160±14 °C (320±25 °F).

(5) For determination of PM emissions, the oxygen (O_2) or CO_2 sample is obtained simultaneously with each run of Method 5, 5B, or 17 of appendix A of this part by traversing the duct at the same sampling location.

(6) For each run using Method 5, 5B, or 17 of appendix A of this part, the emission rate expressed in ng/J heat input is determined using:

(i) The O_2 or CO_2 measurements and PM measurements obtained under this section;

(ii) The dry basis F factor; and

(iii) The dry basis emission rate calculation procedure contained in Method 19 of appendix A of this part.

(7) Method 9 of appendix A of this part is used for determining the opacity of stack emissions.

(e) To determine compliance with the emission limits for NO_X required under §60.44b, the owner or operator of an affected facility shall conduct the performance test as required under §60.8 using the continuous system for monitoring NO_X under §60.48(b).

(1) For the initial compliance test, NO_X from the steam generating unit are monitored for 30 successive steam generating unit operating days and the 30-day average emission rate is used to determine compliance with the NO_X emission standards under §60.44b. The 30-day average emission rate is calculated as the average of all hourly emissions data recorded by the monitoring system during the 30-day test period.

(2) Following the date on which the initial performance test is completed or is required to be completed in §60.8, whichever date comes first, the owner or operator of an affected facility which combusts coal (except as specified under §60.46b(e)(4)) or which combusts residual oil having a nitrogen content greater than 0.30 weight percent shall determine compliance with the NO_X emission standards in §60.44b on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated for each steam generating unit operating day as the average of all of the hourly NO_X emission data for the preceding 30 steam generating unit operating days.

(3) Following the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that has a heat input capacity greater than 73 MW (250 MMBtu/hr) and that combusts natural gas, distillate oil, or residual oil having a nitrogen content of 0.30 weight percent or less shall determine compliance with the NO_X standards under §60.44b on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NO_X emission data for the preceding 30 steam generating unit operating days.

(4) Following the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, the owner or operator of an affected facility that has a heat input capacity of 73 MW (250 MMBtu/hr) or less and that combusts natural gas, distillate oil, gasified coal, or residual oil having a nitrogen content of 0.30 weight percent or less shall upon request determine compliance with the NO_X standards in §60.44b through the use of a 30-day performance test. During periods when performance tests are not requested, NO_X emissions data collected pursuant to §60.48b(g)(1) or §60.48b(g)(2) are used to calculate a 30-day rolling average emission rate on a daily basis and used to prepare excess emission reports, but will not be used to determine compliance with the NO_X emission standards. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NO_X emission data for the preceding 30 steam generating unit operating days.

(5) If the owner or operator of an affected facility that combusts residual oil does not sample and analyze the residual oil for nitrogen content, as specified in §60.49b(e), the requirements of §60.48b(g)(1) apply and the provisions of §60.48b(g)(2) are inapplicable.

(f) To determine compliance with the emissions limits for NO_X required by §60.44b(a)(4) or §60.44b(l) for duct burners used in combined cycle systems, either of the procedures described in paragraph (f)(1) or (2) of this section may be used:

(1) The owner or operator of an affected facility shall conduct the performance test required under §60.8 as follows:

(i) The emissions rate (E) of NO_X shall be computed using Equation 1 in this section:

$$E = E_{sg} + \left(\frac{H_g}{H_b}\right)\left(E_{sg} - E_g\right) \qquad \text{(Eq.1)}$$

Where:

E = Emissions rate of NO_X from the duct burner, ng/J (lb/MMBtu) heat input;

E_{sg}= Combined effluent emissions rate, in ng/J (lb/MMBtu) heat input using appropriate F factor as described in Method 19 of appendix A of this part;

H_g= Heat input rate to the combustion turbine, in J/hr (MMBtu/hr);

H_b= Heat input rate to the duct burner, in J/hr (MMBtu/hr); and

E_g= Emissions rate from the combustion turbine, in ng/J (lb/MMBtu) heat input calculated using appropriate F factor as described in Method 19 of appendix A of this part.

(ii) Method 7E of appendix A of this part shall be used to determine the NO_X concentrations. Method 3A or 3B of appendix A of this part shall be used to determine O_2concentration.

(iii) The owner or operator shall identify and demonstrate to the Administrator's satisfaction suitable methods to determine the average hourly heat input rate to the combustion turbine and the average hourly heat input rate to the affected duct burner.

(iv) Compliance with the emissions limits under §60.44b(a)(4) or §60.44b(l) is determined by the three-run average (nominal 1-hour runs) for the initial and subsequent performance tests; or

(2) The owner or operator of an affected facility may elect to determine compliance on a 30-day rolling average basis by using the CEMS specified under §60.48b for measuring NO_X and $O_2$and meet the requirements of §60.48b. The sampling site shall be located at the outlet from the steam generating unit. The NO_X emissions rate at the outlet from the steam generating unit shall constitute the NO_X emissions rate from the duct burner of the combined cycle system.

(g) The owner or operator of an affected facility described in §60.44b(j) or §60.44b(k) shall demonstrate the maximum heat input capacity of the steam generating unit by operating the facility at maximum capacity for 24 hours. The owner or operator of an affected facility shall determine the maximum heat input capacity using the heat loss method or the heat input method described in sections 5 and 7.3 of the ASME *Power Test Codes* 4.1 (incorporated by reference, see §60.17). This demonstration of maximum heat input capacity shall be made during the initial performance test for affected facilities that meet the criteria of §60.44b(j). It shall be made within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial start-up of each facility, for affected facilities meeting the criteria of §60.44b(k). Subsequent demonstrations may be required by the Administrator at any other time. If this demonstration indicates that the maximum heat input capacity of the affected facility is less than that stated by the manufacturer of the affected facility, the maximum heat input capacity determined during this demonstration shall be used to determine the capacity utilization rate for the affected facility. Otherwise, the maximum heat input capacity provided by the manufacturer is used.

(h) The owner or operator of an affected facility described in §60.44b(j) that has a heat input capacity greater than 73 MW (250 MMBtu/hr) shall:

(1) Conduct an initial performance test as required under §60.8 over a minimum of 24 consecutive steam generating unit operating hours at maximum heat input capacity to demonstrate compliance with the NO_X emission standards under §60.44b using Method 7, 7A, 7E of appendix A of this part, or other approved reference methods; and

(2) Conduct subsequent performance tests once per calendar year or every 400 hours of operation (whichever comes first) to demonstrate compliance with the NO_X emission standards under §60.44b over a minimum of 3 consecutive steam generating unit operating hours at maximum heat input capacity using Method 7, 7A, 7E of appendix A of this part, or other approved reference methods.

(i) The owner or operator of an affected facility seeking to demonstrate compliance with the PM limit in paragraphs §60.43b(a)(4) or §60.43b(h)(5) shall follow the applicable procedures in §60.49b(r).

(j) In place of PM testing with Method 5 or 5B of appendix A–3 of this part, or Method 17 of appendix A–6 of this part, an owner or operator may elect to install, calibrate, maintain, and operate a CEMS for monitoring PM emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who elects to continuously monitor PM emissions instead of conducting performance testing using Method 5 or 5B of appendix A–3 of this part or Method 17 of appendix A–6 of this part shall comply with the requirements specified in paragraphs (j)(1) through (j)(14) of this section.

(1) Notify the Administrator one month before starting use of the system.

(2) Notify the Administrator one month before stopping use of the system.

(3) The monitor shall be installed, evaluated, and operated in accordance with §60.13 of subpart A of this part.

(4) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under §60.8 of subpart A of this part or within 180 days of notification to the Administrator of use of the CEMS if the owner or operator was previously determining compliance by Method 5, 5B, or 17 of appendix A of this part performance tests, whichever is later.

(5) The owner or operator of an affected facility shall conduct an initial performance test for PM emissions as required under §60.8 of subpart A of this part. Compliance with the PM emission limit shall be determined by using the CEMS specified in paragraph (j) of this section to measure PM and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19 of appendix A of this part, section 4.1.

(6) Compliance with the PM emission limit shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emission concentrations using CEMS outlet data.

(7) At a minimum, valid CEMS hourly averages shall be obtained as specified in paragraphs (j)(7)(i) of this section for 75 percent of the total operating hours per 30-day rolling average.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) [Reserved]

(8) The 1-hour arithmetic averages required under paragraph (j)(7) of this section shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under §60.13(e)(2) of subpart A of this part.

(9) All valid CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph (j)(7) of this section are not met.

(10) The CEMS shall be operated according to Performance Specification 11 in appendix B of this part.

(11) During the correlation testing runs of the CEMS required by Performance Specification 11 in appendix B of this part, PM and O_2(or CO_2) data shall be collected concurrently (or within a 30-to 60-minute period) by both the continuous emission monitors and performance tests conducted using the following test methods.

(i) For PM, Method 5 or 5B of appendix A–3 of this part or Method 17 of appendix A–6 of this part shall be used; and

(ii) For O_2 (or CO_2), Method 3A or 3B of appendix A–2 of this part, as applicable shall be used.

(12) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 2 in appendix F of this part. Relative Response Audit's must be performed annually and Response Correlation Audits must be performed every 3 years.

(13) When PM emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 of appendix A of this part to provide, as necessary, valid emissions data for a minimum of 75 percent of total operating hours per 30-day rolling average.

(14) After July 1, 2011, within 90 days after completing a correlation testing run, the owner or operator of an affected facility shall either successfully enter the test data into EPA's WebFIRE data base located at *http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main* or mail a copy to: United States Environmental Protection Agency; Energy Strategies Group; 109 TW Alexander DR; Mail Code: D243–01; RTP, NC 27711.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5086, Jan. 28, 2009]

§ 60.47b Emission monitoring for sulfur dioxide.

(a) Except as provided in paragraphs (b) and (f) of this section, the owner or operator of an affected facility subject to the SO_2standards in §60.42b shall install, calibrate, maintain, and operate CEMS for measuring SO_2concentrations and either O_2or CO_2concentrations and shall record the output of the systems. For units complying with the percent reduction standard, the $SO_2$and either O_2or CO_2concentrations shall both be monitored at the inlet and outlet of the SO_2control device. If the owner or operator has installed and certified $SO_2$and O_2or CO_2CEMS according to the requirements of §75.20(c)(1) of this chapter and appendix A to part 75 of this chapter, and is continuing to meet the ongoing quality assurance requirements of §75.21 of this chapter and appendix B to part 75 of this chapter, those CEMS may be used to meet the requirements of this section, provided that:

(1) When relative accuracy testing is conducted, SO_2concentration data and CO_2 (or O_2) data are collected simultaneously; and

(2) In addition to meeting the applicable $SO_2$and CO_2(or O_2) relative accuracy specifications in Figure 2 of appendix B to part 75 of this chapter, the relative accuracy (RA) standard in section 13.2 of Performance Specification 2 in appendix B to this part is met when the RA is calculated on a lb/MMBtu basis; and

(3) The reporting requirements of §60.49b are met. $SO_2$and CO_2(or O_2) data used to meet the requirements of §60.49b shall not include substitute data values derived from the missing data procedures in subpart D of part 75 of this chapter, nor shall the SO_2data have been bias adjusted according to the procedures of part 75 of this chapter.

(b) As an alternative to operating CEMS as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO_2emissions and percent reduction by:

(1) Collecting coal or oil samples in an as-fired condition at the inlet to the steam generating unit and analyzing them for sulfur and heat content according to Method 19 of appendix A of this part. Method 19 of appendix A of this part provides procedures for converting these measurements into the format to be used in calculating the average SO_2input rate, or

(2) Measuring SO_2according to Method 6B of appendix A of this part at the inlet or outlet to the SO_2control system. An initial stratification test is required to verify the adequacy of the Method 6B of appendix A of this part sampling

location. The stratification test shall consist of three paired runs of a suitable $SO_2$and CO_2measurement train operated at the candidate location and a second similar train operated according to the procedures in section 3.2 and the applicable procedures in section 7 of Performance Specification 2. Method 6B of appendix A of this part, Method 6A of appendix A of this part, or a combination of Methods 6 and 3 or 3B of appendix A of this part or Methods 6C and 3A of appendix A of this part are suitable measurement techniques. If Method 6B of appendix A of this part is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B of appendix A of this part 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent.

(3) A daily SO_2emission rate, E_D, shall be determined using the procedure described in Method 6A of appendix A of this part, section 7.6.2 (Equation 6A–8) and stated in ng/J (lb/MMBtu) heat input.

(4) The mean 30-day emission rate is calculated using the daily measured values in ng/J (lb/MMBtu) for 30 successive steam generating unit operating days using equation 19–20 of Method 19 of appendix A of this part.

(c) The owner or operator of an affected facility shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive boiler operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator or the reference methods and procedures as described in paragraph (b) of this section.

(d) The 1-hour average SO_2emission rates measured by the CEMS required by paragraph (a) of this section and required under §60.13(h) is expressed in ng/J or lb/MMBtu heat input and is used to calculate the average emission rates under §60.42(b). Each 1-hour average SO_2emission rate must be based on 30 or more minutes of steam generating unit operation. The hourly averages shall be calculated according to §60.13(h)(2). Hourly SO_2emission rates are not calculated if the affected facility is operated less than 30 minutes in a given clock hour and are not counted toward determination of a steam generating unit operating day.

(e) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the CEMS.

(1) Except as provided for in paragraph (e)(4) of this section, all CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 of appendix B of this part.

(2) Except as provided for in paragraph (e)(4) of this section, quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of appendix F of this part.

(3) For affected facilities combusting coal or oil, alone or in combination with other fuels, the span value of the SO_2CEMS at the inlet to the SO_2control device is 125 percent of the maximum estimated hourly potential SO_2emissions of the fuel combusted, and the span value of the CEMS at the outlet to the SO_2control device is 50 percent of the maximum estimated hourly potential SO_2emissions of the fuel combusted. Alternatively, SO_2span values determined according to section 2.1.1 in appendix A to part 75 of this chapter may be used.

(4) As an alternative to meeting the requirements of requirements of paragraphs (e)(1) and (e)(2) of this section, the owner or operator may elect to implement the following alternative data accuracy assessment procedures:

(i) For all required $CO_2$and O_2monitors and for $SO_2$and NO_X monitors with span values greater than or equal to 100 ppm, the daily calibration error test and calibration adjustment procedures described in sections 2.1.1 and 2.1.3 of appendix B to part 75 of this chapter may be followed instead of the CD assessment procedures in Procedure 1, section 4.1 of appendix F to this part.

(ii) For all required $CO_2$and O_2monitors and for $SO_2$and NO_X monitors with span values greater than 30 ppm, quarterly linearity checks may be performed in accordance with section 2.2.1 of appendix B to part 75 of this chapter, instead of performing the cylinder gas audits (CGAs) described in Procedure 1, section 5.1.2 of appendix F to this part. If this option is selected: The frequency of the linearity checks shall be as specified in section 2.2.1 of appendix B to part 75 of this chapter; the applicable linearity specifications in section 3.2 of appendix A to part 75 of this chapter shall be met; the data validation and out-of-control criteria in section 2.2.3 of appendix B to part 75 of this chapter shall be followed instead of the excessive audit inaccuracy and out-of-control criteria in Procedure 1, section 5.2 of appendix F to this part; and the grace period provisions in section 2.2.4 of appendix B to part 75 of this chapter shall apply. For the purposes of data validation under this subpart, the cylinder gas audits described in Procedure 1, section 5.1.2 of appendix F to this part shall be performed for SO_2 and NO_X span values less than or equal to 30 ppm; and

(iii) For SO_2, CO_2, and O_2 monitoring systems and for NO_X emission rate monitoring systems, RATAs may be performed in accordance with section 2.3 of appendix B to part 75 of this chapter instead of following the procedures described in Procedure 1, section 5.1.1 of appendix F to this part. If this option is selected: The frequency of each RATA shall be as specified in section 2.3.1 of appendix B to part 75 of this chapter; the applicable relative accuracy specifications shown in Figure 2 in appendix B to part 75 of this chapter shall be met; the data validation and out-of-control criteria in section 2.3.2 of appendix B to part 75 of this chapter shall be followed instead of the excessive audit inaccuracy and out-of-control criteria in Procedure 1, section 5.2 of appendix F to this part; and the grace period provisions in section 2.3.3 of appendix B to part 75 of this chapter shall apply. For the purposes of data validation under this subpart, the relative accuracy specification in section 13.2 of Performance Specification 2 in appendix B to this part shall be met on a lb/MMBtu basis for SO_2 (regardless of the SO_2 emission level during the RATA), and for NO_X when the average NO_X emission rate measured by the reference method during the RATA is less than 0.100 lb/MMBtu.

(f) The owner or operator of an affected facility that combusts very low sulfur oil or is demonstrating compliance under §60.45b(k) is not subject to the emission monitoring requirements under paragraph (a) of this section if the owner or operator maintains fuel records as described in §60.49b(r).

[72 FR 32742, June 13, 2007, as amended at 74 FR 5087, Jan. 28, 2009]

§ 60.48b Emission monitoring for particulate matter and nitrogen oxides.

(a) Except as provided in paragraph (j) of this section, the owner or operator of an affected facility subject to the opacity standard under §60.43b shall install, calibrate, maintain, and operate a continuous opacity monitoring systems (COMS) for measuring the opacity of emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility subject to an opacity standard under §60.43b and meeting the conditions under paragraphs (j)(1), (2), (3), (4), or (5) of this section who elects not to install a COMS shall conduct a performance test using Method 9 of appendix A–4 of this part and the procedures in §60.11 to demonstrate compliance with the applicable limit in §60.43b and shall comply with either paragraphs (a)(1), (a)(2), or (a)(3) of this section. If during the initial 60 minutes of observation all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent, the observation period may be reduced from 3 hours to 60 minutes.

(1) Except as provided in paragraph (a)(2) and (a)(3) of this section, the owner or operator shall conduct subsequent Method 9 of appendix A–4 of this part performance tests using the procedures in paragraph (a) of this section according to the applicable schedule in paragraphs (a)(1)(i) through (a)(1)(iv) of this section, as determined by the most recent Method 9 of appendix A–4 of this part performance test results.

(i) If no visible emissions are observed, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted;

(ii) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted;

(iii) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted; or

(iv) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A–4 of this part performance test must be completed within 30 calendar days from the date that the most recent performance test was conducted.

(2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A–4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A–4 of this part performance tests, elect to perform subsequent monitoring using Method 22 of appendix A–7 of this part according to the procedures specified in paragraphs (a)(2)(i) and (ii) of this section.

(i) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A–7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (*i.e.,* 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (*i.e.* , 90 seconds per 30 minute period) the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (*i.e.* , 90 seconds) or conduct a new Method 9 of appendix A–4 of this part performance test using the procedures in paragraph (a) of this section within 30 calendar days according to the requirements in §60.46d(d)(7).

(ii) If no visible emissions are observed for 30 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed.

(3) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A–4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A–4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in paragraph (a)(2) of this section. For reference purposes in preparing the monitoring plan, see OAQPS "Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems." This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243–02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods.

(b) Except as provided under paragraphs (g), (h), and (i) of this section, the owner or operator of an affected facility subject to a NO_X standard under §60.44b shall comply with either paragraphs (b)(1) or (b)(2) of this section.

(1) Install, calibrate, maintain, and operate CEMS for measuring NO_X and O_2 (or CO_2) emissions discharged to the atmosphere, and shall record the output of the system; or

(2) If the owner or operator has installed a NO_X emission rate CEMS to meet the requirements of part 75 of this chapter and is continuing to meet the ongoing requirements of part 75 of this chapter, that CEMS may be used to meet the requirements of this section, except that the owner or operator shall also meet the requirements of §60.49b. Data reported to meet the requirements of §60.49b shall not include data substituted using the missing data procedures in subpart D of part 75 of this chapter, nor shall the data have been bias adjusted according to the procedures of part 75 of this chapter.

(c) The CEMS required under paragraph (b) of this section shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(d) The 1-hour average NO_X emission rates measured by the continuous NO_X monitor required by paragraph (b) of this section and required under §60.13(h) shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under §60.44b. The 1-hour averages shall be calculated using the data points required under §60.13(h)(2).

(e) The procedures under §60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems.

(1) For affected facilities combusting coal, wood or municipal-type solid waste, the span value for a COMS shall be between 60 and 80 percent.

(2) For affected facilities combusting coal, oil, or natural gas, the span value for NO_X is determined using one of the following procedures:

(i) Except as provided under paragraph (e)(2)(ii) of this section, NO_X span values shall be determined as follows:

Fuel	Span values for NO_X (ppm)
Natural gas	500.
Oil	500.
Coal	1,000.
Mixtures	500 (x + y) + 1,000z.

Where:

x = Fraction of total heat input derived from natural gas;

y = Fraction of total heat input derived from oil; and

z = Fraction of total heat input derived from coal.

(ii) As an alternative to meeting the requirements of paragraph (e)(2)(i) of this section, the owner or operator of an affected facility may elect to use the NO_X span values determined according to section 2.1.2 in appendix A to part 75 of this chapter.

(3) All span values computed under paragraph (e)(2)(i) of this section for combusting mixtures of regulated fuels are rounded to the nearest 500 ppm. Span values computed under paragraph (e)(2)(ii) of this section shall be rounded off according to section 2.1.2 in appendix A to part 75 of this chapter.

(f) When NO_X emission data are not obtained because of CEMS breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7 of appendix A of this part, Method 7A of appendix A of this part, or other approved reference methods to provide emission data for a minimum of 75 percent of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days.

(g) The owner or operator of an affected facility that has a heat input capacity of 73 MW (250 MMBtu/hr) or less, and that has an annual capacity factor for residual oil having a nitrogen content of 0.30 weight percent or less, natural gas, distillate oil, gasified coal, or any mixture of these fuels, greater than 10 percent (0.10) shall:

(1) Comply with the provisions of paragraphs (b), (c), (d), (e)(2), (e)(3), and (f) of this section; or

(2) Monitor steam generating unit operating conditions and predict NO_X emission rates as specified in a plan submitted pursuant to §60.49b(c).

(h) The owner or operator of a duct burner, as described in §60.41b, that is subject to the NO_X standards in §60.44b(a)(4), §60.44b(e), or §60.44b(l) is not required to install or operate a continuous emissions monitoring system to measure NO_X emissions.

(i) The owner or operator of an affected facility described in §60.44b(j) or §60.44b(k) is not required to install or operate a CEMS for measuring NO_X emissions.

(j) The owner or operator of an affected facility that meets the conditions in either paragraph (j)(1), (2), (3), (4), (5), or (6) of this section is not required to install or operate a COMS if:

(1) The affected facility uses a PM CEMS to monitor PM emissions; or

(2) The affected facility burns only liquid (excluding residual oil) or gaseous fuels with potential SO_2 emissions rates of 26 ng/J (0.060 lb/MMBtu) or less and does not use a post-combustion technology to reduce SO_2 or PM emissions. The owner or operator must maintain fuel records of the sulfur content of the fuels burned, as described under §60.49b(r); or

(3) The affected facility burns coke oven gas alone or in combination with fuels meeting the criteria in paragraph (j)(2) of this section and does not use a post-combustion technology to reduce SO_2 or PM emissions; or

(4) The affected facility does not use post-combustion technology (except a wet scrubber) for reducing PM, SO_2, or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.30 weight percent sulfur, and is operated such that emissions of CO to the atmosphere from the affected facility are maintained at levels less than or equal to 0.15 lb/MMBtu on a steam generating unit operating day average basis. Owners and operators of affected facilities electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (j)(4)(i) through (iv) of this section; or

(i) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (j)(4)(i)(A) through (D) of this section.

(A) The CO CEMS must be installed, certified, maintained, and operated according to the provisions in §60.58b(i)(3) of subpart Eb of this part.

(B) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).

(C) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. The 1-hour averages are calculated using the data points required in §60.13(h)(2).

(D) Quarterly accuracy determinations and daily calibration drift tests for the CO CEMS must be performed in accordance with procedure 1 in appendix F of this part.

(ii) You must calculate the 1-hour average CO emissions levels for each steam generating unit operating day by multiplying the average hourly CO output concentration measured by the CO CEMS times the corresponding average hourly flue gas flow rate and divided by the corresponding average hourly heat input to the affected source. The 24-hour average CO emission level is determined by calculating the arithmetic average of the hourly CO emission levels computed for each steam generating unit operating day.

(iii) You must evaluate the preceding 24-hour average CO emission level each steam generating unit operating day excluding periods of affected source startup, shutdown, or malfunction. If the 24-hour average CO emission level is greater than 0.15 lb/MMBtu, you must initiate investigation of the relevant equipment and control systems within 24 hours of the first discovery of the high emission incident and, take the appropriate corrective action as soon as practicable to adjust control settings or repair equipment to reduce the 24-hour average CO emission level to 0.15 lb/MMBtu or less.

(iv) You must record the CO measurements and calculations performed according to paragraph (j)(4) of this section and any corrective actions taken. The record of corrective action taken must include the date and time during which the 24-hour average CO emission level was greater than 0.15 lb/MMBtu, and the date, time, and description of the corrective action.

(5) The affected facility uses a bag leak detection system to monitor the performance of a fabric filter (baghouse) according to the most recent requirements in section §60.48Da of this part; or

(6) The affected facility burns only gaseous fuels or fuel oils that contain less than or equal to 0.30 weight percent sulfur and operates according to a written site-specific monitoring plan approved by the permitting authority. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facility indicative of compliance with the opacity standard.

(k) Owners or operators complying with the PM emission limit by using a PM CEMS must calibrate, maintain, operate, and record the output of the system for PM emissions discharged to the atmosphere as specified in §60.46b(j). The CEMS specified in paragraph §60.46b(j) shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5087, Jan. 28, 2009]

§ 60.49b Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of initial startup, as provided by §60.7. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of the fuels to be combusted in the affected facility;

(2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §§60.42b(d)(1), 60.43b(a)(2), (a)(3)(iii), (c)(2)(ii), (d)(2)(iii), 60.44b(c), (d), (e), (i), (j), (k), 60.45b(d), (g), 60.46b(h), or 60.48b(i);

(3) The annual capacity factor at which the owner or operator anticipates operating the facility based on all fuels fired and based on each individual fuel fired; and

(4) Notification that an emerging technology will be used for controlling emissions of SO_2. The Administrator will examine the description of the emerging technology and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of §60.42b(a) unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the SO_2, PM, and/or NO_X emission limits under §§60.42b, 60.43b, and 60.44b shall submit to the Administrator the performance test data from the initial performance test and the performance evaluation of the CEMS using the applicable performance specifications in appendix B of this part. The owner or operator of each affected facility described in §60.44b(j) or §60.44b(k) shall submit to the Administrator the maximum heat input capacity data from the demonstration of the maximum heat input capacity of the affected facility.

(c) The owner or operator of each affected facility subject to the NO_X standard in §60.44b who seeks to demonstrate compliance with those standards through the monitoring of steam generating unit operating conditions in the provisions of §60.48b(g)(2) shall submit to the Administrator for approval a plan that identifies the operating conditions to be monitored in §60.48b(g)(2) and the records to be maintained in §60.49b(g). This plan shall be submitted to the Administrator for approval within 360 days of the initial startup of the affected facility. An affected facility burning coke oven gas alone or in combination with other gaseous fuels or distillate oil shall submit this plan to the Administrator for approval within 360 days of the initial startup of the affected facility or by November 30, 2009, whichever date comes later. If the plan is approved, the owner or operator shall maintain records of predicted nitrogen oxide emission rates and the monitored operating conditions, including steam generating unit load, identified in the plan. The plan shall:

(1) Identify the specific operating conditions to be monitored and the relationship between these operating conditions and NO_X emission rates (*i.e.,* ng/J or lbs/MMBtu heat input). Steam generating unit operating conditions include, but are not limited to, the degree of staged combustion (*i.e.* , the ratio of primary air to secondary and/or tertiary air) and the level of excess air (*i.e.* , flue gas O_2 level);

(2) Include the data and information that the owner or operator used to identify the relationship between NO_X emission rates and these operating conditions; and

(3) Identify how these operating conditions, including steam generating unit load, will be monitored under §60.48b(g) on an hourly basis by the owner or operator during the period of operation of the affected facility; the quality assurance procedures or practices that will be employed to ensure that the data generated by monitoring these operating conditions will be representative and accurate; and the type and format of the records of these operating conditions, including steam generating unit load, that will be maintained by the owner or operator under §60.49b(g).

(d) Except as provided in paragraph (d)(2) of this section, the owner or operator of an affected facility shall record and maintain records as specified in paragraph (d)(1) of this section.

(1) The owner or operator of an affected facility shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for coal, distillate oil, residual oil, natural gas, wood, and municipal-type solid waste for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.

(2) As an alternative to meeting the requirements of paragraph (d)(1) of this section, the owner or operator of an affected facility that is subject to a federally enforceable permit restricting fuel use to a single fuel such that the facility is not required to continuously monitor any emissions (excluding opacity) or parameters indicative of emissions may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(e) For an affected facility that combusts residual oil and meets the criteria under §§60.46b(e)(4), 60.44b(j), or (k), the owner or operator shall maintain records of the nitrogen content of the residual oil combusted in the affected facility and calculate the average fuel nitrogen content for the reporting period. The nitrogen content shall be determined using ASTM Method D4629 (incorporated by reference, see §60.17), or fuel suppliers. If residual oil blends are being combusted, fuel nitrogen specifications may be prorated based on the ratio of residual oils of different nitrogen content in the fuel blend.

(f) For an affected facility subject to the opacity standard in §60.43b, the owner or operator shall maintain records of opacity. In addition, an owner or operator that elects to monitor emissions according to the requirements in §60.48b(a) shall maintain records according to the requirements specified in paragraphs (f)(1) through (3) of this section, as applicable to the visible emissions monitoring method used.

(1) For each performance test conducted using Method 9 of appendix A–4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (f)(1)(i) through (iii) of this section.

(i) Dates and time intervals of all opacity observation periods;

(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and

(iii) Copies of all visible emission observer opacity field data sheets;

(2) For each performance test conducted using Method 22 of appendix A–4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (f)(2)(i) through (iv) of this section.

(i) Dates and time intervals of all visible emissions observation periods;

(ii) Name and affiliation for each visible emission observer participating in the performance test;

(iii) Copies of all visible emission observer opacity field data sheets; and

(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.

(3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator.

(g) Except as provided under paragraph (p) of this section, the owner or operator of an affected facility subject to the NO_X standards under §60.44b shall maintain records of the following information for each steam generating unit operating day:

(1) Calendar date;

(2) The average hourly NO_X emission rates (expressed as NO_2) (ng/J or lb/MMBtu heat input) measured or predicted;

(3) The 30-day average NO_X emission rates (ng/J or lb/MMBtu heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days;

(4) Identification of the steam generating unit operating days when the calculated 30-day average NO_X emission rates are in excess of the NO_X emissions standards under §60.44b, with the reasons for such excess emissions as well as a description of corrective actions taken;

(5) Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken;

(6) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data;

(7) Identification of “F” factor used for calculations, method of determination, and type of fuel combusted;

(8) Identification of the times when the pollutant concentration exceeded full span of the CEMS;

(9) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; and

(10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.

(h) The owner or operator of any affected facility in any category listed in paragraphs (h)(1) or (2) of this section is required to submit excess emission reports for any excess emissions that occurred during the reporting period.

(1) Any affected facility subject to the opacity standards in §60.43b(f) or to the operating parameter monitoring requirements in §60.13(i)(1).

(2) Any affected facility that is subject to the NO_X standard of §60.44b, and that:

(i) Combusts natural gas, distillate oil, gasified coal, or residual oil with a nitrogen content of 0.3 weight percent or less; or

(ii) Has a heat input capacity of 73 MW (250 MMBtu/hr) or less and is required to monitor NO_X emissions on a continuous basis under §60.48b(g)(1) or steam generating unit operating conditions under §60.48b(g)(2).

(3) For the purpose of §60.43b, excess emissions are defined as all 6-minute periods during which the average opacity exceeds the opacity standards under §60.43b(f).

(4) For purposes of §60.48b(g)(1), excess emissions are defined as any calculated 30-day rolling average NO_X emission rate, as determined under §60.46b(e), that exceeds the applicable emission limits in §60.44b.

(i) The owner or operator of any affected facility subject to the continuous monitoring requirements for NO_X under §60.48(b) shall submit reports containing the information recorded under paragraph (g) of this section.

(j) The owner or operator of any affected facility subject to the SO_2standards under §60.42b shall submit reports.

(k) For each affected facility subject to the compliance and performance testing requirements of §60.45b and the reporting requirement in paragraph (j) of this section, the following information shall be reported to the Administrator:

(1) Calendar dates covered in the reporting period;

(2) Each 30-day average SO_2emission rate (ng/J or lb/MMBtu heat input) measured during the reporting period, ending with the last 30-day period; reasons for noncompliance with the emission standards; and a description of corrective actions taken; For an exceedance due to maintenance of the SO_2control system covered in paragraph 60.45b(a), the report shall identify the days on which the maintenance was performed and a description of the maintenance;

(3) Each 30-day average percent reduction in SO_2emissions calculated during the reporting period, ending with the last 30-day period; reasons for noncompliance with the emission standards; and a description of corrective actions taken;

(4) Identification of the steam generating unit operating days that coal or oil was combusted and for which SO_2 or diluent (O_2or CO_2) data have not been obtained by an approved method for at least 75 percent of the operating hours in the steam generating unit operating day; justification for not obtaining sufficient data; and description of corrective action taken;

(5) Identification of the times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and description of corrective action taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit;

(6) Identification of "F" factor used for calculations, method of determination, and type of fuel combusted;

(7) Identification of times when hourly averages have been obtained based on manual sampling methods;

(8) Identification of the times when the pollutant concentration exceeded full span of the CEMS;

(9) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3;

(10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part; and

(11) The annual capacity factor of each fired as provided under paragraph (d) of this section.

(l) For each affected facility subject to the compliance and performance testing requirements of §60.45b(d) and the reporting requirements of paragraph (j) of this section, the following information shall be reported to the Administrator:

(1) Calendar dates when the facility was in operation during the reporting period;

(2) The 24-hour average SO_2emission rate measured for each steam generating unit operating day during the reporting period that coal or oil was combusted, ending in the last 24-hour period in the quarter; reasons for noncompliance with the emission standards; and a description of corrective actions taken;

(3) Identification of the steam generating unit operating days that coal or oil was combusted for which $S0_2$ or diluent (O_2or CO_2) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and description of corrective action taken;

(4) Identification of the times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and description of corrective action taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit;

(5) Identification of “F” factor used for calculations, method of determination, and type of fuel combusted;

(6) Identification of times when hourly averages have been obtained based on manual sampling methods;

(7) Identification of the times when the pollutant concentration exceeded full span of the CEMS;

(8) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; and

(9) Results of daily CEMS drift tests and quarterly accuracy assessments as required under Procedure 1 of appendix F 1 of this part. If the owner or operator elects to implement the alternative data assessment procedures described in §§60.47b(e)(4)(i) through (e)(4)(iii), each data assessment report shall include a summary of the results of all of the RATAs, linearity checks, CGAs, and calibration error or drift assessments required by §§60.47b(e)(4)(i) through (e)(4)(iii).

(m) For each affected facility subject to the SO_2standards in §60.42(b) for which the minimum amount of data required in §60.47b(c) were not obtained during the reporting period, the following information is reported to the Administrator in addition to that required under paragraph (k) of this section:

(1) The number of hourly averages available for outlet emission rates and inlet emission rates;

(2) The standard deviation of hourly averages for outlet emission rates and inlet emission rates, as determined in Method 19 of appendix A of this part, section 7;

(3) The lower confidence limit for the mean outlet emission rate and the upper confidence limit for the mean inlet emission rate, as calculated in Method 19 of appendix A of this part, section 7; and

(4) The ratio of the lower confidence limit for the mean outlet emission rate and the allowable emission rate, as determined in Method 19 of appendix A of this part, section 7.

(n) If a percent removal efficiency by fuel pretreatment (*i.e.,* $\%R_f$) is used to determine the overall percent reduction (*i.e.,* $\%R_o$) under §60.45b, the owner or operator of the affected facility shall submit a signed statement with the report.

(1) Indicating what removal efficiency by fuel pretreatment (*i.e.,* $\%R_f$) was credited during the reporting period;

(2) Listing the quantity, heat content, and date each pre-treated fuel shipment was received during the reporting period, the name and location of the fuel pretreatment facility; and the total quantity and total heat content of all fuels received at the affected facility during the reporting period;

(3) Documenting the transport of the fuel from the fuel pretreatment facility to the steam generating unit; and

(4) Including a signed statement from the owner or operator of the fuel pretreatment facility certifying that the percent removal efficiency achieved by fuel pretreatment was determined in accordance with the provisions of Method 19 of appendix A of this part and listing the heat content and sulfur content of each fuel before and after fuel pretreatment.

(o) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of 2 years following the date of such record.

(p) The owner or operator of an affected facility described in §60.44b(j) or (k) shall maintain records of the following information for each steam generating unit operating day:

(1) Calendar date;

(2) The number of hours of operation; and

(3) A record of the hourly steam load.

(q) The owner or operator of an affected facility described in §60.44b(j) or §60.44b(k) shall submit to the Administrator a report containing:

(1) The annual capacity factor over the previous 12 months;

(2) The average fuel nitrogen content during the reporting period, if residual oil was fired; and

(3) If the affected facility meets the criteria described in §60.44b(j), the results of any NO_X emission tests required during the reporting period, the hours of operation during the reporting period, and the hours of operation since the last NO_X emission test.

(r) The owner or operator of an affected facility who elects to use the fuel based compliance alternatives in §60.42b or §60.43b shall either:

(1) The owner or operator of an affected facility who elects to demonstrate that the affected facility combusts only very low sulfur oil, natural gas, wood, a mixture of these fuels, or any of these fuels (or a mixture of these fuels) in combination with other fuels that are known to contain an insignificant amount of sulfur in §60.42b(j) or §60.42b(k) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier that certify that the oil meets the definition of distillate oil and gaseous fuel meets the definition of natural gas as defined in §60.41b and the applicable sulfur limit. For the purposes of this section, the distillate oil need not meet the fuel nitrogen content specification in the definition of distillate oil. Reports shall be submitted to the Administrator certifying that only very low sulfur oil meeting this definition, natural gas, wood, and/or other fuels that are known to contain insignificant amounts of sulfur were combusted in the affected facility during the reporting period; or

(2) The owner or operator of an affected facility who elects to demonstrate compliance based on fuel analysis in §60.42b or §60.43b shall develop and submit a site-specific fuel analysis plan to the Administrator for review and approval no later than 60 days before the date you intend to demonstrate compliance. Each fuel analysis plan shall include a minimum initial requirement of weekly testing and each analysis report shall contain, at a minimum, the following information:

(i) The potential sulfur emissions rate of the representative fuel mixture in ng/J heat input;

(ii) The method used to determine the potential sulfur emissions rate of each constituent of the mixture. For distillate oil and natural gas a fuel receipt or tariff sheet is acceptable;

(iii) The ratio of different fuels in the mixture; and

(iv) The owner or operator can petition the Administrator to approve monthly or quarterly sampling in place of weekly sampling.

(s) Facility specific NO_X standard for Cytec Industries Fortier Plant's C.AOG incinerator located in Westwego, Louisiana:

(1) *Definitions* .

Oxidation zone is defined as the portion of the C.AOG incinerator that extends from the inlet of the oxidizing zone combustion air to the outlet gas stack.

Reducing zone is defined as the portion of the C.AOG incinerator that extends from the burner section to the inlet of the oxidizing zone combustion air.

Total inlet air is defined as the total amount of air introduced into the C.AOG incinerator for combustion of natural gas and chemical by-product waste and is equal to the sum of the air flow into the reducing zone and the air flow into the oxidation zone.

(2) *Standard for nitrogen oxides* . (i) When fossil fuel alone is combusted, the NO_X emission limit for fossil fuel in §60.44b(a) applies.

(ii) When natural gas and chemical by-product waste are simultaneously combusted, the NO_X emission limit is 289 ng/J (0.67 lb/MMBtu) and a maximum of 81 percent of the total inlet air provided for combustion shall be provided to the reducing zone of the C.AOG incinerator.

(3) *Emission monitoring* . (i) The percent of total inlet air provided to the reducing zone shall be determined at least every 15 minutes by measuring the air flow of all the air entering the reducing zone and the air flow of all the air entering the oxidation zone, and compliance with the percentage of total inlet air that is provided to the reducing zone shall be determined on a 3-hour average basis.

(ii) The NO_X emission limit shall be determined by the compliance and performance test methods and procedures for NO_X in §60.46b(i).

(iii) The monitoring of the NO_X emission limit shall be performed in accordance with §60.48b.

(4) *Reporting and recordkeeping requirements* . (i) The owner or operator of the C.AOG incinerator shall submit a report on any excursions from the limits required by paragraph (a)(2) of this section to the Administrator with the quarterly report required by paragraph (i) of this section.

(ii) The owner or operator of the C.AOG incinerator shall keep records of the monitoring required by paragraph (a)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner of operator of the C.AOG incinerator shall perform all the applicable reporting and recordkeeping requirements of this section.

(t) Facility-specific NO_X standard for Rohm and Haas Kentucky Incorporated's Boiler No. 100 located in Louisville, Kentucky:

(1) *Definitions* .

Air ratio control damper is defined as the part of the low NO_X burner that is adjusted to control the split of total combustion air delivered to the reducing and oxidation portions of the combustion flame.

Flue gas recirculation line is defined as the part of Boiler No. 100 that recirculates a portion of the boiler flue gas back into the combustion air.

(2) *Standard for nitrogen oxides* . (i) When fossil fuel alone is combusted, the NO_X emission limit for fossil fuel in §60.44b(a) applies.

(ii) When fossil fuel and chemical by-product waste are simultaneously combusted, the NO_X emission limit is 473 ng/J (1.1 lb/MMBtu), and the air ratio control damper tee handle shall be at a minimum of 5 inches (12.7 centimeters) out of the boiler, and the flue gas recirculation line shall be operated at a minimum of 10 percent open as indicated by its valve opening position indicator.

(3) *Emission monitoring for nitrogen oxides* . (i) The air ratio control damper tee handle setting and the flue gas recirculation line valve opening position indicator setting shall be recorded during each 8-hour operating shift.

(ii) The NO_X emission limit shall be determined by the compliance and performance test methods and procedures for NO_X in §60.46b.

(iii) The monitoring of the NO_X emission limit shall be performed in accordance with §60.48b.

(4) *Reporting and recordkeeping requirements* . (i) The owner or operator of Boiler No. 100 shall submit a report on any excursions from the limits required by paragraph (b)(2) of this section to the Administrator with the quarterly report required by §60.49b(i).

(ii) The owner or operator of Boiler No. 100 shall keep records of the monitoring required by paragraph (b)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner of operator of Boiler No. 100 shall perform all the applicable reporting and recordkeeping requirements of §60.49b.

(u) *Site-specific standard for Merck & Co., Inc.'s Stonewall Plant in Elkton, Virginia* . (1) This paragraph (u) applies only to the pharmaceutical manufacturing facility, commonly referred to as the Stonewall Plant, located at Route 340 South, in Elkton, Virginia ("site") and only to the natural gas-fired boilers installed as part of the powerhouse conversion required pursuant to 40 CFR 52.2454(g). The requirements of this paragraph shall apply, and the requirements of §§60.40b through 60.49b(t) shall not apply, to the natural gas-fired boilers installed pursuant to 40 CFR 52.2454(g).

(i) The site shall equip the natural gas-fired boilers with low NO_X technology.

(ii) The site shall install, calibrate, maintain, and operate a continuous monitoring and recording system for measuring NO_X emissions discharged to the atmosphere and opacity using a continuous emissions monitoring system or a predictive emissions monitoring system.

(iii) Within 180 days of the completion of the powerhouse conversion, as required by 40 CFR 52.2454, the site shall perform a performance test to quantify criteria pollutant emissions.

(2) [Reserved]

(v) The owner or operator of an affected facility may submit electronic quarterly reports for $SO_2$and/or NO_X and/or opacity in lieu of submitting the written reports required under paragraphs (h), (i), (j), (k) or (l) of this section. The format of each quarterly electronic report shall be coordinated with the permitting authority. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the permitting authority to obtain their agreement to submit reports in this alternative format.

(w) The reporting period for the reports required under this subpart is each 6 month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

(x) Facility-specific NO_X standard for Weyerhaeuser Company's No. 2 Power Boiler located in New Bern, North Carolina:

(1) *Standard for nitrogen oxides* . (i) When fossil fuel alone is combusted, the NO_X emission limit for fossil fuel in §60.44b(a) applies.

(ii) When fossil fuel and chemical by-product waste are simultaneously combusted, the NO_X emission limit is 215 ng/J (0.5 lb/MMBtu).

(2) *Emission monitoring for nitrogen oxides* . (i) The NO_X emissions shall be determined by the compliance and performance test methods and procedures for NO_X in §60.46b.

(ii) The monitoring of the NO_X emissions shall be performed in accordance with §60.48b.

(3) *Reporting and recordkeeping requirements* . (i) The owner or operator of the No. 2 Power Boiler shall submit a report on any excursions from the limits required by paragraph (x)(2) of this section to the Administrator with the quarterly report required by §60.49b(i).

(ii) The owner or operator of the No. 2 Power Boiler shall keep records of the monitoring required by paragraph (x)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner or operator of the No. 2 Power Boiler shall perform all the applicable reporting and recordkeeping requirements of §60.49b.

(y) Facility-specific NO_X standard for INEOS USA's AOGI located in Lima, Ohio:

(1) *Standard for* NO_X. (i) When fossil fuel alone is combusted, the NO_X emission limit for fossil fuel in §60.44b(a) applies.

(ii) When fossil fuel and chemical byproduct/waste are simultaneously combusted, the NO_X emission limit is 645 ng/J (1.5 lb/MMBtu).

(2) *Emission monitoring for* NO_X. (i) The NO_X emissions shall be determined by the compliance and performance test methods and procedures for NO_X in §60.46b.

(ii) The monitoring of the NO_X emissions shall be performed in accordance with §60.48b.

(3) *Reporting and recordkeeping requirements.* (i) The owner or operator of the AOGI shall submit a report on any excursions from the limits required by paragraph (y)(2) of this section to the Administrator with the quarterly report required by paragraph (i) of this section.

(ii) The owner or operator of the AOGI shall keep records of the monitoring required by paragraph (y)(3) of this section for a period of 2 years following the date of such record.

(iii) The owner or operator of the AOGI shall perform all the applicable reporting and recordkeeping requirements of this section.

[72 FR 32742, June 13, 2007, as amended at 74 FR 5089, Jan. 28, 2009]

Indiana Department of Environmental Management
Office of Air Quality

Attachment B
to a Part 70 Operating Permit Renewal

Source Background and Description

Source Name:	Cargill, Inc.
Source Location:	1100 Indianapolis Blvd., Hammond, IN 46320
County:	Lake
SIC Code:	2046
Permit Renewal No.:	T089-27009-00203
Permit Reviewer:	Kristen Willoughby

Title 40: Protection of Environment
PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

Source: 52 FR 11429, Apr. 8, 1987, unless otherwise noted.

§ 60.110b Applicability and designation of affected facility.

(a) Except as provided in paragraph (b) of this section, the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters (m^3) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984.

(b) This subpart does not apply to storage vessels with a capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure less than 15.0 kPa.

(c) [Reserved]

(d) This subpart does not apply to the following:

(1) Vessels at coke oven by-product plants.

(2) Pressure vessels designed to operate in excess of 204.9 kPa and without emissions to the atmosphere.

(3) Vessels permanently attached to mobile vehicles such as trucks, railcars, barges, or ships.

(4) Vessels with a design capacity less than or equal to 1,589.874 m^3 used for petroleum or condensate stored, processed, or treated prior to custody transfer.

(5) Vessels located at bulk gasoline plants.

(6) Storage vessels located at gasoline service stations.

(7) Vessels used to store beverage alcohol.

(8) Vessels subject to subpart GGGG of 40 CFR part 63.

(e) *Alternative means of compliance* —(1) *Option to comply with part 65.* Owners or operators may choose to comply with 40 CFR part 65, subpart C, to satisfy the requirements of §§60.112b through 60.117b for storage vessels that are subject to this subpart that meet the specifications in paragraphs (e)(1)(i) and (ii) of this section. When choosing to comply with 40 CFR part 65, subpart C, the monitoring requirements of §60.116b(c), (e), (f)(1), and (g) still apply. Other provisions applying to owners or operators who choose to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

(i) A storage vessel with a design capacity greater than or equal to 151 m^3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa; or

(ii) A storage vessel with a design capacity greater than 75 m^3 but less than 151 m^3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa.

(2) *Part 60, subpart A.* Owners or operators who choose to comply with 40 CFR part 65, subpart C, must also comply with §§60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for those storage vessels. All sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (e)(2) do not apply to owners or operators of storage vessels complying with 40 CFR part 65, subpart C, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with 40 CFR part 65, subpart C, must comply with 40 CFR part 65, subpart A.

(3) *Internal floating roof report.* If an owner or operator installs an internal floating roof and, at initial startup, chooses to comply with 40 CFR part 65, subpart C, a report shall be furnished to the Administrator stating that the control equipment meets the specifications of 40 CFR 65.43. This report shall be an attachment to the notification required by 40 CFR 65.5(b).

(4) *External floating roof report.* If an owner or operator installs an external floating roof and, at initial startup, chooses to comply with 40 CFR part 65, subpart C, a report shall be furnished to the Administrator stating that the control equipment meets the specifications of 40 CFR 65.44. This report shall be an attachment to the notification required by 40 CFR 65.5(b).

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989; 65 FR 78275, Dec. 14, 2000; 68 FR 59332, Oct. 15, 2003]

§ 60.111b Definitions.

Terms used in this subpart are defined in the Act, in subpart A of this part, or in this subpart as follows:

Bulk gasoline plant means any gasoline distribution facility that has a gasoline throughput less than or equal to 75,700 liters per day. Gasoline throughput shall be the maximum calculated design throughput as may be limited by compliance with an enforceable condition under Federal requirement or Federal, State or local law, and discoverable by the Administrator and any other person.

Condensate means hydrocarbon liquid separated from natural gas that condenses due to changes in the temperature or pressure, or both, and remains liquid at standard conditions.

Custody transfer means the transfer of produced petroleum and/or condensate, after processing and/or treatment in the producing operations, from storage vessels or automatic transfer facilities to pipelines or any other forms of transportation.

Fill means the introduction of VOL into a storage vessel but not necessarily to complete capacity.

Gasoline service station means any site where gasoline is dispensed to motor vehicle fuel tanks from stationary storage tanks.

Maximum true vapor pressure means the equilibrium partial pressure exerted by the volatile organic compounds (as defined in 40 CFR 51.100) in the stored VOL at the temperature equal to the highest calendar-month average of the VOL storage temperature for VOL's stored above or below the ambient temperature or at the local maximum monthly average temperature as reported by the National Weather Service for VOL's stored at the ambient temperature, as determined:

(1) In accordance with methods described in American Petroleum institute Bulletin 2517, Evaporation Loss From External Floating Roof Tanks, (incorporated by reference—see §60.17); or

(2) As obtained from standard reference texts; or

(3) As determined by ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17);

(4) Any other method approved by the Administrator.

Petroleum means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

Petroleum liquids means petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery.

Process tank means a tank that is used within a process (including a solvent or raw material recovery process) to collect material discharged from a feedstock storage vessel or equipment within the process before the material is transferred to other equipment within the process, to a product or by-product storage vessel, or to a vessel used to store recovered solvent or raw material. In many process tanks, unit operations such as reactions and blending are conducted. Other process tanks, such as surge control vessels and bottoms receivers, however, may not involve unit operations.

Reid vapor pressure means the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids except liquified petroleum gases, as determined by ASTM D323–82 or 94 (incorporated by reference—see §60.17).

Storage vessel means each tank, reservoir, or container used for the storage of volatile organic liquids but does not include:

(1) Frames, housing, auxiliary supports, or other components that are not directly involved in the containment of liquids or vapors;

(2) Subsurface caverns or porous rock reservoirs; or

(3) Process tanks.

Volatile organic liquid (VOL) means any organic liquid which can emit volatile organic compounds (as defined in 40 CFR 51.100) into the atmosphere.

Waste means any liquid resulting from industrial, commercial, mining or agricultural operations, or from community activities that is discarded or is being accumulated, stored, or physically, chemically, or biologically treated prior to being discarded or recycled.

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989; 65 FR 61756, Oct. 17, 2000; 68 FR 59333, Oct. 15, 2003]

§ 60.112b Standard for volatile organic compounds (VOC).

(a) The owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m^3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa but less than 76.6 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa but less than 76.6 kPa, shall equip each storage vessel with one of the following:

(1) A fixed roof in combination with an internal floating roof meeting the following specifications:

(i) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.

(ii) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:

(A) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.

(B) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.

(C) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

(iii) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

(iv) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.

(v) Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.

(vi) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.

(vii) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.

(viii) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(ix) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(2) An external floating roof. An external floating roof means a pontoon-type or double-deck type cover that rests on the liquid surface in a vessel with no fixed roof. Each external floating roof must meet the following specifications:

(i) Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. The closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(A) The primary seal shall be either a mechanical shoe seal or a liquid-mounted seal. Except as provided in §60.113b(b)(4), the seal shall completely cover the annular space between the edge of the floating roof and tank wall.

(B) The secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion except as allowed in §60.113b(b)(4).

(ii) Except for automatic bleeder vents and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface. Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed cover, seal, or lid that is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Automatic bleeder vents are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. Rim vents are to be set to open when the roof is being floated off the roof legs supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(iii) The roof shall be floating on the liquid at all times (i.e., off the roof leg supports) except during initial fill until the roof is lifted off leg supports and when the tank is completely emptied and subsequently refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.

(3) A closed vent system and control device meeting the following specifications:

(i) The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in part 60, subpart VV, §60.485(b).

(ii) The control device shall be designed and operated to reduce inlet VOC emissions by 95 percent or greater. If a flare is used as the control device, it shall meet the specifications described in the general control device requirements (§60.18) of the General Provisions.

(4) A system equivalent to those described in paragraphs (a)(1), (a)(2), or (a)(3) of this section as provided in §60.114b of this subpart.

(b) The owner or operator of each storage vessel with a design capacity greater than or equal to 75 m^3 which contains a VOL that, as stored, has a maximum true vapor pressure greater than or equal to 76.6 kPa shall equip each storage vessel with one of the following:

(1) A closed vent system and control device as specified in §60.112b(a)(3).

(2) A system equivalent to that described in paragraph (b)(1) as provided in §60.114b of this subpart.

(c) *Site-specific standard for Merck & Co., Inc.'s Stonewall Plant in Elkton, Virginia.* This paragraph applies only to the pharmaceutical manufacturing facility, commonly referred to as the Stonewall Plant, located at Route 340 South, in Elkton, Virginia (“site”).

(1) For any storage vessel that otherwise would be subject to the control technology requirements of paragraphs (a) or (b) of this section, the site shall have the option of either complying directly with the requirements of this subpart, or reducing the site-wide total criteria pollutant emissions cap (total emissions cap) in accordance with the procedures set forth in a permit issued pursuant to 40 CFR 52.2454. If the site chooses the option of reducing the total emissions cap in accordance with the procedures set forth in such permit, the requirements of such permit shall apply in lieu of the otherwise applicable requirements of this subpart for such storage vessel.

(2) For any storage vessel at the site not subject to the requirements of 40 CFR 60.112b (a) or (b), the requirements of 40 CFR 60.116b (b) and (c) and the General Provisions (subpart A of this part) shall not apply.

[52 FR 11429, Apr. 8, 1987, as amended at 62 FR 52641, Oct. 8, 1997]

§ 60.113b Testing and procedures.

The owner or operator of each storage vessel as specified in §60.112b(a) shall meet the requirements of paragraph (a), (b), or (c) of this section. The applicable paragraph for a particular storage vessel depends on the control equipment installed to meet the requirements of §60.112b.

(a) After installing the control equipment required to meet §60.112b(a)(1) (permanently affixed roof and internal floating roof), each owner or operator shall:

(1) Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel.

(2) For Vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in §60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(3) For vessels equipped with a double-seal system as specified in §60.112b(a)(1)(ii)(B):

(i) Visually inspect the vessel as specified in paragraph (a)(4) of this section at least every 5 years; or

(ii) Visually inspect the vessel as specified in paragraph (a)(2) of this section.

(4) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in paragraphs (a)(2) and (a)(3)(ii) of this section and at intervals no greater than 5 years in the case of vessels specified in paragraph (a)(3)(i) of this section.

(5) Notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by paragraphs (a)(1) and (a)(4) of this section to afford the Administrator the opportunity to have an observer present. If the inspection required by paragraph (a)(4) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance or refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

(b) After installing the control equipment required to meet §60.112b(a)(2) (external floating roof), the owner or operator shall:

(1) Determine the gap areas and maximum gap widths, between the primary seal and the wall of the storage vessel and between the secondary seal and the wall of the storage vessel according to the following frequency.

(i) Measurements of gaps between the tank wall and the primary seal (seal gaps) shall be performed during the hydrostatic testing of the vessel or within 60 days of the initial fill with VOL and at least once every 5 years thereafter.

(ii) Measurements of gaps between the tank wall and the secondary seal shall be performed within 60 days of the initial fill with VOL and at least once per year thereafter.

(iii) If any source ceases to store VOL for a period of 1 year or more, subsequent introduction of VOL into the vessel shall be considered an initial fill for the purposes of paragraphs (b)(1)(i) and (b)(1)(ii) of this section.

(2) Determine gap widths and areas in the primary and secondary seals individually by the following procedures:

(i) Measure seal gaps, if any, at one or more floating roof levels when the roof is floating off the roof leg supports.

(ii) Measure seal gaps around the entire circumference of the tank in each place where a 0.32-cm diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the wall of the storage vessel and measure the circumferential distance of each such location.

(iii) The total surface area of each gap described in paragraph (b)(2)(ii) of this section shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.

(3) Add the gap surface area of each gap location for the primary seal and the secondary seal individually and divide the sum for each seal by the nominal diameter of the tank and compare each ratio to the respective standards in paragraph (b)(4) of this section.

(4) Make necessary repairs or empty the storage vessel within 45 days of identification in any inspection for seals not meeting the requirements listed in (b)(4) (i) and (ii) of this section:

(i) The accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not exceed 212 Cm^2 per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm.

(A) One end of the mechanical shoe is to extend into the stored liquid, and the other end is to extend a minimum vertical distance of 61 cm above the stored liquid surface.

(B) There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.

(ii) The secondary seal is to meet the following requirements:

(A) The secondary seal is to be installed above the primary seal so that it completely covers the space between the roof edge and the tank wall except as provided in paragraph (b)(2)(iii) of this section.

(B) The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 cm^2 per meter of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm.

(C) There are to be no holes, tears, or other openings in the seal or seal fabric.

(iii) If a failure that is detected during inspections required in paragraph (b)(1) of §60.113b(b) cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in §60.115b(b)(4). Such extension request must include a demonstration of unavailability of alternate storage capacity and a specification of a schedule that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(5) Notify the Administrator 30 days in advance of any gap measurements required by paragraph (b)(1) of this section to afford the Administrator the opportunity to have an observer present.

(6) Visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed.

(i) If the external floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.

(ii) For all the inspections required by paragraph (b)(6) of this section, the owner or operator shall notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the Administrator the opportunity to inspect the storage vessel prior to refilling. If the inspection required by paragraph (b)(6) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance of refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

(c) The owner or operator of each source that is equipped with a closed vent system and control device as required in §60.112b (a)(3) or (b)(2) (other than a flare) is exempt from §60.8 of the General Provisions and shall meet the following requirements.

(1) Submit for approval by the Administrator as an attachment to the notification required by §60.7(a)(1) or, if the facility is exempt from §60.7(a)(1), as an attachment to the notification required by §60.7(a)(2), an operating plan containing the information listed below.

(i) Documentation demonstrating that the control device will achieve the required control efficiency during maximum loading conditions. This documentation is to include a description of the gas stream which enters the control device, including flow and VOC content under varying liquid level conditions (dynamic and static) and manufacturer's design specifications for the control device. If the control device or the closed vent capture system receives vapors, gases, or liquids other than fuels from sources that are not designated sources under this subpart, the efficiency demonstration is to include consideration of all vapors, gases, and liquids received by the closed vent capture system and control device. If an enclosed combustion device with a minimum residence time of 0.75 seconds and a minimum temperature of 816 °C is used to meet the 95 percent requirement, documentation that those conditions will exist is sufficient to meet the requirements of this paragraph.

(ii) A description of the parameter or parameters to be monitored to ensure that the control device will be operated in conformance with its design and an explanation of the criteria used for selection of that parameter (or parameters).

(2) Operate the closed vent system and control device and monitor the parameters of the closed vent system and control device in accordance with the operating plan submitted to the Administrator in accordance with paragraph (c)(1) of this section, unless the plan was modified by the Administrator during the review process. In this case, the modified plan applies.

(d) The owner or operator of each source that is equipped with a closed vent system and a flare to meet the requirements in §60.112b (a)(3) or (b)(2) shall meet the requirements as specified in the general control device requirements, §60.18 (e) and (f).

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989]

§ 60.114b Alternative means of emission limitation.

(a) If, in the Administrator's judgment, an alternative means of emission limitation will achieve a reduction in emissions at least equivalent to the reduction in emissions achieved by any requirement in §60.112b, the

Administrator will publish in the Federal Register notice permitting the use of the alternative means for purposes of compliance with that requirement.

(b) Any notice under paragraph (a) of this section will be published only after notice and an opportunity for a hearing.

(c) Any person seeking permission under this section shall submit to the Administrator a written application including:

(1) An actual emissions test that uses a full-sized or scale-model storage vessel that accurately collects and measures all VOC emissions from a given control device and that accurately simulates wind and accounts for other emission variables such as temperature and barometric pressure.

(2) An engineering evaluation that the Administrator determines is an accurate method of determining equivalence.

(d) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same emissions reduction as specified in §60.112b.

§ 60.115b Reporting and recordkeeping requirements.

The owner or operator of each storage vessel as specified in §60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of this section depending upon the control equipment installed to meet the requirements of §60.112b. The owner or operator shall keep copies of all reports and records required by this section, except for the record required by (c)(1), for at least 2 years. The record required by (c)(1) will be kept for the life of the control equipment.

(a) After installing control equipment in accordance with §60.112b(a)(1) (fixed roof and internal floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of §60.112b(a)(1) and §60.113b(a)(1). This report shall be an attachment to the notification required by §60.7(a)(3).

(2) Keep a record of each inspection performed as required by §60.113b (a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

(3) If any of the conditions described in §60.113b(a)(2) are detected during the annual visual inspection required by §60.113b(a)(2), a report shall be furnished to the Administrator within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.

(4) After each inspection required by §60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in §60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of §61.112b(a)(1) or §60.113b(a)(3) and list each repair made.

(b) After installing control equipment in accordance with §61.112b(a)(2) (external floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of §60.112b(a)(2) and §60.113b(b)(2), (b)(3), and (b)(4). This report shall be an attachment to the notification required by §60.7(a)(3).

(2) Within 60 days of performing the seal gap measurements required by §60.113b(b)(1), furnish the Administrator with a report that contains:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in §60.113b (b)(2) and (b)(3).

(3) Keep a record of each gap measurement performed as required by §60.113b(b). Each record shall identify the storage vessel in which the measurement was performed and shall contain:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in §60.113b (b)(2) and (b)(3).

(4) After each seal gap measurement that detects gaps exceeding the limitations specified by §60.113b(b)(4), submit a report to the Administrator within 30 days of the inspection. The report will identify the vessel and contain the information specified in paragraph (b)(2) of this section and the date the vessel was emptied or the repairs made and date of repair.

(c) After installing control equipment in accordance with §60.112b (a)(3) or (b)(1) (closed vent system and control device other than a flare), the owner or operator shall keep the following records.

(1) A copy of the operating plan.

(2) A record of the measured values of the parameters monitored in accordance with §60.113b(c)(2).

(d) After installing a closed vent system and flare to comply with §60.112b, the owner or operator shall meet the following requirements.

(1) A report containing the measurements required by §60.18(f) (1), (2), (3), (4), (5), and (6) shall be furnished to the Administrator as required by §60.8 of the General Provisions. This report shall be submitted within 6 months of the initial start-up date.

(2) Records shall be kept of all periods of operation during which the flare pilot flame is absent.

(3) Semiannual reports of all periods recorded under §60.115b(d)(2) in which the pilot flame was absent shall be furnished to the Administrator.

§ 60.116b Monitoring of operations.

(a) The owner or operator shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source.

(b) The owner or operator of each storage vessel as specified in §60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.

(c) Except as provided in paragraphs (f) and (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.

(d) Except as provided in paragraph (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the Administrator within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range.

(e) Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.

(1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.

(2) For crude oil or refined petroleum products the vapor pressure may be obtained by the following:

(i) Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from monographs contained in API Bulletin 2517 (incorporated by reference—see §60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

(ii) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.

(3) For other liquids, the vapor pressure:

(i) May be obtained from standard reference texts, or

(ii) Determined by ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17); or

(iii) Measured by an appropriate method approved by the Administrator; or

(iv) Calculated by an appropriate method approved by the Administrator.

(f) The owner or operator of each vessel storing a waste mixture of indeterminate or variable composition shall be subject to the following requirements.

(1) Prior to the initial filling of the vessel, the highest maximum true vapor pressure for the range of anticipated liquid compositions to be stored will be determined using the methods described in paragraph (e) of this section.

(2) For vessels in which the vapor pressure of the anticipated liquid composition is above the cutoff for monitoring but below the cutoff for controls as defined in §60.112b(a), an initial physical test of the vapor pressure is required; and a physical test at least once every 6 months thereafter is required as determined by the following methods:

(i) ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17); or

(ii) ASTM D323–82 or 94 (incorporated by reference—see §60.17); or

(iii) As measured by an appropriate method as approved by the Administrator.

(g) The owner or operator of each vessel equipped with a closed vent system and control device meeting the specification of §60.112b or with emissions reductions equipment as specified in 40 CFR 65.42(b)(4), (b)(5), (b)(6), or (c) is exempt from the requirements of paragraphs (c) and (d) of this section.

[52 FR 11429, Apr. 8, 1987, as amended at 65 FR 61756, Oct. 17, 2000; 65 FR 78276, Dec. 14, 2000; 68 FR 59333, Oct. 15, 2003]

§ 60.117b Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: §§60.111b(f)(4), 60.114b, 60.116b(e)(3)(iii), 60.116b(e)(3)(iv), and 60.116b(f)(2)(iii).

[52 FR 11429, Apr. 8, 1987, as amended at 52 FR 22780, June 16, 1987]

Indiana Department of Environmental Management
Office of Air Quality

Attachment C
to a Part 70 Operating Permit Renewal

Source Background and Description

Source Name:	Cargill, Inc.
Source Location:	1100 Indianapolis Blvd., Hammond, IN 46320
County:	Lake
SIC Code:	2046
Permit Renewal No.:	T089-27009-00203
Permit Reviewer:	Kristen Willoughby

Title 40: Protection of Environment
PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES (CONTINUED)

Subpart EEEE—National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)

Source: 69 FR 5063, Feb. 3, 2004, unless otherwise noted.

What This Subpart Covers

§ 63.2330 What is the purpose of this subpart?

This subpart establishes national emission limitations, operating limits, and work practice standards for organic hazardous air pollutants (HAP) emitted from organic liquids distribution (OLD) (non-gasoline) operations at major sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations, operating limits, and work practice standards.

§ 63.2334 Am I subject to this subpart?

(a) Except as provided for in paragraphs (b) and (c) of this section, you are subject to this subpart if you own or operate an OLD operation that is located at, or is part of, a major source of HAP emissions. An OLD operation may occupy an entire plant site or be collocated with other industrial (*e.g.,* manufacturing) operations at the same plant site.

(b) Organic liquid distribution operations located at research and development facilities, consistent with section 112(c)(7) of the Clean Air Act (CAA), are not subject to this subpart.

(c) Organic liquid distribution operations do not include the activities and equipment, including product loading racks, used to process, store, or transfer organic liquids at facilities listed in paragraph (c) (1) and (2) of this section.

(1) Oil and natural gas production field facilities, as the term “facility” is defined in §63.761 of subpart HH.

(2) Natural gas transmission and storage facilities, as the term “facility” is defined in §63.1271 of subpart HHH.

§ 63.2338 What parts of my plant does this subpart cover?

(a) This subpart applies to each new, reconstructed, or existing OLD operation affected source.

(b) Except as provided in paragraph (c) of this section, the affected source is the collection of activities and equipment used to distribute organic liquids into, out of, or within a facility that is a major source of HAP. The affected source is composed of:

(1) All storage tanks storing organic liquids.

(2) All transfer racks at which organic liquids are loaded into or unloaded out of transport vehicles and/or containers.

(3) All equipment leak components in organic liquids service that are associated with:

(i) Storage tanks storing organic liquids;

(ii) Transfer racks loading or unloading organic liquids;

(iii) Pipelines that transfer organic liquids directly between two storage tanks that are subject to this subpart;

(iv) Pipelines that transfer organic liquids directly between a storage tank subject to this subpart and a transfer rack subject to this subpart; and

(v) Pipelines that transfer organic liquids directly between two transfer racks that are subject to this subpart.

(4) All transport vehicles while they are loading or unloading organic liquids at transfer racks subject to this subpart.

(5) All containers while they are loading or unloading organic liquids at transfer racks subject to this subpart.

(c) The equipment listed in paragraphs (c)(1) through (4) of this section and used in the identified operations is excluded from the affected source.

(1) Storage tanks, transfer racks, transport vehicles, containers, and equipment leak components that are part of an affected source under another 40 CFR part 63 national emission standards for hazardous air pollutants (NESHAP).

(2) Non-permanent storage tanks, transfer racks, transport vehicles, containers, and equipment leak components when used in special situation distribution loading and unloading operations (such as maintenance or upset liquids management).

(3) Storage tanks, transfer racks, transport vehicles, containers, and equipment leak components when used to conduct maintenance activities, such as stormwater management, liquid removal from tanks for inspections and maintenance, or changeovers to a different liquid stored in a storage tank.

(d) An affected source is a new affected source if you commenced construction of the affected source after April 2, 2002, and you meet the applicability criteria in §63.2334 at the time you commenced operation.

(e) An affected source is reconstructed if you meet the criteria for reconstruction as defined in §63.2.

(f) An affected source is existing if it is not new or reconstructed.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42904, July 28, 2006]

§ 63.2342 When do I have to comply with this subpart?

(a) If you have a new or reconstructed affected source, you must comply with this subpart according to the schedule identified in paragraph (a)(1), (a)(2), or (a)(3) of this section, as applicable.

(1)(i) Except as provided in paragraph (a)(1)(ii) of this section, if you startup your new affected source on or before February 3, 2004 or if you reconstruct your affected source on or before February 3, 2004, you must comply with the emission limitations, operating limits, and work practice standards for new and reconstructed sources in this subpart no later than February 3, 2004.

(ii) For any emission source listed in paragraph §63.2338(b) at an affected source that commenced construction or reconstruction after April 2, 2002, but before February 3, 2004, that is required to be controlled based on the applicability criteria in this subpart, but:

(A) Would not have been required to be controlled based on the applicability criteria as proposed for this subpart, you must comply with the emission limitations, operating limits, and work practice standards for each such emission source based on the schedule found in paragraph (b) of this section or at startup, whichever is later; or

(B) Would have been subject to a less stringent degree of control requirement as proposed for this subpart, you must comply with the emission limitations, operating limits, and work practice standards in this subpart for each such emission source based on the schedule found in paragraph (b) of this section or at startup, whichever is later, and if you start up your affected new or reconstructed source before February 5, 2007, you must comply with the emission limitations, operating limits, and work practice standards for each such emission source as proposed for this subpart, until you are required to comply with the emission limitations, operating limits, and work practice standards in this subpart for each such emission source based on the schedule found in paragraph (b) of this section.

(2) If you commence construction of or reconstruct your affected source after February 3, 2004, you must comply with the emission limitations, operating limits, and work practice standards for new and reconstructed sources in this subpart upon startup of your affected source.

(3) If, after startup of a new affected source, the total actual annual facility-level organic liquid loading volume at that source exceeds the criteria for control in Table 2 to this subpart, items 9 and 10, the owner or operator must comply with the transfer rack requirements specified in §63.2346(b) immediately; that is, be in compliance the first day of the period following the end of the 3-year period triggering the control criteria.

(b)(1) If you have an existing affected source, you must comply with the emission limitations, operating limits, and work practice standards for existing affected sources no later than February 5, 2007, except as provided in paragraphs (b)(2) and (3) of this section.

(2) Floating roof storage tanks at existing affected sources must be in compliance with the work practice standards in Table 4 to this subpart, item 1, at all times after the next degassing and cleaning activity or within 10 years after February 3, 2004, whichever occurs first. If the first degassing and cleaning activity occurs during the 3 years following February 3, 2004, the compliance date is February 5, 2007.

(3)(i) If an addition or change other than reconstruction as defined in §63.2 is made to an existing affected facility that causes the total actual annual facility-level organic liquid loading volume to exceed the criteria for control in Table 2 to this subpart, items 7 and 8, the owner or operator must comply with the transfer rack requirements specified in §63.2346(b) immediately; that is, be in compliance the first day of the period following the end of the 3-year period triggering the control criteria.

(ii) If the owner or operator believes that compliance with the transfer rack emission limits cannot be achieved immediately, as specified in paragraph (b)(3)(i) of this section, the owner or operator may submit a request for a compliance extension, as specified in paragraphs (b)(3)(ii)(A) through (I) of this section. Subject to paragraph (b)(3)(ii)(B) of this section, until an extension of compliance has been granted by the Administrator (or a State with an approved permit program) under this paragraph (b)(3)(ii), the owner or operator of the transfer rack subject to the requirements of this section shall comply with all applicable requirements of this subpart. Advice on requesting an extension of compliance may be obtained from the Administrator (or the State with an approved permit program).

(A) *Submittal.* The owner or operator shall submit a request for a compliance extension to the Administrator (or a State, when the State has an approved 40 CFR part 70 permit program and the source is required to obtain a 40 CFR part 70 permit under that program, or a State, when the State has been delegated the authority to implement and enforce the emission standard for that source) seeking an extension allowing the source up to 1 additional year to comply with the transfer rack standard, if such additional period is necessary for the installation of controls. The owner or operator of the affected source who has requested an extension of compliance under this paragraph (b)(3)(ii)(A) and who is otherwise required to obtain a title V permit shall apply for such permit, or apply to have the source's title V permit revised to incorporate the conditions of the extension of compliance. The conditions of an extension of compliance granted under this paragraph (b)(3)(ii)(A) will be incorporated into the affected source's title V permit according to the provisions of 40 CFR part 70 or Federal title V regulations in this chapter (42 U.S.C. 7661), whichever are applicable.

(B) *When to submit.* (*1*) Any request submitted under paragraph (b)(3)(ii)(A) of this section must be submitted in writing to the appropriate authority no later than 120 days prior to the affected source's compliance date (as specified in paragraph (b)(3)(i) of this section), except as provided for in paragraph (b)(3)(ii)(B)(*2*) of this section. Nonfrivolous requests submitted under this paragraph (b)(3)(ii)(B)(*1*) will stay the applicability of the rule as to the emission points in question until such time as the request is granted or denied. A denial will be effective as of the date of denial.

(*2*) An owner or operator may submit a compliance extension request after the date specified in paragraph (b)(3)(ii)(B)(*1*) of this section provided the need for the compliance extension arose after that date, and before the otherwise applicable compliance date and the need arose due to circumstances beyond reasonable control of the owner or operator. This request must include, in addition to the information required in paragraph (b)(3)(ii)(C) of this section, a statement of the reasons additional time is needed and the date when the owner or operator first learned of the problems. Nonfrivolous requests submitted under this paragraph (b)(3)(ii)(B)(*2*) will stay the applicability of the rule as to the emission points in question until such time as the request is granted or denied. A denial will be effective as of the original compliance date.

(C) *Information required.* The request for a compliance extension under paragraph (b)(3)(ii)(A) of this section shall include the following information:

(*1*) The name and address of the owner or operator and the address of the existing source if it differs from the address of the owner or operator;

(*2*) The name, address, and telephone number of a contact person for further information;

(*3*) An identification of the organic liquid distribution operation and of the specific equipment for which additional compliance time is required;

(4*)* A description of the controls to be installed to comply with the standard;

(5*)* Justification for the length of time being requested; and

(6*)* A compliance schedule, including the date by which each step toward compliance will be reached. At a minimum, the list of dates shall include:

(I*)* The date by which on-site construction, installation of emission control equipment, or a process change is planned to be initiated;

(ii*)* The date by which on-site construction, installation of emission control equipment, or a process change is to be completed; and

(iii*)* The date by which final compliance is to be achieved.

(D) *Approval of request for extension of compliance.* Based on the information provided in any request made under paragraph (b)(3)(ii)(C) of this section, or other information, the Administrator (or the State with an approved permit program) may grant an extension of compliance with the transfer rack emission standard, as specified in paragraph (b)(3)(ii) of this section. The extension will be in writing and will—

(1*)* Identify each affected source covered by the extension;

(2*)* Specify the termination date of the extension;

(3*)* Specify the dates by which steps toward compliance are to be taken, if appropriate;

(4*)* Specify other applicable requirements to which the compliance extension applies (e.g., performance tests);

(*5*) Specify the contents of the progress reports to be submitted and the dates by which such reports are to be submitted, if required pursuant to paragraph (b)(3)(ii)(E) of this section.

(6*)* Under paragraph (b)(3)(ii) of this section, specify any additional conditions that the Administrator (or the State) deems necessary to assure installation of the necessary controls and protection of the health of persons during the extension period.

(E) *Progress reports.* The owner or operator of an existing source that has been granted an extension of compliance under paragraph (b)(3)(ii)(D) of this section may be required to submit to the Administrator (or the State with an approved permit program) progress reports indicating whether the steps toward compliance outlined in the compliance schedule have been reached.

(F) *Notification of approval or intention to deny.* (*1*) The Administrator (or the State with an approved permit program) will notify the owner or operator in writing of approval or intention to deny approval of a request for an extension of compliance within 30 calendar days after receipt of sufficient information to evaluate a request submitted under paragraph (b)(3)(ii) of this section. The Administrator (or the State) will notify the owner or operator in writing of the status of his/her application; that is, whether the application contains sufficient information to make a determination, within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted. The 30-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete. Failure by the Administrator to act within 30 calendar days to approve or disapprove a request submitted under paragraph (b)(3)(ii) of this section does not constitute automatic approval of the request.

(2*)* When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(3*)* Before denying any request for an extension of compliance, the Administrator (or the State with an approved permit program) will notify the owner or operator in writing of the Administrator's (or the State's) intention to issue the denial, together with:

(*I)* Notice of the information and findings on which the intended denial is based; and

(ii*)* Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator (or the State) before further action on the request.

(4*)* The Administrator's final determination to deny any request for an extension will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be made within 30 calendar days after presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(G) *Termination of extension of compliance.* The Administrator (or the State with an approved permit program) may terminate an extension of compliance at an earlier date than specified if any specification under paragraph (b)(3)(ii)(D)(*3*) or paragraph (b)(3)(ii)(D)(*4*) of this section is not met. Upon a determination to terminate, the Administrator will notify, in writing, the owner or operator of the Administrator's determination to terminate, together with:

(1*)* Notice of the reason for termination; and

(2*)* Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the determination to terminate, additional information or arguments to the Administrator before further action on the termination.

(3*)* A final determination to terminate an extension of compliance will be in writing and will set forth the specific grounds on which the termination is based. The final determination will be made within 30 calendar days after presentation of additional information or arguments, or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(H) The granting of an extension under this section shall not abrogate the Administrator's authority under section 114 of the CAA.

(I) *Limitation on use of compliance extension.* The owner or operator may request an extension of compliance under the provisions specified in paragraph (b)(3)(ii) of this section only once for each facility.

(c) If you have an area source that does not commence reconstruction but increases its emissions or its potential to emit such that it becomes a major source of HAP emissions and an existing affected source subject to this subpart, you must be in compliance by 3 years after the area source becomes a major source.

(d) You must meet the notification requirements in §§63.2343 and 63.2382(a), as applicable, according to the schedules in §63.2382(a) and (b)(1) through (3) and in subpart A of this part. Some of these notifications must be submitted before the compliance dates for the emission limitations, operating limits, and work practice standards in this subpart.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42905, July 28, 2006]

§ 63.2343 What are my requirements for emission sources not requiring control?

This section establishes the notification, recordkeeping, and reporting requirements for emission sources identified in §63.2338 that do not require control under this subpart (i.e., under paragraphs (a) through (e) of §63.2346). Such emission sources are not subject to any other notification, recordkeeping, or reporting sections in this subpart, including §63.2350(c), except as indicated in paragraphs (a) through (d) of this section.

(a) For each storage tank subject to this subpart having a capacity of less than 18.9 cubic meters (5,000 gallons) and for each transfer rack subject to this subpart that only unloads organic liquids (i.e., no organic liquids are loaded at any of the transfer racks), you must keep documentation that verifies that each storage tank and transfer rack identified in paragraph (a) of this section is not required to be controlled. The documentation must be kept up-to-date (i.e., all such emission sources at a facility are identified in the documentation regardless of when the documentation was last compiled) and must be in a form suitable and readily available for expeditious inspection and review according to §63.10(b)(1), including records stored in electronic form in a separate location. The documentation may consist of identification of the tanks and transfer racks identified in paragraph (a) of this section on a plant site plan or process and instrumentation diagram (P&ID).

(b) For each storage tank subject to this subpart having a capacity of 18.9 cubic meters (5,000 gallons) or more that is not subject to control based on the criteria specified in Table 2 to this subpart, items 1 through 6, you must comply with the requirements specified in paragraphs (b)(1) through (3) of this section.

(1)(i) You must submit the information in §63.2386(c)(1), (2), (3), and (10)(i) in either the Notification of Compliance Status, according to the schedule specified in Table 12 to this subpart, or in your first Compliance report, according to the schedule specified in §63.2386(b), whichever occurs first.

(ii)(A) If you submit your first Compliance report before your Notification of Compliance Status, the Notification of Compliance Status must contain the information specified in §63.2386(d)(3) and (4) if any of the changes identified in paragraph (d) of this section have occurred since the filing of the first Compliance report. If none of the changes identified in paragraph (d) of this section have occurred since the filing of the first Compliance report, you do not need to report the information specified in §63.2386(c)(10)(i) when you submit your Notification of Compliance Status.

(B) If you submit your Notification of Compliance Status before your first Compliance report, your first Compliance report must contain the information specified in §63.2386(d)(3) and (4) if any of the changes specified in paragraph (d) of this section have occurred since the filing of the Notification of Compliance Status.

(iii) If you are already submitting a Notification of Compliance Status or a first Compliance report under §63.2386(c), you do not need to submit a separate Notification of Compliance Status or first Compliance report for each storage tank that meets the conditions identified in paragraph (b) of this section (i.e., a single Notification of Compliance Status or first Compliance report should be submitted).

(2)(i) You must submit a subsequent Compliance report according to the schedule in §63.2386(b) whenever any of the events in paragraph (d) of this section occur, as applicable.

(ii) Your subsequent Compliance reports must contain the information in §63.2386(c)(1), (2), (3) and, as applicable, in §63.2386(d)(3) and (4). If you are already submitting a subsequent Compliance report under §63.2386(d), you do not need to submit a separate subsequent Compliance report for each storage tank that meets the conditions identified in paragraph (b) of this section (i.e., a single subsequent Compliance report should be submitted).

(3) For each storage tank that meets the conditions identified in paragraph (b) of this section, you must keep documentation, including a record of the annual average true vapor pressure of the total Table 1 organic HAP in the stored organic liquid, that verifies the storage tank is not required to be controlled under this subpart. The documentation must be kept up-to-date and must be in a form suitable and readily available for expeditious inspection and review according to §63.10(b)(1), including records stored in electronic form in a separate location.

(c) For each transfer rack subject to this subpart that loads organic liquids but is not subject to control based on the criteria specified in Table 2 to this subpart, items 7 through 10, you must comply with the requirements specified in paragraphs (c)(1) through (3) of this section.

(1)(i) You must submit the information in §63.2386(c)(1), (2), (3), and (10)(i) in either the Notification of Compliance Status, according to the schedule specified in Table 12 to this subpart, or a first Compliance report, according to the schedule specified in §63.2386(b), whichever occurs first.

(ii)(A) If you submit your first Compliance report before your Notification of Compliance Status, the Notification of Compliance Status must contain the information specified in §63.2386(d)(3) and (4) if any of the changes identified in paragraph (d) of this section have occurred since the filing of the first Compliance report. If none of the changes identified in paragraph (d) of this section have occurred since the filing of the first Compliance report, you do not need to report the information specified in §63.2386(c)(10)(i) when you submit your Notification of Compliance Status.

(B) If you submit your Notification of Compliance Status before your first Compliance report, your first Compliance report must contain the information specified in §63.2386(d)(3) and (4) if any of the changes specified in paragraph (d) of this section have occurred since the filing of the Notification of Compliance Status.

(iii) If you are already submitting a Notification of Compliance Status or a first Compliance report under §63.2386(c), you do not need to submit a separate Notification of Compliance Status or first Compliance report for each transfer rack that meets the conditions identified in paragraph (b) of this section (i.e., a single Notification of Compliance Status or first Compliance report should be submitted).

(2)(i) You must submit a subsequent Compliance report according to the schedule in §63.2386(b) whenever any of the events in paragraph (d) of this section occur, as applicable.

(ii) Your subsequent Compliance reports must contain the information in §63.2386(c)(1), (2), (3) and, as applicable, in §63.2386(d)(3) and (4). If you are already submitting a subsequent Compliance report under §63.2386(d), you do not need to submit a separate subsequent Compliance report for each transfer rack that meets the conditions identified in paragraph (c) of this section (i.e., a single subsequent Compliance report should be submitted).

(3) For each transfer rack that meets the conditions identified in paragraph (c) of this section, you must keep documentation, including the records specified in §63.2390(d), that verifies the transfer rack is not required to be controlled under this subpart. The documentation must be kept up-to-date and must be in a form suitable and readily available for expeditious inspection and review according to §63.10(b)(1), including records stored in electronic form in a separate location.

(d) If one or more of the events identified in paragraphs (d)(1) through (4) of this section occur since the filing of the Notification of Compliance Status or the last Compliance report, you must submit a subsequent Compliance report as specified in paragraphs (b)(2) and (c)(2) of this section.

(1) Any storage tank or transfer rack became subject to control under this subpart EEEE; or

(2) Any storage tank equal to or greater than 18.9 cubic meters (5,000 gallons) became part of the affected source but is not subject to any of the emission limitations, operating limits, or work practice standards of this subpart; or

(3) Any transfer rack (except those racks at which only unloading of organic liquids occurs) became part of the affected source; or

(4) Any of the information required in §63.2386(c)(1), §63.2386(c)(2), or §63.2386(c)(3) has changed.

[71 FR 42906, July 28, 2006, as amended at 73 FR 21830, Apr. 23, 2008]

Emission Limitations, Operating Limits, and Work Practice Standards

§ 63.2346 What emission limitations, operating limits, and work practice standards must I meet?

(a) *Storage tanks.* For each storage tank storing organic liquids that meets the tank capacity and liquid vapor pressure criteria for control in Table 2 to this subpart, items 1 through 5, you must comply with paragraph (a)(1), (a)(2), (a)(3), or (a)(4) of this section. For each storage tank storing organic liquids that meets the tank capacity and liquid vapor pressure criteria for control in Table 2 to this subpart, item 6, you must comply with paragraph (a)(1), (a)(2), or (a)(4) of this section.

(1) Meet the emission limits specified in Table 2 to this subpart and comply with the applicable requirements specified in 40 CFR part 63, subpart SS, for meeting emission limits, except substitute the term “storage tank” at each occurrence of the term “storage vessel” in subpart SS.

(2) Route emissions to fuel gas systems or back into a process as specified in 40 CFR part 63, subpart SS.

(3) Comply with 40 CFR part 63, subpart WW (control level 2).

(4) Use a vapor balancing system that complies with the requirements specified in paragraphs (a)(4)(i) through (vii) of this section and with the recordkeeping requirements specified in §63.2390(e).

(i) The vapor balancing system must be designed and operated to route organic HAP vapors displaced from loading of the storage tank to the transport vehicle from which the storage tank is filled.

(ii) Transport vehicles must have a current certification in accordance with the United States Department of Transportation (U.S. DOT) pressure test requirements of 49 CFR part 180 for cargo tanks and 49 CFR 173.31 for tank cars.

(iii) Organic liquids must only be unloaded from cargo tanks or tank cars when vapor collection systems are connected to the storage tank's vapor collection system.

(iv) No pressure relief device on the storage tank, or on the cargo tank or tank car, shall open during loading or as a result of diurnal temperature changes (breathing losses).

(v) Pressure relief devices must be set to no less than 2.5 pounds per square inch gauge (psig) at all times to prevent breathing losses. Pressure relief devices may be set at values less than 2.5 psig if the owner or operator provides rationale in the notification of compliance status report explaining why the alternative value is sufficient to prevent breathing losses at all times. The owner or operator shall comply with paragraphs (a)(4)(v)(A) through (C) of this section for each pressure relief valve.

(A) The pressure relief valve shall be monitored quarterly using the method described in §63.180(b).

(B) An instrument reading of 500 parts per million by volume (ppmv) or greater defines a leak.

(C) When a leak is detected, it shall be repaired as soon as practicable, but no later than 5 days after it is detected, and the owner or operator shall comply with the recordkeeping requirements of §63.181(d)(1) through (4).

(vi) Cargo tanks and tank cars that deliver organic liquids to a storage tank must be reloaded or cleaned at a facility that utilizes the control techniques specified in paragraph (a)(4)(vi)(A) or (a)(4)(vi)(B) of this section.

(A) The cargo tank or tank car must be connected to a closed-vent system with a control device that reduces inlet emissions of total organic HAP by 95 percent by weight or greater or to an exhaust concentration less than or equal to 20 ppmv, on a dry basis corrected to 3 percent oxygen for combustion devices using supplemental combustion air.

(B) A vapor balancing system designed and operated to collect organic HAP vapor displaced from the cargo tank or tank car during reloading must be used to route the collected vapor to the storage tank from which the liquid being transferred originated or to another storage tank connected to a common header.

(vii) The owner or operator of the facility where the cargo tank or tank car is reloaded or cleaned must comply with paragraphs (a)(4)(vii)(A) through (D) of this section.

(A) Submit to the owner or operator of the storage tank and to the Administrator a written certification that the reloading or cleaning facility will meet the requirements of paragraph (a)(4)(vii)(A) through (C) of this section. The certifying entity may revoke the written certification by sending a written statement to the owner or operator of the storage tank giving at least 90 days notice that the certifying entity is rescinding acceptance of responsibility for compliance with the requirements of this paragraph (a)(4)(vii) of this section.

(B) If complying with paragraph (a)(4)(vi)(A) of this section, comply with the requirements for a closed vent system and control device as specified in this subpart EEEE. The notification requirements in §63.2382 and the reporting requirements in §63.2386 do not apply to the owner or operator of the offsite cleaning or reloading facility.

(C) If complying with paragraph (a)(4)(vi)(B) of this section, keep the records specified in §63.2390(e)(3) or equivalent recordkeeping approved by the Administrator.

(D) After the compliance dates specified in §63.2342, at an offsite reloading or cleaning facility subject to §63.2346(a)(4), compliance with the monitoring, recordkeeping, and reporting provisions of any other subpart of this part 63 that has monitoring, recordkeeping, and reporting provisions constitutes compliance with the monitoring, recordkeeping and reporting provisions of §63.2346(a)(4)(vii)(B) or §63.2346(a)(4)(vii)(C). You must identify in your notification of compliance status report required by §63.2382(d) the subpart of this part 63 with which the owner or operator of the offsite reloading or cleaning facility complies.

(b) *Transfer racks.* For each transfer rack that is part of the collection of transfer racks that meets the total actual annual facility-level organic liquid loading volume criterion for control in Table 2 to this subpart, items 7 through 10, you must comply with paragraph (b)(1), (b)(2), or (b)(3) of this section for each arm in the transfer rack loading an organic liquid whose organic HAP content meets the organic HAP criterion for control in Table 2 to this subpart, items 7 through 10. For existing affected sources, you must comply with paragraph (b)(1), (b)(2), or (b)(3)(i) of this section during the loading of organic liquids into transport vehicles. For new affected sources, you must comply with paragraph (b)(1), (b)(2), or (b)(3)(i) and (ii) of this section during the loading of organic liquids into transport vehicles and containers. If the total actual annual facility-level organic liquid loading volume at any affected source is equal to or greater than the loading volume criteria for control in Table 2 to this subpart, but at a later date is less than the loading volume criteria for control, compliance with paragraph (b)(1), (b)(2), or (b)(3) of this section is no longer required. For new sources and reconstructed sources, as defined in §63.2338(d) and (e), if at a later date, the total actual annual facility-level organic liquid loading volume again becomes equal to or greater than the loading volume criteria for control in Table 2 to this subpart, the owner or operator must comply with paragraph (b)(1), (b)(2), or (b)(3)(i) and (ii) of this section immediately, as specified in §63.2342(a)(3). For existing sources, as defined in §63.2338(f), if at a later date, the total actual annual facility-level organic liquid loading volume again becomes equal to or greater than the loading volume criteria for control in Table 2 to this subpart, the owner or operator must comply with paragraph (b)(1), (b)(2), or (b)(3)(i) of this section immediately, as specified in §63.2342(b)(3)(i), unless an alternative compliance schedule has been approved under §63.2342(b)(3)(ii) and subject to the use limitation specified in §63.2342(b)(3)(ii)(I).

(1) Meet the emission limits specified in Table 2 to this subpart and comply with the applicable requirements for transfer racks specified in 40 CFR part 63, subpart SS, for meeting emission limits.

(2) Route emissions to fuel gas systems or back into a process as specified in 40 CFR part 63, subpart SS.

(3)(i) Use a vapor balancing system that routes organic HAP vapors displaced from the loading of organic liquids into transport vehicles to the storage tank from which the liquid being loaded originated or to another storage tank connected to a common header.

(ii) Use a vapor balancing system that routes the organic HAP vapors displaced from the loading of organic liquids into containers directly (e.g., no intervening tank or containment area such as a room) to the storage tank from which the liquid being loaded originated or to another storage tank connected to a common header.

(c) *Equipment leak components.* For each pump, valve, and sampling connection that operates in organic liquids service for at least 300 hours per year, you must comply with the applicable requirements under 40 CFR part 63, subpart TT (control level 1), subpart UU (control level 2), or subpart H. Pumps, valves, and sampling connectors that are insulated to provide protection against persistent sub-freezing temperatures are subject to the “difficult to monitor” provisions in the applicable subpart selected by the owner or operator. This paragraph only applies if the affected source has at least one storage tank or transfer rack that meets the applicability criteria for control in Table 2 to this subpart.

(d) *Transport vehicles.* For each transport vehicle equipped with vapor collection equipment that is loaded at a transfer rack that is subject to control based on the criteria specified in Table 2 to this subpart, items 7 through 10, you must comply with paragraph (d)(1) of this section. For each transport vehicle without vapor collection equipment that is loaded at a transfer rack that is subject to control based on the criteria specified in Table 2 to this subpart, items 7 through 10, you must comply with paragraph (d)(2) of this section.

(1) Follow the steps in 40 CFR 60.502(e) to ensure that organic liquids are loaded only into vapor-tight transport vehicles and comply with the provisions in 40 CFR 60.502(f) through (i), except substitute the term “transport vehicle” at each occurrence of the term “tank truck” or “gasoline tank truck” in those paragraphs.

(2) Ensure that organic liquids are loaded only into transport vehicles that have a current certification in accordance with the U.S. Department of Transportation (DOT) pressure test requirements in 49 CFR part 180 for cargo tanks or 49 CFR 173.31 for tank cars.

(e) *Operating limits.* For each high throughput transfer rack, you must meet each operating limit in Table 3 to this subpart for each control device used to comply with the provisions of this subpart whenever emissions from the loading of organic liquids are routed to the control device. For each storage tank and low throughput transfer rack, you must comply with the requirements for monitored parameters as specified in subpart SS of this part for storage vessels and, during the loading of organic liquids, for low throughput transfer racks, respectively. Alternatively, you may comply with the operating limits in Table 3 to this subpart.

(f) For noncombustion devices, if you elect to demonstrate compliance with a percent reduction requirement in Table 2 to this subpart using total organic compounds (TOC) rather than organic HAP, you must first demonstrate, subject to the approval of the Administrator, that TOC is an appropriate surrogate for organic HAP in your case; that is, for your storage tank(s) and/or transfer rack(s), the percent destruction of organic HAP is equal to or higher than the percent destruction of TOC. This demonstration must be conducted prior to or during the initial compliance test.

(g) As provided in §63.6(g), you may request approval from the Administrator to use an alternative to the emission limitations, operating limits, and work practice standards in this section. You must follow the procedures in §63.177(b) through (e) in applying for permission to use such an alternative. If you apply for permission to use an alternative to the emission limitations, operating limits, and work practice standards in this section, you must submit the information described in §63.6(g)(2).

(h) [Reserved]

(i) Opening of a safety device is allowed at any time that it is required to avoid unsafe operating conditions.

(j) If you elect to comply with this subpart by combining emissions from different emission sources subject to this subpart in a single control device, then you must comply with the provisions specified in §63.982(f).

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42908, July 28, 2006; 73 FR 40981, July 17, 2008; 73 FR 21830, Apr. 23, 2008]

General Compliance Requirements

§ 63.2350 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations, operating limits, and work practice standards in this subpart at all times when the equipment identified in §63.2338(b)(1) through (4) is in OLD operation.

(b) You must always operate and maintain your affected source, including air pollution control and monitoring equipment, according to the provisions in §63.6(e)(1)(i).

(c) Except for emission sources not required to be controlled as specified in §63.2343, you must develop a written startup, shutdown, and malfunction (SSM) plan according to the provisions in §63.6(e)(3).

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42909, July 28, 2006]

Testing and Initial Compliance Requirements

§ 63.2354 What performance tests, design evaluations, and performance evaluations must I conduct?

(a)(1) For each performance test that you conduct, you must use the procedures specified in subpart SS of this part and the provisions specified in paragraph (b) of this section.

(2) For each design evaluation you conduct, you must use the procedures specified in subpart SS of this part.

(3) For each performance evaluation of a continuous emission monitoring system (CEMS) you conduct, you must follow the requirements in §63.8(e).

(b)(1) For nonflare control devices, you must conduct each performance test according to the requirements in §63.7(e)(1), and either §63.988(b), §63.990(b), or §63.995(b), using the procedures specified in §63.997(e).

(2) You must conduct three separate test runs for each performance test on a nonflare control device as specified in §§63.7(e)(3) and 63.997(e)(1)(v). Each test run must last at least 1 hour, except as provided in §63.997(e)(1)(v)(A) and (B).

(3)(i) In addition to EPA Method 25 or 25A of 40 CFR part 60, appendix A, to determine compliance with the organic HAP or TOC emission limit, you may use EPA Method 18 of 40 CFR part 60, appendix A, as specified in paragraph (b)(3)(i) of this section. As an alternative to EPA Method 18, you may use ASTM D6420–99 (Reapproved 2004), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (incorporated by reference, see §63.14), under the conditions specified in paragraph (b)(3)(ii) of this section.

(A) If you use EPA Method 18 to measure compliance with the percentage efficiency limit, you must first determine which organic HAP are present in the inlet gas stream (i.e., uncontrolled emissions) using knowledge of the organic liquids or the screening procedure described in EPA Method 18. In conducting the performance test, you must analyze samples collected as specified in EPA Method 18, simultaneously at the inlet and outlet of the control device. Quantify the emissions for the same organic HAP identified as present in the inlet gas stream for both the inlet and outlet gas streams of the control device.

(B) If you use EPA Method 18 of 40 CFR part 60, appendix A, to measure compliance with the emission concentration limit, you must first determine which organic HAP are present in the inlet gas stream using knowledge of the organic liquids or the screening procedure described in EPA Method 18. In conducting the performance test, analyze samples collected as specified in EPA Method 18 at the outlet of the control device. Quantify the control device outlet emission concentration for the same organic HAP identified as present in the inlet or uncontrolled gas stream.

(ii) You may use ASTM D6420–99 (Reapproved 2004), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (incorporated by reference, see §63.14), as an alternative to EPA Method 18 if the target concentration is between 150 parts per billion by volume and 100 ppmv and either of the conditions specified in paragraph (b)(2)(ii)(A) or (B) of this section exists. For target compounds not listed in Section 1.1 of ASTM D6420–99 (Reapproved 2004) and not amenable to detection by mass spectrometry, you may not use ASTM D6420–99 (Reapproved 2004).

(A) The target compounds are those listed in Section 1.1 of ASTM D6420–99 (Reapproved 2004), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (incorporated by reference, see §63.14),; or

(B) For target compounds not listed in Section 1.1 of ASTM D6420–99 (Reapproved 2004), Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry (incorporated by reference, see §63.14), but potentially detected by mass spectrometry, the additional system continuing calibration check after each run, as detailed in ASTM D6420–99 (Reapproved 2004), Section 10.5.3, must be followed, met, documented, and submitted with the data report, even if there is no moisture condenser used or the compound is not considered water-soluble.

(4) If a principal component of the uncontrolled or inlet gas stream to the control device is formaldehyde, you may use EPA Method 316 of appendix A of this part instead of EPA Method 18 of 40 CFR part 60, appendix A, for measuring the formaldehyde. If formaldehyde is the predominant organic HAP in the inlet gas stream, you may use EPA Method 316 alone to measure formaldehyde either at the inlet and outlet of the control device using the formaldehyde control efficiency as a surrogate for total organic HAP or TOC efficiency, or at the outlet of a combustion device for determining compliance with the emission concentration limit.

(5) You may not conduct performance tests during periods of SSM, as specified in §63.7(e)(1).

(c) To determine the HAP content of the organic liquid, you may use EPA Method 311 of 40 CFR part 63, appendix A, or other method approved by the Administrator. In addition, you may use other means, such as voluntary consensus standards, material safety data sheets (MSDS), or certified product data sheets, to determine the HAP content of the organic liquid. If the method you select to determine the HAP content provides HAP content ranges, you must use the upper end of each HAP content range in determining the total HAP content of the organic liquid. The EPA may require you to test the HAP content of an organic liquid using EPA Method 311 or other method approved by the Administrator. If the results of the EPA Method 311 (or any other approved method) are different from the HAP content determined by another means, the EPA Method 311 (or approved method) results will govern.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42909, July 28, 2006]

§ 63.2358 By what date must I conduct performance tests and other initial compliance demonstrations?

(a) You must conduct initial performance tests and design evaluations according to the schedule in §63.7(a)(2), or by the compliance date specified in any applicable State or Federal new source review construction permit to which the affected source is already subject, whichever is earlier.

(b)(1) For storage tanks and transfer racks at existing affected sources complying with the emission limitations listed in Table 2 to this subpart, you must demonstrate initial compliance with the emission limitations within 180 days after February 5, 2007, except as provided in paragraphs (b)(1)(i) and (b)(1)(ii) of this section.

(i) For storage tanks with an existing internal or external floating roof, complying with item 1.a.ii. in Table 2 to this subpart and item 1.a. in Table 4 to this subpart, you must conduct your initial compliance demonstration the next time the storage tank is emptied and degassed, but not later than February 3, 2014.

(ii) For storage tanks complying with item 1.a.ii. or 6.a.ii in Table 2 of this subpart and item 1.b., 1.c., or 2. in Table 4 of this subpart, you must comply within 180 days after April 25, 2011.

(2) For storage tanks and transfer racks at reconstructed or new affected sources complying with the emission limitations listed in Table 2 to this subpart, you must conduct your initial compliance demonstration with the emission limitations within 180 days after the initial startup date for the affected source or February 3, 2004, whichever is later.

(c)(1) For storage tanks at existing affected sources complying with the work practice standard in Table 4 to this subpart, you must conduct your initial compliance demonstration as specified in paragraphs (c)(1)(i) and (c)(1)(ii) of this section.

(i) For storage tanks with an existing internal or external floating roof, complying with item 1.a. in Table 4 of this subpart, you must conduct your initial compliance demonstration the next time the storage tank is emptied and degassed, but not later than February 3, 2014.

(ii) For other storage tanks not specified in paragraph (c)(1)(i) of this section, you must comply within 180 days after April 25, 2011.

(2) For transfer racks and equipment leak components at existing affected sources complying with the work practice standards in Table 4 to this subpart, you must conduct your initial compliance demonstration within 180 days after February 5, 2007.

(d) For storage tanks, transfer racks, and equipment leak components at reconstructed or new affected sources complying with the work practice standards in Table 4 to this subpart, you must conduct your initial compliance demonstration within 180 days after the initial startup date for the affected source.

[69 FR 5063, Feb. 3, 2004, as amended at 73 FR 40981, July 17, 2008]

§ 63.2362 When must I conduct subsequent performance tests?

(a) For nonflare control devices, you must conduct subsequent performance testing required in Table 5 to this subpart, item 1, at any time the EPA requests you to in accordance with section 114 of the CAA.

(b)(1) For each transport vehicle that you own that is equipped with vapor collection equipment and that is loaded with organic liquids at a transfer rack that is subject to control based on the criteria specified in Table 2 to this subpart, items 7 through 10, you must perform the vapor tightness testing required in Table 5 to this subpart, item 2, on that transport vehicle at least once per year.

(2) For transport vehicles that you own that do not have vapor collection equipment, you must maintain current certification in accordance with the U.S. DOT pressure test requirements in 49 CFR part 180 for cargo tanks or 49 CFR 173.31 for tank cars.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42910, July 28, 2006]

§ 63.2366 What are my monitoring installation, operation, and maintenance requirements?

(a) You must install, operate, and maintain a CMS on each control device required in order to comply with this subpart. If you use a continuous parameter monitoring system (CPMS) (as defined in §63.981), you must comply with the applicable requirements for CPMS in subpart SS of this part for the control device being used. If you use a continuous emissions monitoring system (CEMS), you must comply with the requirements in §63.8.

(b) For nonflare control devices controlling storage tanks and low throughput transfer racks, you must submit a monitoring plan according to the requirements in subpart SS of this part for monitoring plans.

§ 63.2370 How do I demonstrate initial compliance with the emission limitations, operating limits, and work practice standards?

(a) You must demonstrate initial compliance with each emission limitation and work practice standard that applies to you as specified in tables 6 and 7 to this subpart.

(b) You demonstrate initial compliance with the operating limits requirements specified in §63.2346(e) by establishing the operating limits during the initial performance test or design evaluation.

(c) You must submit the results of the initial compliance determination in the Notification of Compliance Status according to the requirements in §63.2382(d).

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42910, July 28, 2006]

Continuous Compliance Requirements

§ 63.2374 When do I monitor and collect data to demonstrate continuous compliance and how do I use the collected data?

(a) You must monitor and collect data according to subpart SS of this part and paragraphs (b) and (c) of this section.

(b) When using a control device to comply with this subpart, you must monitor continuously or collect data at all required intervals at all times that the emission source and control device are in OLD operation, except for CMS malfunctions (including any malfunction preventing the CMS from operating properly), associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments).

(c) Do not use data recorded during CMS malfunctions, associated repairs, required quality assurance or control activities, or periods when emissions from organic liquids are not routed to the control device in data averages and calculations used to report emission or operating levels. Do not use such data in fulfilling a minimum data availability requirement, if applicable. You must use all of the data collected during all other periods, including periods of SSM, in assessing the operation of the control device.

§ 63.2378 How do I demonstrate continuous compliance with the emission limitations, operating limits, and work practice standards?

(a) You must demonstrate continuous compliance with each emission limitation, operating limit, and work practice standard in Tables 2 through 4 to this subpart that applies to you according to the methods specified in subpart SS of this part and in tables 8 through 10 to this subpart, as applicable.

(b) You must follow the requirements in §63.6(e)(1) and (3) during periods of startup, shutdown, malfunction, or nonoperation of the affected source or any part thereof. In addition, the provisions of paragraphs (b)(1) through (3) of this section apply.

(1) The emission limitations in this subpart apply at all times except during periods of nonoperation of the affected source (or specific portion thereof) resulting in cessation of the emissions to which this subpart applies. The emission limitations of this subpart apply during periods of SSM, except as provided in paragraphs (b)(2) and (3) of this section. However, if a SSM, or period of nonoperation of one portion of the affected source does not affect the ability of a particular emission source to comply with the emission limitations to which it is subject, then that emission source is still required to comply with the applicable emission limitations of this subpart during the startup, shutdown, malfunction, or period of nonoperation.

(2) The owner or operator must not shut down control devices or monitoring systems that are required or utilized for achieving compliance with this subpart during periods of SSM while emissions are being routed to such items of equipment if the shutdown would contravene requirements of this subpart applicable to such items of equipment. This paragraph (b)(2) does not apply if the item of equipment is malfunctioning. This paragraph (b)(2) also does not apply if the owner or operator shuts down the compliance equipment (other than monitoring systems) to avoid damage due to a contemporaneous SSM of the affected source or portion thereof. If the owner or operator has reason to believe that monitoring equipment would be damaged due to a contemporaneous SSM of the affected source of portion thereof, the owner or operator must provide documentation supporting such a claim in the next Compliance report required in table 11 to this subpart, item 1. Once approved by the Administrator, the provision for ceasing to collect, during a SSM, monitoring data that would otherwise be required by the provisions of this subpart must be incorporated into the SSM plan.

(3) During SSM, you must implement, to the extent reasonably available, measures to prevent or minimize excess emissions. For purposes of this paragraph (b)(3), the term “excess emissions” means emissions greater than those allowed by the emission limits that apply during normal operational periods. The measures to be taken must be identified in the SSM plan, and may include, but are not limited to, air pollution control technologies, recovery technologies, work practices, pollution prevention, monitoring, and/or changes in the manner of operation of the affected source. Back-up control devices are not required, but may be used if available.

(c) Periods of planned routine maintenance of a control device used to control storage tanks or transfer racks, during which the control device does not meet the emission limits in table 2 to this subpart, must not exceed 240 hours per year.

(d) If you elect to route emissions from storage tanks or transfer racks to a fuel gas system or to a process, as allowed by §63.982(d), to comply with the emission limits in table 2 to this subpart, the total aggregate amount of time during which the emissions bypass the fuel gas system or process during the calendar year without being routed to a control device, for all reasons (except SSM or product changeovers of flexible operation units and periods when a storage tank has been emptied and degassed), must not exceed 240 hours.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 20463, Apr. 20, 2006]

Notifications, Reports, and Records

§ 63.2382 What notifications must I submit and when and what information should be submitted?

(a) You must submit each notification in subpart SS of this part, table 12 to this subpart, and paragraphs (b) through (d) of this section that applies to you. You must submit these notifications according to the schedule in table 12 to this subpart and as specified in paragraphs (b) through (d) of this section.

(b)(1) *Initial Notification.* If you startup your affected source before February 3, 2004, you must submit the Initial Notification no later than 120 calendar days after February 3, 2004.

(2) If you startup your new or reconstructed affected source on or after February 3, 2004, you must submit the Initial Notification no later than 120 days after initial startup.

(c) If you are required to conduct a performance test, you must submit the Notification of Intent to conduct the test at least 60 calendar days before it is initially scheduled to begin as required in §63.7(b)(1).

(d)(1) *Notification of Compliance Status.* If you are required to conduct a performance test, design evaluation, or other initial compliance demonstration as specified in table 5, 6, or 7 to this subpart, you must submit a Notification of Compliance Status.

(2) The Notification of Compliance Status must include the information required in §63.999(b) and in paragraphs (d)(2)(i) through (viii) of this section.

(i) The results of any applicability determinations, emission calculations, or analyses used to identify and quantify organic HAP emissions from the affected source.

(ii) The results of emissions profiles, performance tests, engineering analyses, design evaluations, flare compliance assessments, inspections and repairs, and calculations used to demonstrate initial compliance according to tables 6 and 7 to this subpart. For performance tests, results must include descriptions of sampling and analysis procedures and quality assurance procedures.

(iii) Descriptions of monitoring devices, monitoring frequencies, and the operating limits established during the initial compliance demonstrations, including data and calculations to support the levels you establish.

(iv) Descriptions of worst-case operating and/or testing conditions for the control device(s).

(v) Identification of emission sources subject to overlapping requirements described in §63.2396 and the authority under which you will comply.

(vi) The applicable information specified in §63.1039(a)(1) through (3) for all pumps and valves subject to the work practice standards for equipment leak components in table 4 to this subpart, item 4.

(vii) If you are complying with the vapor balancing work practice standard for transfer racks according to table 4 to this subpart, item 3.a, include a statement to that effect and a statement that the pressure vent settings on the affected storage tanks are greater than or equal to 2.5 psig.

(viii) The information specified in §63.2386(c)(10)(i), unless the information has already been submitted with the first Compliance report. If the information specified in §63.2386(c)(10)(i) has already been submitted with the first Compliance report, the information specified in §63.2386(d)(3) and (4), as applicable, shall be submitted instead.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42910, July 28, 2006]

§ 63.2386 What reports must I submit and when and what information is to be submitted in each?

(a) You must submit each report in subpart SS of this part, Table 11 to this subpart, table 12 to this subpart, and in paragraphs (c) through (e) of this section that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report according to table 11 to this subpart and by the dates shown in paragraphs (b)(1) through (3) of this section, by the dates shown in subpart SS of this part, and by the dates shown in table 12 to this subpart, whichever are applicable.

(1)(i) The first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.2342 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your affected source in §63.2342.

(ii) The first Compliance report must be postmarked no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.2342.

(2)(i) Each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(ii) Each subsequent Compliance report must be postmarked no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(3) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) and (2) of this section.

(c) *First Compliance report.* The first Compliance report must contain the information specified in paragraphs (c)(1) through (10) of this section.

(1) Company name and address.

(2) Statement by a responsible official, including the official's name, title, and signature, certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

(3) Date of report and beginning and ending dates of the reporting period.

(4) Any changes to the information listed in §63.2382(d)(2) that have occurred since the submittal of the Notification of Compliance Status.

(5) If you had a SSM during the reporting period and you took actions consistent with your SSM plan, the Compliance report must include the information described in §63.10(d)(5)(i).

(6) If there are no deviations from any emission limitation or operating limit that applies to you and there are no deviations from the requirements for work practice standards, a statement that there were no deviations from the emission limitations, operating limits, or work practice standards during the reporting period.

(7) If there were no periods during which the CMS was out of control as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out of control during the reporting period.

(8) For closed vent systems and control devices used to control emissions, the information specified in paragraphs (c)(8)(i) and (ii) of this section for those planned routine maintenance activities that would require the control device to not meet the applicable emission limit.

(i) A description of the planned routine maintenance that is anticipated to be performed for the control device during the next 6 months. This description must include the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods.

(ii) A description of the planned routine maintenance that was performed for the control device during the previous 6 months. This description must include the type of maintenance performed and the total number of hours during those 6 months that the control device did not meet the applicable emission limit due to planned routine maintenance.

(9) A listing of all transport vehicles into which organic liquids were loaded at transfer racks that are subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, during the previous 6 months for which vapor tightness documentation as required in §63.2390(c) was not on file at the facility.

(10)(i) A listing of all transfer racks (except those racks at which only unloading of organic liquids occurs) and of tanks greater than or equal to 18.9 cubic meters (5,000 gallons) that are part of the affected source but are not subject to any of the emission limitations, operating limits, or work practice standards of this subpart.

(ii) If the information specified in paragraph (c)(10)(i) of this section has already been submitted with the Notification of Compliance Status, the information specified in paragraphs (d)(3) and (4) of this section, as applicable, shall be submitted instead.

(d) *Subsequent Compliance reports* . Subsequent Compliance reports must contain the information in paragraphs (c)(1) through (9) of this section and, where applicable, the information in paragraphs (d)(1) through (4) of this section.

(1) For each deviation from an emission limitation occurring at an affected source where you are using a CMS to comply with an emission limitation in this subpart, you must include in the Compliance report the applicable information in paragraphs (d)(1)(i) through (xii) of this section. This includes periods of SSM.

(i) The date and time that each malfunction started and stopped.

(ii) The dates and times that each CMS was inoperative, except for zero (low-level) and high-level checks.

(iii) For each CMS that was out of control, the information in §63.8(c)(8).

(iv) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of SSM, or during another period.

(v) A summary of the total duration of the deviations during the reporting period, and the total duration as a percentage of the total emission source operating time during that reporting period.

(vi) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(vii) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percentage of the total emission source operating time during that reporting period.

(viii) An identification of each organic HAP that was potentially emitted during each deviation based on the known organic HAP contained in the liquid(s).

(ix) A brief description of the emission source(s) at which the CMS deviation(s) occurred.

(x) A brief description of each CMS that was out of control during the period.

(xi) The date of the latest certification or audit for each CMS.

(xii) A brief description of any changes in CMS, processes, or controls since the last reporting period.

(2) Include in the Compliance report the information in paragraphs (d)(2)(i) through (iii) of this section, as applicable.

(i) For each storage tank and transfer rack subject to control requirements, include periods of planned routine maintenance during which the control device did not comply with the applicable emission limits in table 2 to this subpart.

(ii) For each storage tank controlled with a floating roof, include a copy of the inspection record (required in §63.1065(b)) when inspection failures occur.

(iii) If you elect to use an extension for a floating roof inspection in accordance with §63.1063(c)(2)(iv)(B) or (e)(2), include the documentation required by those paragraphs.

(3)(i) A listing of any storage tank that became subject to controls based on the criteria for control specified in table 2 to this subpart, items 1 through 6, since the filing of the last Compliance report.

(ii) A listing of any transfer rack that became subject to controls based on the criteria for control specified in table 2 to this subpart, items 7 through 10, since the filing of the last Compliance report.

(4)(i) A listing of tanks greater than or equal to 18.9 cubic meters (5,000 gallons) that became part of the affected source but are not subject to any of the emission limitations, operating limits, or work practice standards of this subpart, since the last Compliance report.

(ii) A listing of all transfer racks (except those racks at which only the unloading of organic liquids occurs) that became part of the affected source but are not subject to any of the emission limitations, operating limits, or work practice standards of this subpart, since the last Compliance report.

(e) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 40 CFR part 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to table 11 to this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission limitation in this subpart, we will consider submission of the Compliance report as satisfying any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report will not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the applicable title V permitting authority.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42910, July 28, 2006]

§ 63.2390 What records must I keep?

(a) For each emission source identified in §63.2338 that does not require control under this subpart, you must keep all records identified in §63.2343.

(b) For each emission source identified in §63.2338 that does require control under this subpart:

(1) You must keep all records identified in subpart SS of this part and in table 12 to this subpart that are applicable, including records related to notifications and reports, SSM, performance tests, CMS, and performance evaluation plans; and

(2) You must keep the records required to show continuous compliance, as required in subpart SS of this part and in tables 8 through 10 to this subpart, with each emission limitation, operating limit, and work practice standard that applies to you.

(c) For each transport vehicle into which organic liquids are loaded at a transfer rack that is subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, you must keep the applicable records in paragraphs (c)(1) and (2) of this section or alternatively the verification records in paragraph (c)(3) of this section.

(1) For transport vehicles equipped with vapor collection equipment, the documentation described in 40 CFR 60.505(b), except that the test title is: Transport Vehicle Pressure Test-EPA Reference Method 27.

(2) For transport vehicles without vapor collection equipment, current certification in accordance with the U.S. DOT pressure test requirements in 49 CFR part 180 for cargo tanks or 49 CFR 173.31 for tank cars.

(3) In lieu of keeping the records specified in paragraph (c)(1) or (2) of this section, as applicable, the owner or operator shall record that the verification of U.S. DOT tank certification or Method 27 of appendix A to 40 CFR part 60 testing, required in table 5 to this subpart, item 2, has been performed. Various methods for the record of verification can be used, such as: A check-off on a log sheet, a list of U.S. DOT serial numbers or Method 27 data, or a position description for gate security showing that the security guard will not allow any trucks on site that do not have the appropriate documentation.

(d) You must keep records of the total actual annual facility-level organic liquid loading volume as defined in §63.2406 through transfer racks to document the applicability, or lack thereof, of the emission limitations in table 2 to this subpart, items 7 through 10.

(e) An owner or operator who elects to comply with §63.2346(a)(4) shall keep the records specified in paragraphs (e)(1) through (3) of this section.

(1) A record of the U.S. DOT certification required by §63.2346(a)(4)(ii).

(2) A record of the pressure relief vent setting specified in §63.2346(a)(4)(v).

(3) If complying with §63.2346(a)(4)(vi)(B), keep the records specified in paragraphs (e)(3)(i) and (ii) of this section.

(i) A record of the equipment to be used and the procedures to be followed when reloading the cargo tank or tank car and displacing vapors to the storage tank from which the liquid originates.

(ii) A record of each time the vapor balancing system is used to comply with §63.2346(a)(4)(vi)(B).

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42910, July 28, 2006; 73 FR 40982, July 17, 2008]

§ 63.2394 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious inspection and review according to §63.10(b)(1), including records stored in electronic form at a separate location.

(b) As specified in §63.10(b)(1), you must keep your files of all information (including all reports and notifications) for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You may keep the records off site for the remaining 3 years.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42911, July 28, 2006]

Other Requirements and Information

§ 63.2396 What compliance options do I have if part of my plant is subject to both this subpart and another subpart?

(a) *Compliance with other regulations for storage tanks* . (1) After the compliance dates specified in §63.2342, you are in compliance with the provisions of this subpart for any storage tank that is assigned to the OLD affected source and that is both controlled with a floating roof and is in compliance with the provisions of either 40 CFR part 60, subpart Kb, or 40 CFR part 61, subpart Y, except that records shall be kept for 5 years rather than 2 years for storage tanks that are assigned to the OLD affected source.

(2) After the compliance dates specified in §63.2342, you are in compliance with the provisions of this subpart for any storage tank with a fixed roof that is assigned to the OLD affected source and that is both controlled with a closed vent system and control device and is in compliance with either 40 CFR part 60, subpart Kb, or 40 CFR part 61, subpart Y, except that you must comply with the monitoring, recordkeeping, and reporting requirements in this subpart.

(3) As an alternative to paragraphs (a)(1) and (2) of this section, if a storage tank assigned to the OLD affected source is subject to control under 40 CFR part 60, subpart Kb, or 40 CFR part 61, subpart Y, you may elect to comply only with the requirements of this subpart for storage tanks meeting the applicability criteria for control in table 2 to this subpart.

(b) *Compliance with other regulations for transfer racks.* After the compliance dates specified in §63.2342, if you have a transfer rack that is subject to 40 CFR part 61, subpart BB, and that transfer rack is in OLD operation, you must meet all of the requirements of this subpart for that transfer rack when the transfer rack is in OLD operation during the loading of organic liquids.

(c) *Compliance with other regulations for equipment leak components.* (1) After the compliance dates specified in §63.2342, if you have pumps, valves, or sampling connections that are subject to a 40 CFR part 60 subpart, and those pumps, valves, and sampling connections are in OLD operation and in organic liquids service, as defined in this subpart, you must comply with the provisions of each subpart for those equipment leak components.

(2) After the compliance dates specified in §63.2342, if you have pumps, valves, or sampling connections subject to 40 CFR part 63, subpart GGG, and those pumps, valves, and sampling connections are in OLD operation and in organic liquids service, as defined in this subpart, you may elect to comply with the provisions of this subpart for all such equipment leak components. You must identify in the Notification of Compliance Status required by §63.2382(b) the provisions with which you will comply.

(d) [Reserved]

(e) *Overlap with other regulations for monitoring, recordkeeping, and reporting* —(1) *Control devices.* After the compliance dates specified in §63.2342, if any control device subject to this subpart is also subject to monitoring, recordkeeping, and reporting requirements of another 40 CFR part 63 subpart, the owner or operator must be in compliance with the monitoring, recordkeeping, and reporting requirements of this subpart EEEE. If complying with the monitoring, recordkeeping, and reporting requirements of the other subpart satisfies the monitoring, recordkeeping, and reporting requirements of this subpart, the owner or operator may elect to continue to comply with the monitoring, recordkeeping, and reporting requirements of the other subpart. In such instances, the owner or operator will be deemed to be in compliance with the monitoring, recordkeeping, and reporting requirements of this subpart. The owner or operator must identify the other subpart being complied with in the Notification of Compliance Status required by §63.2382(b).

(2) *Equipment leak components.* After the compliance dates specified in §63.2342, if you are applying the applicable recordkeeping and reporting requirements of another 40 CFR part 63 subpart to the valves, pumps, and sampling connection systems associated with a transfer rack subject to this subpart that only unloads organic liquids directly to or via pipeline to a non-tank process unit component or to a storage tank subject to the other 40 CFR part 63 subpart, the owner or operator must be in compliance with the recordkeeping and reporting requirements of this subpart EEEE. If complying with the recordkeeping and reporting requirements of the other subpart satisfies the recordkeeping and reporting requirements of this subpart, the owner or operator may elect to continue to comply with the recordkeeping and reporting requirements of the other subpart. In such instances, the owner or operator will be deemed to be in compliance with the recordkeeping and reporting requirements of this subpart. The owner or operator must identify the other subpart being complied with in the Notification of Compliance Status required by §63.2382(b).

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42911, July 28, 2006]

§ 63.2398 What parts of the General Provisions apply to me?

Table 12 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you.

§ 63.2402 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the U.S. Environmental Protection Agency (U.S. EPA) or a delegated authority such as your State, local, or eligible tribal agency. If the EPA Administrator has delegated authority to your State, local, or eligible tribal agency, then that agency, as well as the EPA, has the authority to implement and enforce this subpart. You should contact your EPA Regional Office (see list in §63.13) to find out if this subpart is delegated to your State, local, or eligible tribal agency.

(b) In delegating implementation and enforcement authority for this subpart to a State, local, or eligible tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraphs (b)(1) through (4) of this section are retained by the EPA Administrator and are not delegated to the State, local, or eligible tribal agency.

(1) Approval of alternatives to the nonopacity emission limitations, operating limits, and work practice standards in §63.2346(a) through (c) under §63.6(g).

(2) Approval of major changes to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major changes to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major changes to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42911, July 28, 2006]

§ 63.2406 What definitions apply to this subpart?

Terms used in this subpart are defined in the CAA, in §63.2, 40 CFR part 63, subparts H, PP, SS, TT, UU, and WW, and in this section. If the same term is defined in another subpart and in this section, it will have the meaning given in this section for purposes of this subpart. Notwithstanding the introductory language in §63.921, the terms “container” and “safety device” shall have the meaning found in this subpart and not in §63.921.

Actual annual average temperature, for organic liquids, means the temperature determined using the following methods:

(1) For heated or cooled storage tanks, use the calculated annual average temperature of the stored organic liquid as determined from a design analysis of the storage tank.

(2) For ambient temperature storage tanks:

(i) Use the annual average of the local (nearest) normal daily mean temperatures reported by the National Climatic Data Center; or

(ii) Use any other method that the EPA approves.

Annual average true vapor pressure means the equilibrium partial pressure exerted by the total table 1 organic HAP in the stored or transferred organic liquid. For the purpose of determining if a liquid meets the definition of an organic liquid, the vapor pressure is determined using standard conditions of 77 degrees F and 29.92 inches of mercury. For the purpose of determining whether an organic liquid meets the applicability criteria in table 2, items 1 through 6, to this subpart, use the actual annual average temperature as defined in this subpart. The vapor pressure value in either of these cases is determined:

(1) In accordance with methods described in American Petroleum Institute Publication 2517, Evaporative Loss from External Floating-Roof Tanks (incorporated by reference, see §63.14);

(2) Using standard reference texts;

(3) By the American Society for Testing and Materials Method D2879–83, 96 (incorporated by reference, see §63.14); or

(4) Using any other method that the EPA approves.

Bottoms receiver means a tank that collects distillation bottoms before the stream is sent for storage or for further processing downstream.

Cargo tank means a liquid-carrying tank permanently attached and forming an integral part of a motor vehicle or truck trailer. This term also refers to the entire cargo tank motor vehicle or trailer. For the purpose of this subpart, vacuum trucks used exclusively for maintenance or spill response are not considered cargo tanks.

Closed vent system means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, if necessary, flow-inducing devices that transport gas or vapors from an emission point to a control device. This system does not include the vapor collection system that is part of some transport vehicles or the loading arm or hose that is used for vapor return. For transfer racks, the closed vent system begins at, and includes, the first block valve on the downstream side of the loading arm or hose used to convey displaced vapors.

Combustion device means an individual unit of equipment, such as a flare, oxidizer, catalytic oxidizer, process heater, or boiler, used for the combustion of organic emissions.

Container means a portable unit in which a material can be stored, transported, treated, disposed of, or otherwise handled. Examples of containers include, but are not limited to, drums and portable cargo containers known as “portable tanks” or “totes.”

Control device means any combustion device, recovery device, recapture device, or any combination of these devices used to comply with this subpart. Such equipment or devices include, but are not limited to, absorbers, adsorbers, condensers, and combustion devices. Primary condensers, steam strippers, and fuel gas systems are not considered control devices.

Crude oil means any of the naturally occurring liquids commonly referred to as crude oil, regardless of specific physical properties. Only those crude oils downstream of the first point of custody transfer after the production field are considered crude oils in this subpart.

Custody transfer means the transfer of hydrocarbon liquids after processing and/or treatment in the producing operations, or from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.

Design evaluation means a procedure for evaluating control devices that complies with the requirements in §63.985(b)(1)(i).

Deviation means any instance in which an affected source subject to this subpart, or portion thereof, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any emission limitation (including any operating limit) or work practice standard;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart, and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation (including any operating limit) or work practice standard in this subpart during SSM.

Emission limitation means an emission limit, opacity limit, operating limit, or visible emission limit.

Equipment leak component means each pump, valve, and sampling connection system used in organic liquids service at an OLD operation. Valve types include control, globe, gate, plug, and ball. Relief and check valves are excluded.

Gasoline means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals (4.0 pounds per square inch absolute (psia)) or greater which is used as a fuel for internal combustion engines. Aviation gasoline is included in this definition.

High throughput transfer rack means those transfer racks that transfer into transport vehicles (for existing affected sources) or into transport vehicles and containers (for new affected sources) a total of 11.8 million liters per year or greater of organic liquids.

In organic liquids service means that an equipment leak component contains or contacts organic liquids having 5 percent by weight or greater of the organic HAP listed in Table 1 to this subpart.

Low throughput transfer rack means those transfer racks that transfer into transport vehicles (for existing affected sources) or into transport vehicles and containers (for new affected sources) less than 11.8 million liters per year of organic liquids.

On-site or *on site* means, with respect to records required to be maintained by this subpart or required by another subpart referenced by this subpart, that records are stored at a location within a major source which encompasses the affected source. On-site includes, but is not limited to, storage at the affected source to which the records pertain, storage in central files elsewhere at the major source, or electronically available at the site.

Organic liquid means:

(1) Any non-crude oil liquid or liquid mixture that contains 5 percent by weight or greater of the organic HAP listed in Table 1 to this subpart, as determined using the procedures specified in §63.2354(c).

(2) Any crude oils downstream of the first point of custody transfer.

(3) Organic liquids for purposes of this subpart do not include the following liquids:

(i) Gasoline (including aviation gasoline), kerosene (No. 1 distillate oil), diesel (No. 2 distillate oil), asphalt, and heavier distillate oils and fuel oils;

(ii) Any fuel consumed or dispensed on the plant site directly to users (such as fuels for fleet refueling or for refueling marine vessels that support the operation of the plant);

(iii) Hazardous waste;

(iv) Wastewater;

(v) Ballast water: or

(vi) Any non-crude oil liquid with an annual average true vapor pressure less than 0.7 kilopascals (0.1 psia).

Organic liquids distribution (OLD) operation means the combination of activities and equipment used to store or transfer organic liquids into, out of, or within a plant site regardless of the specific activity being performed. Activities include, but are not limited to, storage, transfer, blending, compounding, and packaging.

Permitting authority means one of the following:

(1) The State Air Pollution Control Agency, local agency, or other agency authorized by the EPA Administrator to carry out a permit program under 40 CFR part 70; or

(2) The EPA Administrator, in the case of EPA-implemented permit programs under title V of the CAA (42 U.S.C. 7661) and 40 CFR part 71.

Plant site means all contiguous or adjoining surface property that is under common control, including surface properties that are separated only by a road or other public right-of-way. Common control includes surface properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, or any combination.

Research and development facility means laboratory and pilot plant operations whose primary purpose is to conduct research and development into new processes and products, where the operations are under the close supervision of technically trained personnel, and which are not engaged in the manufacture of products for commercial sale, except in a *de minimis* manner.

Responsible official means responsible official as defined in 40 CFR 70.2 and 40 CFR 71.2, as applicable.

Safety device means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other type of device that functions exclusively to prevent physical damage or permanent deformation to a unit or its air emission control equipment by venting gases or vapors directly to the atmosphere during unsafe conditions resulting from an unplanned, accidental, or emergency event.

Shutdown means the cessation of operation of an OLD affected source, or portion thereof (other than as part of normal operation of a batch-type operation), including equipment required or used to comply with this subpart, or the emptying and degassing of a storage tank. Shutdown as defined here includes, but is not limited to, events that result from periodic maintenance, replacement of equipment, or repair.

Startup means the setting in operation of an OLD affected source, or portion thereof (other than as part of normal operation of a batch-type operation), for any purpose. Startup also includes the placing in operation of any individual piece of equipment required or used to comply with this subpart including, but not limited to, control devices and monitors.

Storage tank means a stationary unit that is constructed primarily of nonearthen materials (such as wood, concrete, steel, or reinforced plastic) that provide structural support and is designed to hold a bulk quantity of liquid. Storage tanks do not include:

(1) Units permanently attached to conveyances such as trucks, trailers, rail cars, barges, or ships;

(2) Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere;

(3) Bottoms receivers;

(4) Surge control vessels;

(5) Vessels storing wastewater; or

(6) Reactor vessels associated with a manufacturing process unit.

Surge control vessel means feed drums, recycle drums, and intermediate vessels. Surge control vessels are used within chemical manufacturing processes when in-process storage, mixing, or management of flow rates or volumes is needed to assist in production of a product.

Tank car means a car designed to carry liquid freight by rail, and including a permanently attached tank.

Total actual annual facility-level organic liquid loading volume means the total facility-level actual volume of organic liquid loaded for transport within or out of the facility through transfer racks that are part of the affected source into transport vehicles (for existing affected sources) or into transport vehicles and containers (for new affected sources) based on a 3-year rolling average, calculated annually.

(1) For existing affected sources, each 3-year rolling average is based on actual facility-level loading volume during each calendar year (January 1 through December 31) in the 3-year period. For calendar year 2004 only (the first year of the initial 3-year rolling average), if an owner or operator of an affected source does not have actual loading volume data for the time period from January 1, 2004, through February 2, 2004 (the time period prior to the effective date of the OLD NESHAP), the owner or operator shall compute a facility-level loading volume for this time period as follows: At the end of the 2004 calendar year, the owner or operator shall calculate a daily average facility-level loading volume (based on the actual loading volume for February 3, 2004, through December 31, 2004) and use that daily average to estimate the facility-level loading volume for the period of time from January 1, 2004, through February 2, 2004. The owner or operator shall then sum the estimated facility-level loading volume from January 1, 2004, through February 2, 2004, and the actual facility-level loading volume from February 3, 2004, through December 31, 2004, to calculate the annual facility-level loading volume for calendar year 2004.

(2)(i) For new affected sources, the 3-year rolling average is calculated as an average of three 12-month periods. An owner or operator must select as the beginning calculation date with which to start the calculations as either the initial startup date of the new affected source or the first day of the calendar month following the month in which startup occurs. Once selected, the date with which the calculations begin cannot be changed.

(ii) The initial 3-year rolling average is based on the projected maximum facility-level annual loading volume for each of the 3 years following the selected beginning calculation date. The second 3-year rolling average is based on actual facility-level loading volume for the first year of operation plus a new projected maximum facility-level annual loading volume for second and third years following the selected beginning calculation date. The third 3-year rolling average is based on actual facility-level loading volume for the first 2 years of operation plus a new projected maximum annual facility-level loading volume for the third year following the beginning calculation date. Subsequent 3-year rolling averages are based on actual facility-level loading volume for each year in the 3-year rolling average.

Transfer rack means a single system used to load organic liquids into, or unload organic liquids out of, transport vehicles or containers. It includes all loading and unloading arms, pumps, meters, shutoff valves, relief valves, and other piping and equipment necessary for the transfer operation. Transfer equipment and operations that are physically separate (i.e., do not share common piping, valves, and other equipment) are considered to be separate transfer racks.

Transport vehicle means a cargo tank or tank car.

Vapor balancing system means:

(1) A piping system that collects organic HAP vapors displaced from transport vehicles or containers during loading and routes the collected vapors to the storage tank from which the liquid being loaded originated or to another storage tank connected to a common header. For containers, the piping system must route the displaced vapors directly to the appropriate storage tank or to another storage tank connected to a common header in order to qualify as a vapor balancing system; or

(2) A piping system that collects organic HAP vapors displaced from the loading of a storage tank and routes the collected vapors to the transport vehicle from which the storage tank is filled.

Vapor collection system means any equipment located at the source (i.e., at the OLD operation) that is not open to the atmosphere; that is composed of piping, connections, and, if necessary, flow-inducing devices; and that is used for:

(1) Containing and conveying vapors displaced during the loading of transport vehicles to a control device;

(2) Containing and directly conveying vapors displaced during the loading of containers; or

(3) Vapor balancing. This does not include any of the vapor collection equipment that is installed on the transport vehicle.

Vapor-tight transport vehicle means a transport vehicle that has been demonstrated to be vapor-tight. To be considered vapor-tight, a transport vehicle equipped with vapor collection equipment must undergo a pressure change of no more than 250 pascals (1 inch of water) within 5 minutes after it is pressurized to 4,500 pascals (18 inches of water). This capability must be demonstrated annually using the procedures specified in EPA Method 27 of 40 CFR part 60, appendix A. For all other transport vehicles, vapor tightness is demonstrated by performing the U.S. DOT pressure test procedures for tank cars and cargo tanks.

Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the CAA.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42911, July 28, 2006]

Table 1 to Subpart EEEE of Part 63—Organic Hazardous Air Pollutants

You must use the organic HAP information listed in the following table to determine which of the liquids handled at your facility meet the HAP content criteria in the definition of Organic Liquid in §63.2406.

Compound name	CAS No.[1]
2,4-D salts and esters	94–75–7
Acetaldehyde	75–07–0
Acetonitrile	75–05–8
Acetophenone	98–86–2
Acrolein	107–02–8
Acrylamide	79–06–1
Acrylic acid	79–10–7
Acrylonitrile	107–13–1
Allyl chloride	107–05–1
Aniline	62–53–3
Benzene	71–43–2
Biphenyl	92–52–4
Butadiene (1,3-)	106–99–0
Carbon tetrachloride	56–23–5
Chloroacetic acid	79–11–8
Chlorobenzene	108–90–7
2-Chloro-1,3-butadiene (Chloroprene)	126–99–8
Chloroform	67–66–3
m-Cresol	108–39–4
o-Cresol	95–48–7
p-Cresol	106–44–5
Cresols/cresylic acid	1319–77–3
Cumene	98–82–8
Dibenzofurans	132–64–9
Dibutylphthalate	84–74–2
Dichloroethane (1,2-) (Ethylene dichloride) (EDC)	107–06–2
Dichloropropene (1,3-)	542–75–6
Diethanolamine	111–42–2
Diethyl aniline (N,N-)	121–69–7

Compound name	CAS No.[1]
Diethylene glycol monobutyl ether	112–34–5
Diethylene glycol monomethyl ether	111–77–3
Diethyl sulfate	64–67–5
Dimethyl formamide	68–12–2
Dimethylhydrazine (1,1-)	57–14–7
Dioxane (1,4-) (1,4-Diethyleneoxide)	123–91–1
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	106–89–8
Epoxybutane (1,2-)	106–88–7
Ethyl acrylate	140–88–5
Ethylbenzene	100–41–4
Ethyl chloride (Chloroethane)	75–00–3
Ethylene dibromide (Dibromomethane)	106–93–4
Ethylene glycol	107–21–1
Ethylene glycol dimethyl ether	110–71–4
Ethylene glycol monomethyl ether	109–86–4
Ethylene glycol monomethyl ether acetate	110–49–6
Ethylene glycol monophenyl ether	122–99–6
Ethylene oxide	75–21–8
Ethylidene dichloride (1,1-Dichloroethane)	75–34–3
Formaldehyde	50–00–0
Hexachloroethane	67–72–1
Hexane	110–54–3
Hydroquinone	123–31–9
Isophorone	78–59–1
Maleic anhydride	108–31–6
Methanol	67–56–1
Methyl chloride (Chloromethane)	74–87–3
Methylene chloride (Dichloromethane)	75–09–2
Methylenedianiline (4,4′-)	101–77–9
Methylene diphenyl diisocyanate	101–68–8
Methyl hydrazine	60–34–4
Methyl isobutyl ketone (Hexone) (MIBK)	108–10–1

Compound name	CAS No.[1]
Methyl methacrylate	80–62–6
Methyl tert-butyl ether (MTBE)	1634–04–4
Naphthalene	91–20–3
Nitrobenzene	98–95–3
Phenol	108–9–52
Phthalic anhydride	85–44–9
Polycyclic organic matter	50–32–8
Propionaldehyde	123–38–6
Propylene dichloride (1,2-Dichloropropane)	78–87–5
Propylene oxide	75–56–9
Quinoline	91–22–5
Styrene	100–42–5
Styrene oxide	96–09–3
Tetrachloroethane (1,1,2,2-)	79–34–5
Tetrachloroethylene (Perchloroethylene)	127–18–4
Toluene	108–88–3
Toluene diisocyanate (2,4-)	584–84–9
o-Toluidine	95–53–4
Trichlorobenzene (1,2,4-)	120–82–1
Trichloroethane (1,1,1-) (Methyl chloroform)	71–55–6
Trichloroethane (1,1,2-) (Vinyl trichloride)	79–00–5
Trichloroethylene	79–01–6
Triethylamine	121–44–8
Trimethylpentane (2,2,4-)	540–84–1
Vinyl acetate	108–05–4
Vinyl chloride (Chloroethylene)	75–01–4
Vinylidene chloride (1,1-Dichloroethylene)	75–35–4
Xylene (m-)	108–38–3
Xylene (o-)	95–47–6
Xylene (p-)	106–42–3
Xylenes (isomers and mixtures)	1330–20–7

[1]CAS numbers refer to the Chemical Abstracts Services registry number assigned to specific compounds, isomers, or mixtures of compounds.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42913, July 28, 2006]

Table 2 to Subpart EEEE of Part 63—Emission Limits

As stated in §63.2346, you must comply with the emission limits for the organic liquids distribution emission sources as follows:

If you own or operate . . .	And if . . .	Then you must . . .
1. A storage tank at an existing affected source with a capacity ≥18.9 cubic meters (5,000 gallons) and <189.3 cubic meters (50,000 gallons).	a. The stored organic liquid is not crude oil and if the annual average true vapor pressure of the total Table 1 organic HAP in the stored organic liquid is ≥27.6 kilopascals (4.0 psia) and <76.6 kilopascals (11.1 psia).	i. Reduce emissions of total organic HAP (or, upon approval, TOC) by at least 95 weight-percent or, as an option, to an exhaust concentration less than or equal to 20 ppmv, on a dry basis corrected to 3 percent oxygen for combustion devices using supplemental combustion air, by venting emissions through a closed vent system to any combination of control devices meeting the applicable requirements of 40 CFR part 63, subpart SS; OR
		ii. Comply with the work practice standards specified in table 4 to this subpart, items 1.a, 1.b, or 1.c for tanks storing liquids described in that table.
	b. The stored organic liquid is crude oil.	i. See the requirement in item 1.a.i or 1.a.ii of this table.
2. A storage tank at an existing affected source with a capacity ≥189.3 cubic meters (50,000 gallons).	a. The stored organic liquid is not crude oil and if the annual average true vapor pressure of the total Table 1 organic HAP in the stored organic liquid is <76.6 kilopascals (11.1 psia).	i. See the requirement in item 1.a.i or 1.a.ii of this table.
	b. The stored organic liquid is crude oil.	i. See the requirement in item 1.a.i or 1.a.ii of this table.
3. A storage tank at a reconstructed or new affected source with a capacity ≥18.9 cubic meters (5,000 gallons) and <37.9 cubic meters (10,000 gallons).	a. The stored organic liquid is not crude oil and if the annual average true vapor pressure of the total Table 1 organic HAP in the stored organic liquid is ≥27.6 kilopascals (4.0 psia) and <76.6 kilopascals (11.1 psia).	i. See the requirement in item 1.a.i or 1.a.ii of this table.
	b. The stored organic liquid is crude oil.	i. See the requirement in item 1.a.i or 1.a.ii of this table.

If you own or operate . . .	And if . . .	Then you must . . .
4. A storage tank at a reconstructed or new affected source with a capacity ≥37.9 cubic meters (10,000 gallons) and <189.3 cubic meters (50,000 gallons).	a. The stored organic liquid is not crude oil and if the annual average true vapor pressure of the total Table 1 organic HAP in the stored organic liquid is ≥0.7 kilopascals (0.1 psia) and <76.6 kilopascals (11.1 psia).	i. See the requirement in item 1.a.i or 1.a.ii of this table.
	b. The stored organic liquid is crude oil.	i. See the requirement in item 1.a.i or 1.a.ii of this table.
5. A storage tank at a reconstructed or new affected source with a capacity ≥189.3 cubic meters (50,000 gallons).	a. The stored organic liquid is not crude oil and if the annual average true vapor pressure of the total Table 1 organic HAP in the stored organic liquid is <76.6 kilopascals (11.1 psia).	i. See the requirement in item 1.a.i or 1.a.ii of this table.
	b. The stored organic liquid is crude oil.	i. See the requirement in item 1.a.i or 1.a.ii of this table.
6. A storage tank at an existing, reconstructed, or new affected source meeting the capacity criteria specified in table 2 of this subpart, items 1 through 5.	a. The stored organic liquid is not crude oil and if the annual average true vapor pressure of the total Table 1 organic HAP in the stored organic liquid is ≥76.6 kilopascals (11.1 psia).	i. Reduce emissions of total organic HAP (or, upon approval, TOC) by at least 95 weight-percent or, as an option, to an exhaust concentration less than or equal to 20 ppmv, on a dry basis corrected to 3 percent oxygen for combustion devices using supplemental combustion air, by venting emissions through a closed vent system to any combination of control devices meeting the applicable requirements of 40 CFR part 63, subpart SS; OR
		ii. Comply with the work practice standards specified in table 4 to this subpart, item 2.a, for tanks storing the liquids described in that table.
7. A transfer rack at an existing facility where the total actual annual facility-level organic liquid loading volume through transfer racks is equal to or greater than 800,000 gallons and less than 10 million gallons.	a. The total table 1 organic HAP content of the organic liquid being loaded through one or more of the transfer rack's arms is at least 98 percent by weight and is being loaded into a transport vehicle.	i. For all such loading arms at the rack, reduce emissions of total organic HAP (or, upon approval, TOC) from the loading of organic liquids either by venting the emissions that occur during loading through a closed vent system to any combination of control devices meeting the applicable requirements of 40 CFR part 63, subpart SS, achieving at least 98 weight-percent HAP reduction, OR, as an option, to an exhaust concentration less than or equal to 20 ppmv, on a dry basis corrected to 3 percent oxygen for combustion devices

If you own or operate . . .	And if . . .	Then you must . . .
		using supplemental combustion air; OR
		ii. During the loading of organic liquids, comply with the work practice standards specified in item 3 of table 4 to this subpart.
8. A transfer rack at an existing facility where the total actual annual facility-level organic liquid loading volume through transfer racks is ≥10 million gallons.	a. One or more of the transfer rack's arms is loading an organic liquid into a transport vehicle.	i. See the requirements in items 7.a.i and 7.a.ii of this table.
9. A transfer rack at a new facility where the total actual annual facility-level organic liquid loading volume through transfer racks is less than 800,000 gallons	a. The total Table 1 organic HAP content of the organic liquid being loaded through one or more of the transfer rack's arms is at least 25 percent by weight and is being loaded into a transport vehicle	i. See the requirements in items 7.a.i and 7.a.ii of this table.
	b. One or more of the transfer rack's arms is filling a container with a capacity equal to or greater than 55 gallons	i. For all such loading arms at the rack during the loading of organic liquids, comply with the provisions of §§63.924 through 63.927 of 40 CFR part 63, Subpart PP—National Emission Standards for Containers, Container Level 3 controls; OR ii. During the loading of organic liquids, comply with the work practice standards specified in item 3.a of Table 4 to this subpart.
10. A transfer rack at a new facility where the total actual annual facility-level organic liquid loading volume through transfer racks is equal to or greater than 800,000 gallons.	a. One or more of the transfer rack's arms is loading an organic liquid into a transport vehicle.	i. See the requirements in items 7.a.i and 7.a.ii of this table.
	b. One or more of the transfer rack's arms is filling a container with a capacity equal to or greater than 55 gallons.	i. For all such loading arms at the rack during the loading of organic liquids, comply with the provisions of §§63.924 through 63.927 of 40 CFR part 63, Subpart PP—National Emission Standards for Containers, Container Level 3 controls; OR
		ii. During the loading of organic liquids, comply with the work practice standards specified in item 3.a of table 4 to this subpart.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42913, July 28, 2006; 73 FR 21830, Apr. 23, 2008]

Table 3 to Subpart EEEE of Part 63—Operating Limits—High Throughput Transfer Racks

As stated in §63.2346(e), you must comply with the operating limits for existing, reconstructed, or new affected sources as follows:

For each existing, each reconstructed, and each new affected source using . . .	You must . . .
1. A thermal oxidizer to comply with an emission limit in table 2 to this subpart	Maintain the daily average fire box or combustion zone temperature greater than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit.
2. A catalytic oxidizer to comply with an emission limit in table 2 to this subpart	a. Replace the existing catalyst bed before the age of the bed exceeds the maximum allowable age established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND
	b. Maintain the daily average temperature at the inlet of the catalyst bed greater than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND
	c. Maintain the daily average temperature difference across the catalyst bed greater than or equal to the minimum temperature difference established during the design evaluation or performance test that demonstrated compliance with the emission limit.
3. An absorber to comply with an emission limit in table 2 to this subpart	a. Maintain the daily average concentration level of organic compounds in the absorber exhaust less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; OR
	b. Maintain the daily average scrubbing liquid temperature less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND
	Maintain the difference between the specific gravities of the saturated and fresh scrubbing fluids greater than or equal to the difference established during the design evaluation or performance test that demonstrated compliance with the emission limit.
4. A condenser to comply with an emission limit in table 2 to this subpart	a. Maintain the daily average concentration level of organic compounds at the condenser exit less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; OR
	b. Maintain the daily average condenser exit temperature less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit.
5. An adsorption system with adsorbent regeneration to comply with an emission limit in table 2 to this subpart	a. Maintain the daily average concentration level of organic compounds in the adsorber exhaust less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; OR

For each existing, each reconstructed, and each new affected source using . . .	You must . . .
	b. Maintain the total regeneration stream mass flow during the adsorption bed regeneration cycle greater than or equal to the reference stream mass flow established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND
	Before the adsorption cycle commences, achieve and maintain the temperature of the adsorption bed after regeneration less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND
	Achieve a pressure reduction during each adsorption bed regeneration cycle greater than or equal to the pressure reduction established during the design evaluation or performance test that demonstrated compliance with the emission limit.
6. An adsorption system without adsorbent regeneration to comply with an emission limit in table 2 to this subpart	a. Maintain the daily average concentration level of organic compounds in the adsorber exhaust less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; OR
	b. Replace the existing adsorbent in each segment of the bed with an adsorbent that meets the replacement specifications established during the design evaluation or performance test before the age of the adsorbent exceeds the maximum allowable age established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND
	Maintain the temperature of the adsorption bed less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit.
7. A flare to comply with an emission limit in table 2 to this subpart	a. Comply with the equipment and operating requirements in §63.987(a); AND b. Conduct an initial flare compliance assessment in accordance with §63.987(b); AND
	c. Install and operate monitoring equipment as specified in §63.987(c).
8. Another type of control device to comply with an emission limit in table 2 to this subpart	Submit a monitoring plan as specified in §§63.995(c) and 63.2366(b), and monitor the control device in accordance with that plan.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42914, July 28, 2006]

Table 4 to Subpart EEEE of Part 63—Work Practice Standards

As stated in §63.2346, you may elect to comply with one of the work practice standards for existing, reconstructed, or new affected sources in the following table. If you elect to do so, . . .

For each . . .	You must . . .
1. Storage tank at an existing, reconstructed, or new affected source meeting any set of tank capacity and organic HAP vapor pressure criteria specified in table 2 to this subpart, items 1 through 5	a. Comply with the requirements of 40 CFR part 63, subpart WW (control level 2), if you elect to meet 40 CFR part 63, subpart WW (control level 2) requirements as an alternative to the emission limit in table 2 to this subpart, items 1 through 5; OR
	b. Comply with the requirements of §63.984 for routing emissions to a fuel gas system or back to a process; OR
	c. Comply with the requirements of §63.2346(a)(4) for vapor balancing emissions to the transport vehicle from which the storage tank is filled.
2. Storage tank at an existing, reconstructed, or new affected source meeting any set of tank capacity and organic HAP vapor pressure criteria specified in table 2 to this subpart, item 6	a. Comply with the requirements of §63.984 for routing emissions to a fuel gas system or back to a process; OR b. Comply with the requirements of §63.2346(a)(4) for vapor balancing emissions to the transport vehicle from which the storage tank is filled.
3. Transfer rack subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, at an existing, reconstructed, or new affected source	a. If the option of a vapor balancing system is selected, install and, during the loading of organic liquids, operate a system that meets the requirements in table 7 to this subpart, item 3.b.i and item 3.b.ii, as applicable; OR
	b. Comply with the requirements of §63.984 during the loading of organic liquids, for routing emissions to a fuel gas system or back to a process.
4. Pump, valve, and sampling connection that operates in organic liquids service at least 300 hours per year at an existing, reconstructed, or new affected source	Comply with the requirements for pumps, valves, and sampling connections in 40 CFR part 63, subpart TT (control level 1), subpart UU (control level 2), or subpart H.
5. Transport vehicles equipped with vapor collection equipment that are loaded at transfer racks that are subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10	Follow the steps in 40 CFR 60.502(e) to ensure that organic liquids are loaded only into vapor-tight transport vehicles, and comply with the provisions in 40 CFR 60.502(f), (g), (h), and (i), except substitute the term transport vehicle at each occurrence of tank truck or gasoline tank truck in those paragraphs.
6. Transport vehicles equipped without vapor collection equipment that are loaded at transfer racks that are subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10	Ensure that organic liquids are loaded only into transport vehicles that have a current certification in accordance with the U.S. DOT pressure test requirements in 49 CFR 180 (cargo tanks) or 49 CFR 173.31 (tank cars).

[71 FR 42915, July 28, 2006]

Table 5 to Subpart EEEE of Part 63—Requirements for Performance Tests and Design Evaluations

As stated in §§63.2354(a) and 63.2362, you must comply with the requirements for performance tests and design evaluations for existing, reconstructed, or new affected sources as follows:

For . . .	You must conduct . . .	According to . . .	Using . . .	To determine . . .	According to the following requirements . . .
1. Each existing, each reconstructed, and each new affected source using a nonflare control device to comply with an emission limit in Table 2 to this subpart, items 1 through 10	a. A performance test to determine the organic HAP (or, upon approval, TOC) control efficiency of each nonflare control device, OR the exhaust concentration of each combustion device; OR	i. §63.985(b)(1)(ii), §63.988(b), §63.990(b), or §63.995(b)	(1) EPA Method 1 or 1A in appendix A–1 of 40 CFR part 60, as appropriate	(A) Sampling port locations and the required number of traverse points	(i) Sampling sites must be located at the inlet and outlet of each control device if complying with the control efficiency requirement or at the outlet of the control device if complying with the exhaust concentration requirement; AND (ii) the outlet sampling site must be located at each control device prior to any releases to the atmosphere.
			(2) EPA Method 2, 2A, 2C, 2D, or 2F in appendix A–1 of 40 CFR part 60, or EPA Method 2G in appendix A–2 of 40 CFR part 60, as appropriate	(A) Stack gas velocity and volumetric flow rate	See the requirements in items 1.a.i.(1)(A)(i) and (ii) of this table.
			(3) EPA Method 3 or 3B in appendix A–2 of 40 CFR part 60, as appropriate	(A) Concentration of CO2 and O2 and dry molecular weight of the stack gas	See the requirements in items 1.a.i.(1)(A)(i) and (ii) of this table.
			(4) EPA Method 4 in appendix A–3 of 40 CFR part 60	(A) Moisture content of the stack gas	See the requirements in items 1.a.i.(1)(A)(i) and (ii) of this table.

For . . .	You must conduct . . .	According to . . .	Using . . .	To determine . . .	According to the following requirements . . .
			(5) EPA Method 18 in appendix A–6 of 40 CFR part 60, or EPA Method 25 or 25A in appendix A–7 of 40 CFR part 60, as appropriate, or EPA Method 316 in appendix A of 40 CFR part 63 for measuring form-aldehyde	(A) Total organic HAP (or, upon approval, TOC), or formaldehyde emissions	(i) The organic HAP used for the calibration gas for EPA Method 25A in appendix A–7 of 40 CFR part 60 must be the single organic HAP representing the largest percent by volume of emissions; AND (ii) During the performance test, you must establish the operating parameter limits within which total organic HAP (or, upon approval, TOC) emissions are reduced by the required weight-percent or, as an option for nonflare combustion devices, to 20 ppmv exhaust concentration.
	b. A design evaluation (for nonflare control devices) to determine the organic HAP (or, upon approval, TOC) control efficiency of each nonflare control device, or the exhaust concentration of each combustion control device	§63.985(b)(1)(i)			During a design evaluation, you must establish the operating parameter limits within which total organic HAP, (or, upon approval, TOC) emissions are reduced by at least 95 weight-percent for storage tanks or 98 weight-percent for transfer racks, or, as an option for nonflare combustion devices, to 20 ppmv exhaust concentration.

For . . .	You must conduct . . .	According to . . .	Using . . .	To determine . . .	According to the following requirements . . .
2. Each transport vehicle that you own that is equipped with vapor collection equipment and is loaded with organic liquids at a transfer rack that is subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, at an existing, reconstructed, or new affected source	A performance test to determine the vapor tightness of the tank and then repair as needed until it passes the test.		EPA Method 27 in appendix A of 40 CFR part 60	Vapor tightness	The pressure change in the tank must be no more than 250 pascals (1 inch of water) in 5 minutes after it is pressurized to 4,500 pascals (18 inches of water).

[71 FR 42916, July 28, 2006, as amended at 73 FR 21831, Apr. 23, 2008]

Table 6 to Subpart EEEE of Part 63—Initial Compliance With Emission Limits

As stated in §§63.2370(a) and 63.2382(b), you must show initial compliance with the emission limits for existing, reconstructed, or new affected sources as follows:

For each . . .	For the following emission limit . . .	You have demonstrated initial compliance if . . .
1. Storage tank at an existing, reconstructed, or new affected source meeting any set of tank capacity and liquid organic HAP vapor pressure criteria specified in Table 2 to this subpart, items 1 through 6	Reduce total organic HAP (or, upon approval, TOC) emissions by at least 95 weight-percent, or as an option for nonflare combustion devices to an exhaust concentration of ≤20 ppmv	Total organic HAP (or, upon approval, TOC) emissions, based on the results of the performance testing or design evaluation specified in Table 5 to this subpart, item 1.a or 1.b, respectively, are reduced by at least 95 weight-percent or as an option for nonflare combustion devices to an exhaust concentration ≤20 ppmv.
2. Transfer rack that is subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, at an existing, reconstructed, or new affected source	Reduce total organic HAP (or, upon approval, TOC) emissions from the loading of organic liquids by at least 98 weight-percent, or as an option for nonflare combustion devices to an exhaust concentration of ≤20 ppmv	Total organic HAP (or, upon approval, TOC) emissions from the loading of organic liquids, based on the results of the performance testing or design evaluation specified in table 5 to this subpart, item 1.a or 1.b, respectively, are reduced by at least 98 weight-percent or as an option for nonflare combustion devices to an exhaust concentration of ≤20 ppmv.

[71 FR 42918, July 28, 2006, as amended at 73 FR 21832, Apr. 23, 2008]

Table 7 to Subpart EEEE of Part 63—Initial Compliance With Work Practice Standards

For each . . .	If you . . .	You have demonstrated initial compliance if . . .
1. Storage tank at an existing affected source meeting either set of tank capacity and liquid organic HAP vapor pressure criteria specified in Table 2 to this subpart, items 1 or 2	a. Install a floating roof or equivalent control that meets the requirements in Table 4 to this subpart, item 1.a	i. After emptying and degassing, you visually inspect each internal floating roof before the refilling of the storage tank and perform seal gap inspections of the primary and secondary rim seals of each external floating roof within 90 days after the refilling of the storage tank.
	b. Route emissions to a fuel gas system or back to a process	i. You meet the requirements in §63.984(b) and submit the statement of connection required by §63.984(c).
	c. Install and, during the filling of the storage tank with organic liquids, operate a vapor balancing system	i. You meet the requirements in §63.2346(a)(4).
2. Storage tank at a reconstructed or new affected source meeting any set of tank capacity and liquid organic HAP vapor pressure criteria specified in Table 2 to this subpart, items 3 through 5	a. Install a floating roof or equivalent control that meets the requirements in Table 4 to this subpart, item 1.a	i. You visually inspect each internal floating roof before the initial filling of the storage tank, and perform seal gap inspections of the primary and secondary rim seals of each external floating roof within 90 days after the initial filling of the storage tank.
	b. Route emissions to a fuel gas system or back to a process	i. See item 1.b.i of this table.
	c. Install and, during the filling of the storage tank with organic liquids, operate a vapor balancing system	i. See item 1.c.i of this table.
3. Transfer rack that is subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, at an existing, reconstructed, or new affected source	a. Load organic liquids only into transport vehicles having current vapor tightness certification as described in table 4 to this subpart, item 5 and item 6	i. You comply with the provisions specified in table 4 to this subpart, item 5 or item 6, as applicable.
	b. Install and, during the loading of organic liquids, operate a vapor balancing system	i. You design and operate the vapor balancing system to route organic HAP vapors displaced from loading of organic liquids into transport vehicles to the storage tank from which the liquid being loaded originated or to another storage tank connected to a common header. ii. You design and operate the vapor balancing

For each . . .	If you . . .	You have demonstrated initial compliance if . . .
		system to route organic HAP vapors displaced from loading of organic liquids into containers directly (e.g., no intervening tank or containment area such as a room) to the storage tank from which the liquid being loaded originated or to another storage tank connected to a common header.
	c. Route emissions to a fuel gas system or back to a process	i. See item 1.b.i of this table.
4. Equipment leak component, as defined in §63.2406, that operates in organic liquids service ≥300 hours per year at an existing, reconstructed, or new affected source	a. Carry out a leak detection and repair program or equivalent control according to one of the subparts listed in table 4 to this subpart, item 4.a	i. You specify which one of the control programs listed in table 4 to this subpart you have selected, OR ii. Provide written specifications for your equivalent control approach.

[71 FR 42918, July 28, 2006, as amended at 73 FR 21833, Apr. 23, 2008]

Table 8 to Subpart EEEE of Part 63—Continuous Compliance With Emission Limits

As stated in §§63.2378(a) and (b) and 63.2390(b), you must show continuous compliance with the emission limits for existing, reconstructed, or new affected sources according to the following table:

For each . . .	For the following emission limit . . .	You must demonstrate continuous compliance by . . .
1. Storage tank at an existing, reconstructed, or new affected source meeting any set of tank capacity and liquid organic HAP vapor pressure criteria specified in table 2 to this subpart, items 1 through 6	a. Reduce total organic HAP (or, upon approval, TOC) emissions from the closed vent system and control device by 95 weight-percent or greater, or as an option to 20 ppmv or less of total organic HAP (or, upon approval, TOC) in the exhaust of combustion devices	i. Performing CMS monitoring and collecting data according to §§63.2366, 63.2374, and 63.2378; AND ii. Maintaining the operating limits established during the design evaluation or performance test that demonstrated compliance with the emission limit.
2. Transfer rack that is subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, at an existing, reconstructed, or new affected source	a. Reduce total organic HAP (or, upon approval, TOC) emissions during the loading of organic liquids from the closed vent system and control device by 98 weight-percent or greater, or as an option to 20 ppmv or less of total organic HAP (or, upon approval, TOC) in the exhaust of combustion devices	i. Performing CMS monitoring and collecting data according to §§63.2366, 63.2374, and 63.2378 during the loading of organic liquids; AND ii. Maintaining the operating limits established during the design evaluation or performance test that demonstrated compliance with

For each . . .	For the following emission limit . . .	You must demonstrate continuous compliance by . . .
		the emission limit during the loading of organic liquids.

[71 FR 42919, July 28, 2006]

Table 9 to Subpart EEEE of Part 63—Continuous Compliance With Operating Limits—High Throughput Transfer Racks

As stated in §§63.2378(a) and (b) and 63.2390(b), you must show continuous compliance with the operating limits for existing, reconstructed, or new affected sources according to the following table:

For each existing, reconstructed, and each new affected source using . . .	For the following operating limit . . .	You must demonstrate continuous compliance by . . .
1. A thermal oxidizer to comply with an emission limit in table 2 to this subpart.	a. Maintain the daily average fire box or combustion zone, as applicable, temperature greater than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit.	i. Continuously monitoring and recording fire box or combustion zone, as applicable, temperature every 15 minutes and maintaining the daily average fire box temperature greater than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND ii. Keeping the applicable records required in §63.998.
2. A catalytic oxidizer to comply with an emission limit in table 2 to this subpart.	a. Replace the existing catalyst bed before the age of the bed exceeds the maximum allowable age established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND	i. Replacing the existing catalyst bed before the age of the bed exceeds the maximum allowable age established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND ii. Keeping the applicable records required in §63.998.
	b. Maintain the daily average temperature at the inlet of the catalyst bed greater than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND	i. Continuously monitoring and recording the temperature at the inlet of the catalyst bed at least every 15 minutes and maintaining the daily average temperature at the inlet of the catalyst bed greater than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND ii. Keeping the applicable records required in §63.998.
	c. Maintain the daily average temperature difference across the	i. Continuously monitoring and recording the temperature at the outlet of the catalyst

For each existing, reconstructed, and each new affected source using . . .	For the following operating limit . . .	You must demonstrate continuous compliance by . . .
	catalyst bed greater than or equal to the minimum temperature difference established during the design evaluation or performance test that demonstrated compliance with the emission limit.	bed every 15 minutes and maintaining the daily average temperature difference across the catalyst bed greater than or equal to the minimum temperature difference established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND ii. Keeping the applicable records required in §63.998.
3. An absorber to comply with an emission limit in table 2 to this subpart.	a. Maintain the daily average concentration level of organic compounds in the absorber exhaust less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; OR	i. Continuously monitoring the organic concentration in the absorber exhaust and maintaining the daily average concentration less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND ii. Keeping the applicable records required in §63.998.
	b. Maintain the daily average scrubbing liquid temperature less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND Maintain the difference between the specific gravities of the saturated and fresh scrubbing fluids greater than or equal to the difference established during the design evaluation or performance test that demonstrated compliance with the emission limit.	i. Continuously monitoring the scrubbing liquid temperature and maintaining the daily average temperature less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND ii. Maintaining the difference between the specific gravities greater than or equal to the difference established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND iii. Keeping the applicable records required in §63.998.
4. A condenser to comply with an emission limit in table 2 to this subpart.	a. Maintain the daily average concentration level of organic compounds at the exit of the condenser less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; OR	i. Continuously monitoring the organic concentration at the condenser exit and maintaining the daily average concentration less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND ii. Keeping the applicable records required in §63.998.
	b. Maintain the daily average condenser exit temperature less than	i. Continuously monitoring and recording the temperature at the exit of the

For each existing, reconstructed, and each new affected source using . . .	For the following operating limit . . .	You must demonstrate continuous compliance by . . .
	or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit.	condenser at least every 15 minutes and maintaining the daily average temperature less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND ii. Keeping the applicable records required in §63.998.
5. An adsorption system with adsorbent regeneration to comply with an emission limit in table 2 to this subpart.	a. Maintain the daily average concentration level of organic compounds in the adsorber exhaust less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; OR	i. Continuously monitoring the daily average organic concentration in the adsorber exhaust and maintaining the concentration less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND ii. Keeping the applicable records required in §63.998.
	b. Maintain the total regeneration stream mass flow during the adsorption bed regeneration cycle greater than or equal to the reference stream mass flow established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND Before the adsorption cycle commences, achieve and maintain the temperature of the adsorption bed after regeneration less than or equal to the reference temperature established during the design evaluation or performance test; AND Achieve greater than or equal to the pressure reduction during the adsorption bed regeneration cycle established during the design evaluation or performance test that demonstrated compliance with the emission limit.	i. Maintaining the total regeneration stream mass flow during the adsorption bed regeneration cycle greater than or equal to the reference stream mass flow established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND ii. Maintaining the temperature of the adsorption bed after regeneration less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND iii. Achieving greater than or equal to the pressure reduction during the regeneration cycle established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND iv. Keeping the applicable records required in §63.998.
6. An adsorption system without adsorbent regeneration to comply with an emission limit in table 2 to this subpart.	a. Maintain the daily average concentration level of organic compounds in the adsorber exhaust less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance	i. Continuously monitoring the organic concentration in the adsorber exhaust and maintaining the concentration less than or equal to the reference concentration established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND

For each existing, reconstructed, and each new affected source using . . .	For the following operating limit . . .	You must demonstrate continuous compliance by . . .
	with the emission limit; OR	ii. Keeping the applicable records required in §63.998.
	b. Replace the existing adsorbent in each segment of the bed before the age of the adsorbent exceeds the maximum allowable age established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND Maintain the temperature of the adsorption bed less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit.	i. Replacing the existing adsorbent in each segment of the bed with an adsorbent that meets the replacement specifications established during the design evaluation or performance test before the age of the adsorbent exceeds the maximum allowable age established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND ii. Maintaining the temperature of the adsorption bed less than or equal to the reference temperature established during the design evaluation or performance test that demonstrated compliance with the emission limit; AND iii. Keeping the applicable records required in §63.998.
7. A flare to comply with an emission limit in table 2 to this subpart.	a. Maintain a pilot flame in the flare at all times that vapors may be vented to the flare (§63.11(b)(5)); AND	i. Continuously operating a device that detects the presence of the pilot flame; AND ii. Keeping the applicable records required in §63.998.
	b. Maintain a flare flame at all times that vapors are being vented to the flare (§63.11(b)(5)); AND	i. Maintaining a flare flame at all times that vapors are being vented to the flare; AND ii. Keeping the applicable records required in §63.998.
	c. Operate the flare with no visible emissions, except for up to 5 minutes in any 2 consecutive hours (§63.11(b)(4)); AND EITHER	i. Operating the flare with no visible emissions exceeding the amount allowed; AND ii. Keeping the applicable records required in §63.998.
	d.1. Operate the flare with an exit velocity that is within the applicable limits in §63.11(b)(7) and (8) and with a net heating value of the gas being combusted greater than the applicable minimum value in §63.11(b)(6)(ii); OR	i. Operating the flare within the applicable exit velocity limits; AND ii. Operating the flare with the gas heating value greater than the applicable minimum value; AND iii. Keeping the applicable records required in §63.998.
	d.2. Adhere to the requirements in §63.11(b)(6)(i).	i. Operating the flare within the applicable limits in 63.11(b)(6)(i); AND ii. Keeping the applicable records required in §63.998.

For each existing, reconstructed, and each new affected source using . . .	For the following operating limit . . .	You must demonstrate continuous compliance by . . .
8. Another type of control device to comply with an emission limit in table 2 to this subpart.	Submit a monitoring plan as specified in §§63.995(c) and 63.2366(c), and monitor the control device in accordance with that plan.	Submitting a monitoring plan and monitoring the control device according to that plan.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42919, July 28, 2006]

Table 10 to Subpart EEEE of Part 63—Continuous Compliance With Work Practice Standards

As stated in §§63.2378(a) and (b) and 63.2386(c)(6), you must show continuous compliance with the work practice standards for existing, reconstructed, or new affected sources according to the following table:

For each . . .	For the following standard . . .	You must demonstrate continuous compliance by . . .
1. Internal floating roof (IFR) storage tank at an existing, reconstructed, or new affected source meeting any set of tank capacity, and vapor pressure criteria specified in table 2 to this subpart, items 1 through 5.	a. Install a floating roof designed and operated according to the applicable specifications in §63.1063(a) and (b).	i. Visually inspecting the floating roof deck, deck fittings, and rim seals of each IFR once per year (§63.1063(d)(2)); AND ii. Visually inspecting the floating roof deck, deck fittings, and rim seals of each IFR either each time the storage tank is completely emptied and degassed or every 10 years, whichever occurs first (§63.1063(c)(1), (d)(1), and (e)); AND iii. Keeping the tank records required in §63.1065.
2. External floating roof (EFR) storage tank at an existing, reconstructed, or new affected source meeting any set of tank capacity and vapor pressure criteria specified in table 2 to this subpart, items 1 through 5.	a. Install a floating roof designed and operated according to the applicable specifications in §63.1063(a) and (b).	i. Visually inspecting the floating roof deck, deck fittings, and rim seals of each EFR either each time the storage tank is completely emptied and degassed or every 10 years, whichever occurs first (§63.1063(c)(2), (d), and (e)); AND ii. Performing seal gap measurements on the secondary seal of each EFR at least once every year, and on the primary seal of each EFR at least every 5 years (§63.1063(c)(2), (d), and (e)); AND iii. Keeping the tank records required in §63.1065.
3. IFR or EFR tank at an existing, reconstructed, or new affected source meeting any set of tank capacity and vapor pressure criteria specified in table 2 to this subpart, items 1	a. Repair the conditions causing storage tank inspection failures (§63.1063(e)).	i. Repairing conditions causing inspection failures: before refilling the storage tank with organic liquid, or within 45 days (or up to 105 days with extensions) for a tank containing organic liquid; AND ii. Keeping the tank records required in

For each . . .	For the following standard . . .	You must demonstrate continuous compliance by . . .
through 5.		§63.1065(b).
4. Transfer rack that is subject to control based on the criteria specified in table 2 to this subpart, items 7 through 10, at an existing, reconstructed, or new affected source.	a. Ensure that organic liquids are loaded into transport vehicles in accordance with the requirements in table 4 to this subpart, items 5 or 6, as applicable.	i. Ensuring that organic liquids are loaded into transport vehicles in accordance with the requirements in table 4 to this subpart, items 5 or 6, as applicable.
	b. Install and, during the loading of organic liquids, operate a vapor balancing system.	i. Monitoring each potential source of vapor leakage in the system quarterly during the loading of a transport vehicle or the filling of a container using the methods and procedures described in the rule requirements selected for the work practice standard for equipment leak components as specified in table 4 to this subpart, item 4. An instrument reading of 500 ppmv defines a leak. Repair of leaks is performed according to the repair requirements specified in your selected equipment leak standards.
	c. Route emissions to a fuel gas system or back to a process.	i. Continuing to meet the requirements specified in §63.984(b).
5. Equipment leak component, as defined in §63.2406, that operates in organic liquids service at least 300 hours per year.	a. Comply with the requirements of 40 CFR part 63, subpart TT, UU, or H.	i. Carrying out a leak detection and repair program in accordance with the subpart selected from the list in item 5.a of this table.
6. Storage tank at an existing, reconstructed, or new affected source meeting any of the tank capacity and vapor pressure criteria specified in table 2 to this subpart, items 1 through 6.	a. Route emissions to a fuel gas system or back to the process.	i. Continuing to meet the requirements specified in §63.984(b).
	b. Install and, during the filling of the storage tank with organic liquids, operate a vapor balancing system.	i. Except for pressure relief devices, monitoring each potential source of vapor leakage in the system, including, but not limited to pumps, valves, and sampling connections, quarterly during the loading of a storage tank using the methods and procedures described in the rule requirements selected for the work practice standard for equipment leak components as specified in Table 4 to this subpart, item 4. An instrument reading of 500 ppmv defines a leak. Repair of leaks is performed according to the repair requirements specified in your selected equipment leak standards. For pressure relief devices, comply with §63.2346(a)(4)(v). If no

For each . . .	For the following standard . . .	You must demonstrate continuous compliance by . . .
		loading of a storage tank occurs during a quarter, then monitoring of the vapor balancing system is not required.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 42922, July 28, 2006; 73 FR 40982, July 17, 2008]

Table 11 to Subpart EEEE of Part 63—Requirements for Reports

As stated in §63.2386(a), (b), and (f), you must submit compliance reports and startup, shutdown, and malfunction reports according to the following table:

You must submit a(n) . . .	The report must contain . . .	You must submit the report . . .
1. Compliance report or Periodic Report	a. The information specified in §63.2386(c), (d), (e). If you had a SSM during the reporting period and you took actions consistent with your SSM plan, the report must also include the information in §63.10(d)(5)(i); AND	Semiannually, and it must be postmarked by January 31 or July 31, in accordance with §63.2386(b).
	b. The information required by 40 CFR part 63, subpart TT, UU, or H, as applicable, for pumps, valves, and sampling connections; AND	See the submission requirement in item 1.a of this table.
	c. The information required by §63.999(c); AND	See the submission requirement in item 1.a of this table.
	d. The information specified in §63.1066(b) including: Notification of inspection, inspection results, requests for alternate devices, and requests for extensions, as applicable.	See the submission requirement in item 1.a. of this table.
2. Immediate SSM report if you had a SSM that resulted in an applicable emission standard in the relevant standard being exceeded, and you took an action that was not consistent with your SSM plan	a. The information required in §63.10(d)(5)(ii)	i. By letter within 7 working days after the end of the event unless you have made alternative arrangements with the permitting authority (§63.10(d)(5)(ii)).

[71 FR 42923, July 28, 2006]

Table 12 to Subpart EEEE of Part 63—Applicability of General Provisions to Subpart EEEE

As stated in §§63.2382 and 63.2398, you must comply with the applicable General Provisions requirements as follows:

Citation	Subject	Brief description	Applies to subpart EEEE
§63.1	Applicability	Initial applicability determination; Applicability after standard established; Permit requirements; Extensions, Notifications	Yes.
§63.2	Definitions	Definitions for part 63 standards	Yes.
§63.3	Units and Abbreviations	Units and abbreviations for part 63 standards	Yes.
§63.4	Prohibited Activities and Circumvention	Prohibited activities; Circumvention, Severability	Yes.
§63.5	Construction/Reconstruction	Applicability; Applications; Approvals	Yes.
§63.6(a)	Compliance with Standards/O&M Applicability	GP apply unless compliance extension; GP apply to area sources that become major	Yes.
§63.6(b)(1)–(4)	Compliance Dates for New and Reconstructed Sources	Standards apply at effective date; 3 years after effective date; upon startup; 10 years after construction or reconstruction commences for section 112(f)	Yes.
§63.6(b)(5)	Notification	Must notify if commenced construction or reconstruction after proposal	Yes.
§63.6(b)(6)	[Reserved].		
§63.6(b)(7)	Compliance Dates for New and Reconstructed Area Sources That Become Major	Area sources that become major must comply with major source standards immediately upon becoming major, regardless of whether required to comply when they were an area source	Yes.
§63.6(c)(1)–(2)	Compliance Dates for Existing Sources	Comply according to date in this subpart, which must be no later than 3 years after effective date; for section 112(f) standards, comply within 90 days of effective date unless compliance extension	Yes.
§63.6(c)(3)–(4)	[Reserved].		
§63.6(c)(5)	Compliance Dates for Existing Area Sources That Become Major	Area sources that become major must comply with major source standards by date indicated in this subpart or by	Yes.

Citation	Subject	Brief description	Applies to subpart EEEE
		equivalent time period (*e.g* ., 3 years)	
§63.6(d)	[Reserved].		
§63.6(e)(1)	Operation & Maintenance	Operate to minimize emissions at all times; correct malfunctions as soon as practicable; and operation and maintenance requirements independently enforceable; information Administrator will use to determine if operation and maintenance requirements were met	Yes.
§63.6(e)(2)	[Reserved].		
§63.6(e)(3)	SSM Plan	Requirement for SSM plan; content of SSM plan; actions during SSM	Yes; however, (1) the 2-day reporting requirement in paragraph §63.6(e)(3)(iv) does not apply and (2) §63.6(e)(3) does not apply to emissions sources not requiring control.
§63.6(f)(1)	Compliance Except During SSM	You must comply with emission standards at all times except during SSM	Yes.
§63.6(f)(2)–(3)	Methods for Determining Compliance	Compliance based on performance test, operation and maintenance plans, records, inspection	Yes.
§63.6(g)(1)–(3)	Alternative Standard	Procedures for getting an alternative standard	Yes.
§63.6(h)	Opacity/Visible Emission Standards	Requirements for compliance with opacity and visible emission standards	No; except as it applies to flares for which Method 22 observations are required as part of a flare compliance assessment.
§63.6(i)(1)–(14)	Compliance Extension	Procedures and criteria for Administrator to grant compliance extension	Yes.
§63.6(j)	Presidential Compliance Exemption	President may exempt any source from requirement to comply with this subpart	Yes.
§63.7(a)(2)	Performance Test Dates	Dates for conducting initial performance testing; must	Yes.

Citation	Subject	Brief description	Applies to subpart EEEE
		conduct 180 days after compliance date	
§63.7(a)(3)	Section 114 Authority	Administrator may require a performance test under CAA section 114 at any time	Yes.
§63.7(b)(1)	Notification of Performance Test	Must notify Administrator 60 days before the test	Yes.
§63.7(b)(2)	Notification of Rescheduling	If you have to reschedule performance test, must notify Administrator of rescheduled date as soon as practicable and without delay	Yes.
§63.7(c)	Quality Assurance (QA)/Test Plan	Requirement to submit site-specific test plan 60 days before the test or on date Administrator agrees with; test plan approval procedures; performance audit requirements; internal and external QA procedures for testing	Yes.
§63.7(d)	Testing Facilities	Requirements for testing facilities	Yes.
§63.7(e)(1)	Conditions for Conducting Performance Tests	Performance tests must be conducted under representative conditions; cannot conduct performance tests during SSM	Yes.
§63.7(e)(2)	Conditions for Conducting Performance Tests	Must conduct according to this subpart and EPA test methods unless Administrator approves alternative	Yes.
§63.7(e)(3)	Test Run Duration	Must have three test runs of at least 1 hour each; compliance is based on arithmetic mean of three runs; conditions when data from an additional test run can be used	Yes; however, for transfer racks per §§63.987(b)(3)(i)(A)–(B) and 63.997(e)(1)(v)(A)–(B) provide exceptions to the requirement for test runs to be at least 1 hour each.
§63.7(f)	Alternative Test Method	Procedures by which Administrator can grant approval to use an intermediate or major change, or alternative to a test method	Yes.
§63.7(g)	Performance Test Data Analysis	Must include raw data in performance test report; must	Yes; however, performance test data is

Citation	Subject	Brief description	Applies to subpart EEEE
		submit performance test data 60 days after end of test with the Notification of Compliance Status; keep data for 5 years	to be submitted with the Notification of Compliance Status according to the schedule specified in §63.9(h)(1)–(6) below.
§63.7(h)	Waiver of Tests	Procedures for Administrator to waive performance test	Yes.
§63.8(a)(1)	Applicability of Monitoring Requirements	Subject to all monitoring requirements in standard	Yes.
§63.8(a)(2)	Performance Specifications	Performance Specifications in appendix B of 40 CFR part 60 apply	Yes.
§63.8(a)(3)	[Reserved].		
§63.8(a)(4)	Monitoring of Flares	Monitoring requirements for flares in §63.11	Yes; however, monitoring requirements in §63.987(c) also apply.
§63.8(b)(1)	Monitoring	Must conduct monitoring according to standard unless Administrator approves alternative	Yes.
§63.8(b)(2)–(3)	Multiple Effluents and Multiple Monitoring Systems	Specific requirements for installing monitoring systems; must install on each affected source or after combined with another affected source before it is released to the atmosphere provided the monitoring is sufficient to demonstrate compliance with the standard; if more than one monitoring system on an emission point, must report all monitoring system results, unless one monitoring system is a backup	Yes.
§63.8(c)(1)	Monitoring System Operation and Maintenance	Maintain monitoring system in a manner consistent with good air pollution control practices	Yes.
§63.8(c)(1)(i)–(iii)	Routine and Predictable SSM	Keep parts for routine repairs readily available; reporting requirements for SSM when action is described in SSM plan.	Yes.
§63.8(c)(2)–(3)	Monitoring System Installation	Must install to get representative emission or parameter measurements; must verify	Yes.

Citation	Subject	Brief description	Applies to subpart EEEE
		operational status before or at performance test	
§63.8(c)(4)	CMS Requirements	CMS must be operating except during breakdown, out-of control, repair, maintenance, and high-level calibration drifts; COMS must have a minimum of one cycle of sampling and analysis for each successive 10-second period and one cycle of data recording for each successive 6-minute period; CEMS must have a minimum of one cycle of operation for each successive 15-minute period	Yes; however, COMS are not applicable.
§63.8(c)(5)	COMS Minimum Procedures	COMS minimum procedures	No.
§63.8(c)(6)–(8)	CMS Requirements	Zero and high level calibration check requirements. Out-of-control periods	Yes, but only applies for CEMS. 40 CFR part 63, subpart SS provides requirements for CPMS.
§63.8(d)	CMS Quality Control	Requirements for CMS quality control, including calibration, etc.; must keep quality control plan on record for 5 years; keep old versions for 5 years after revisions	Yes, but only applies for CEMS. 40 CFR part 63, subpart SS provides requirements for CPMS.
§63.8(e)	CMS Performance Evaluation	Notification, performance evaluation test plan, reports	Yes, but only applies for CEMS.
§63.8(f)(1)–(5)	Alternative Monitoring Method	Procedures for Administrator to approve alternative monitoring	Yes, but 40 CFR part 63, subpart SS also provides procedures for approval of CPMS.
§63.8(f)(6)	Alternative to Relative Accuracy Test	Procedures for Administrator to approve alternative relative accuracy tests for CEMS	Yes.
§63.8(g)	Data Reduction	COMS 6-minute averages calculated over at least 36 evenly spaced data points; CEMS 1 hour averages computed over at least 4 equally spaced data points; data that cannot be used in average	Yes; however, COMS are not applicable.
§63.9(a)	Notification Requirements	Applicability and State delegation	Yes.
§63.9(b)(1)–(2),	Initial Notifications	Submit notification within 120	Yes.

Citation	Subject	Brief description	Applies to subpart EEEE
(4)–(5)		days after effective date; notification of intent to construct/reconstruct, notification of commencement of construction/reconstruction, notification of startup; contents of each	
§63.9(c)	Request for Compliance Extension	Can request if cannot comply by date or if installed best available control technology or lowest achievable emission rate (BACT/LAER)	Yes.
§63.9(d)	Notification of Special Compliance Requirements for New Sources	For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date	Yes.
§63.9(e)	Notification of Performance Test	Notify Administrator 60 days prior	Yes.
§63.9(f)	Notification of VE/Opacity Test	Notify Administrator 30 days prior	No.
§63.9(g)	Additional Notifications When Using CMS	Notification of performance evaluation; notification about use of COMS data; notification that exceeded criterion for relative accuracy alternative	Yes; however, there are no opacity standards.
§63.9(h)(1)–(6)	Notification of Compliance Status	Contents due 60 days after end of performance test or other compliance demonstration, except for opacity/visible emissions, which are due 30 days after; when to submit to Federal vs. State authority	Yes; however, (1) there are no opacity standards and (2) all initial Notification of Compliance Status, including all performance test data, are to be submitted at the same time, either within 240 days after the compliance date or within 60 days after the last performance test demonstrating compliance has been completed, whichever occurs first.
§63.9(i)	Adjustment of Submittal Deadlines	Procedures for Administrator to approve change in when notifications must be submitted	Yes.
§63.9(j)	Change in Previous	Must submit within 15 days after	No. These changes will

Citation	Subject	Brief description	Applies to subpart EEEE
	Information	the change	be reported in the first and subsequent compliance reports.
§63.10(a)	Recordkeeping/Reporting	Applies to all, unless compliance extension; when to submit to Federal vs. State authority; procedures for owners of more than one source	Yes.
§63.10(b)(1)	Recordkeeping/Reporting	General requirements; keep all records readily available; keep for 5 years	Yes.
§63.10(b)(2)(i)–(iv)	Records Related to Startup, Shutdown, and Malfunction	Occurrence of each for operations (process equipment); occurrence of each malfunction of air pollution control equipment; maintenance on air pollution control equipment; actions during SSM	Yes.
§63.10(b)(2)(vi)–(xi)	CMS Records	Malfunctions, inoperative, out-of-control periods	Yes.
§63.10(b)(2)(xii)	Records	Records when under waiver	Yes.
§63.10(b)(2)(xiii)	Records	Records when using alternative to relative accuracy test	Yes.
§63.10(b)(2)(xiv)	Records	All documentation supporting initial notification and notification of compliance status	Yes.
§63.10(b)(3)	Records	Applicability determinations	Yes.
§63.10(c)	Records	Additional records for CMS	Yes.
§63.10(d)(1)	General Reporting Requirements	Requirement to report	Yes.
§63.10(d)(2)	Report of Performance Test Results	When to submit to Federal or State authority	Yes.
§63.10(d)(3)	Reporting Opacity or VE Observations	What to report and when	Yes.
§63.10(d)(4)	Progress Reports	Must submit progress reports on schedule if under compliance extension	Yes.
§63.10(d)(5)	SSM Reports	Contents and submission	Yes.
§63.10(e)(1)–(2)	Additional CMS Reports	Must report results for each CEMS on a unit; written copy of CMS performance evaluation; 2–3 copies of COMS	Yes; however, COMS are not applicable.

Citation	Subject	Brief description	Applies to subpart EEEE
		performance evaluation	
§63.10(e)(3)(i)–(iii)	Reports	Schedule for reporting excess emissions and parameter monitor exceedance (now defined as deviations)	Yes; however, note that the title of the report is the compliance report; deviations include excess emissions and parameter exceedances.
§63.10(e)(3)(iv)–(v)	Excess Emissions Reports	Requirement to revert to quarterly submission if there is an excess emissions or parameter monitoring exceedance (now defined as deviations); provision to request semiannual reporting after compliance for 1 year; submit report by 30th day following end of quarter or calendar half; if there has not been an exceedance or excess emissions (now defined as deviations), report contents in a statement that there have been no deviations; must submit report containing all of the information in §§63.8(c)(7)–(8) and 63.10(c)(5)–(13)	Yes.
§63.10(e)(3)(vi)–(viii)	Excess Emissions Report and Summary Report	Requirements for reporting excess emissions for CMS (now called deviations); requires all of the information in §§63.10(c)(5)–(13) and 63.8(c)(7)–(8)	Yes.
§63.10(e)(4)	Reporting COMS Data	Must submit COMS data with performance test data	No.
§63.10(f)	Waiver for Recordkeeping/Reporting	Procedures for Administrator to waive	Yes.
§63.11(b)	Flares	Requirements for flares	Yes; §63.987 requirements apply, and the section references §63.11(b).
§63.11(c), (d), and (e)	Control and work practice requirements	Alternative work practice for equipment leaks	Yes.
§63.12	Delegation	State authority to enforce standards	Yes.
§63.13	Addresses	Addresses where reports, notifications, and requests are	Yes.

Citation	Subject	Brief description	Applies to subpart EEEE
		sent	
§63.14	Incorporation by Reference	Test methods incorporated by reference	Yes.
§63.15	Availability of Information	Public and confidential information	Yes.

[69 FR 5063, Feb. 3, 2004, as amended at 71 FR 20463, Apr. 20, 2006; 71 FR 42924, July 28, 2006; 73 FR 78215, Dec. 22, 2008]

Indiana Department of Environmental Management
Office of Air Quality

Attachment D
to a Part 70 Operating Permit Renewal

Source Background and Description

Source Name:	Cargill, Inc.
Source Location:	1100 Indianapolis Blvd., Hammond, IN 46320
County:	Lake
SIC Code:	2046
Permit Renewal No.:	T089-27009-00203
Permit Reviewer:	Kristen Willoughby

Title 40: Protection of Environment
PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES (CONTINUED)

Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

What this Subpart Covers

§63.7480 What is the purpose of this subpart?
This subpart establishes national emission limitations and work practice standards for hazardous air pollutants (HAP) emitted from industrial, commercial, and institutional boilers and process heaters located at major sources of HAP. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and work practice standards.

§63.7485 Am I subject to this subpart?
You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler or process heater as defined in §63.7575 that is located at, or is part of, a major source of HAP, except as specified in §63.7491. For purposes of this subpart, a major source of HAP is as defined in §63.2, except that for oil and natural gas production facilities, a major source of HAP is as defined in §63.761 (subpart HH of this part, National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities).

§63.7490 What is the affected source of this subpart?
(a) This subpart applies to new, reconstructed, and existing affected sources as described in paragraphs (a)(1) and (2) of this section.

(1) The affected source of this subpart is the collection at a major source of all existing industrial, commercial, and institutional boilers and process heaters within a subcategory as defined in §63.7575.

(2) The affected source of this subpart is each new or reconstructed industrial, commercial, or institutional boiler or process heater, as defined in §63.7575, located at a major source.

(b) A boiler or process heater is new if you commence construction of the boiler or process heater after June 4, 2010, and you meet the applicability criteria at the time you commence construction.

(c) A boiler or process heater is reconstructed if you meet the reconstruction criteria as defined in §63.2, you commence reconstruction after June 4, 2010, and you meet the applicability criteria at the time you commence reconstruction.

(d) A boiler or process heater is existing if it is not new or reconstructed.

§63.7491 Are any boilers or process heaters not subject to this subpart?

The types of boilers and process heaters listed in paragraphs (a) through (m) of this section are not subject to this subpart.

(a) An electric utility steam generating unit.

(b) A recovery boiler or furnace covered by subpart MM of this part.

(c) A boiler or process heater that is used specifically for research and development. This does not include units that provide heat or steam to a process at a research and development facility.

(d) A hot water heater as defined in this subpart.

(e) A refining kettle covered by subpart X of this part.

(f) An ethylene cracking furnace covered by subpart YY of this part.

(g) Blast furnace stoves as described in EPA–453/R–01–005 (incorporated by reference, see §63.14).

(h) Any boiler or process heater that is part of the affected source subject to another subpart of this part (i.e., another National Emission Standards for Hazardous Air Pollutants in 40 CFR part 63).

(i) Any boiler or process heater that is used as a control device to comply with another subpart of this part, provided that at least 50 percent of the heat input to the boiler is provided by the gas stream that is regulated under another subpart.

(j) Temporary boilers as defined in this subpart.

(k) Blast furnace gas fuel-fired boilers and process heaters as defined in this subpart.

(l) Any boiler specifically listed as an affected source in any standard(s) established under section 129 of the Clean Air Act.

(m) A boiler required to have a permit under section 3005 of the Solid Waste Disposal Act or covered by subpart EEE of this part (e.g., hazardous waste boilers).

§63.7495 When do I have to comply with this subpart?

(a) If you have a new or reconstructed boiler or process heater, you must comply with this subpart byMay 20, 2011 or upon startup of your boiler or process heater, whichever is later.

(b) If you have an existing boiler or process heater, you must comply with this subpart no later than March 21, 2014.

(c) If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, paragraphs (c)(1) and (2) of this section apply to you.

(1) Any new or reconstructed boiler or process heater at the existing source must be in compliance with this subpart upon startup.

(2) Any existing boiler or process heater at the existing source must be in compliance with this subpart within 3 years after the source becomes a major source.

(d) You must meet the notification requirements in §63.7545 according to the schedule in §63.7545 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limits and work practice standards in this subpart.

(e) If you own or operate an industrial, commercial, or institutional boiler or process heater and would be subject to this subpart except for the exemption in §63.7491(l) for commercial and industrial solid waste incineration units covered by part 60, subpart CCCC or subpart DDDD, and you cease combusting solid waste, you must be in compliance with this subpart on the effective date of the switch from waste to fuel.

Emission Limitations and Work Practice Standards

§63.7499 What are the subcategories of boilers and process heaters?

The subcategories of boilers and process heaters, as defined in §63.7575 are:

(a) Pulverized coal/solid fossil fuel units.

(b) Stokers designed to burn coal/solid fossil fuel.

(c) Fluidized bed units designed to burn coal/solid fossil fuel.

(d) Stokers designed to burn biomass/bio-based solid.

(e) Fluidized bed units designed to burn biomass/bio-based solid.

(f) Suspension burners/Dutch Ovens designed to burn biomass/bio-based solid.

(g) Fuel Cells designed to burn biomass/bio-based solid.

(h) Hybrid suspension/grate burners designed to burn biomass/bio-based solid.

(i) Units designed to burn solid fuel.

(j) Units designed to burn liquid fuel.

(k) Units designed to burn liquid fuel in non-continental States or territories.

(l) Units designed to burn natural gas, refinery gas or other gas 1 fuels.

(m) Units designed to burn gas 2 (other) gases.

(n) Metal process furnaces.

(o) Limited-use boilers and process heaters.

§63.7500 What emission limitations, work practice standards, and operating limits must I meet?

(a) You must meet the requirements in paragraphs (a)(1) through (3) of this section, except as provided in paragraphs (b) and (c) of this section. You must meet these requirements at all times.

(1) You must meet each emission limit and work practice standard in Tables 1 through 3, and 12 to this subpart that applies to your boiler or process heater, for each boiler or process heater at your source, except as provided under §63.7522. If your affected source is a new or reconstructed affected source

that commenced construction or reconstruction after June 4, 2010, and before May 20, 2011, you may comply with the emission limits in Table 1 or 12 to this subpart until March 21, 2014. On and after March 21, 2014, you must comply with the emission limits in Table 1 to this subpart.

(2) You must meet each operating limit in Table 4 to this subpart that applies to your boiler or process heater. If you use a control device or combination of control devices not covered in Table 4 to this subpart, or you wish to establish and monitor an alternative operating limit and alternative monitoring parameters, you must apply to the EPA Administrator for approval of alternative monitoring under §63.8(f).

(3) At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

(b) As provided in §63.6(g), EPA may approve use of an alternative to the work practice standards in this section.

(c) Limited-use boilers and process heaters must complete a biennial tune-up as specified in §63.7540. They are not subject to the emission limits in Tables 1 and 2 to this subpart, the annual tune-up requirement in Table 3 to this subpart, or the operating limits in Table 4 to this subpart. Major sources that have limited-use boilers and process heaters must complete an energy assessment as specified in Table 3 to this subpart if the source has other existing boilers subject to this subpart that are not limited-use boilers.

§63.7501 How can I assert an affirmative defense if I exceed an emission limitations during a malfunction?

In response to an action to enforce the emission limitations and operating limits set forth in §63.7500 you may assert an affirmative defense to a claim for civil penalties for exceeding such standards that are caused by malfunction, as defined at §63.2. Appropriate penalties may be assessed, however, if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not be available for claims for injunctive relief.

(a) To establish the affirmative defense in any action to enforce such a limit, you must timely meet the notification requirements in paragraph (b) of this section, and must prove by a preponderance of evidence that:

(1) The excess emissions:

(i) Were caused by a sudden, infrequent, and unavoidable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner, and

(ii) Could not have been prevented through careful planning, proper design or better operation and maintenance practices; and

(iii) Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and

(iv) Were not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(2) Repairs were made as expeditiously as possible when the applicable emission limitations were being exceeded. Off-shift and overtime labor were used, to the extent practicable to make these repairs; and

(3) The frequency, amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions; and

(4) If the excess emissions resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

(5) All possible steps were taken to minimize the impact of the excess emissions on ambient air quality, the environment and human health; and

(6) All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and

(7) All of the actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs; and

(8) At all times, the facility was operated in a manner consistent with good practices for minimizing emissions; and

(9) A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the excess emissions resulting from the malfunction event at issue. The analysis shall also specify, using best monitoring methods and engineering judgment, the amount of excess emissions that were the result of the malfunction.

(b) Notification. The owner or operator of the facility experiencing an exceedance of its emission limitat(s) during a malfunction shall notify the Administrator by telephone or facsimile (fax) transmission as soon as possible, but no later than 2 business days after the initial occurrence of the malfunction, if it wishes to avail itself of an affirmative defense to civil penalties for that malfunction. The owner or operator seeking to assert an affirmative defense shall also submit a written report to the Administrator within 45 days of the initial ocurrence of the exceedance of the standard in §63.7500 to demonstrate, with all necessary supporting documentation, that it has met the requirements set forth in paragraph (a) of this section. The owner or operator may seek an extension of this deadline for up to 30 additional days by submitting a written request to the Administrator before the expiration of the 45 day period. Until a request for an extension has been approved by the Administrator, the owner or operator is subject to the requirement to submit such report within 45 days of the initial occurrence of the exceedance.

General Compliance Requirements

§63.7505 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limits and operating limits in this subpart. These limits apply to you at all times.

(b) [Reserved]

(c) You must demonstrate compliance with all applicable emission limits using performance testing, fuel analysis, or continuous monitoring systems (CMS), including a continuous emission monitoring system (CEMS) or continuous opacity monitoring system (COMS), where applicable. You may demonstrate compliance with the applicable emission limit for hydrogen chloride or mercury using fuel analysis if the emission rate calculated according to §63.7530(c) is less than the applicable emission limit. Otherwise, you must demonstrate compliance for hydrogen chloride or mercury using performance testing, if subject to an applicable emission limit listed in Table 1, 2, or 12 to this subpart.

(d) If you demonstrate compliance with any applicable emission limit through performance testing and subsequent compliance with operating limits (including the use of continuous parameter monitoring system), or with a CEMS, or COMS, you must develop a site-specific monitoring plan according to the requirements in paragraphs (d)(1) through (4) of this section for the use of any CEMS, COMS, or continuous parameter monitoring system. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under §63.8(f).

(1) For each CMS required in this section (including CEMS, COMS, or continuous parameter monitoring system), you must develop, and submit to the delegated authority for approval upon request, a site-specific monitoring plan that addresses paragraphs (d)(1)(i) through (iii) of this section. You must submit this site-specific monitoring plan, if requested, at least 60 days before your initial performance evaluation of your CMS. This requirement to develop and submit a site specific monitoring plan does not apply to affected sources with existing monitoring plans that apply to CEMS and COMS prepared under appendix B to part 60 of this chapter and that meet the requirements of §63.7525.

(i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);

(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and

(iii) Performance evaluation procedures and acceptance criteria (e.g., calibrations).
(2) In your site-specific monitoring plan, you must also address paragraphs (d)(2)(i) through (iii) of this section.

(i) Ongoing operation and maintenance procedures in accordance with the general requirements of §63.8(c)(1)(ii), (c)(3), and (c)(4)(ii);

(ii) Ongoing data quality assurance procedures in accordance with the general requirements of §63.8(d); and

(iii) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of §63.10(c) (as applicable in Table 10 to this subpart), (e)(1), and (e)(2)(i).

(3) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.

(4) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.

Testing, Fuel Analyses, and Initial Compliance Requirements

§63.7510 What are my initial compliance requirements and by what date must I conduct them?

(a) For affected sources that elect to demonstrate compliance with any of the applicable emission limits in Tables 1 or 2 of this subpart through performance testing, your initial compliance requirements include conducting performance tests according to §63.7520 and Table 5 to this subpart, conducting a fuel analysis for each type of fuel burned in your boiler or process heater according to §63.7521 and Table 6 to this subpart, establishing operating limits according to §63.7530 and Table 7 to this subpart, and conducting CMS performance evaluations according to §63.7525. For affected sources that burn a single type of fuel, you are exempted from the compliance requirements of conducting a fuel analysis for each type of fuel burned in your boiler or process heater according to §63.7521 and Table 6 to this subpart. For purposes of this subpart, units that use a supplemental fuel only for startup, unit shutdown, and transient flame stability purposes still qualify as affected sources that burn a single type of fuel, and the supplemental fuel is not subject to the fuel analysis requirements under §63.7521 and Table 6 to this subpart.

(b) For affected sources that elect to demonstrate compliance with the applicable emission limits in Tables 1 or 2 of this subpart for hydrogen chloride or mercury through fuel analysis, your initial compliance requirement is to conduct a fuel analysis for each type of fuel burned in your boiler or process heater according to §63.7521 and Table 6 to this subpart and establish operating limits according to §63.7530 and Table 8 to this subpart.

(c) If your boiler or process heater is subject to a carbon monoxide limit, your initial compliance demonstration for carbon monoxide is to conduct a performance test for carbon monoxide according to Table 5 to this subpart. Your initial compliance demonstration for carbon monoxide also includes conducting a performance evaluation of your continuous oxygen monitor according to §63.7525(a).

(d) If your boiler or process heater subject to a PM limit has a heat input capacity greater than 250 MMBtu per hour and combusts coal, biomass, or residual oil, your initial compliance demonstration for PM is to conduct a performance evaluation of your continuous emission monitoring system for PM according to §63.7525(b). Boilers and process heaters that use a continuous emission monitoring system for PM are exempt from the performance testing and operating limit requirements specified in paragraph (a) of this section.

(e) For existing affected sources, you must demonstrate initial compliance, as specified in paragraphs (a) through (d) of this section, no later than 180 days after the compliance date that is specified for your source in §63.7495 and according to the applicable provisions in §63.7(a)(2) as cited in Table 10 to this subpart.

(f) If your new or reconstructed affected source commenced construction or reconstruction after June 4, 2010, you must demonstrate initial compliance with the emission limits no later than November 16, 2011 or within 180 days after startup of the source, whichever is later. If you are demonstrating compliance with an emission limit in Table 12 to this subpart that is less stringent than (that is, higher than) the applicable emission limit in Table 1 to this subpart, you must demonstrate compliance with the applicable emission limit in Table 1 no later than September 17, 2014.

(g) For affected sources that ceased burning solid waste consistent with §63.7495(e) and for which your initial compliance date has passed, you must demonstrate compliance within 60 days of the effective date of the waste-to-fuel switch. If you have not conducted your compliance demonstration for this subpart within the previous 12 months, you must complete all compliance demonstrations for this subpart before you commence or recommence combustion of solid waste.

§63.7515 When must I conduct subsequent performance tests, fuel analyses, or tune-ups?

(a) You must conduct all applicable performance tests according to §63.7520 on an annual basis, except those for dioxin/furan emissions, unless you follow the requirements listed in paragraphs (b) through (e) of this section. Annual performance tests must be completed no more than 13 months after the previous performance test, unless you follow the requirements listed in paragraphs (b) through (e) of this section. Annual performance testing for dioxin/furan emissions is not required after the initial compliance demonstration.

(b) You can conduct performance tests less often for a given pollutant if your performance tests for the pollutant for at least 2 consecutive years show that your emissions are at or below 75 percent of the emission limit, and if there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions. In this case, you do not have to conduct a performance test for that pollutant for the next 2 years. You must conduct a performance test during the third year and no more than 37 months after the previous performance test. If you elect to demonstrate compliance using emission averaging under §63.7522, you must continue to conduct performance tests annually.

(c) If your boiler or process heater continues to meet the emission limit for the pollutant, you may choose to conduct performance tests for the pollutant every third year if your emissions are at or below 75 percent of the emission limit, and if there are no changes in the operation of the affected source or air pollution control equipment that could increase emissions, but each such performance test must be conducted no more than 37 months after the previous performance test. If you elect to demonstrate compliance using emission averaging under §63.7522, you must continue to conduct performance tests annually. The requirement to test at maximum chloride input level is waived unless the stack test is conducted for HCl. The requirement to test at maximum Hg input level is waived unless the stack test is conducted for Hg.

(d) If a performance test shows emissions exceeded 75 percent of the emission limit for a pollutant, you must conduct annual performance tests for that pollutant until all performance tests over a consecutive 2-year period show compliance.

(e) If you are required to meet an applicable tune-up work practice standard, you must conduct an annual or biennial performance tune-up according to §63.7540(a)(10) and (a)(11), respectively. Each annual tune-up specified in §63.7540(a)(10) must be no more than 13 months after the previous tune-up. Each biennial tune-up specified in §63.7540(a)(11) must be conducted no more than 25 months after the previous tune-up.

(f) If you demonstrate compliance with the mercury or hydrogen chloride based on fuel analysis, you must conduct a monthly fuel analysis according to §63.7521 for each type of fuel burned that is subject to an emission limit in Table 1, 2, or 12 of this subpart. If you burn a new type of fuel, you must conduct a fuel analysis before burning the new type of fuel in your boiler or process heater. You must still meet all applicable continuous compliance requirements in §63.7540. If 12 consecutive monthly fuel analyses demonstrate compliance, you may request decreased fuel analysis frequency by applying to the EPA Administrator for approval of alternative monitoring under §63.8(f).

(g) You must report the results of performance tests and the associated initial fuel analyses within 90 days after the completion of the performance tests. This report must also verify that the operating limits for your affected source have not changed or provide documentation of revised operating parameters established according to §63.7530 and Table 7 to this subpart, as applicable. The reports for all subsequent performance tests must include all applicable information required in §63.7550.

§63.7520 What stack tests and procedures must I use?

(a) You must conduct all performance tests according to §63.7(c), (d), (f), and (h). You must also develop a site-specific stack test plan according to the requirements in §63.7(c). You shall conduct all performance tests under such conditions as the Administrator specifies to you based on representative performance of the affected source for the period being tested. Upon request, you shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests.

(b) You must conduct each performance test according to the requirements in Table 5 to this subpart.

(c) You must conduct each performance test under the specific conditions listed in Tables 5 and 7 to this subpart. You must conduct performance tests at representative operating load conditions while burning the type of fuel or mixture of fuels that has the highest content of chlorine and mercury, and you must demonstrate initial compliance and establish your operating limits based on these performance tests. These requirements could result in the need to conduct more than one performance test. Following each performance test and until the next performance test, you must comply with the operating limit for operating load conditions specified in Table 4 to this subpart.

(d) You must conduct three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must comply with the minimum applicable sampling times or volumes specified in Tables 1, 2, and 12 to this subpart.

(e) To determine compliance with the emission limits, you must use the F-Factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 at 40 CFR part 60, appendix A-7 of this chapter to convert the measured particulate matter concentrations, the measured hydrogen chloride concentrations, and the measured mercury concentrations that result from the initial performance test to pounds per million Btu heat input emission rates using F-factors.

§63.7521 What fuel analyses, fuel specification, and procedures must I use?

(a) For solid, liquid, and gas 2 (other) fuels, you must conduct fuel analyses for chloride and mercury according to the procedures in paragraphs (b) through (e) of this section and Table 6 to this subpart, as applicable. You are not required to conduct fuel analyses for fuels used for only startup, unit shutdown, and transient flame stability purposes. You are required to conduct fuel analyses only for fuels and units that are subject to emission limits for mercury and hydrogen chloride in Tables 1, 2, or 12 to this subpart. Gaseous and liquid fuels are exempt from requirements in paragraphs (c) and (d) of this section and Table 6 of this subpart.

(b) You must develop and submit a site-specific fuel monitoring plan to the EPA Administrator for review and approval according to the following procedures and requirements in paragraphs (b)(1) and (2) of this section.

(1) You must submit the fuel analysis plan no later than 60 days before the date that you intend to conduct an initial compliance demonstration.

(2) You must include the information contained in paragraphs (b)(2)(i) through (vi) of this section in your fuel analysis plan.

(i) The identification of all fuel types anticipated to be burned in each boiler or process heater.

(ii) For each fuel type, the notification of whether you or a fuel supplier will be conducting the fuel analysis.

(iii) For each fuel type, a detailed description of the sample location and specific procedures to be used for collecting and preparing the composite samples if your procedures are different from paragraph (c) or

(d) of this section. Samples should be collected at a location that most accurately represents the fuel type, where possible, at a point prior to mixing with other dissimilar fuel types.

(iv) For each fuel type, the analytical methods from Table 6, with the expected minimum detection levels, to be used for the measurement of chlorine or mercury.

(v) If you request to use an alternative analytical method other than those required by Table 6 to this subpart, you must also include a detailed description of the methods and procedures that you are proposing to use. Methods in Table 6 shall be used until the requested alternative is approved.

(vi) If you will be using fuel analysis from a fuel supplier in lieu of site-specific sampling and analysis, the fuel supplier must use the analytical methods required by Table 6 to this subpart.

(c) At a minimum, you must obtain three composite fuel samples for each fuel type according to the procedures in paragraph (c)(1) or (2) of this section.

(1) If sampling from a belt (or screw) feeder, collect fuel samples according to paragraphs (c)(1)(i) and (ii) of this section.

(i) Stop the belt and withdraw a 6-inch wide sample from the full cross-section of the stopped belt to obtain a minimum two pounds of sample. You must collect all the material (fines and coarse) in the full cross-section. You must transfer the sample to a clean plastic bag.

(ii) Each composite sample will consist of a minimum of three samples collected at approximately equal 1-hour intervals during the testing period.

(2) If sampling from a fuel pile or truck, you must collect fuel samples according to paragraphs (c)(2)(i) through (iii) of this section.

(i) For each composite sample, you must select a minimum of five sampling locations uniformly spaced over the surface of the pile.

(ii) At each sampling site, you must dig into the pile to a depth of 18 inches. You must insert a clean flat square shovel into the hole and withdraw a sample, making sure that large pieces do not fall off during sampling.

(iii) You must transfer all samples to a clean plastic bag for further processing.

(d) You must prepare each composite sample according to the procedures in paragraphs (d)(1) through (7) of this section.

(1) You must thoroughly mix and pour the entire composite sample over a clean plastic sheet.

(2) You must break sample pieces larger than 3 inches into smaller sizes.

(3) You must make a pie shape with the entire composite sample and subdivide it into four equal parts.

(4) You must separate one of the quarter samples as the first subset.

(5) If this subset is too large for grinding, you must repeat the procedure in paragraph (d)(3) of this section with the quarter sample and obtain a one-quarter subset from this sample.

(6) You must grind the sample in a mill.

(7) You must use the procedure in paragraph (d)(3) of this section to obtain a one-quarter subsample for analysis. If the quarter sample is too large, subdivide it further using the same procedure.

(e) You must determine the concentration of pollutants in the fuel (mercury and/or chlorine) in units of pounds per million Btu of each composite sample for each fuel type according to the procedures in Table 6 to this subpart.

(f) To demonstrate that a gaseous fuel other than natural gas or refinery gas qualifies as an other gas 1 fuel, as defined in §63.7575, you must conduct a fuel specification analyses for hydrogen sulfide and mercury according to the procedures in paragraphs (g) through (i) of this section and Table 6 to this subpart, as applicable. You are not required to conduct the fuel specification analyses in paragraphs (g) through (i) of this section for gaseous fuels other than natural gas or refinery gas that are complying with the limits for units designed to burn gas 2 (other) fuels.

(g) You must develop and submit a site-specific fuel analysis plan for other gas 1 fuels to the EPA Administrator for review and approval according to the following procedures and requirements in paragraphs (g)(1) and (2) of this section.

(1) You must submit the fuel analysis plan no later than 60 days before the date that you intend to conduct an initial compliance demonstration.

(2) You must include the information contained in paragraphs (g)(2)(i) through (vi) of this section in your fuel analysis plan.

(i) The identification of all gaseous fuel types other than natural gas or refinery gas anticipated to be burned in each boiler or process heater.

(ii) For each fuel type, the notification of whether you or a fuel supplier will be conducting the fuel specification analysis.

(iii) For each fuel type, a detailed description of the sample location and specific procedures to be used for collecting and preparing the samples if your procedures are different from the sampling methods contained in Table 6. Samples should be collected at a location that most accurately represents the fuel type, where possible, at a point prior to mixing with other dissimilar fuel types. If multiple boilers or process heaters are fueled by a common fuel stream it is permissible to conduct a single gas specification at the common point of gas distribution.

(iv) For each fuel type, the analytical methods from Table 6, with the expected minimum detection levels, to be used for the measurement of hydrogen sulfide and mercury.

(v) If you request to use an alternative analytical method other than those required by Table 6 to this subpart, you must also include a detailed description of the methods and procedures that you are proposing to use. Methods in Table 6 shall be used until the requested alternative is approved.

(vi) If you will be using fuel analysis from a fuel supplier in lieu of site-specific sampling and analysis, the fuel supplier must use the analytical methods required by Table 6 to this subpart.

(h) You must obtain a single fuel sample for each other gas 1 fuel type according to the sampling procedures listed in Table 6 for fuel specification of gaseous fuels.

(i) You must determine the concentration in the fuel of mercury, in units of microgram per cubic meter, and of hydrogen sulfide, in units of parts per million, by volume, dry basis, of each sample for each gas 1 fuel type according to the procedures in Table 6 to this subpart.

§63.7522 Can I use emissions averaging to comply with this subpart?

(a) As an alternative to meeting the requirements of §63.7500 for particulate matter, hydrogen chloride, or mercury on a boiler or process heater-specific basis, if you have more than one existing boiler or process heater in any subcategory located at your facility, you may demonstrate compliance by emissions averaging, if your averaged emissions are not more than 90 percent of the applicable emission limit, according to the procedures in this section. You may not include new boilers or process heaters in an emissions average.

(b) For a group of two or more existing boilers or process heaters in the same subcategory that each vent to a separate stack, you may average particulate matter, hydrogen chloride, or mercury emissions among existing units to demonstrate compliance with the limits in Table 2 to this subpart if you satisfy the requirements in paragraphs (c), (d), (e), (f), and (g) of this section.

(c) For each existing boiler or process heater in the averaging group, the emission rate achieved during the initial compliance test for the HAP being averaged must not exceed the emission level that was being achieved on May 20, 2011 or the control technology employed during the initial compliance test must not be less effective for the HAP being averaged than the control technology employed on May 20, 2011.

(d) The averaged emissions rate from the existing boilers and process heaters participating in the emissions averaging option must be in compliance with the limits in Table 2 to this subpart at all times following the compliance date specified in §63.7495.

(e) You must demonstrate initial compliance according to paragraph (e)(1) or (2) of this section using the maximum rated heat input capacity or maximum steam generation capacity of each unit and the results of the initial performance tests or fuel analysis.

(1) You must use Equation 1 of this section to demonstrate that the particulate matter, hydrogen chloride, or mercury emissions from all existing units participating in the emissions averaging option for that pollutant do not exceed the emission limits in Table 2 to this subpart.

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n}\left(Er \times Hm\right) \div \sum_{i=1}^{n} Hm \qquad \text{(Eq.1)}$$

Where:

AveWeightedEmissions = Average weighted emissions for particulate matter, hydrogen chloride, or mercury, in units of pounds per million Btu of heat input.
Er = Emission rate (as determined during the initial compliance demonstration) of particulate matter, hydrogen chloride, or mercury from unit, i, in units of pounds per million Btu of heat input. Determine the emission rate for particulate matter, hydrogen chloride, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for hydrogen chloride or mercury using the applicable equation in §63.7530(c).
Hm = Maximum rated heat input capacity of unit, i, in units of million Btu per hour.
n = Number of units participating in the emissions averaging option.
1.1 = Required discount factor.

(2) If you are not capable of determining the maximum rated heat input capacity of one or more boilers that generate steam, you may use Equation 2 of this section as an alternative to using Equation 1 of this section to demonstrate that the particulate matter, hydrogen chloride, or mercury emissions from all existing units participating in the emissions averaging option do not exceed the emission limits for that pollutant in Table 2 to this subpart.

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n}\left(Er \times Sm \times Cfi\right) \div \sum_{i=1}^{n}\left(Sm \times Cfi\right) \qquad \text{(Eq. 2)}$$

Where:

AveWeightedEmissions = Average weighted emission level for PM, hydrogen chloride, or mercury, in units of pounds per million Btu of heat input.
Er = Emission rate (as determined during the most recent compliance demonstration) of particulate matter, hydrogen chloride, or mercury from unit, i, in units of pounds per million Btu of heat input. Determine the emission rate for particulate matter, hydrogen chloride, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for hydrogen chloride or mercury using the applicable equation in §63.7530(c).
Sm = Maximum steam generation capacity by unit, i, in units of pounds.
Cfi = Conversion factor, calculated from the most recent compliance test, in units of million Btu of heat input per pounds of steam generated for unit, i.
1.1 = Required discount factor.

(f) After the initial compliance demonstration described in paragraph (e) of this section, you must demonstrate compliance on a monthly basis determined at the end of every month (12 times per year) according to paragraphs (f)(1) through (3) of this section. The first monthly period begins on the compliance date specified in §63.7495.

(1) For each calendar month, you must use Equation 3 of this section to calculate the average weighted emission rate for that month using the actual heat input for each existing unit participating in the emissions averaging option.

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n} (Er \times Hb) \div \sum_{i=1}^{n} Hb \qquad \text{(Eq. 3)}$$

Where:

AveWeightedEmissions = Average weighted emission level for particulate matter, hydrogen chloride, or mercury, in units of pounds per million Btu of heat input, for that calendar month.

Er	=	Emission rate (as determined during the most recent compliance demonstration) of particulate matter, hydrogen chloride, or mercury from unit, i, in units of pounds per million Btu of heat input. Determine the emission rate for particulate matter, hydrogen chloride, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for hydrogen chloride or mercury using the applicable equation in §63.7530(c).
Hb	=	The heat input for that calendar month to unit, i, in units of million Btu.
n	=	Number of units participating in the emissions averaging option.
1.1	=	Required discount factor.

(2) If you are not capable of monitoring heat input, you may use Equation 4 of this section as an alternative to using Equation 3 of this section to calculate the average weighted emission rate using the actual steam generation from the boilers participating in the emissions averaging option.

$$AveWeightedEmissions = 1.1 \times \sum_{i=1}^{n} (Er \times Sa \times Cfi) \div \sum_{i=1}^{n} (Sa \times Cfi) \qquad \text{(Eq. 4)}$$

Where:

AveWeightedEmissions = average weighted emission level for PM, hydrogen chloride, or mercury, in units of pounds per million Btu of heat input for that calendar month.

Er	=	Emission rate (as determined during the most recent compliance demonstration of particulate matter, hydrogen chloride, or mercury from unit, i, in units of pounds per million Btu of heat input. Determine the emission rate for particulate matter, hydrogen chloride, or mercury by performance testing according to Table 5 to this subpart, or by fuel analysis for hydrogen chloride or mercury using the applicable equation in §63.7530(c).
Sa	=	Actual steam generation for that calendar month by boiler, i, in units of pounds.
Cfi	=	Conversion factor, as calculated during the most recent compliance test, in units of million Btu of heat input per pounds of steam generated for boiler, i.
1.1	=	Required discount factor.

(3) Until 12 monthly weighted average emission rates have been accumulated, calculate and report only the average weighted emission rate determined under paragraph (f)(1) or (2) of this section for each calendar month. After 12 monthly weighted average emission rates have been accumulated, for each subsequent calendar month, use Equation 5 of this section to calculate the 12-month rolling average of the monthly weighted average emission rates for the current calendar month and the previous 11 calendar months.

$$Eavg = \sum_{i=1}^{n} ERi \div 12 \qquad \text{(Eq. 5)}$$

Where:

Eavg	=	12-month rolling average emission rate, (pounds per million Btu heat input)
ERi	=	Monthly weighted average, for calendar month “i” (pounds per million Btu heat input), as calculated by paragraph (f)(1) or (2) of this section.

(g) You must develop, and submit to the applicable delegated authority for review and approval, an implementation plan for emission averaging according to the following procedures and requirements in paragraphs (g)(1) through (4) of this section.

(1) You must submit the implementation plan no later than 180 days before the date that the facility intends to demonstrate compliance using the emission averaging option.

(2) You must include the information contained in paragraphs (g)(2)(i) through (vii) of this section in your implementation plan for all emission sources included in an emissions average:

(i) The identification of all existing boilers and process heaters in the averaging group, including for each either the applicable HAP emission level or the control technology installed as of May 20, 2011 and the date on which you are requesting emission averaging to commence;

(ii) The process parameter (heat input or steam generated) that will be monitored for each averaging group;

(iii) The specific control technology or pollution prevention measure to be used for each emission boiler or process heater in the averaging group and the date of its installation or application. If the pollution prevention measure reduces or eliminates emissions from multiple boilers or process heaters, the owner or operator must identify each boiler or process heater;

(iv) The test plan for the measurement of particulate matter, hydrogen chloride, or mercury emissions in accordance with the requirements in §63.7520;

(v) The operating parameters to be monitored for each control system or device consistent with §63.7500 and Table 4, and a description of how the operating limits will be determined;

(vi) If you request to monitor an alternative operating parameter pursuant to §63.7525, you must also include:

(A) A description of the parameter(s) to be monitored and an explanation of the criteria used to select the parameter(s); and

(B) A description of the methods and procedures that will be used to demonstrate that the parameter indicates proper operation of the control device; the frequency and content of monitoring, reporting, and recordkeeping requirements; and a demonstration, to the satisfaction of the applicable delegated authority, that the proposed monitoring frequency is sufficient to represent control device operating conditions; and

(vii) A demonstration that compliance with each of the applicable emission limit(s) will be achieved under representative operating load conditions. Following each compliance demonstration and until the next compliance demonstration, you must comply with the operating limit for operating load conditions specified in Table 4 to this subpart.

(3) The delegated authority shall review and approve or disapprove the plan according to the following criteria:

(i) Whether the content of the plan includes all of the information specified in paragraph (g)(2) of this section; and

(ii) Whether the plan presents sufficient information to determine that compliance will be achieved and maintained.

(4) The applicable delegated authority shall not approve an emission averaging implementation plan containing any of the following provisions:

(i) Any averaging between emissions of differing pollutants or between differing sources; or

(ii) The inclusion of any emission source other than an existing unit in the same subcategory.

(h) For a group of two or more existing affected units, each of which vents through a single common stack, you may average particulate matter, hydrogen chloride, or mercury emissions to demonstrate compliance with the limits for that pollutant in Table 2 to this subpart if you satisfy the requirements in paragraph (i) or (j) of this section.

(i) For a group of two or more existing units in the same subcategory, each of which vents through a common emissions control system to a common stack, that does not receive emissions from units in other subcategories or categories, you may treat such averaging group as a single existing unit for purposes of this subpart and comply with the requirements of this subpart as if the group were a single unit.

(j) For all other groups of units subject to the common stack requirements of paragraph (h) of this section, including situations where the exhaust of affected units are each individually controlled and then sent to a common stack, the owner or operator may elect to:

(1) Conduct performance tests according to procedures specified in §63.7520 in the common stack if affected units from other subcategories vent to the common stack. The emission limits that the group must comply with are determined by the use of Equation 6 of this section.

$$En = \sum_{i=1}^{n} \left(ELi \times Hi\right) \div \sum_{i=1}^{n} Hi \qquad \text{(Eq. 6)}$$

Where:

En	=	HAP emission limit, pounds per million British thermal units (lb/MMBtu), parts per million (ppm), or nanograms per dry standard cubic meter (ng/dscm).
ELi	=	Appropriate emission limit from Table 2 to this subpart for unit i, in units of lb/MMBtu, ppm or ng/dscm.
Hi	=	Heat input from unit i, MMBtu.

(2) Conduct performance tests according to procedures specified in §63.7520 in the common stack. If affected units and non-affected units vent to the common stack, the non-affected units must be shut down or vented to a different stack during the performance test unless the facility determines to demonstrate compliance with the non-affected units venting to the stack; and

(3) Meet the applicable operating limit specified in §63.7540 and Table 8 to this subpart for each emissions control system (except that, if each unit venting to the common stack has an applicable opacity operating limit, then a single continuous opacity monitoring system may be located in the common stack instead of in each duct to the common stack).

(k) The common stack of a group of two or more existing boilers or process heaters in the same subcategory subject to paragraph (h) of this section may be treated as a separate stack for purposes of paragraph (b) of this section and included in an emissions averaging group subject to paragraph (b) of this section.

§63.7525 What are my monitoring, installation, operation, and maintenance requirements?

(a) If your boiler or process heater is subject to a carbon monoxide emission limit in Table 1, 2, or 12 to this subpart, you must install, operate, and maintain a continuous oxygen monitor according to the procedures in paragraphs (a)(1) through (6) of this section by the compliance date specified in §63.7495. The oxygen level shall be monitored at the outlet of the boiler or process heater.

(1) Each CEMS for oxygen (O_2 CEMS) must be installed, operated, and maintained according to the applicable procedures under Performance Specification 3 at 40 CFR part 60, appendix B, and according to the site-specific monitoring plan developed according to §63.7505(d).

(2) You must conduct a performance evaluation of each O_2 CEMS according to the requirements in §63.8(e) and according to Performance Specification 3 at 40 CFR part 60, appendix B.

(3) Each O_2 CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(4) The O_2 CEMS data must be reduced as specified in §63.8(g)(2).

(5) You must calculate and record 12-hour block average concentrations for each operating day.

(6) For purposes of calculating data averages, you must use all the data collected during all periods in assessing compliance, excluding data collected during periods when the monitoring system malfunctions or is out of control, during associated repairs, and during required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments). Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. Any period for which the monitoring system malfunctions or is out of control and data are not available for a required calculation constitutes a deviation from the monitoring requirements. Periods when data are unavailable because of required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments) do not constitute monitoring deviations.

(b) If your boiler or process heater has a heat input capacity of greater than 250 MMBtu per hour and combusts coal, biomass, or residual oil, you must install, certify, maintain, and operate a CEMS measuring PM emissions discharged to the atmosphere and record the output of the system as specified in paragraphs (b)(1) through (5) of this section.

(1) Each CEMS shall be installed, certified, operated, and maintained according to the requirements in §63.7540(a)(9).

(2) For a new unit, the initial performance evaluation shall be completed no later than November 16, 2011 or 180 days after the date of initial startup, whichever is later. For an existing unit, the initial performance evaluation shall be completed no later than September 17, 2014.

(3) Compliance with the applicable emissions limit shall be determined based on the 30-day rolling average of the hourly arithmetic average emissions concentrations using the continuous monitoring system outlet data. The 30-day rolling arithmetic average emission concentration shall be calculated using EPA Reference Method 19 at 40 CFR part 60, appendix A-7.

(4) Collect CEMS hourly averages for all operating hours on a 30-day rolling average basis. Collect at least four CMS data values representing the four 15-minute periods in an hour, or at least two 15-minute data values during an hour when CMS calibration, quality assurance, or maintenance activities are being performed.

(5) The 1-hour arithmetic averages required shall be expressed in lb/MMBtu and shall be used to calculate the boiler operating day daily arithmetic average emissions.

(c) If you have an applicable opacity operating limit in this rule, and are not otherwise required to install and operate a PM CEMS or a bag leak detection system, you must install, operate, certify and maintain each COMS according to the procedures in paragraphs (c)(1) through (7) of this section by the compliance date specified in §63.7495.

(1) Each COMS must be installed, operated, and maintained according to Performance Specification 1 at appendix B to part 60 of this chapter.

(2) You must conduct a performance evaluation of each COMS according to the requirements in §63.8(e) and according to Performance Specification 1 at appendix B to part 60 of this chapter.

(3) As specified in §63.8(c)(4)(i), each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(4) The COMS data must be reduced as specified in §63.8(g)(2).

(5) You must include in your site-specific monitoring plan procedures and acceptance criteria for operating and maintaining each COMS according to the requirements in §63.8(d). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS.

(6) You must operate and maintain each COMS according to the requirements in the monitoring plan and the requirements of §63.8(e). You must identify periods the COMS is out of control including any periods that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit. Any 6-minute period for which the monitoring system is out of control and data are not available for a required calculation constitutes a deviation from the monitoring requirements.

(7) You must determine and record all the 6-minute averages (and daily block averages as applicable) collected for periods during which the COMS is not out of control.

(d) If you have an operating limit that requires the use of a CMS, you must install, operate, and maintain each continuous parameter monitoring system according to the procedures in paragraphs (d)(1) through (5) of this section by the compliance date specified in §63.7495.

(1) The continuous parameter monitoring system must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of four successive cycles of operation to have a valid hour of data.

(2) Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must conduct all monitoring in continuous operation at all times that the unit is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(3) For purposes of calculating data averages, you must not use data recorded during monitoring malfunctions, associated repairs, out of control periods, or required quality assurance or control activities. You must use all the data collected during all other periods in assessing compliance. Any 15-minute period for which the monitoring system is out-of-control and data are not available for a required calculation constitutes a deviation from the monitoring requirements.

(4) You must determine the 4-hour block average of all recorded readings, except as provided in paragraph (d)(3) of this section.

(5) You must record the results of each inspection, calibration, and validation check.

(e) If you have an operating limit that requires the use of a flow monitoring system, you must meet the requirements in paragraphs (d) and (e)(1) through (4) of this section.

(1) You must install the flow sensor and other necessary equipment in a position that provides a representative flow.

(2) You must use a flow sensor with a measurement sensitivity of no greater than 2 percent of the expected flow rate.

(3) You must minimize the effects of swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.

(4) You must conduct a flow monitoring system performance evaluation in accordance with your monitoring plan at the time of each performance test but no less frequently than annually. (f) If you have an operating limit that requires the use of a pressure monitoring system, you must meet the requirements in paragraphs (d) and (f)(1) through (6) of this section.

(1) Install the pressure sensor(s) in a position that provides a representative measurement of the pressure (e.g., PM scrubber pressure drop).

(2) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion.

(3) Use a pressure sensor with a minimum tolerance of 1.27 centimeters of water or a minimum tolerance of 1 percent of the pressure monitoring system operating range, whicheveris less.

(4) Perform checks at least once each process operating day to ensure pressure measurements are not obstructed (e.g., check for pressure tap pluggage daily).

(5) Conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(6) If at any time the measured pressure exceeds the manufacturer's specified maximum operating pressure range, conduct a performance evaluation of the pressure monitoring system in accordance with your monitoring plan and confirm that the pressure monitoring system continues to meet the performance requirements in you monitoring plan. Alternatively, install and verify the operation of a new pressure sensor.

(g) If you have an operating limit that requires a pH monitoring system, you must meet the requirements in paragraphs (d) and (g)(1) through (4) of this section.

(1) Install the pH sensor in a position that provides a representative measurement of scrubber effluent pH.

(2) Ensure the sample is properly mixed and representative of the fluid to be measured.

(3) Conduct a performance evaluation of the pH monitoring system in accordance with your monitoring plan at least once each process operating day.

(4) Conduct a performance evaluation (including a two-point calibration with one of the two buffer solutions having a pH within 1 of the pH of the operating limit) of the pH monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than quarterly.

(h) If you have an operating limit that requires a secondary electric power monitoring system for an electrostatic precipitator (ESP) operated with a wet scrubber, you must meet the requirements in paragraphs (h)(1) and (2) of this section.

(1) Install sensors to measure (secondary) voltage and current to the precipitator collection plates.

(2) Conduct a performance evaluation of the electric power monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(i) If you have an operating limit that requires the use of a monitoring system to measure sorbent injection rate (e.g., weigh belt, weigh hopper, or hopper flow measurement device), you must meet the requirements in paragraphs (d) and (i)(1) through (2) of this section.

(1) Install the system in a position(s) that provides a representative measurement of the total sorbent injection rate.

(2) Conduct a performance evaluation of the sorbent injection rate monitoring system in accordance with your monitoring plan at the time of each performance test but no less frequently than annually.

(j) If you are not required to use a PM CEMS and elect to use a fabric filter bag leak detection system to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate the bag leak detection system as specified in paragraphs (j)(1) through (7) of this section.

(1) You must install a bag leak detection sensor(s) in a position(s) that will be rerpresentative of the relative or absolute particulate matter loadings for each exhaust stack, roof vent, or compartment (e.g., for a positive pressure fabric filter) of the fabric filter..

(2) Conduct a performance evaluation of the bag leak detection system in accordance with your monitoring plan and consistent with the guidance provided in EPA-454/R-98-015 (incorporated by reference, see §63.14).

(3) Use a bag leak detection system certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter or less.

(4) Use a bag leak detection system equipped with a device to record continuously the output signal from the sensor.

(5) Use a bag leak detection system equipped with a system that will alertwhen an increase in relative particulate matter emissions over a preset level is detected. The alarm must be located where it can be easily heard or seen by plant operating personnel.

(7) Where multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors.

(k) For each unit that meets the definition of limited-use boiler or process heater, you must monitor and record the operating hours per year for that unit.

§63.7530 How do I demonstrate initial compliance with the emission limitations, fuel specifications and work practice standards?

(a) You must demonstrate initial compliance with each emission limit that applies to you by conducting initial performance tests and fuel analyses and establishing operating limits, as applicable, according to §63.7520, paragraphs (b) and (c) of this section, and Tables 5 and 7 to this subpart. If applicable, you must also install, and operate, maintain all applicable CMS (including CEMS, COMS, and continuous parameter monitoring systems) according to §63.7525.

(b) If you demonstrate compliance through performance testing, you must establish each site-specific operating limit in Table 4 to this subpart that applies to you according to the requirements in §63.7520, Table 7 to this subpart, and paragraph (b)(3) of this section, as applicable. You must also conduct fuel analyses according to §63.7521 and establish maximum fuel pollutant input levels according to paragraphs (b)(1) and (2) of this section, as applicable. As specified in §63.7510(a), if your affected source burns a single type of fuel (excluding supplemental fuels used for unit startup, shutdown, or transient flame stabilization), you are not required to perform the initial fuel analysis for each type of fuel burned in your boiler or process heater. However, if you switch fuel(s) and cannot show that the new fuel(s) do (does) not increase the chlorine or mercury input into the unit through the results of fuel analysis, then you must repeat the performance test to demonstrate compliance while burning the new fuel(s).

(1) You must establish the maximum chlorine fuel input (Clinput) during the initial fuel analysis according to the procedures in paragraphs (b)(1)(i) through (iii) of this section.

(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of chlorine.

(ii) During the fuel analysis for hydrogen chloride, you must determine the fraction of the total heat input for each fuel type burned (Qi) based on the fuel mixture that has the highest content of chlorine, and the average chlorine concentration of each fuel type burned (Ci).

(iii) You must establish a maximum chlorine input level using Equation 7 of this section.

$$Clinput = \sum_{i=1}^{n} \left(Ci \times Qi \right) \qquad \text{(Eq. 7)}$$

Where:

Clinput	=	Maximum amount of chlorine entering the boiler or process heater through fuels burned in units of pounds per million Btu.
Ci	=	Arithmetic average concentration of chlorine in fuel type, i, analyzed according to §63.7521, in units of pounds per million Btu.
Qi	=	Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of chlorine. If you do not burn multiple fuel types during the performance testing, it is not necessary to determine the value of this term. Insert a value of “1” for Qi.
n	=	Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of chlorine.

(2) You must establish the maximum mercury fuel input level (Mercuryinput) during the initial fuel analysis using the procedures in paragraphs (b)(2)(i) through (iii) of this section.

(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of mercury.

(ii) During the compliance demonstration for mercury, you must determine the fraction of total heat input for each fuel burned (Qi) based on the fuel mixture that has the highest content of mercury, and the average mercury concentration of each fuel type burned (HGi).

(iii) You must establish a maximum mercury input level using Equation 8 of this section.

$$Mercuryinput = \sum_{i=1}^{n} \left(HGi \times Qi \right) \qquad \text{(Eq. 8)}$$

Where:

Mercuryinput	=	Maximum amount of mercury entering the boiler or process heater through fuels burned in units of pounds per million Btu.
HGi	=	Arithmetic average concentration of mercury in fuel type, i, analyzed according to §63.7521, in units of pounds per million Btu.
Qi	=	Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest mercury content. If you do not burn multiple fuel types during the performance test, it is not necessary to determine the value of this term. Insert a value of “1” for Qi.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of mercury.

(3) You must establish parameter operating limits according to paragraphs (b)(3)(i) through (iv) of this section.

(i) For a wet scrubber, you must establish the minimum scrubber effluent pH, liquid flowrate, and pressure drop as defined in §63.7575, as your operating limits during the three-run performance test. If you use a wet scrubber and you conduct separate performance tests for particulate matter, hydrogen chloride, and mercury emissions, you must establish one set of minimum scrubber effluent pH, liquid flowrate, and pressure drop operating limits. The minimum scrubber effluent pH operating limit must be established during the hydrogen chloride performance test. If you conduct multiple performance tests, you must set the minimum liquid flowrate and pressure drop operating limits at the highest minimum values established during the performance tests.

(ii) For an electrostatic precipitator operated with a wet scrubber, you must establish the minimum voltage and secondary amperage (or total power input), as defined in §63.7575, as your operating limits during the three-run performance test. (These operating limits do not apply to electrostatic precipitators that are operated as dry controls without a wet scrubber.)

(iii) For a dry scrubber, you must establish the minimum sorbent injection rate for each sorbent, as defined in §63.7575, as your operating limit during the three-run performance test.

(iv) For activated carbon injection, you must establish the minimum activated carbon injection rate, as defined in §63.7575, as your operating limit during the three-run performance test.

(v) The operating limit for boilers or process heaters with fabric filters that demonstrate continuous compliance through bag leak detection systems is that a bag leak detection system be installed according to the requirements in §63.7525, and that each fabric filter must be operated such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month period.

(c) If you elect to demonstrate compliance with an applicable emission limit through fuel analysis, you must conduct fuel analyses according to §63.7521 and follow the procedures in paragraphs (c)(1) through (4) of this section.

(1) If you burn more than one fuel type, you must determine the fuel mixture you could burn in your boiler or process heater that would result in the maximum emission rates of the pollutants that you elect to demonstrate compliance through fuel analysis.

(2) You must determine the 90th percentile confidence level fuel pollutant concentration of the composite samples analyzed for each fuel type using the one-sided z-statistic test described in Equation 9 of this section.

$$P90 = mean + (SD \times t) \qquad \text{(Eq. 9)}$$

Where:

P90 = 90th percentile confidence level pollutant concentration, in pounds per million Btu.
Mean = Arithmetic average of the fuel pollutant concentration in the fuel samples analyzed according to §63.7521, in units of pounds per million Btu.
SD = Standard deviation of the pollutant concentration in the fuel samples analyzed according to §63.7521, in units of pounds per million Btu.
T = t distribution critical value for 90th percentile (0.1) probability for the appropriate degrees of freedom (number of samples minus one) as obtained from a Distribution Critical Value Table.

(3) To demonstrate compliance with the applicable emission limit for hydrogen chloride, the hydrogen chloride emission rate that you calculate for your boiler or process heater using Equation 10 of this section must not exceed the applicable emission limit for hydrogen chloride.

$$HCl = \sum_{i=1}^{n} \left(Ci90 \times Qi \times 1.028 \right) \quad \text{(Eq. 10)}$$

Where:

HCl	=	Hydrogen chloride emission rate from the boiler or process heater in units of pounds per million Btu.
Ci90	=	90th percentile confidence level concentration of chlorine in fuel type, i, in units of pounds per million Btu as calculated according to Equation 9 of this section.
Qi	=	Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of chlorine. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of “1” for Qi.
n	=	Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of chlorine.
1.028	=	Molecular weight ratio of hydrogen chloride to chlorine.

(4) To demonstrate compliance with the applicable emission limit for mercury, the mercury emission rate that you calculate for your boiler or process heater using Equation 11 of this section must not exceed the applicable emission limit for mercury.

$$Mercury = \sum_{i=1}^{n} \left(Hgi90 \times Qi \right) \quad \text{(Eq. 11)}$$

Where:

Mercury	=	Mercury emission rate from the boiler or process heater in units of pounds per million Btu.
Hgi90	=	90th percentile confidence level concentration of mercury in fuel, i, in units of pounds per million Btu as calculated according to Equation 9 of this section.
Qi	=	Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest mercury content. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of “1” for Qi.
n	=	Number of different fuel types burned in your boiler or process heater for the mixture that has the highest mercury content.

(d) If you own or operate an existing unit with a heat input capacity of less than 10 million Btu per hour, you must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted a tune-up of the unit.

(e) You must include with the Notification of Compliance Status a signed certification that the energy assessment was completed according to Table 3 to this subpart and is an accurate depiction of your facility.

(f) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.7545(e).

(g) If you elect to demonstrate that a gaseous fuel meets the specifications of an other gas 1 fuel as defined in §63.7575, you must conduct an initial fuel specification analyses according to §63.7521(f) through (i). If the mercury and hydrogen sulfide constituents in the gaseous fuels will never exceed the specifications included in the definition, you will include a signed certification with the Notification of Compliance Status that the initial fuel specification test meets the gas specifications outlined in the definition of other gas 1 fuels. If your gas constituents could vary above the specifications, you will conduct monthly testing according to the procedures in §63.7521(f) through (i) and §63.7540(c) and maintain records of the results of the testing as outlined in §63.7555(g).

(h) If you own or operate a unit subject emission limits in Tables 1, 2, or 12 of this subpart, you must minimize the unit's startup and shutdown periods following the manufacturer's recommended procedures, if available. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. You must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a unit of similar design if manufacturer's recommended procedures are not available.

§63.7533 Can I use emission credits earned from implementation of energy conservation measures to comply with this subpart?

(a) If you elect to comply with the alternative equivalent steam output-based emission limits, instead of the heat input-based limits, listed in Tables 1 and 2 of this subpart and you want to take credit for implementing energy conservation measures identified in an energy assessment, you may demonstrate compliance using emission reduction credits according to the procedures in this section. Owners or operators using this compliance approach must establish an emissions benchmark, calculate and document the emission credits, develop an Implementation Plan, comply with the general reporting requirements, and apply the emission credit according to the procedures in paragraphs (b) through (f) of this section.

(b) For each existing affected boiler for which you intend to apply emissions credits, establish a benchmark from which emission reduction credits may be generated by determining the actual annual fuel heat input to the affected boiler before initiation of an energy conservation activity to reduce energy demand (i.e., fuel usage) according to paragraphs (b)(1) through (4) of this section. The benchmark shall be expressed in trillion Btu per year heat input.

(1) The benchmark from which emission credits may be generated shall be determined by using the most representative, accurate, and reliable process available for the source. The benchmark shall be established for a one-year period before the date that an energy demand reduction occurs, unless it can be demonstrated that a different time period is more representative of historical operations.

(2) Determine the starting point from which to measure progress. Inventory all fuel purchased and generated on-site (off-gases, residues) in physical units (MMBtu, million cubic feet, etc.).

(3) Document all uses of energy from the affected boiler. Use the most recent data available.

(4) Collect non-energy related facility and operational data to normalize, if necessary, the benchmark to current operations, such as building size, operating hours, etc. Use actual, not estimated, use data, if possible and data that are current and timely.

(c) Emissions credits can be generated if the energy conservation measures were implemented after January 14, 2011 and if sufficient information is available to determine the appropriate value of credits.

(1) The following emission points cannot be used to generate emissions averaging credits:

(i) Energy conservation measures implemented on or before January 14, 2011, unless the level of energy demand reduction is increased after January 14, 2011, in which case credit will be allowed only for change in demand reduction achieved after January 14, 2011.

(ii) Emission credits on shut-down boilers. Boilers that are shut down cannot be used to generate credits.

(2) For all points included in calculating emissions credits, the owner or operator shall:

(i) Calculate annual credits for all energy demand points. Use Equation 12 to calculate credits. Energy conservation measures that meet the criteria of paragraph (c)(1) of this section shall not be included, except as specified in paragraph (c)(1)(i) of this section.

(3) Credits are generated by the difference between the benchmark that is established for each affected boiler, and the actual energy demand reductions from energy conservation measures implemented after January 14, 2011. Credits shall be calculated using Equation 12 of this section as follows:

(i) The overall equation for calculating credits is:

$$Credits = \sum_{i=1}^{n} EIS_{iactual} \div EI_{baseline} \qquad \text{(Eq. 12)}$$

where:

Credits	=	Energy Input Savings for all energy conservation measures implemented for an affected boiler, million Btu per year.
$EIS_{iactual}$	=	Energy Input Savings for each energy conservation measure implemented for an affected boiler, million Btu per year.
$EI_{baseline}$	=	Energy Input for the affected boiler, million Btu.
n	=	Number of energy conservation measures included in the emissions credit for the affected boiler.

(d) The owner or operator shall develop and submit for approval an Implementation Plan containing all of the information required in this paragraph for all boilers to be included in an emissions credit approach. The Implementation Plan shall identify all existing affected boilers to be included in applying the emissions credits. The Implementation Plan shall include a description of the energy conservation measures implemented and the energy savings generated from each measure and an explanation of the criteria used for determining that savings. You must submit the implementation plan for emission credits to the applicable delegated authority for review and approval no later than 180 days before the date on which the facility intends to demonstrate compliance using the emission credit approach.

(e) The emissions rate from each existing boiler participating in the emissions credit option must be in compliance with the limits in Table 2 to this subpart at all times following the compliance date specified in §63.7495.

(f) You must demonstrate initial compliance according to paragraph (f)(1) or (2) of this section.

(1) You must use Equation 13 of this section to demonstrate that the emissions from the affected boiler participating in the emissions credit compliance approach do not exceed the emission limits in Table 2 to this subpart.

$$E_{adj} = E_m \times (1 - EC) \qquad \text{(Eq. 13)}$$

where:

E_{adj}	=	Emission level adjusted applying the emission credits earned, lb per million Btu steam output for the affected boiler.
E_m	=	Emissions measured during the performance test, lb per million Btu steam output for the affected boiler.
EC	=	Emission credits from equation 12 for the affected boiler.

Continuous Compliance Requirements

§63.7535 How do I monitor and collect data to demonstrate continuous compliance?

(a) You must monitor and collect data according to this section and the site-specific monitoring plan required by §63.7505(d).

(b) You must operate the monitoring system and collect data at all required intervals at all times that the affected source is operating, except for periods of monitoring system malfunctions or out of control periods (see §63.8(c)(7) of this part), and required monitoring system quality assurance or control activities, including, as applicable, calibration checks and required zero and span adjustments. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. You are required to effect monitoring system repairs in response to monitoring system malfunctions or out-of-control periods and to return the monitoring system to operation as expeditiously as practicable.

(c) You may not use data recorded during monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or control activities in data averages and calculations used to report emissions or operating levels. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system.

(d) Except for periods of monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, and required monitoring system quality assurance or quality control activities including, as applicable, calibration checks and required zero and span adjustments, failure to collect required data is a deviation of the monitoring requirements.

§63.7540 How do I demonstrate continuous compliance with the emission limitations, fuel specifications and work practice standards?

(a) You must demonstrate continuous compliance with each emission limit, operating limit, and work practice standard in Tables 1 through 3 to this subpart that applies to you according to the methods specified in Table 8 to this subpart and paragraphs (a)(1) through (11) of this section.

(1) Following the date on which the initial compliance demonstration is completed or is required to be completed under §§63.7 and 63.7510, whichever date comes first, operation above the established maximum or below the established minimum operating limits shall constitute a deviation of established operating limits listed in Table 4 of this subpart except during performance tests conducted to determine compliance with the emission limits or to establish new operating limits. Operating limits must be confirmed or reestablished during performance tests.

(2) As specified in §63.7550(c), you must keep records of the type and amount of all fuels burned in each boiler or process heater during the reporting period to demonstrate that all fuel types and mixtures of fuels burned would either result in lower emissions of hydrogen chloride and mercury than the applicable emission limit for each pollutant (if you demonstrate compliance through fuel analysis), or result in lower fuel input of chlorine and mercury than the maximum values calculated during the last performance test (if you demonstrate compliance through performance testing).

(3) If you demonstrate compliance with an applicable hydrogen chloride emission limit through fuel analysis and you plan to burn a new type of fuel, you must recalculate the hydrogen chloride emission rate using Equation 9 of §63.7530 according to paragraphs (a)(3)(i) through (iii) of this section.

(i) You must determine the chlorine concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to §63.7521(b).

(ii) You must determine the new mixture of fuels that will have the highest content of chlorine.

(iii) Recalculate the hydrogen chloride emission rate from your boiler or process heater under these new conditions using Equation 10 of §63.7530. The recalculated hydrogen chloride emission rate must be less than the applicable emission limit.

(4) If you demonstrate compliance with an applicable hydrogen chloride emission limit through performance testing and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum chlorine input using Equation 7 of §63.7530. If the results of recalculating the maximum chlorine input using Equation 7 of §63.7530 are greater than the maximum chlorine input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in §63.7520 to demonstrate that the hydrogen chloride emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in §63.7530(b).

(5) If you demonstrate compliance with an applicable mercury emission limit through fuel analysis, and you plan to burn a new type of fuel, you must recalculate the mercury emission rate using Equation 11 of §63.7530 according to the procedures specified in paragraphs (a)(5)(i) through (iii) of this section.

(i) You must determine the mercury concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to §63.7521(b).

(ii) You must determine the new mixture of fuels that will have the highest content of mercury.

(iii) Recalculate the mercury emission rate from your boiler or process heater under these new conditions using Equation 11 of §63.7530. The recalculated mercury emission rate must be less than the applicable emission limit.

(6) If you demonstrate compliance with an applicable mercury emission limit through performance testing, and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum mercury input using Equation 8 of §63.7530. If the results of recalculating the maximum mercury input using Equation 8 of §63.7530 are higher than the maximum mercury input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in §63.7520 to demonstrate that the mercury emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in §63.7530(b).

(7) If your unit is controlled with a fabric filter, and you demonstrate continuous compliance using a bag leak detection system, you must initiate corrective action within 1 hour of a bag leak detection system alarm and complete corrective actions as soon as practical, and operate and maintain the fabric filter system such that the alarm does not sound more than 5 percent of the operating time during a 6-month period. You must also keep records of the date, time, and duration of each alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken. You must also record the percent of the operating time during each 6-month period that the alarm sounds. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken to initiate corrective action.

(8) [Reserved].

(9) The owner or operator of an affected source using a CEMS measuring PM emissions to meet requirements of this subpart shall install, certify, operate, and maintain the PM CEMS as specified in paragraphs (a)(9)(i) through (a)(9)(iv) of this section.

(i) The owner or operator shall conduct a performance evaluation of the PM CEMS according to the applicable requirements of §60.13, and Performance Specification 11 at 40 CFR part 60, appendix B of this chapter.

(ii) During each PM correlation testing run of the CEMS required by Performance Specification 11 at 40 CFR part 60, appendix B of this chapter, PM and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30-to 60-minute period) by both the CEMS and conducting performance tests using Method 5 or 5B at 40 CFR part 60, appendix A–3 or Method 17 at 40 CFR part 60, appendix A–6 of this chapter.

(iii) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 2 at 40 CFR part 60, appendix F of this chapter. Relative Response Audits must be performed annually and Response Correlation Audits must be performed every 3 years.

(iv) After December 31, 2011, within 60 days after the date of completing each CEMS relative accuracy test audit or performance test conducted to demonstrate compliance with this subpart, you must submit the relative accuracy test audit data and performance test data to EPA by successfully submitting the data electronically into EPA's Central Data Exchange by using the Electronic Reporting Tool (see http://www.epa.gov/ttn/chief/ert/ert tool.html/).

(10) If your boiler or process heater is in either the natural gas, refinery gas, other gas 1, or Metal Process Furnace subcategories and has a heat input capacity of 10 million Btu per hour or greater, you must conduct a tune-up of the boiler or process heater annually to demonstrate continuous compliance as specified in paragraphs (a)(10)(i) through (a)(10)(vi) of this section. This requirement does not apply to limited-use boilers and process heaters, as defined in §63.7575.

(i) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, but you must inspect each burner at least once every 36 months);

(ii) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;

(iii) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly;

(iv) Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available;

(v) Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made); and

(vi) Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs (a)(10)(vi)(A) through (C) of this section,

(A) The concentrations of carbon monoxide in the effluent stream in parts per million by volume, and oxygen in volume percent, measured before and after the adjustments of the boiler;

(B) A description of any corrective actions taken as a part of the combustion adjustment; and

(C) The type and amount of fuel used over the 12 months prior to the annual adjustment, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

(11) If your boiler or process heater has a heat input capacity of less than 10 million Btu per hour, or meets the definition of limited-use boiler or process heater in §63.7575, you must conduct a biennial tune-up of the boiler or process heater as specified in paragraphs (a)(10)(i) through (a)(10)(vi) of this section to demonstrate continuous compliance.

(12) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within one week of startup.

(b) You must report each instance in which you did not meet each emission limit and operating limit in Tables 1 through 4 to this subpart that apply to you. These instances are deviations from the emission limits in this subpart. These deviations must be reported according to the requirements in §63.7550.

(c) If you elected to demonstrate that the unit meets the specifications for hydrogen sulfide and mercury for the other gas 1 subcategory and you cannot submit a signed certification under §63.7545(g) because the constituents could exceed the specifications, you must conduct monthly fuel specification testing of the gaseous fuels, according to the procedures in §63.7521(f) through (i).

§63.7541 How do I demonstrate continuous compliance under the emissions averaging provision?

(a) Following the compliance date, the owner or operator must demonstrate compliance with this subpart on a continuous basis by meeting the requirements of paragraphs (a)(1) through (5) of this section.

(1) For each calendar month, demonstrate compliance with the average weighted emissions limit for the existing units participating in the emissions averaging option as determined in §63.7522(f) and (g).

(2) You must maintain the applicable opacity limit according to paragraphs (a)(2)(i) and (ii) of this section.

(i) For each existing unit participating in the emissions averaging option that is equipped with a dry control system and not vented to a common stack, maintain opacity at or below the applicable limit.

(ii) For each group of units participating in the emissions averaging option where each unit in the group is equipped with a dry control system and vented to a common stack that does not receive emissions from non-affected units, maintain opacity at or below the applicable limit at the common stack.

(3) For each existing unit participating in the emissions averaging option that is equipped with a wet scrubber, maintain the 3-hour average parameter values at or below the operating limits established during the most recent performance test.

(4) For each existing unit participating in the emissions averaging option that has an approved alternative operating plan, maintain the 3-hour average parameter values at or below the operating limits established in the most recent performance test.

(5) For each existing unit participating in the emissions averaging option venting to a common stack configuration containing affected units from other subcategories, maintain the appropriate operating limit for each unit as specified in Table 4 to this subpart that applies.

(b) Any instance where the owner or operator fails to comply with the continuous monitoring requirements in paragraphs (a)(1) through (5) of this section is a deviation.

Notification, Reports, and Records

§63.7545 What notifications must I submit and when?

(a) You must submit to the delegated authority all of the notifications in §63.7(b) and (c), §63.8(e), (f)(4) and (6), and §63.9(b) through (h) that apply to you by the dates specified.

(b) As specified in §63.9(b)(2), if you startup your affected source before May 20, 2011, you must submit an Initial Notification not later than 120 days after May 20, 2011.

(c) As specified in §63.9(b)(4) and (b)(5), if you startup your new or reconstructed affected source on or after May 20, 2011, you must submit an Initial Notification not later than 15 days after the actual date of startup of the affected source.

(d) If you are required to conduct a performance test you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin.

(e) If you are required to conduct an initial compliance demonstration as specified in §63.7530(a), you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii). For the initial compliance demonstration for each affected source, you must submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for the affected source according to §63.10(d)(2). The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (8), as applicable.

(1) A description of the affected unit(s) including identification of which subcategory the unit is in, the design heat input capacity of the unit, a description of the add-on controls used on the unit, description of the fuel(s) burned, including whether the fuel(s) were determined by you or EPA through a petition process to be a non-waste under §241.3, whether the fuel(s) were processed from discarded non-hazardous secondary materials within the meaning of §241.3, and justification for the selection of fuel(s) burned during the compliance demonstration.

(2) Summary of the results of all performance tests and fuel analyses, and calculations conducted to demonstrate initial compliance including all established operating limits.

(3) A summary of the maximum carbon monoxide emission levels recorded during the performance test to show that you have met any applicable emission standard in Table 1, 2, or 12 to this subpart.

(4) Identification of whether you plan to demonstrate compliance with each applicable emission limit through performance testing or fuel analysis.

(5) Identification of whether you plan to demonstrate compliance by emissions averaging and identification of whether you plan to demonstrate compliance by using emission credits through energy conservation:

(i) If you plan to demonstrate compliance by emission averaging, report the emission level that was being achieved or the control technology employed on May 20, 2011.

(6) A signed certification that you have met all applicable emission limits and work practice standards.

(7) If you had a deviation from any emission limit, work practice standard, or operating limit, you must also submit a description of the deviation, the duration of the deviation, and the corrective action taken in the Notification of Compliance Status report.

(8) In addition to the information required in §63.9(h)(2), your notification of compliance status must include the following certification(s) of compliance, as applicable, and signed by a responsible official:

(i) "This facility complies with the requirements in §63.7540(a)(10) to conduct an annual or biennial tune-up, as applicable, of each unit."

(ii) "This facility has had an energy assessment performed according to §63.7530(e)."

(iii) Except for units that qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act, include the following: "No secondary materials that are solid waste were combusted in any affected unit."

(f) If you operate a unit designed to burn natural gas, refinery gas, or other gas 1 fuels that is subject to this subpart, and you intend to use a fuel other than natural gas, refinery gas, or other gas 1 fuel to fire the affected unit during a period of natural gas curtailment or supply interruption, as defined in §63.7575, you must submit a notification of alternative fuel use within 48 hours of the declaration of each period of natural gas curtailment or supply interruption, as defined in §63.7575. The notification must include the information specified in paragraphs (f)(1) through (5) of this section.

(1) Company name and address.

(2) Identification of the affected unit.

(3) Reason you are unable to use natural gas or equivalent fuel, including the date when the natural gas curtailment was declared or the natural gas supply interruption began.

(4) Type of alternative fuel that you intend to use.

(5) Dates when the alternative fuel use is expected to begin and end.

(g) If you intend to commence or recommence combustion of solid waste, you must provide 30 days prior notice of the date upon which you will commence or recommence combustion of solid waste. The notification must identify:

(1) The name of the owner or operator of the affected source, the location of the source, the boiler(s) or process heater(s) that will commence burning solid waste, and the date of the notice.

(2) The currently applicable subcategory under this subpart.

(3) The date on which you became subject to the currently applicable emission limits.

(4) The date upon which you will commence combusting solid waste.

(h) If you intend to switch fuels, and this fuel switch may result in the applicability of a different subcategory, you must provide 30 days prior notice of the date upon which you will switch fuels. The notification must identify:

(1) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that will switch fuels, and the date of the notice.

(2) The currently applicable subcategory under this subpart.

(3) The date on which you became subject to the currently applicable standards.

(4) The date upon which you will commence the fuel switch.

§63.7550 What reports must I submit and when?

(a) You must submit each report in Table 9 to this subpart that applies to you.

(b) Unless the EPA Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 9 to this subpart and according to the requirements in paragraphs (b)(1) through (5) of this section. For units that are subject only to a requirement to conduct an annual or biennial tune-up according to §63.7540(a)(10) or (a)(11), respectively, and not subject to emission limits or operating limits, you may submit only an annual or biennial compliance report, as applicable, as specified in paragraphs (b)(1) through (5) of this section, instead of a semi-annual compliance report.

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.7495 and ending on June 30 or December 31, whichever date is the first date that occurs at least 180 days (or 1 or 2 year, as applicable, if submitting an annual or biennial compliance report) after the compliance date that is specified for your source in §63.7495.

(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.7495. The first annual or biennial compliance report must be postmarked no later than January 31.

(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Annual and biennial compliance reports must cover the applicable one or two year periods from January 1 to December 31.

(4) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period. Annual and biennial compliance reports must be postmarked no later than January 31.

(5) For each affected source that is subject to permitting regulations pursuant to part 70 or part 71 of this chapter, and if the delegated authority has established dates for submitting semiannual reports pursuant to §70.6(a)(3)(iii)(A) or §71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the delegated authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section.

(c) The compliance report must contain the information required in paragraphs (c)(1) through (13) of this section.

(1) Company name and address.

(2) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) The total fuel use by each affected source subject to an emission limit, for each calendar month within the semiannual (or annual or biennial) reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by EPA or your basis for concluding that the fuel is not a waste, and the total fuel usage amount with units of measure.

(5) A summary of the results of the annual performance tests for affected sources subject to an emission limit, a summary of any fuel analyses associated with performance tests, and documentation of any operating limits that were reestablished during this test, if applicable. If you are conducting performance tests once every 3 years consistent with §63.7515(b) or (c), the date of the last 2 performance tests, a comparison of the emission level you achieved in the last 2 performance tests to the 75 percent emission limit threshold required in §63.7515(b) or (c), and a statement as to whether there have been any operational changes since the last performance test that could increase emissions.

(6) A signed statement indicating that you burned no new types of fuel in an affected source subject to an emission limit. Or, if you did burn a new type of fuel and are subject to a hydrogen chloride emission limit, you must submit the calculation of chlorine input, using Equation 5 of §63.7530, that demonstrates that your source is still within its maximum chlorine input level established during the previous performance

testing (for sources that demonstrate compliance through performance testing) or you must submit the calculation of hydrogen chloride emission rate using Equation 10 of §63.7530 that demonstrates that your source is still meeting the emission limit for hydrogen chloride emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel and are subject to a mercury emission limit, you must submit the calculation of mercury input, using Equation 8 of §63.7530, that demonstrates that your source is still within its maximum mercury input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of mercury emission rate using Equation 11 of §63.7530 that demonstrates that your source is still meeting the emission limit for mercury emissions (for boilers or process heaters that demonstrate compliance through fuel analysis).

(7) If you wish to burn a new type of fuel in an affected source subject to an emission limit and you cannot demonstrate compliance with the maximum chlorine input operating limit using Equation 7 of §63.7530 or the maximum mercury input operating limit using Equation 8 of §63.7530, you must include in the compliance report a statement indicating the intent to conduct a new performance test within 60 days of starting to burn the new fuel.

(8) A summary of any monthly fuel analyses conducted to demonstrate compliance according to §§63.7521 and 63.7530 for affected sources subject to emission limits, and any fuel specification analyses conducted according to §63.7521(f) and §63.7530(g).

(9) If there are no deviations from any emission limits or operating limits in this subpart that apply to you, a statement that there were no deviations from the emission limits or operating limits during the reporting period.

(10) If there were no deviations from the monitoring requirements including no periods during which the CMSs, including CEMS, COMS, and continuous parameter monitoring systems, were out of control as specified in §63.8(c)(7), a statement that there were no deviations and no periods during which the CMS were out of control during the reporting period.

(11) If a malfunction occurred during the reporting period, the report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by you during a malfunction of a boiler, process heater, or associated air pollution control device or CMS to minimize emissions in accordance with §63.7500(a)(3), including actions taken to correct the malfunction.

(12) Include the date of the most recent tune-up for each unit subject to only the requirement to conduct an annual or biennial tune-up according to §63.7540(a)(10) or (a)(11), respectively. Include the date of the most recent burner inspection if it was not done annually or biennially and was delayed until the next scheduled unit shutdown.

(13) If you plan to demonstrate compliance by emission averaging, certify the emission level achieved or the control technology employed is no less stringent that the level or control technology contained in the notification of compliance status in §63.7545(e)(5)(i).

(d) For each deviation from an emission limit or operating limit in this subpart that occurs at an affected source where you are not using a CMS to comply with that emission limit or operating limit, the compliance report must additionally contain the information required in paragraphs (d)(1) through (4) of this section.

(1) The total operating time of each affected source during the reporting period.

(2) A description of the deviation and which emission limit or operating limit from which you deviated.

(3) Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken.

(4) A copy of the test report if the annual performance test showed a deviation from the emission limits.

(e) For each deviation from an emission limit, operating limit, and monitoring requirement in this subpart occurring at an affected source where you are using a CMS to comply with that emission limit or operating limit, you must include the information required in paragraphs (e)(1) through (12) of this section. This includes any deviations from your site-specific monitoring plan as required in §63.7505(d).

(1) The date and time that each deviation started and stopped and description of the nature of the deviation (*i.e.*, what you deviated from).

(2) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out of control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped.

(5) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.

(6) An analysis of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS's downtime during the reporting period and the total duration of CMS downtime as a percent of the total source operating time during that reporting period.

(8) An identification of each parameter that was monitored at the affected source for which there was a deviation.

(9) A brief description of the source for which there was a deviation.

(10) A brief description of each CMS for which there was a deviation.

(11) The date of the latest CMS certification or audit for the system for which there was a deviation.

(12) A description of any changes in CMSs, processes, or controls since the last reporting period for the source for which there was a deviation.

(f) Each affected source that has obtained a Title V operating permit pursuant to part 70 or part 71 of this chapter must report all deviations as defined in this subpart in the semiannual monitoring report required by §70.6(a)(3)(iii)(A) or §71.6(a)(3)(iii)(A). If an affected source submits a compliance report pursuant to Table 9 to this subpart along with, or as part of, the semiannual monitoring report required by §70.6(a)(3)(iii)(A) or §71.6(a)(3)(iii)(A), and the compliance report includes all required information concerning deviations from any emission limit, operating limit, or work practice requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report does not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the delegated authority.

(g) [Reserved]

(h) As of January 1, 2012 and within 60 days after the date of completing each performance test, as defined in §63.2, conducted to demonstrate compliance with this subpart, you must submit relative accuracy test audit (i.e., reference method) data and performance test (i.e., compliance test) data, except opacity data, electronically to EPA's Central Data Exchange (CDX) by using the Electronic Reporting Tool (ERT) (see http://www.epa.gov/ttn/chief/ert/ert tool.html/) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFIRE database.

§63.7555 What records must I keep?

(a) You must keep records according to paragraphs (a)(1) and (2) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in §63.10(b)(2)(xiv).

(2) Records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations as required in §63.10(b)(2)(viii).

(b) For each CEMS, COMS, and continuous monitoring system you must keep records according to paragraphs (b)(1) through (5) of this section.

(1) Records described in §63.10(b)(2)(vii) through (xi).

(2) Monitoring data for continuous opacity monitoring system during a performance evaluation as required in §63.6(h)(7)(i) and (ii).

(3) Previous (i.e., superseded) versions of the performance evaluation plan as required in §63.8(d)(3).

(4) Request for alternatives to relative accuracy test for CEMS as required in §63.8(f)(6)(i).

(5) Records of the date and time that each deviation started and stopped..

(c) You must keep the records required in Table 8 to this subpart including records of all monitoring data and calculated averages for applicable operating limits, such as opacity, pressure drop, pH, and operating load, to show continuous compliance with each emission limit and operating limit that applies to you.

(d) For each boiler or process heater subject to an emission limit in Table 1, 2 or 12 to this subpart, you must also keep the applicable records in paragraphs (d)(1) through (8) of this section.

(1) You must keep records of monthly fuel use by each boiler or process heater, including the type(s) of fuel and amount(s) used.

(2) If you combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to §41.3(b)(1), you must keep a record which documents how the secondary material meets each of the legitimacy criteria. If you combust a fuel that has been processed from a discarded non-hazardous secondary material pursuant to §241.3(b)(4), you must keep records as to how the operations that produced the fuel satisfies the definition of processing in §241.2. If the fuel received a non-waste determination pursuant to the petition process submitted under §241.3(c), you must keep a record that documents how the fuel satisfies the requirements of the petition process.

(3) You must keep records of monthly hours of operation by each boiler or process heater that meets the definition of limited-use boiler or process heater.

(4) A copy of all calculations and supporting documentation of maximum chlorine fuel input, using Equation 7 of §63.7530, that were done to demonstrate continuous compliance with the hydrogen chloride emission limit, for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting

documentation of hydrogen chloride emission rates, using Equation 10 of §63.7530, that were done to demonstrate compliance with the hydrogen chloride emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum chlorine fuel input or hydrogen chloride emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate chlorine fuel input, or hydrogen chloride emission rate, for each boiler and process heater.

(5) A copy of all calculations and supporting documentation of maximum mercury fuel input, using Equation 8 of §63.7530, that were done to demonstrate continuous compliance with the mercury emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of mercury emission rates, using Equation 11 of §63.7530, that were done to demonstrate compliance with the mercury emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum mercury fuel input or mercury emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate mercury fuel input, or mercury emission rates, for each boiler and process heater.

(6) If, consistent with §63.7515(b) and (c), you choose to stack test less frequently than annually, you must keep annual records that document that your emissions in the previous stack test(s) were less than 75 percent of the applicable emission limit, and document that there was no change in source operations including fuel composition and operation of air pollution control equipment that would cause emissions of the relevant pollutant to increase within the past year.

(7) Records of the occurrence and duration of each malfunction of the boiler or process heater, or of the associated air pollution control and monitoring equipment.

(8) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in §63.7500(a)(3), including corrective actions to restore the malfunctioning boiler or process heater, air pollution control, or monitoring equipment to its normal or usual manner of operation.

(e) If you elect to average emissions consistent with §63.7522, you must additionally keep a copy of the emission averaging implementation plan required in §63.7522(g), all calculations required under §63.7522, including monthly records of heat input or steam generation, as applicable, and monitoring records consistent with §63.7541.

(f) If you elect to use emission credits from energy conservation measures to demonstrate compliance according to §63.7533, you must keep a copy of the Implementation Plan required in §63.7533(d) and copies of all data and calculations used to establish credits according to §63.7533(b), (c), and (f).

(g) If you elected to demonstrate that the unit meets the specifications for hydrogen sulfide and mercury for the other gas 1 subcategory and you cannot submit a signed certification under §63.7545(g) because the constituents could exceed the specifications, you must maintain monthly records of the calculations and results of the fuel specifications for mercury and hydrogen sulfide in Table 6.

(h) If you operate a unit designed to burn natural gas, refinery gas, or other gas 1 fuel that is subject to this subpart, and you use an alternative fuel other than natural gas, refinery gas, or other gas 1 fuel, you must keep records of the total hours per calendar year that alternative fuel is burned.

§63.7560 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review, according to §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record on site, or they must be accessible from on site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1). You can keep the records off site for the remaining 3 years.

Other Requirements and Information

§63.7565 What parts of the General Provisions apply to me?

Table 10 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you.

§63.7570 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by EPA, or a delegated authority such as your State, local, or tribal agency. If the EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as EPA) has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities listed in paragraphs (b)(1) through (5) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency, however, EPA retains oversight of this subpart and can take enforcement actions, as appropriate.

(1) Approval of alternatives to the non-opacity emission limits and work practice standards in §63.7500(a) and (b) under §63.6(g).

(2) Approval of alternative opacity emission limits in §63.7500(a) under §63.6(h)(9).

(3) Approval of major change to test methods in Table 5 to this subpart under §63.7(e)(2)(ii) and (f) and as defined in §63.90, and alternative analytical methods requested under §63.7521(b)(2).

(4) Approval of major change to monitoring under §63.8(f) and as defined in §63.90, and approval of alternative operating parameters under §63.7500(a)(2) and §63.7522(g)(2).

(5) Approval of major change to recordkeeping and reporting under §63.10(e) and as defined in §63.90.

§63.7575 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in §63.2 (the General Provisions), and in this section as follows:

<u>Affirmative defense</u> means, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

<u>Annual heat input</u> means the heat input for the 12 months preceding the compliance demonstration.

<u>Bag leak detection system</u> means a group of instruments that are capable of monitoring particulate matter loadings in the exhaust of a fabric filter (*i.e.*, baghouse) in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on electrodynamic,

triboelectric, light scattering, light transmittance, or other principle to monitor relative particulate matter loadings.

<u>Benchmarking</u> means a process of comparison against standard or average.

<u>Biomass or bio-based solid fuel</u> means any biomass-based solid fuel that is not a solid waste. This includes, but is not limited to, wood residue; wood products (e.g., trees, tree stumps, tree limbs, bark, lumber, sawdust, sander dust, chips, scraps, slabs, millings, and shavings); animal manure, including litter and other bedding materials; vegetative agricultural and silvicultural materials, such as logging residues (slash), nut and grain hulls and chaff (e.g., almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings, corn stalks, coffee bean hulls and grounds. This definition of biomass is not intended to suggest that these materials are or are not solid waste.

<u>Blast furnace gas fuel-fired boiler or process heater</u> means an industrial/commercial/institutional boiler or process heater that receives 90 percent or more of its total annual gas volume from blast furnace gas.

<u>Boiler</u> means an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water. Controlled flame combustion refers to a steady-state, or near steady-state, process wherein fuel and/or oxidizer feed rates are controlled. A device combusting solid waste, as defined in §241.3, is not a boiler unless the device is exempt from the definition of a solid waste incineration unit as provided in section 129(g)(1) of the Clean Air Act. Waste heat boilers are excluded from this definition.

<u>Boiler system</u> means the boiler and associated components, such as, the feed water system, the combustion air system, the fuel system (including burners), blowdown system, combustion control system, and energy consuming systems.

<u>Calendar year</u> means the period between January 1 and December 31, inclusive, for a given year.

<u>Coal</u> means all solid fuels classifiable as anthracite, bituminous, sub-bituminous, or lignite by ASTM D388 (incorporated by reference, see §63.14), coal refuse, and petroleum coke. For the purposes of this subpart, this definition of “coal” includes synthetic fuels derived from coal for creating useful heat, including but not limited to, solvent-refined coal, coal-oil mixtures, and coal-water mixtures. Coal derived gases are excluded from this definition.

<u>Coal refuse</u> means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (6,000 Btu per pound) on a dry basis.

<u>Commercial/institutional boiler</u> means a boiler used in commercial establishments or institutional establishments such as medical centers, research centers, institutions of higher education, hotels, and laundries to provide steam and/or hot water.

<u>Common stack</u> means the exhaust of emissions from two or more affected units through a single flue. Affected units with a common stack may each have separate air pollution control systems located before the common stack, or may have a single air pollution control system located after the exhausts come together in a single flue.

<u>Cost-effective energy conservation measure</u> means a measure that is implemented to improve the energy efficiency of the boiler or facility that has a payback (return of investment) period of 2 years or less.

<u>Deviation.</u>

(1) <u>Deviation</u> means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(i) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any emission limit, operating limit, or work practice standard; or

(ii) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit.

(2) A deviation is not always a violation. The determination of whether a deviation constitutes a violation of the standard is up to the discretion of the entity responsible for enforcement of the standards.

Dioxins/furans means tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans.

Distillate oil means fuel oils, including recycled oils, that comply with the specifications for fuel oil numbers 1 and 2, as defined by ASTM D396 (incorporated by reference, see §63.14).

Dry scrubber means an add-on air pollution control system that injects dry alkaline sorbent (dry injection) or sprays an alkaline sorbent (spray dryer) to react with and neutralize acid gas in the exhaust stream forming a dry powder material. Sorbent injection systems in fluidized bed boilers and process heaters are included in this definition. A dry scrubber is a dry control system.

Dutch oven means a unit having a refractory-walled cell connected to a conventional boiler setting. Fuel materials are introduced through an opening in the roof of the Dutch oven and burn in a pile on its floor.

Electric utility steam generating unit means a fossil fuel-fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electrical output to any utility power distribution system for sale is considered an electric utility steam generating unit.

Electrostatic precipitator (ESP) means an add-on air pollution control device used to capture particulate matter by charging the particles using an electrostatic field, collecting the particles using a grounded collecting surface, and transporting the particles into a hopper. An electrostatic precipitator is usually a dry control system.

Emission credit means emission reductions above those required by this subpart. Emission credits generated may be used to comply with the emissions limits. Credits may come from pollution prevention projects that result in reduced fuel use by affected units. Shutdowns cannot be used to generate credits.

Energy assessment means the following only as this term is used in Table 3 to this subpart.

(1) Energy assessment for facilities with affected boilers and process heaters using less than 0.3 trillion Btu per year heat input will be one day in length maximum. The boiler system and energy use system accounting for at least 50 percent of the energy output will be evaluated to identify energy savings opportunities, within the limit of performing a one-day energy assessment.

(2) The Energy assessment for facilities with affected boilers and process heaters using 0.3 to 1.0 trillion Btu per year will be 3 days in length maximum. The boiler system and any energy use system accounting for at least 33 percent of the energy output will be evaluated to identify energy savings opportunities, within the limit of performing a 3-day energy assessment.

(3) In the Energy assessment for facilities with affected boilers and process heaters using greater than 1.0 trillion Btu per year, the boiler system and any energy use system accounting for at least 20 percent of the energy output will be evaluated to identify energy savings opportunities.

Energy management practices means the set of practices and procedures designed to manage energy use that are demonstrated by the facility's energy policies, a facility energy manager and other staffing responsibilities, energy performance measurement and tracking methods, an energy saving goal, action plans, operating procedures, internal reporting requirements, and periodic review intervals used at the facility.

Energy use system includes, but is not limited to, process heating; compressed air systems; machine drive (motors, pumps, fans); process cooling; facility heating, ventilation, and air-conditioning systems; hot heater systems; building envelop; and lighting.

Equivalent means the following only as this term is used in Table 6 to this subpart:

(1) An equivalent sample collection procedure means a published voluntary consensus standard or practice (VCS) or EPA method that includes collection of a minimum of three composite fuel samples, with each composite consisting of a minimum of three increments collected at approximately equal intervals over the test period.

(2) An equivalent sample compositing procedure means a published VCS or EPA method to systematically mix and obtain a representative subsample (part) of the composite sample.

(3) An equivalent sample preparation procedure means a published VCS or EPA method that: Clearly states that the standard, practice or method is appropriate for the pollutant and the fuel matrix; or is cited as an appropriate sample preparation standard, practice or method for the pollutant in the chosen VCS or EPA determinative or analytical method.

(4) An equivalent procedure for determining heat content means a published VCS or EPA method to obtain gross calorific (or higher heating) value.

(5) An equivalent procedure for determining fuel moisture content means a published VCS or EPA method to obtain moisture content. If the sample analysis plan calls for determining metals (especially the mercury, selenium, or arsenic) using an aliquot of the dried sample, then the drying temperature must be modified to prevent vaporizing these metals. On the other hand, if metals analysis is done on an “as received” basis, a separate aliquot can be dried to determine moisture content and the metals concentration mathematically adjusted to a dry basis.

(6) An equivalent pollutant (mercury, hydrogen chloride, hydrogen sulfide) determinative or analytical procedure means a published VCS or EPA method that clearly states that the standard, practice, or method is appropriate for the pollutant and the fuel matrix and has a published detection limit equal or lower than the methods listed in Table 6 to this subpart for the same purpose.

Fabric filter means an add-on air pollution control device used to capture particulate matter by filtering gas streams through filter media, also known as a baghouse. A fabric filter is a dry control system.

Federally enforceable means all limitations and conditions that are enforceable by the EPA Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.

Fluidized bed boiler means a boiler utilizing a fluidized bed combustion process.

Fluidized bed combustion means a process where a fuel is burned in a bed of granulated particles, which are maintained in a mobile suspension by the forward flow of air and combustion products.

Fuel cell means a boiler type in which the fuel is dropped onto suspended fixed grates and is fired in a pile. The refractory-lined fuel cell uses combustion air preheating and positioning of secondary and tertiary air injection ports to improve boiler efficiency.

Fuel type means each category of fuels that share a common name or classification. Examples include, but are not limited to, bituminous coal, sub-bituminous coal, lignite, anthracite, biomass, residual oil. Individual fuel types received from different suppliers are not considered new fuel types.

Gaseous fuel includes, but is not limited to, natural gas, process gas, landfill gas, coal derived gas, refinery gas, and biogas. Blast furnace gas is exempted from this definition.

Heat input means heat derived from combustion of fuel in a boiler or process heater and does not include the heat input from preheated combustion air, recirculated flue gases, or exhaust gases from other sources such as gas turbines, internal combustion engines, kilns, etc.

Hourly average means the arithmetic average of at least four CMS data values representing the four 15-minute periods in an hour , or at least two 15-minute data values during an hour when CMS calibration, quality assurance, or maintenance activities are being performed.

Hot water heater means a closed vessel with a capacity of no more than 120 U.S. gallons in which water is heated by combustion of gaseous or liquid fuel and is withdrawn for use external to the vessel at pressures not exceeding 160 psig, including the apparatus by which the heat is generated and all controls and devices necessary to prevent water temperatures from exceeding 210 degrees Fahrenheit (99 degrees Celsius). Hot water heater also means a tankless unit that provides on demand hot water.

Hybrid suspension grate boiler means a boiler designed with air distributors to spread the fuel material over the entire width and depth of the boiler combustion zone. The drying and much of the combustion of the fuel takes place in suspension, and the combustion is completed on the grate or floor of the boiler.

Industrial boiler means a boiler used in manufacturing, processing, mining, and refining or any other industry to provide steam and/or hot water.

Limited-use boiler or process heater means any boiler or process heater that burns any amount of solid, liquid, or gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has a federally enforceable limit of no more than 876 hours per year of operation.

Liquid fuel subcategory includes any boiler or process heater of any design that burns more than 10 percent liquid fuel and less than 10 percent solid fuel, based on the total annual heat input to the unit.

Liquid fuel includes, but is not limited to, distillate oil, residual oil, on-spec used oil, and biodiesel.

Load fraction means the actual heat input of the boiler or process heater divided by the average operating load determined according to Table 7 to this subpart.

Metal process furnaces include natural gas-fired annealing furnaces, preheat furnaces, reheat furnaces, aging furnaces, heat treat furnaces, and homogenizing furnaces.

Million Btu (MMBtu) means one million British thermal units.

Minimum activated carbon injection rate means load fraction (percent) multiplied by the lowest hourly average activated carbon injection rate measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limits.

Minimum pressure drop means the lowest hourly average pressure drop measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.

Minimum scrubber effluent pH means the lowest hourly average sorbent liquid pH measured at the inlet to the wet scrubber according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable hydrogen chloride emission limit.

Minimum scrubber liquid flow rate means the lowest hourly average liquid flow rate (e.g., to the PM scrubber or to the acid gas scrubber) measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.

Minimum scrubber pressure drop means the lowest hourly average scrubber pressure drop measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.

Minimum sorbent injection rate means load fraction (percent) multiplied by the lowest hourly average sorbent injection rate for each sorbent measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limits.

Minimum total secondary electric power means the lowest hourly average total secondary electric power determined from the values of secondary voltage and secondary current to the electrostatic precipitator measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limits.

Natural gas means:

(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or

(2) Liquid petroleum gas, as defined in ASTM D1835 (incorporated by reference, see §63.14); or

(3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 34 and 43 mega joules (MJ) per dry standard cubic meter (910 and 1,150 Btu per dry standard cubic foot); or

(4) Propane or propane derived synthetic natural gas. Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C_3H_8.

Opacity means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

Operating day means a 24-hour period between 12 midnight and the following midnight during which any fuel is combusted at any time in the boiler or process heater unit. It is not necessary for fuel to be combusted for the entire 24-hour period.

Other gas 1 fuel means a gaseous fuel that is not natural gas or refinery gas and does not exceed the maximum concentration of 40 micrograms/cubic meters of mercury and 4 parts per million, by volume, of hydrogen sulfide.

Particulate matter (PM) means any finely divided solid or liquid material, other than uncombined water, as measured by the test methods specified under this subpart, or an approved alternative method.

Period of natural gas curtailment or supply interruption means a period of time during which the supply of natural gas to an affected facility is halted for reasons beyond the control of the facility. The act of entering into a contractual agreement with a supplier of natural gas established for curtailment purposes does not constitute a reason that is under the control of a facility for the purposes of this definition. An increase in the cost or unit price of natural gas does not constitute a period of natural gas curtailment or supply interruption.

Process heater means an enclosed device using controlled flame, and the unit's primary purpose is to transfer heat indirectly to a process material (liquid, gas, or solid) or to a heat transfer material for use in a process unit, instead of generating steam. Process heaters are devices in which the combustion gases do not come into direct contact with process materials. A device combusting solid waste, as defined in §241.3, is not a process heater unless the device is exempt from the definition of a solid waste incineration unit as provided in section 129(g)(1) of the Clean Air Act. Process heaters do not include units used for comfort heat or space heat, food preparation for on-site consumption, or autoclaves.

Pulverized coal boiler means a boiler in which pulverized coal or other solid fossil fuel is introduced into an air stream that carries the coal to the combustion chamber of the boiler where it is fired in suspension.

Qualified energy assessor means:

(1) someone who has demonstrated capabilities to evaluate a set of the typical energy savings opportunities available in opportunity areas for steam generation and major energy using systems, including, but not limited to:

(i) Boiler combustion management.

(ii) Boiler thermal energy recovery, including

(A) Conventional feed water economizer,

(B) Conventional combustion air preheater, and

(C) Condensing economizer.

(iii) Boiler blowdown thermal energy recovery.

(iv) Primary energy resource selection, including

(A) Fuel (primary energy source) switching, and

(B) Applied steam energy versus direct-fired energy versus electricity.

(v) Insulation issues.

(vi) Steam trap and steam leak management.

(vi) Condensate recovery.

(viii) Steam end-use management.

(2) Capabilities and knowledge includes, but is not limited to:

(i) Background, experience, and recognized abilities to perform the assessment activities, data analysis, and report preparation.

(ii) Familiarity with operating and maintenance practices for steam or process heating systems.

(iii) Additional potential steam system improvement opportunities including improving steam turbine operations and reducing steam demand.

(iv) Additional process heating system opportunities including effective utilization of waste heat and use of proper process heating methods.

(v) Boiler-steam turbine cogeneration systems.

(vi) Industry specific steam end-use systems.

Refinery gas means any gas that is generated at a petroleum refinery and is combusted. Refinery gas includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Refinery gas includes gases generated from other facilities when that gas is combined and combusted in any proportion with gas generated at a refinery.

Residual oil means crude oil, and all fuel oil numbers 4, 5 and 6, as defined in ASTM D396–10 (incorporated by reference, see §63.14(b)).

Responsible official means responsible official as defined in §70.2.

Solid fossil fuel includes, and is not limited to, coal, coke, petroleum coke, and tire derived fuel.

Solid fuel means any solid fossil fuel or biomass or bio-based solid fuel.

Steam output means (1) for a boiler that produces steam for process or heating only (no power generation), the energy content in terms of MMBtu of the boiler steam output, and (2) for a boiler that cogenerates process steam and electricity (also known as combined heat and power (CHP)), the total energy output, which is the sum of the energy content of the steam exiting the turbine and sent to process in MMBtu and the energy of the electricity generated converted to MMBtu at a rate of 10,000 Btu per kilowatt-hour generated (10 MMBtu per megawatt-hour).

Stoker means a unit consisting of a mechanically operated fuel feeding mechanism, a stationary or moving grate to support the burning of fuel and admit under-grate air to the fuel, an overfire air system to complete combustion, and an ash discharge system. This definition of stoker includes air swept stokers. There are two general types of stokers: underfeed and overfeed. Overfeed stokers include mass feed and spreader stokers.

Suspension boiler means a unit designed to feed the fuel by means of fuel distributors. The distributors inject air at the point where the fuel is introduced into the boiler in order to spread the fuel material over the boiler width. The drying (and much of the combustion) occurs while the material is suspended in air. The combustion of the fuel material is completed on a grate or floor below. Suspension boilers almost universally are designed to have high heat release rates to dry quickly the wet fuel as it is blown into the boilers.

Temporary boiler means any gaseous or liquid fuel boiler that is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A boiler is not a temporary boiler if any one of the following conditions exists:

(1) The equipment is attached to a foundation.

(2) The boiler or a replacement remains at a location for more than 12 consecutive months. Any temporary boiler that replaces a temporary boiler at a location and performs the same or similar function will be included in calculating the consecutive time period.

(3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.

(4) The equipment is moved from one location to another in an attempt to circumvent the residence time requirements of this definition.

Tune-up means adjustments made to a boiler in accordance with procedures supplied by the manufacturer (or an approved specialist) to optimize the combustion efficiency.

Unit designed to burn biomass/bio-based solid subcategory includes any boiler or process heater that burns at least 10 percent biomass or bio-based solids on an annual heat input basis in combination with solid fossil fuels, liquid fuels, or gaseous fuels.

Unit designed to burn coal/solid fossil fuel subcategory includes any boiler or process heater that burns any coal or other solid fossil fuel alone or at least 10 percent coal or other solid fossil fuel on an annual heat input basis in combination with liquid fuels, gaseous fuels, or less than 10 percent biomass and bio-based solids on an annual heat input basis.

Unit designed to burn gas 1 subcategory includes any boiler or process heater that burns only natural gas, refinery gas, and/or other gas 1 fuels; with the exception of liquid fuels burned for periodic testing not to exceed a combined total of 48 hours during any calendar year, or during periods of gas curtailment and gas supply emergencies.

Unit designed to burn gas 2 (other) subcategory includes any boiler or process heater that is not in the unit designed to burn gas 1 subcategory and burns any gaseous fuels either alone or in combination with less than 10 percent coal/solid fossil fuel, less than 10 percent biomass/bio-based solid fuel, and less than 10 percent liquid fuels on an annual heat input basis.

Unit designed to burn liquid subcategory includes any boiler or process heater that burns any liquid fuel, but less than 10 percent coal/solid fossil fuel and less than 10 percent biomass/bio-based solid fuel on an annual heat input basis, either alone or in combination with gaseous fuels. Gaseous fuel boilers and process heaters that burn liquid fuel for periodic testing of liquid fuel, maintenance, or operator training, not to exceed a combined total of 48 hours during any calendar year or during periods of maintenance, operator training, or testing of liquid fuel, not to exceed a combined total of 48 hours during any calendar year are not included in this definition. Gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply emergencies of any duration are also not included in this definition.

Unit designed to burn liquid fuel that is a non-continental unit means an industrial, commercial, or institutional boiler or process heater designed to burn liquid fuel located in the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

Unit designed to burn solid fuel subcategory means any boiler or process heater that burns any solid fuel alone or at least 10 percent solid fuel on an annual heat input basis in combination with liquid fuels or gaseous fuels.

Voluntary Consensus Standards or VCS mean technical standards (e.g., materials specifications, test methods, sampling procedures, business practices) developed or adopted by one or more voluntary consensus bodies. EPA/Office of Air Quality Planning and Standards, by precedent, has only used VCS that are written in English. Examples of VCS bodies are: American Society of Testing and Materials (ASTM 100 Barr Harbor Drive, P.O. Box CB700, West Conshohocken, Pennsylvania 19428–B2959, (800) 262–1373, http://www.astm.org), American Society of Mechanical Engineers (ASME ASME, Three Park Avenue, New York, NY 10016–5990, (800) 843–2763, http://www.asme.org), International Standards Organization (ISO 1, ch. de la Voie-Creuse, Case postale 56, CH-1211 Geneva 20, Switzerland, +41 22 749 01 11, http://www.iso.org/iso/home.htm), Standards Australia (AS Level 10, The Exchange Centre, 20 Bridge Street, Sydney, GPO Box 476, Sydney NSW 2001, + 61 2 9237 6171 http://www.stadards.org.au), British Standards Institution (BSI, 389 Chiswick High Road, London, W4 4AL, United Kingdom, +44 (0)20 8996 9001, http://www.bsigroup.com), Canadian Standards Association (CSA 5060 Spectrum Way, Suite 100, Mississauga, Ontario L4W 5N6, Canada, 800-463-6727, http://www.csa.ca), European Committee for Standardization (CEN CENELEC Management Centre Avenue Marnix 17 B-1000 Brussels, Belgium +32 2 550 08 11, http://www.cen.eu/cen), and German Engineering Standards (VDI VDI Guidelines Department, P.O. Box 10 11 39 40002, Duesseldorf, Germany, +49 211 6214-230, http://www.vdi.eu). The types of standards that are not considered VCS are standards developed by: the United States, e.g. , California (CARB) and Texas (TCEQ); industry groups, such as American Petroleum Institute (API), Gas Processors Association (GPA), and Gas Research Institute (GRI); and other branches of the U.S. government, e.g., Department of Defense (DOD) and Department of Transportation (DOT). This does not preclude EPA from using standards developed by groups that are not VCS bodies within their rule. When this occurs, EPA has done searches and reviews for VCS equivalent to these non-EPA methods.

Waste heat boiler means a device that recovers normally unused energy and converts it to usable heat. Waste heat boilers are also referred to as heat recovery steam generators.

Waste heat process heater means an enclosed device that recovers normally unused energy and converts it to usable heat. Waste heat process heaters are also referred to as recuperative process heaters.

Wet scrubber means any add-on air pollution control device that mixes an aqueous stream or slurry with the exhaust gases from a boiler or process heater to control emissions of particulate matter or to absorb and neutralize acid gases, such as hydrogen chloride. A wet scrubber creates an aqueous stream or slurry as a byproduct of the emissions control process.

Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the Clean Air Act.

Tables to Subpart DDDDD of Part 63

Table 1 to Subpart DDDDD of Part 63—Emission Limits for New or Reconstructed Boilers and Process Heaters[a] (Units with heat input capacity of 10 million Btu per hour or greater)

As stated in §63.7500, you must comply with the following applicable emission limits:

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	Or the emissions must not exceed the following output-based limits (lb per MMBtu of steam output)...	Using this specified sampling volume or test run duration...
1. Units in all subcategories designed to burn solid fuel	a. Particulate Matter	0.0011 lb per MMBtu of heat input (30-day rolling average for units 250 MMBtu/hr or greater, 3-run average for units less than 250 MMBtu/hr).	0.0011; (30-day rolling average for units 250 MMBtu/hr or greater, 3-run average for units less than 250 MMBtu/hr).	Collect a minimum of 3 dscm per run
	b. Hydrogen Chloride	0.0022 lb per MMBtu of heat input.	0.0021	For M26A, collect a minimum of 1 dscm per run; for M26 collect a minimum of 60 liters per run

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	Or the emissions must not exceed the following output-based limits (lb per MMBtu of steam output)...	Using this specified sampling volume or test run duration...
	c. Mercury	3.5E-06 lb per MMBtu of heat input.	3.4E-06	For M29, collect a minimum of 1 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[b] collect a minimum of 2 dscm.
2. Units designed to burn pulverized coal/solid fossil fuel	a. Carbon monoxide (CO)	12 ppm by volume on a dry basis corrected to 3 percent oxygen.	0.01	1 hr minimum sampling time, use a span value of 30 ppmv.
	b. Dioxins/Furans	0.003 ng/dscm (TEQ) corrected to 7 percent oxygen.	2.8E-12 (TEQ)	Collect a minimum of 4 dscm per run
3. Stokers designed to burn coal/solid fossil fuel	a. CO	6 ppm by volume on a dry basis corrected to 3 percent oxygen.	0.005	1 hr minimum sampling time, use a span value of 20 ppmv
	b. Dioxins/Furans	0.003 ng/dscm (TEQ) corrected to 7 percent oxygen.	2.8E-12 (TEQ)	Collect a minimum of 4 dscm per run
4. Fluidized bed units designed to burn coal/solid fossil fuel	a. CO	18 ppm by volume on a dry basis corrected to 3 percent oxygen.	0.02	1 hr minimum sampling time, use a span value of 40 ppmv
	b. Dioxins/Furans	0.002 ng/dscm (TEQ) corrected to 7 percent oxygen.	1.8E-12 (TEQ)	Collect a minimum of 4 dscm per run
5. Stokers designed to burn biomass/bio-based solids	a. CO	160 ppm by volume on a dry basis corrected to 3 percent oxygen.	0.13	1 hr minimum sampling time, use a span value of 400 ppmv
	b. Dioxins/Furans	0.005 ng/dscm (TEQ) corrected to 7 percent oxygen.	4.4E-12 (TEQ)	Collect a minimum of 4 dscm per run
6. Fluidized bed units designed to burn biomass/bio-based solids	a. CO	260 ppm by volume on a dry basis corrected to 3 percent oxygen.	0.18	1 hr minimum sampling time, use a span value of 500 ppmv
	b. Dioxins/Furans	0.02 ng/dscm (TEQ) corrected to 7 percent oxygen.	1.8E-11 (TEQ)	Collect a minimum of 4 dscm per run
7. Suspension burners/Dutch Ovens designed to	a. CO	470 ppm by volume on a dry basis corrected to 3	0.45	1 hr minimum sampling time, use a span value of

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	Or the emissions must not exceed the following output-based limits (lb per MMBtu of steam output)...	Using this specified sampling volume or test run duration...
burn biomass/bio-based solids		percent oxygen.		1000 ppmv
	b. Dioxins/Furans	0.2 ng/dscm (TEQ) corrected to 7 percent oxygen.	1.8E-10 (TEQ)	Collect a minimum of 4 dscm per run
8. Fuel cells designed to burn biomass/bio-based solids	a. CO	470 ppm by volume on a dry basis corrected to 3 percent oxygen.	0.23	1 hr minimum sampling time, use a span value of 1000 ppmv
	b. Dioxins/Furans	0.003 ng/dscm (TEQ) corrected to 7 percent oxygen.	2.86E-12 (TEQ)	Collect a minimum of 4 dscm per run
9. Hybrid suspension/grate units designed to burn biomass/bio-based solids	a. CO	1,500 ppm by volume on a dry basis corrected to 3 percent oxygen.	0.84	1 hr minimum sampling time, use a span value of 3000 ppmv
	b. Dioxins/Furans	0.2 ng/dscm (TEQ) corrected to 7 percent oxygen.	1.8E-10 (TEQ)	Collect a minimum of 4 dscm per run
10. Units designed to burn liquid fuel	a. Particulate Matter	0.0013 lb per MMBtu of heat input (30-day rolling average for residual oil-fired units 250 MMBtu/hr or greater, 3-run average for other units).	0.001; (30-day rolling average for residual oil-fired units 250 MMBtu/hr or greater, 3-run average for other units).	Collect a minimum of 3 dscm per run
	b. Hydrogen Chloride	0.00033 lb per MMBtu of heat input.	0.0003	For M26A: Collect a minimum of 1 dscm per run; for M26, collect a minimum of 60 liters per run
	c. Mercury	2.1E-07 lb per MMBtu of heat input.	0.2E-06	Collect enough volume to meet an in-stack detection limit data quality objective of 0.10 ug/dscm
	d. CO	3 ppm by volume on a dry basis corrected to 3 percent oxygen.	0.0026	1 hr minimum sampling time, use a span value of 3 ppmv
	e. Dioxins/Furans	0.002 ng/dscm (TEQ) corrected to 7 percent oxygen.	4.6E-12 (TEQ)	Collect a minimum of 4 dscm per run

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	Or the emissions must not exceed the following output-based limits (lb per MMBtu of steam output)...	Using this specified sampling volume or test run duration...
11. Units designed to burn liquid fuel located in non-continental States and territories	a. Particulate Matter	0.0013 lb per MMBtu of heat input (30-day rolling average for residual oil-fired units 250 MMBtu/hr or greater, 3-run average for other units).	0.001; (30-day rolling average for residual oil-fired units 250 MMBtu/hr or greater, 3-run average for other units).	Collect a minimum of 3 dscm per run
	b. Hydrogen Chloride	0.00033 lb per MMBtu of heat input.	0.0003	For M26A: Collect a minimum of 1 dscm per run; for M26, collect a minimum of 60 liters per run
	c. Mercury	7.8E-07 lb per MMBtu of heat input.	8.0E-07	For M29, collect a minimum of 3 dscm per run; for M30B, collect a minimum sample as specified in the method; for ASTM D6784[b] collect a minimum of 3 dscm.
	d. CO	51 ppm by volume on a dry basis corrected to 3 percent oxygen.	0.043	1 hr minimum sampling time, use a span value of 100 ppmv
	e. Dioxins/Furans	0.002 ng/dscm (TEQ) corrected to 7 percent oxygen.	4.6E-12(TEQ)	Collect a minimum of 3 dscm per run
12. Units designed to burn gas 2 (other) gases	a. Particulate Matter	0.0067 lb per MMBtu of heat input (30-day rolling average for units 250 MMBtu/hr or greater, 3-run average for units less than 250 MMBtu/hr).	.004; (30-day rolling average for units 250 MMBtu/hr or greater, 3-run average for units less than 250 MMBtu/hr).	Collect a minimum of 1 dscm per run
	b. Hydrogen Chloride	0.0017 lb per MMBtu of heat input.	.003	For M26A, Collect a minimum of 1 dscm per run; for M26, collect a minimum of 60 liters per run
	c. Mercury	7.9E-06 lb per MMBtu of heat input.	2.0E-07	For M29, collect a minimum of 1 dscm per run; for M30A or

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	Or the emissions must not exceed the following output-based limits (lb per MMBtu of steam output)...	Using this specified sampling volume or test run duration...
				M30B, collect a minimum sample as specified in the method; for ASTM D6784[b] collect a minimum of 2 dscm.
	d. CO	3 ppm by volume on a dry basis corrected to 3 percent oxygen.	0.002	1 hr minimum sampling time, use a span value of 10 ppmv
	e. Dioxins/Furans	0.08 ng/dscm (TEQ) corrected to 7 percent oxygen.	4.1E-12 (TEQ)	Collect a minimum of 4 dscm per run

[a] If your affected source is a new or reconstructed affected source that commenced construction or reconstruction after June 4, 2010, and before May 20, 2011, you may comply with the emission limits in Table 12 to this subpart until March 21, 2014. On and after March 21, 2014, you must comply with the emission limits in Table 1 to this subpart.
[b] Incorporated by reference, see §63.14.

Table 2 to Subpart DDDDD of Part 63—Emission Limits for Existing Boilers and Process Heaters (Units with heat input capacity of 10 million Btu per hour or greater)

As stated in §63.7500, you must comply with the following applicable emission limits:

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	The emissions must not exceed the following output-based limits (lb per MMBtu of steam output)...	Using this specified sampling volume or test run duration...
1. Units in all subcategories designed to burn solid fuel	a. Particulate Matter	0.039 lb per MMBtu of heat input (30-day rolling average for units 250 MMBtu/hr or greater, 3-run average for units less than 250 MMBtu/hr).	0.038; (30-day rolling average for units 250 MMBtu/hr or greater, 3-run average for units less than 250 MMBtu/hr).	Collect a minimum of 1 dscm per run.
	b. Hydrogen Chloride	0.035 lb per MMBtu of heat input.	0.04	For M26A, Collect a minimum of 1 dscm per run; for M26, collect a minimum of

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	The emissions must not exceed the following output-based limits (lb per MMBtu of steam output)...	Using this specified sampling volume or test run duration...
				60 liters per run.
	c. Mercury	4.6E-06 lb per MMBtu of heat input.	4.5E-06	For M29, collect a minimum of 1 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[a] collect a minimum of 2 dscm.
2. Pulverized coal units designed to burn pulverized coal/solid fossil fuel	a. CO	160 ppm by volume on a dry basis corrected to 3 percent oxygen.	0.14	1 hr minimum sampling time, use a span value of 300 ppmv.
	b. Dioxins/Furans	0.004 ng/dscm (TEQ) corrected to 7 percent oxygen.	3.7E-12(TEQ)	Collect a minimum of 4 dscm per run.
3. Stokers designed to burn coal/solid fossil fuel	a. CO	270 ppm by volume on a dry basis corrected to 3 percent oxygen.	0.25	1 hr minimum sampling time, use a span value of 500 ppmv.
	b. Dioxins/Furans	0.003 ng/dscm (TEQ) corrected to 7 percent oxygen.	2.8E-12(TEQ)	Collect a minimum of 4 dscm per run.
4. Fluidized bed units designed to burn coal/ solid fossil fuel	a. CO	82 ppm by volume on a dry basis corrected to 3 percent oxygen.	0.08	1 hr minimum sampling time, use a span value of 200 ppmv
	b. Dioxins/Furans	0.002 ng/dscm (TEQ) corrected to 7 percent oxygen.	1.8E-12(TEQ)	Collect a minimum of 4 dscm per run.
5. Stokers designed to burn biomass/bio-based solid	a. CO	490 ppm by volume on a dry basis corrected to 3 percent oxygen.	0.35	1 hr minimum sampling time, use a span value of 1000 ppmv.
	b. Dioxins/Furans	0.005 ng/dscm (TEQ) corrected to 7 percent oxygen.	4.4E-12 (TEQ)	Collect a minimum of 4 dscm per run.
6. Fluidized bed units designed to burn biomass/bio-based solid	a. CO	430 ppm by volume on a dry basis corrected to 3 percent oxygen.	0.28	1 hr minimum sampling time, use a span value of 850 ppmv.
	b. Dioxins/Furans	0.02 ng/dscm (TEQ) corrected to 7 percent oxygen.	1.8E-11(TEQ)	Collect a minimum of 4 dscm per run.
7. Suspension burners/Dutch Ovens	a. CO	470 ppm by volume on a dry basis	0.45	1 hr minimum sampling time, use

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	The emissions must not exceed the following output-based limits (lb per MMBtu of steam output)...	Using this specified sampling volume or test run duration...
designed to burn biomass/bio-based solid		corrected to 3 percent oxygen.		a span value of 1000 ppmv.
	b. Dioxins/Furans	0.2 ng/dscm (TEQ) corrected to 7 percent oxygen.	1.8E-10(TEQ)	Collect a minimum of 4 dscm per run.
8. Fuel cells designed to burn biomass/ bio-based solid	a. CO	690 ppm by volume on a dry basis corrected to 3 percent oxygen.	0.34	1 hr minimum sampling time, use a span value of 1300 ppmv.
	b. Dioxins/Furans	4 ng/dscm (TEQ) corrected to 7 percent oxygen.	3.5E-09(TEQ)	Collect a minimum of 4 dscm per run.
9. Hybrid suspension/grate units designed to burn biomass/ bio-based solid	a. CO	3,500 ppm by volume on a dry basis corrected to 3 percent oxygen.	2.0	1 hr minimum sampling time, use a span value of 7000 ppmv.
	b. Dioxins/Furans	0.2 ng/dscm (TEQ) corrected to 7 percent oxygen.	1.8E-10(TEQ)	Collect a minimum of 4 dscm per run.
10. Units designed to burn liquid fuel	a. Particulate Matter	0.0075 lb per MMBtu of heat input (30-day rolling average for residual oil-fired units 250 MMBtu/hr or greater, 3-run average for other units).	0.0073; (30-day rolling average for residual oil-fired units 250 MMBtu/hr or greater, 3-run average for other units).	Collect a minimum of 1 dscm per run.
	b. Hydrogen Chloride	0.00033 lb per MMBtu of heat input.	0.0003	For M26A, collect a minimum of 1 dscm per run; for M26, collect a minimum of 200 liters per run.
	c. Mercury	3.5E-06 lb per MMBtu of heat input.	3.3E-06	For M29, collect a minimum of 1 dscm per run; for M30A or M30B collect a minimum sample as specified in the method, for ASTM D6784[a] collect a minimum of 2 dscm.

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	The emissions must not exceed the following output-based limits (lb per MMBtu of steam output)...	Using this specified sampling volume or test run duration...
	d. CO	10 ppm by volume on a dry basis corrected to 3 percent oxygen.	0.0083	1 hr minimum sampling time, use a span value of 20 ppmv.
	e. Dioxins/Furans	4 ng/dscm (TEQ) corrected to 7 percent oxygen.	9.2E-09 (TEQ)	Collect a minimum of 1 dscm per run.
11. Units designed to burn liquid fuel located in non-continental States and territories	a. Particulate Matter	0.0075 lb per MMBtu of heat input (30-day rolling average for residual oil-fired units 250 MMBtu/hr or greater, 3-run average for other units).	0.0073; (30-day rolling average for residual oil-fired units 250 MMBtu/hr or greater, 3-run average for other units).	Collect a minimum of 1 dscm per run.
	b. Hydrogen Chloride	0.00033 lb per MMBtu of heat input.	0.0003	For M26A, collect a minimum of 1 dscm per run; for M26, collect a minimum of 200 liters per run.
	c. Mercury	7.8E-07 lb per MMBtu of heat input.	8.0E-07	For M29, collect a minimum of 1 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[a] collect a minimum of 2 dscm.
	d. CO	160 ppm by volume on a dry basis corrected to 3 percent oxygen.	0.13	1 hr minimum sampling time, use a span value of 300 ppmv.
	e. Dioxins/Furans	4 ng/dscm (TEQ) corrected to 7 percent oxygen.	9.2E-09 (TEQ)	Collect a minimum of 1 dscm per run.
12. Units designed to burn gas 2 (other) gases	a. Particulate Matter	0.043 lb per MMBtu of heat input (30-day rolling average for units 250 MMBtu/hr or greater, 3-run average for units less than 250 MMBtu/hr).	0.026; (30-day rolling average for units 250 MMBtu/hr or greater, 3-run average for units less than 250 MMBtu/hr).	Collect a minimum of 1 dscm per run.
	b. Hydrogen	0.0017 lb per	0.001	For M26A, collect a

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	The emissions must not exceed the following output-based limits (lb per MMBtu of steam output)...	Using this specified sampling volume or test run duration...
	Chloride	MMBtu of heat input.		minimum of 1 dscm per run; for M26, collect a minimum of 60 liters per run.
	c. Mercury	1.3E-05 lb per MMBtu of heat input.	7.8E-06	For M29, collect a minimum of 1 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[a] collect a minimum of 2 dscm.
	d. CO	9 ppm by volume on a dry basis corrected to 3 percent oxygen.	0.005	1 hr minimum sampling time, use a span value of 20 ppmv.
	e. Dioxins/Furans	0.08 ng/dscm (TEQ) corrected to 7 percent oxygen.	3.9E-11 (TEQ)	Collect a minimum of 4 dscm per run.

[a] Incorporated by reference, see §63.14.

Table 3 to Subpart DDDDD of Part 63—Work Practice Standards

As stated in §63.7500, you must comply with the following applicable work practice standards:

If your unit is...	You must meet the following...
1. A new or existing boiler or process heater with heat input capacity of less than 10 million Btu per hour or a limited use boiler or process heater.	Conduct a tune-up of the boiler or process heater biennially as specified in §63.7540.
2. A new or existing boiler or process heater in either the Gas 1 or Metal Process Furnace subcategory with heat input capacity of 10 million Btu per hour or greater	Conduct a tune-up of the boiler or process heater annually as specified in §63.7540.
3. An existing boiler or process heater located at a major source facility	Must have a one-time energy assessment performed on the major source facility by qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table, satisfies the energy assessment requirement. The energy assessment must include: a. A visual inspection of the boiler or process heater system. b. An evaluation of operating characteristics of the facility, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints,

If your unit is...	You must meet the following...
	c. An inventory of major energy consuming systems, d. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage, e. A review of the facility's energy management practices and provide recommendations for improvements consistent with the definition of energy management practices, f. A list of major energy conservation measures, g. A list of the energy savings potential of the energy conservation measures identified, and h. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.
4. An existing or new unit subject to emission limits in Tables 1, 2, or 12 of this subpart.	Minimize the unit's startup and shutdown periods following the manufacturer's recommended procedures. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available.

Table 4 to Subpart DDDDD of Part 63—Operating Limits for Boilers and Process Heaters

As stated in §63.7500, you must comply with the applicable operating limits:

If you demonstrate compliance using . . .	You must meet these operating limits . . .
1. Wet PM scrubber control	Maintain the 12-hour block average pressure drop and the 12-hour block average liquid flow rate at or above the lowest 1-hour average pressure drop and the lowest 1-hour average liquid flow rate, respectively, measured during the most recent performance test demonstrating compliance with the PM emission limitation according to §63.7530(b) and Table 7 to this subpart.
2. Wet acid gas (HCl) scrubber control	Maintain the 12-hour block average effluent pH at or above the lowest 1-hour average pH and the 12-hour block average liquid flow rate at or above the lowest 1-hour average liquid flow rate measured during the most recent performance test demonstrating compliance with the HCl emission limitation according to §63.7530(b) and Table 7 to this subpart.
3. Fabric filter control on units not required to install and operate a PM CEMS.	a. Maintain opacity to less than or equal to 10 percent opacity (daily block average); or b. Install and operate a bag leak detection system according to §63.7525 and operate the fabric filter such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during each 6-month period.
4. Electrostatic precipitator control on units not required to install and operate a PM CEMS.	a. This option is for boilers and process heaters that operate dry control systems (i.e., an ESP without a wet scrubber). Existing and new boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity (daily block average); or

If you demonstrate compliance using . . .	You must meet these operating limits . . .
	b. This option is only for boilers and process heaters not subject to PM CEMS or continuous compliance with an opacity limit (i.e., COMS). Maintain the minimum total secondary electric power input of the electrostatic precipitator at or above the operating limits established during the performance test according to §63.7530(b) and Table 7 to this subpart.
5. Dry scrubber or carbon injection control	Maintain the minimum sorbent or carbon injection rate as defined in §63.7575 of this subpart.
6. Any other add-on air pollution control type on units not required to install and operate a PM CEMS.	This option is for boilers and process heaters that operate dry control systems. Existing and new boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity (daily block average).
7. Fuel analysis	Maintain the fuel type or fuel mixture such that the applicable emission rates calculated according to §63.7530(c)(1), (2) and/or (3) is less than the applicable emission limits.
8. Performance testing	For boilers and process heaters that demonstrate compliance with a performance test, maintain the operating load of each unit such that is does not exceed 110 percent of the average operating load recorded during the most recent performance test.
9. Continuous Oxygen Monitoring System	For boilers and process heaters subject to a carbon monoxide emission limit that demonstrate compliance with an O_2 CEMS as specified in §63.7525(a), maintain the oxygen level of the stack gas such that it is not below the lowest hourly average oxygen concentration measured during the most recent CO performance test.

Table 5 to Subpart DDDDD of Part 63—Performance Testing Requirements

As stated in §63.7520, you must comply with the following requirements for performance testing for existing, new or reconstructed affected sources:

To conduct a performance test for the following pollutant . . .	You must . . .	Using . . .
1. Particulate Matter	a. Select sampling ports location and the number of traverse points.	Method 1 at 40 CFR part 60, appendix A-1 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas.	Method 2, 2F, or 2G at 40 CFR part 60, appendix A-1 or A-2 to part 60 of this chapter.
	c. Determine oxygen or carbon dioxide concentration of the stack gas.	Method 3A or 3B at 40 CFR part 60, appendix A-2 to part 60 of this chapter, or ANSI/ASME PTC 19.10-1981.[a]
	d. Measure the moisture content of the stack gas.	Method 4 at 40 CFR part 60, appendix A-3 of this chapter.
	e. Measure the particulate matter emission concentration.	Method 5 or 17 (positive pressure fabric filters must use Method 5D) at 40 CFR part 60, appendix A-3 or A-6 of this chapter.
	f. Convert emissions	Method 19 F-factor methodology at 40 CFR

To conduct a performance test for the following pollutant . . .	You must . . .	Using . . .
	concentration to lb per MMBtu emission rates.	part 60, appendix A-7 of this chapter.
2. Hydrogen chloride	a. Select sampling ports location and the number of traverse points.	Method 1 at 40 CFR part 60, appendix A-1 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas.	Method 2, 2F, or 2G at 40 CFR part 60, appendix A-2 of this chapter.
	c. Determine oxygen or carbon dioxide concentration of the stack gas.	Method 3A or 3B at 40 CFR part 60, appendix A-2 of this chapter, or ANSI/ASME PTC 19.10-1981.[a]
	d. Measure the moisture content of the stack gas.	Method 4 at 40 CFR part 60, appendix A-3 of this chapter.
	e. Measure the hydrogen chloride emission concentration.	Method 26 or 26A (M26 or M26A) at 40 CFR part 60, appendix A-8 of this chapter.
	f. Convert emissions concentration to lb per MMBtu emission rates.	Method 19 F-factor methodology at 40 CFR part 60, appendix A-7 of this chapter.
3. Mercury	a. Select sampling ports location and the number of traverse points.	Method 1 at 40 CFR part 60, appendix A-1 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas.	Method 2, 2F, or 2G at 40 CFR part 60, appendix A-1 or A-2 of this chapter.
	c. Determine oxygen or carbon dioxide concentration of the stack gas.	Method 3A or 3B at 40 CFR part 60, appendix A-1 of this chapter, or ANSI/ASME PTC 19.10-1981.[a]
	d. Measure the moisture content of the stack gas.	Method 4 at 40 CFR part 60, appendix A-3 of this chapter.
	e. Measure the mercury emission concentration.	Method 29, 30A, or 30B (M29, M30A, or M30B) at 40 CFR part 60, appendix A-8 of this chapter or Method 101A at 40 CFR part 60, appendix B of this chapter, or ASTM Method D6784.[a]
	f. Convert emissions concentration to lb per MMBtu emission rates.	Method 19 F-factor methodology at 40 CFR part 60, appendix A-7 of this chapter.
4. CO	a. Select the sampling ports location and the number of traverse points.	Method 1 at 40 CFR part 60, appendix A-1 of this chapter.
	b. Determine oxygen concentration of the stack gas.	Method 3A or 3B at 40 CFR part 60, appendix A-3 of this chapter, or ASTM D6522–00 (Reapproved 2005), or ANSI/ASME PTC 19.10-1981.[a]
	c. Measure the moisture content of the stack gas.	Method 4 at 40 CFR part 60, appendix A-3 of this chapter.
	d. Measure the CO emission concentration.	Method 10 at 40 CFR part 60, appendix A-4 of this chapter. Use a span value of 2 times the concentration of the applicable emission

To conduct a performance test for the following pollutant . . .	You must . . .	Using . . .
		limit.
5. Dioxins/Furans	a. Select the sampling ports location and the number of traverse points.	Method 1 at 40 CFR part 60, appendix A-1 of this chapter.
	b. Determine oxygen concentration of the stack gas.	Method 3A or 3B at 40 CFR part 60, appendix A-3 of this chapter, or ASTM D6522–00 (Reapproved 2005)[a], or ANSI/ASME PTC 19.10-1981.[a]
	c. Measure the moisture content of the stack gas.	Method 4 at 40 CFR part 60, appendix A-3 of this chapter.
	d. Measure the dioxins/furans emission concentration.	Method 23 at 40 CFR part 60, appendix A-7 of this chapter.
	e. Multiply the measured dioxins/furans emission concentration by the appropriate toxic equivalency factor.	Table 11 of this subpart.

[a] Incorporated by reference, see §63.14.

Table 6 to Subpart DDDDD of Part 63—Fuel Analysis Requirements

As stated in §63.7521, you must comply with the following requirements for fuel analysis testing for existing, new or reconstructed affected sources. However, equivalent methods (as defined in §63.7575) may be used in lieu of the prescribed methods at the discretion of the source owner or operator:

To conduct a fuel analysis for the following pollutant . . .	You must . . .	Using . . .
1. Mercury	a. Collect fuel samples	Procedure in §63.7521(c) or ASTM D2234/D2234M[a](for coal) or ASTM D6323[a] (for biomass) , or equivalent.
	b. Composite fuel samples	Procedure in §63.7521(d) or equivalent.
	c. Prepare composited fuel samples	EPA SW–846–3050B[a] (for solid samples), EPA SW–846–3020A[a] (for liquid samples), ASTM D2013/D2013M[a] (for coal), ASTM D5198[a] (for biomass), or equivalent.
	d. Determine heat content of the fuel type	ASTM D5865[a] (for coal) or ASTM E711[a] (for biomass), or equivalent.
	e. Determine moisture content of the fuel type	ASTM D3173[a] or ASTM E871[a], or equivalent.
	f. Measure mercury concentration in fuel sample	ASTM D6722[a] (for coal), EPA SW–846–7471B[a] (for solid samples), or EPA SW–846–7470A[a] (for

To conduct a fuel analysis for the following pollutant . . .	You must . . .	Using . . .
		liquid samples), or equivalent.
	g. Convert concentration into units of pounds of pollutant per MMBtu of heat content.	
2. Hydrogen Chloride	a. Collect fuel samples	Procedure in §63.7521(c) or ASTM D2234/D2234M[a] (for coal) or ASTM D6323[a] (for biomass) , or equivalent.
	b. Composite fuel samples	Procedure in §63.7521(d) or equivalent.
	c. Prepare composited fuel samples	EPA SW–846–3050B[a] (for solid samples), EPA SW–846–3020A[a] (for liquid samples), ASTM D2013/D2013M[a] (for coal), or ASTM D5198[a] (for biomass), or equivalent.
	d. Determine heat content of the fuel type	ASTM D5865[a] (for coal) or ASTM E711[a] (for biomass), or equivalent.
	e. Determine moisture content of the fuel type	ASTM D3173[a] or ASTM E871[a], or equivalent.
	f. Measure chlorine concentration in fuel sample	EPA SW–846–9250[a], ASTM D6721[a] (for coal), or ASTM E776[a] (for biomass), or equivalent.
	g. Convert concentrations into units of pounds of pollutant per MMBtu of heat content.	
3. Mercury Fuel Specification for other gas 1 fuels	a. Measure mercury concentration in the fuel sample. b. Convert concentration to unit of micrograms/cubic meter.	ASTM D5954[a], ASTM D6350[a], ISO 6978-1:2003(E)[a], or ISO 6978-2:2003(E)[a], or equivalent.
4. Hydrogen Sulfide Fuel Specification for other gas 1 fuels	a. Measure total hydrogen sulfide. b. Convert to ppm.	ASTM D4084[a] or equivalent.

[a] Incorporated by reference, see §63.14.

Table 7 to Subpart DDDDD of Part 63—Establishing Operating Limits

As stated in §63.7520, you must comply with the following requirements for establishing operating limits:

If you have an applicable emission limit for . . .	And your operating limits are based on . . .	You must. . .	Using . . .	According to the following requirements
1. Particulate matter or mercury	a. Wet scrubber operating parameters	i. Establish a site-specific minimum pressure drop and minimum flow rate operating limit according to §63.7530(b)	(1) Data from the pressure drop and liquid flow rate monitors and the particulate matter or mercury performance test	(a) You must collect pressure drop and liquid flow rate data every 15 minutes during the entire period of the performance tests;
				(b) Determine the lowest hourly average pressure drop and liquid flow rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.
	b. Electrostatic precipitator operating parameters (option only for units that operate wet scrubbers)	i. Establish a site-specific minimum total secondary electric power input according to §63.7530(b)	(1) Data from the voltage and secondary amperage monitors during the particulate matter or mercury performance test	(a) You must collect secondary voltage and secondary amperage for each ESP cell and calculate total secondary electric power input data every 15 minutes during the entire period of the performance tests;
				(b) Determine the average total secondary electric power input by computing the hourly averages using all of the 15-minute readings taken during each performance test.
2. Hydrogen Chloride	a. Wet scrubber operating parameters	i. Establish site-specific minimum pressure drop, effluent pH, and flow rate operating limits according to §63.7530(b)	(1) Data from the pressure drop, pH, and liquid flow-rate monitors and the hydrogen chloride performance test	(a) You must collect pH and liquid flow-rate data every 15 minutes during the entire period of the performance tests;

If you have an applicable emission limit for . . .	And your operating limits are based on . . .	You must. . .	Using . . .	According to the following requirements
				(b) Determine the hourly average pH and liquid flow rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.
	b. Dry scrubber operating parameters	i. Establish a site-specific minimum sorbent injection rate operating limit according to §63.7530(b). If different acid gas sorbents are used during the hydrogen chloride performance test, the average value for each sorbent becomes the site-specific operating limit for that sorbent.	(1) Data from the sorbent injection rate monitors and hydrogen chloride or mercury performance test	(a) You must collect sorbent injection rate data every 15 minutes during the entire period of the performance tests;
				(b) Determine the hourly average sorbent injection rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.
				(c) Determine the lowest hourly average of the three test run averages established during the performance test as your operating limit. When your unit operates at lower loads, multiply your sorbent injection rate by the load fraction (e.g., for 50 percent load, multiply the injection rate operating limit by 0.5) to determine the required injection rate.
3. Mercury and dioxins/furans	a. Activated carbon injection	i. Establish a site-specific minimum activated carbon injection rate operating limit according to §63.7530(b)	(1) Data from the activated carbon rate monitors and mercury and dioxins/furans performance tests	(a) You must collect activated carbon injection rate data every 15 minutes during the entire period of the performance tests;

If you have an applicable emission limit for . . .	And your operating limits are based on . . .	You must. . .	Using . . .	According to the following requirements
				(b) Determine the hourly average activated carbon injection rate by computing the hourly averages using all of the 15-minute readings taken during each performance test.
				(c) Determine the lowest hourly average established during the performance test as your operating limit. When your unit operates at lower loads, multiply your activated carbon injection rate by the load fraction (e.g., actual heat input divided by heat input during performance test, for 50 percent load, multiply the injection rate operating limit by 0.5) to determine the required injection rate.
4. Carbon monoxide	a. Oxygen	i. Establish a unit-specific limit for minimum oxygen level according to §63.7520.	(1) Data from the oxygen monitor specified in §63.7525(a).	(a) You must collect oxygen data every 15 minutes during the entire period of the performance tests;
				(b) Determine the hourly average oxygen concentration by computing the hourly averages using all of the 15-minute readings taken during each performance test.
				(c) Determine the lowest hourly average established during the performance test as your minimum operating limit.
5. Any pollutant for which compliance is demonstrated by a performance test	a. Boiler or process heater operating load	i. Establish a unit specific limit for maximum operating load according to §63.7520(c).	(1) Data from the operating load monitors or from steam generation monitors.	(a) You must collect operating load or steam generation data every 15 minutes during the entire period of the performance test.

If you have an applicable emission limit for . . .	And your operating limits are based on . . .	You must. . .	Using . . .	According to the following requirements
				(b) Determine the average operating load by computing the hourly averages using all of the 15-minute readings taken during each performance test.
				(c) Determine the average of the three test run averages during the performance test, and multiply this by 1.1 (110 percent) as your operating limit.

Table 8 to Subpart DDDDD of Part 63—Demonstrating Continuous Compliance

As stated in §63.7540, you must show continuous compliance with the emission limitations for affected sources according to the following:

If you must meet the following operating limits or work practice standards . . .	You must demonstrate continuous compliance by . . .
1. Opacity	a. Collecting the opacity monitoring system data according to §63.7525(c) and §63.7535; and
	b. Reducing the opacity monitoring data to 6-minute averages; and
	c. Maintaining opacity to less than or equal to 10 percent (daily block average).
2. Fabric Filter Bag Leak Detection Operation	Installing and operating a bag leak detection system according to §63.7525 and operating the fabric filter such that the requirements in §63.7540(a)(9) are met.
3. Wet Scrubber Pressure Drop and Liquid Flow-rate	a. Collecting the pressure drop and liquid flow rate monitoring system data according to §§63.7525 and 63.7535; and
	b. Reducing the data to 12-hour block averages; and
	c. Maintaining the 12-hour average pressure drop and liquid flow-rate at

If you must meet the following operating limits or work practice standards . . .	You must demonstrate continuous compliance by . . .
	or above the operating limits established during the performance test according to §63.7530(b).
4. Wet Scrubber pH	a. Collecting the pH monitoring system data according to §§63.7525 and 63.7535; and
	b. Reducing the data to 12-hour block averages; and
	c. Maintaining the 12-hour average pH at or above the operating limit established during the performance test according to §63.7530(b).
5. Dry Scrubber Sorbent or Carbon Injection Rate	a. Collecting the sorbent or carbon injection rate monitoring system data for the dry scrubber according to §§63.7525 and 63.7535; and
	b. Reducing the data to 12-hour block averages; and
	c. Maintaining the 12-hour average sorbent or carbon injection rate at or above the minimum sorbent or carbon injection rate as defined in §63.7575.
6. Electrostatic Precipitator Total Secondary Electric Power Input	a. Collecting the total secondary electric power input monitoring system data for the electrostatic precipitator according to §§63.7525 and 63.7535; and
	b. Reducing the data to 12-hour block averages; and
	c. Maintaining the 12-hour average total secondary electric power input at or above the operating limits established during the performance test according to §63.7530(b).
7. Fuel Pollutant Content	a. Only burning the fuel types and fuel mixtures used to demonstrate compliance with the applicable emission limit according to §63.7530(b) or (c) as applicable; and
	b. Keeping monthly records of fuel use according to §63.7540(a).
8. Oxygen content	a. Continuously monitor the oxygen content in the combustion exhaust according to §63.7525(a).
	b. Reducing the data to 12-hour block averages; and
	c. Maintain the 12-hour block average oxygen content in the exhaust at or above the lowest hourly average oxygen level measured during the most recent carbon monoxide performance test.
9. Boiler or process heater operating load	a. Collecting operating load data or steam generation data every 15 minutes.
	b. Reducing the data to 12-hour block averages; and
	c. Maintaining the 12-hour average operating load at or below the operating limit established during the performance test according to §63.7520(c).

Table 9 to Subpart DDDDD of Part 63—Reporting Requirements

As stated in §63.7550, you must comply with the following requirements for reports:

You must submit a(n)	The report must contain . . .	You must submit the report . . .
1. Compliance report	a. Information required in §63.7550(c)(1) through (12); and	Semiannually, annually, or biennially according to the requirements in §63.7550(b).
	b. If there are no deviations from any emission limitation (emission limit and operating limit) that applies to you and there are no deviations from the requirements for work practice standards in Table 3 to this subpart that apply to you, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. If there were no periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in §63.8(c)(7), a statement that there were no periods during which the CMSs were out-of-control during the reporting period; and	
	c. If you have a deviation from any emission limitation (emission limit and operating limit) where you are not using a CMS to comply with that emission limit or operating limit, or a deviation from a work practice standard during the reporting period, the report must contain the information in §63.7550(d); and	
	d. If there were periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in §63.8(c)(7), or otherwise not operating, the report must contain the information in §63.7550(e).	

Table 10 to Subpart DDDDD of Part 63—Applicability of General Provisions to Subpart DDDDD

As stated in §63.7565, you must comply with the applicable General Provisions according to the following:

Citation	Subject	Applies to subpart DDDDD
§63.1	Applicability	Yes.
§63.2	Definitions	Yes. Additional terms defined in §63.7575
§63.3	Units and Abbreviations	Yes.
§63.4	Prohibited Activities and Circumvention	Yes.

Citation	Subject	Applies to subpart DDDDD
§63.5	Preconstruction Review and Notification Requirements	Yes.
§63.6(a), (b)(1)-(b)(5), (b)(7), (c)	Compliance with Standards and Maintenance Requirements	Yes.
§63.6(e)(1)(i)	General duty to minimize emissions.	No. See §63.7500(a)(3) for the general duty requirement.
§63.6(e)(1)(ii)	Requirement to correct malfunctions as soon as practicable.	No.
§63.6(e)(3)	Startup, shutdown, and malfunction plan requirements.	No.
§63.6(f)(1)	Startup, shutdown, and malfunction exemptions for compliance with non-opacity emission standards.	No.
§63.6(f)(2) and (3)	Compliance with non-opacity emission standards.	Yes.
§63.6(g)	Use of alternative standards	Yes.
§63.6(h)(1)	Startup, shutdown, and malfunction exemptions to opacity standards.	No. See §63.7500(a).
§63.6(h)(2) to (h)(9)	Determining compliance with opacity emission standards	Yes.
§63.6(i)	Extension of compliance.	Yes.
§63.6(j)	Presidential exemption.	Yes.
§63.7(a), (b), (c), and (d)	Performance Testing Requirements	Yes.
§63.7(e)(1)	Conditions for conducting performance tests.	No. Subpart DDDDD specifies conditions for conducting performance tests at §63.7520(a).
§63.7(e)(2)-(e)(9), (f), (g), and (h)	Performance Testing Requirements	Yes.

Citation	Subject	Applies to subpart DDDDD
§63.8(a) and (b)	Applicability and Conduct of Monitoring	Yes.
§63.8(c)(1)	Operation and maintenance of CMS	Yes.
§63.8(c)(1)(i)	General duty to minimize emissions and CMS operation	No. See §63.7500(a)(3).
§63.8(c)(1)(ii)	Operation and maintenance of CMS	Yes.
§63.8(c)(1)(iii)	Startup, shutdown, and malfunction plans for CMS	No.
§63.8(c)(2) to (c)(9)	Operation and maintenance of CMS	Yes.
§63.8(d)(1) and (2)	Monitoring Requirements, Quality Control Program	Yes.
§63.8(d)(3)	Written procedures for CMS	Yes, except for the last sentence, which refers to a startup, shutdown, and malfunction plan. Startup, shutdown, and malfunction plans are not required.
§63.8(e)	Performance evaluation of a CMS	Yes.
§63.8(f)	Use of an alternative monitoring method.	Yes.
63.8(g)	Reduction of monitoring data.	Yes.
§63.9	Notification Requirements	Yes.
§63.10(a), (b)(1)	Recordkeeping and Reporting Requirements	Yes.
§63.10(b)(2)(i)	Recordkeeping of occurrence and duration of startups or shutdowns	Yes.
§63.10(b)(2)(ii)	Recordkeeping of malfunctions	No. See §63.7555(d)(7) for recordkeeping of occurrence and duration and §63.7555(d)(8) for actions taken during malfunctions.
§63.10(b)(2)(iii)	Maintenance records	Yes.

Citation	Subject	Applies to subpart DDDDD
§63.10(b)(2)(iv) and (v)	Actions taken to minimize emissions during startup, shutdown, or malfunction	No.
§63.10(b)(2)(vi)	Recordkeeping for CMS malfunctions	Yes.
§63.10(b)(2)(vii) to (xiv)	Other CMS requirements	Yes.
§63.10(b)(3)	Recordkeeping requirements for applicability determinations	No.
§63.10(c)(1) to (9)	Recordkeeping for sources with CMS	Yes.
§63.10(c)(10) and (11)	Recording nature and cause of malfunctions, and corrective actions	No. See §63.7555(d)(7) for recordkeeping of occurrence and duration and §63.7555(d)(8) for actions taken during malfunctions.
§63.10(c)(12) and (13)	Recordkeeping for sources with CMS	Yes.
§63.10(c)(15)	Use of startup, shutdown, and malfunction plan	No.
§63.10(d)(1) and (2)	General reporting requirements	Yes.
§63.10(d)(3)	Reporting opacity or visible emission observation results	No.
§63.10(d)(4)	Progress reports under an extension of compliance	Yes.
§63.10(d)(5)	Startup, shutdown, and malfunction reports	No. See §63.7550(c)(11) for malfunction reporting requirements.
§63.10(e) and (f)		Yes.
§63.11	Control Device Requirements	No.
§63.12	State Authority and Delegation	Yes.

Citation	Subject	Applies to subpart DDDDD
§63.13-63.16	Addresses, Incorporation by Reference, Availability of Information, Performance Track Provisions	Yes.
§63.1(a)(5),(a)(7)-(a)(9), (b)(2), (c)(3)-(4), (d), 63.6(b)(6), (c)(3), (c)(4), (d), (e)(2), (e)(3)(ii), (h)(3), (h)(5)(iv), 63.8(a)(3), 63.9(b)(3), (h)(4), 63.10(c)(2)-(4), (c)(9).	Reserved	No.

Table 11 to Subpart DDDDD of Part 63—Toxic Equivalency Factors for Dioxins/Furans

Dioxin/furan congener	Toxic equivalency factor
2,3,7,8-tetrachlorinated dibenzo-p-dioxin	1
1,2,3,7,8-pentachlorinated dibenzo-p-dioxin	1
1,2,3,4,7,8-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,7,8,9-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,6,7,8-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,4,6,7,8-heptachlorinated dibenzo-p-dioxin	0.01
octachlorinated dibenzo-p-dioxin	0.0003
2,3,7,8-tetrachlorinated dibenzofuran	0.1
2,3,4,7,8-pentachlorinated dibenzofuran	0.3
1,2,3,7,8-pentachlorinated dibenzofuran	0.03
1,2,3,4,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,6,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,7,8,9-hexachlorinated dibenzofuran	0.1
2,3,4,6,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,4,6,7,8-heptachlorinated dibenzofuran	0.01
1,2,3,4,7,8,9-heptachlorinated dibenzofuran	0.01
octachlorinated dibenzofuran	0.0003

Table 12 to Subpart DDDDD of Part 63—Alternative Emission Limits for New or Reconstructed Boilers and Process Heaters That Commenced Construction or Reconstruction After June 4, 2010, and Before May 20, 2011

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	Using this specified sampling volume or test run duration...
1. Units in all subcategories designed to burn solid fuel	a. Mercury	3.5E-06 lb per MMBtu of heat input.	For M29, collect a minimum of 2 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[a] collect a minimum of 2 dscm.
2. Units in all subcategories designed to burn solid fuel that combust at least 10 percent biomass/bio-based solids on an annual heat input basis and less than 10 percent coal/solid fossil fuels on an annual heat input basis.	a. Particulate Matter	0.008 lb per MMBtu of heat input (30-day rolling average for units 250 MMBtu/hr or greater, 3-run average for units less than 250 MMBtu/hr).	Collect a minimum of 1 dscm per run.
	b. Hydrogen Chloride	0.004 lb per MMBtu of heat input.	For M26A, collect a minimum of 1 dscm per run; for M26, collect a minimum of 60 liters per run.
3. Units in all subcategories designed to burn solid fuel that combust at least 10 percent coal/solid fossil fuels on an annual heat input basis and less than 10 percent biomass/bio-based solids on an annual heat input basis.	a. Particulate Matter	0.0011 lb per MMBtu of heat input (30-day rolling average for units 250 MMBtu/hr or greater, 3-run average for units less than 250 MMBtu/hr).	Collect a minimum of 3 dscm per run.
	b. Hydrogen Chloride	0.0022 lb per MMBtu of heat input.	For M26A, collect a minimum of 1 dscm per run; for M26, collect a minimum of 60 liters per run.
4. Units designed to burn pulverized coal/solid fossil fuel	a. CO	90 ppm by volume on a dry basis corrected to 3 percent oxygen.	1 hr minimum sampling time.
	b. Dioxins/Furans	0.003 ng/dscm (TEQ) corrected to 7 percent oxygen.	Collect a minimum of 4 dscm per run.

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	Using this specified sampling volume or test run duration...
5. Stokers designed to burn coal/solid fossil fuel	a. CO	7 ppm by volume on a dry basis corrected to 3 percent oxygen.	1 hr minimum sampling time.
	b. Dioxins/Furans	0.003 ng/dscm (TEQ) corrected to 7 percent oxygen.	Collect a minimum of 4 dscm per run.
6. Fluidized bed units designed to burn coal/solid fossil fuel	a. CO	30 ppm by volume on a dry basis corrected to 3 percent oxygen.	1 hr minimum sampling time.
	b. Dioxins/Furans	0.002 ng/dscm (TEQ) corrected to 7 percent oxygen.	Collect a minimum of 4 dscm per run.
7. Stokers designed to burn biomass/bio-based solids	a. CO	560 ppm by volume on a dry basis corrected to 3 percent oxygen.	1 hr minimum sampling time.
	b. Dioxins/Furans	0.005 ng/dscm (TEQ) corrected to 7 percent oxygen.	Collect a minimum of 4 dscm per run.
8. Fluidized bed units designed to burn biomass/bio-based solids	a. CO	260 ppm by volume on a dry basis corrected to 3 percent oxygen.	1 hr minimum sampling time.
	b. Dioxins/Furans	0.02 ng/dscm (TEQ) corrected to 7 percent oxygen.	Collect a minimum of 4 dscm per run.
9. Suspension burners/Dutch Ovens designed to burn biomass/bio-based solids	a. CO	1,010 ppm by volume on a dry basis corrected to 3 percent oxygen.	1 hr minimum sampling time.
	b. Dioxins/Furans	0.2 ng/dscm (TEQ) corrected to 7 percent oxygen.	Collect a minimum of 4 dscm per run.
10. Fuel cells designed to burn biomass/bio-based solids	a. CO	470 ppm by volume on a dry basis corrected to 3 percent oxygen.	1 hr minimum sampling time.
	b. Dioxins/Furans	0.003 ng/dscm (TEQ) corrected to 7 percent oxygen.	Collect a minimum of 4 dscm per run.
11. Hybrid suspension/grate units designed to burn biomass/bio-based solids	a. CO	1,500 ppm by volume on a dry basis corrected to 3 percent oxygen.	1 hr minimum sampling time.
	b. Dioxins/Furans	0.2 ng/dscm (TEQ) corrected to 7 percent oxygen.	Collect a minimum of 4 dscm per run.

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	Using this specified sampling volume or test run duration...
12. Units designed to burn liquid fuel	a. Particulate Matter	0.002 lb per MMBtu of heat input (30-day rolling average for units 250 MMBtu/hr or greater, 3-run average for units less than 250 MMBtu/hr).	Collect a minimum of 2 dscm per run.
	b. Hydrogen Chloride	0.0032 lb per MMBtu of heat input.	For M26A, collect a minimum of 1 dscm per run; for M26, collect a minimum of 60 liters per run.
	c. Mercury	3.0E-07 lb per MMBtu of heat input.	For M29, collect a minimum of 2 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[a] collect a minimum of 2 dscm.
	d. CO	3 ppm by volume on a dry basis corrected to 3 percent oxygen.	1 hr minimum sampling time.
	e. Dioxins/Furans	0.002 ng/dscm (TEQ) corrected to 7 percent oxygen.	Collect a minimum of 4 dscm per run.
13. Units designed to burn liquid fuel located in non-continental States and territories	a. Particulate Matter	0.002 lb per MMBtu of heat input (30-day rolling average for units 250 MMBtu/hr or greater, 3-run average for units less than 250 MMBtu/hr).	Collect a minimum of 2 dscm per run.
	b. Hydrogen Chloride	0.0032 lb per MMBtu of heat input.	For M26A, collect a minimum of 1 dscm per run; for M26, collect a minimum of 60 liters per run.

If your boiler or process heater is in this subcategory ...	For the following pollutants ...	The emissions must not exceed the following emission limits, except during periods of startup and shutdown...	Using this specified sampling volume or test run duration...
	c. Mercury	7.8E-07 lb per MMBtu of heat input.	For M29, collect a minimum of 1 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[a] collect a minimum of 2 dscm.
	d. CO	51 ppm by volume on a dry basis corrected to 3 percent oxygen.	1 hr minimum sampling time.
	e. Dioxins/Furans	0.002 ng/dscm (TEQ) corrected to 7 percent oxygen.	Collect a minimum of 4 dscm per run.
14. Units designed to burn gas 2 (other) gases	a. Particulate Matter	0.0067 lb per MMBtu of heat input (30-day rolling average for units 250 MMBtu/hr or greater, 3-run average for units less than 250 MMBtu/hr).	Collect a minimum of 1 dscm per run.
	b. Hydrogen Chloride	0.0017 lb per MMBtu of heat input.	For M26A, collect a minimum of 1 dscm per run; for M26, collect a minimum of 60 liters per run.
	c. Mercury	7.9E-06 lb per MMBtu of heat input.	For M29, collect a minimum of 1 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784[a] collect a minimum of 2 dscm.
	d. CO	3 ppm by volume on a dry basis corrected to 3 percent oxygen.	1 hr minimum sampling time.
	e. Dioxins/Furans	0.08 ng/dscm (TEQ) corrected to 7 percent oxygen.	Collect a minimum of 4 dscm per run.

[a] Incorporated by reference, see §63.14.

Cargill Incorporated
Hammond, Indiana

Fugitive Particulate Matter Plan

Cargill Incorporated
1100 Indianapolis Boulevard
Hammond, Indiana

October 2006
Revised February 2011

CONTENTS

1.0 INTRODUCTION

Sources in Lake County, Indiana with facilities and operations, having the potential to emit five tons per year of fugitive particulate matter must submit a Fugitive Particulate Matter Plan for those facilities and operations, in accordance with 326 IAC 6.8-10. Affected facilities and operations include paved roads and parking lots, unpaved roads and parking lots, material transfer, wind erosion from storage piles, and material transportation activities. When the control plan is fully implemented, the source will achieve compliance with the applicable emissions limitations.

2.0 FACILITY IDENTIFICATION

This Fugitive Particulate Matter Plan is submitted by Cargill for the Hammond facility. The name and mailing address for this facility is:

Cargill, Inc.
1100 Indianapolis Boulevard
Hammond, Indiana 46320-1094

The Environmental Manager is:
Contact: Mike Golando
Phone: (219) 473-2567

Mike Golando, the Environmental Manager is responsible for the implementation of this plan.

3.0 FACILITY DESCRIPTION

The Cargill facility is a wet corn mill located in Hammond, Indiana. The facility's main products are corn syrup, starches, and corn by-products. Corn is used as the raw material. After receiving the corn it is sent to the steephouse where the corn is soaked in a water and sulfur dioxide solution. After soaking, the corn is separated into four sections – germ, gluten, starch, and fiber. The starch is processed on-site, while the fiber, germ and gluten are sold without processing. Prior to shipping off-site the fiber, germ, and gluten are dried by various natural gas fired dryers. The starch is sent to the starch production area, where it is refined into various starch and corn syrup products. The products are sent to either warehouse are for packaging or directed shipped in bulk load semi trucks and railcars.

4.0 IDENTIFICATION OF SOURCES

4.1 Paved Roadways

Fugitive particulate matter source at the Cargill facility include paved roads and parking lots. Fugitive particulate matter emissions from paved roads and parking lots must not exceed an average 10% instantaneous opacity, 326 IAC 6.8-10-3(1). If emissions do exceed this level, the plant has twenty-four hours to implement the control measures outlined in the following section.

The total fugitive particulate matter emissions from paved roads and parking lots in the plant grounds were calculated as 1.87 tons per year (see Appendix A, Table A-2), using equations found in the U.S. EPA's AP-42, section 13.2.1. These calculations were based on average daily traffic at the plant that is summarized in the following table:

Type of Vehicle	Average Vehicles Per Day	Total Vehicles Per Year	Vehicle Miles Traveled Per Trip	Vehicle Miles Traveled Per Year
Employee Cars (includes cars, pick-up trucks, and SUVs)	210	76,650	0.34	26,000
Feed Trucks	5	1,875	0.81	1,478
Germ Trucks	3	1,095	1.21	1,325
Gluten Trucks	1	365	1.21	442
Syrup Trucks	3	1,095	0.46	504
Starch Trucks	5	1,825	0.85	1,551
Chemical Trucks	2	730	1.1	803
Bagged Product Trucks	25	9,125	0.93	8,486
Corn Trucks	48	17,520	0.27	4,730

The total vehicle miles traveled per year were determined from mapping out the truck routes at the plant (see Appendix B for facility map with truck routes).

The surface silt loading value (1.1 g/m^2) was taken from the U.S. EPA's AP-42, section 13.2.1. The value used is the mean valve for silt-loadings reported for Corn Wet Mills.

4.2 Wind Erosion – Feed Pile

Standard operating practices for feed operations at the Hammond facility is load feed (fiber) directly into railcars. However, when railcars are not available the facility will stack feed in a bunker. Fugitive particulate matter emissions from wind erosion must not exceed 10% on a 6 minute average, 326 IAC 6.8-10-3(5).

Wind erosion fugitive particulate emissions were calculated using equations U.S. EPA's AP-42, section 13.2.5.
Emissions from the feed pile were conservatively calculated based upon the following:

1) The pile operating 365 days per year
2) Disturbing the pile 50 times per day, with 100 percent of the pile being disturbed.
3) Based emissions on March 2001 wind data from Gary, Indiana (March is usually the usually the windiest month).
4) No control efficiencies taken for a bunker enclosed on 3 sides with a roof.

The total fugitive particulate matter emissions from wind erosion were calculated as 0.47 tons per year (see Appendix A, Table A-3).

4.3 Material Transfer

Eleven (11) material transfer locations were identified at the Cargill – Hammond facility. These locations transfer dry materials via a conveyor and drop into either a storage or process vessel/silo. Fugitive particulate matter emissions from material transfer shall not exceed 10% opacity on a 3 minute average, 326 IAC 6.8-10-3(4).

The total fugitive particulate matter emissions from material transfers were calculated as 0.83 tons per year (see Appendix A, Table A-4).

4.4 Total Fugitive Emissions

Total fugitive particulate emissions for the Cargill – Hammond facility are shown in Appendix A, Table A-1. Total uncontrolled fugitive particulate emissions are 3.17 tons per year, and total controlled fugitive particulate emissions are 2.46 tons per year.

5.0 CONTROL MEASURES

326 IAC 6.8-1, Applicability Section 1(a) states the Lake County facilities subject to this rule are those:

1) Facilities that having the potential to emit 5 tons per year of particulate matter into the atmosphere; or
2) Facilities name by the rule; or
3) New sources required to be registered or permitted under 326 IAC 2.5-1; or
4) The independent contractors, companies, and corporations performing byproduct processing recycling activities, waste disposal, or any other activities that may result in uncontrolled PM10 emissions of five (5) tons per year or more; or
5) Any subsequent owner or operator of a source or facility covered by this section.

At this time, 326 IAC 6.8 does not apply to the Cargill – Hammond facility. The facility does not have the potential to emit 5 tons per year of particulate matter into the atmosphere, is not named in 326 IAC 6.8-1(a)(2), is not a new source, does not perform byproduct processing recycling activities, nor the subsequent owner or operator of a source covered by this section.

However, the Cargill – Hammond facility will review its fugitive particulate emissions annually to determine this rules applicability.

If a future determination finds the facility is subject to 326 IAC 6.8-10 control measures the facility could implement include:

1) Paved Roadways
   a. Speed limits
   b. Street sweeping
2) Wind Erosion
   a. Covering feed pile
   b. Application of dust control chemicals
3) Material Transfer
   a. Investigate engineering controls

6.0 REPORTING

The source is not subject to the reporting requirements in 326 IAC 6.8-10.

However, if a later determination finds 326 IAC 6.8-10 is applicably to the source then:

The source will submit a quarterly report to the Indiana Department of Environmental Management (IDEM) describing any deviations from the fugitive particulate matter plan should an event occur. In particular, the report must include the following information:

- The dates any required control measures were not implemented,
- A listing of those control measures not implemented,
- The reasons that the control measures were not implemented, and
- Any corrective action taken by the facility.

The report will be submitted to IDEM thirty calendar days from the end of the quarter in which the event occured. Quarters end on March 31, June 30, September 30, and December 31.

APPENDIX A
CALCULATIONS

Table A-4
Cargill, Inc. - Hammond, Indiana
Total Fugitive Emissions

Source	Uncontrolled TSP Emission Rate Tons/yr	Uncontrolled PM10 Emission Rate Tons/yr	Uncontrolled PM2.5 Emission Rate Tons/yr	Controlled TSP Emission Rate Tons/yr	Controlled PM10 Emission Rate Tons/yr	Controlled PM2.5 Emission Rate Tons/yr
Paved Roads	1.871	0.374	0.092	1.871	0.374	0.092
Wind Erosion						
Fiber Pile	0.471	0.236	0.035	0.471	0.236	0.035
Material Transfer	0.832	0.393	0.059	0.123	0.058	0.009
Totals	**3.174**	**1.003**	**0.187**	**2.465**	**0.668**	**0.136**

Table A-2
Cargill, Inc. - Hammond, Indiana
Paved Road Emissions

Emission Factor (EF) Equation[1]

EF (lb/VMT) = [k * (sL / 2) ^ 0.91 * W ^ 1.02] * (1-P/4N)

k =	Particle size multiplier =	0.011	for TSP	(lb/VMT)
		0.0022	for PM10	(lb/VMT)
		0.00054	for PM-2.5	(lb/VMT)
sL =	Silt loading (g/m^2) =	1.1	Table 13.2.1-3, Mean	
W =	Vehicle weight (tons) =	see Table below		
P =	number of days during the averaging period with at least 0.01 in of precipitation =	120	Figure 13.2.1-2	
N =	number of days in the averaging period =	365		

Average

TSP/PM10/PM2.5 Emissions Calculation

Vehicle Traffic	Average Vehicles/day	Empty Weight tons	Loaded Weight tons	Average Vehicle Weight tons	TSP Emission Factor lbs/VMT	PM-10 Emission Factor lbs/VMT	PM-2.5 Emission Factor lbs/VMT	Number of Trips trips/yr	Total Trip Distance miles	Vehicle Mile Traveled mile/yr	Uncontrolled TSP Emissions ton/yr	Uncontrolled PM-10 Emissions ton/yr	Uncontrolled PM-2.5 Emissions ton/yr
Employee [2]	210	1.5	1.5	1.5	0.01	0.00	0.00	76,650	0.34	26,061	0.115	0.023	0.006
Feed Trucks	5	18	40	29.0	0.18	0.04	0.01	1,825	0.81	1,478	0.134	0.027	0.007
Germ Trucks	3	18	40	29.0	0.18	0.04	0.01	1,095	1.21	1,325	0.120	0.024	0.006
Gluten Trucks	1	18	40	29.0	0.18	0.04	0.01	365	1.21	442	0.040	0.008	0.002
Syrup Trucks	3	18	40	29.0	0.18	0.04	0.01	1,095	0.46	504	0.046	0.009	0.002
Starch Trucks	5	18	40	29.0	0.18	0.04	0.01	1,825	0.85	1,551	0.141	0.028	0.007
Chemical Trucks	2	18	40	29.0	0.18	0.04	0.01	730	1.1	803	0.073	0.015	0.004
Bagged Prodcuts Trucks	25	18	40	29.0	0.18	0.04	0.01	9,125	0.93	8,486	0.771	0.154	0.038
Corn Trucks	48	18	40	29.0	0.18	0.04	0.01	17,520	0.27	4,730	0.430	0.086	0.021
							Total		**Uncontrolled Emissions (tons/yr)**		1.871	0.374	0.092

1. AP-42, Chapter 13.2.1 Paved Roads, Janurary 2011.
2. Includes cars, pick-up trucks and SUVs.

Table A-3
Cargill, Inc. - Hammond, Indiana
Feed Pile - Wind Erosion

Emission Factor Calculation[1]

Month	Day	Fastest Mile $(U^+)^2$ (mph)	Daily[3] $u^* = 0.02xU^+_{10}$ (mph)	Daily[3] $u^* = 0.02xU^+_{10}$ (m/s)	Daily[3] $u^* = 0.06xU^+_{10}$ (mph)	Daily[3] $u^* = 0.06xU^+_{10}$ (m/s)	Daily[3] $u^* = 0.09xU^+_{10}$ (mph)	Daily[3] $u^* = 0.09xU^+_{10}$ (m/s)	**40% of Pile** Erosion Potential[4] $P = 58 * (u^*-u^*_t)^2 + 25 * (u^* - u^*_t)$ Pi, (g/m^2)	**48% of Pile**	**12% of Pile**
March	1	23	0.48	0.22	1.45	0.65	2.18	0.97	0.00	0.00	0.00
March	2	24.2	0.51	0.23	1.53	0.68	2.29	1.02	0.00	0.00	0.00
March	3	29.3	0.62	0.28	1.85	0.83	2.77	1.24	0.00	0.00	3.82
March	4	34.4	0.72	0.32	2.17	0.97	3.26	1.46	0.00	0.00	14.91
March	5	32.2	0.68	0.30	2.03	0.91	3.05	1.36	0.00	0.00	9.47
March	6	32.2	0.68	0.30	2.03	0.91	3.05	1.36	0.00	0.00	9.47
March	7	20.8	0.44	0.20	1.31	0.59	1.97	0.88	0.00	0.00	0.00
March	8	23	0.48	0.22	1.45	0.65	2.18	0.97	0.00	0.00	0.00
March	9	20.8	0.44	0.20	1.31	0.59	1.97	0.88	0.00	0.00	0.00
March	10	28.9	0.61	0.27	1.82	0.82	2.74	1.22	0.00	0.00	3.18
March	11	25.3	0.53	0.24	1.60	0.71	2.39	1.07	0.00	0.00	0.00
March	12	29.9	0.63	0.28	1.89	0.84	2.83	1.27	0.00	0.00	4.85
March	13	29.9	0.63	0.28	1.89	0.84	2.83	1.27	0.00	0.00	4.85
March	14	23	0.48	0.22	1.45	0.65	2.18	0.97	0.00	0.00	0.00
March	15	29.9	0.63	0.28	1.89	0.84	2.83	1.27	0.00	0.00	4.85
March	16	34.4	0.72	0.32	2.17	0.97	3.26	1.46	0.00	0.00	14.91
March	17	25.3	0.53	0.24	1.60	0.71	2.39	1.07	0.00	0.00	0.00
March	18	20.8	0.44	0.20	1.31	0.59	1.97	0.88	0.00	0.00	0.00
March	19	23	0.48	0.22	1.45	0.65	2.18	0.97	0.00	0.00	0.00
March	20	23.6	0.50	0.22	1.49	0.67	2.23	1.00	0.00	0.00	0.00
March	21	24.2	0.51	0.23	1.53	0.68	2.29	1.02	0.00	0.00	0.00
March	22	22.5	0.47	0.21	1.42	0.63	2.13	0.95	0.00	0.00	0.00
March	23	20.8	0.44	0.20	1.31	0.59	1.97	0.88	0.00	0.00	0.00
March	24	25.3	0.53	0.24	1.60	0.71	2.39	1.07	0.00	0.00	0.00
March	25	23	0.48	0.22	1.45	0.65	2.18	0.97	0.00	0.00	0.00
March	26	23	0.48	0.22	1.45	0.65	2.18	0.97	0.00	0.00	0.00
March	27	20.7	0.44	0.19	1.31	0.58	1.96	0.88	0.00	0.00	0.00
March	28	18.3	0.38	0.17	1.15	0.52	1.73	0.77	0.00	0.00	0.00
March	29	20.7	0.44	0.19	1.31	0.58	1.96	0.88	0.00	0.00	0.00
March	30	23	0.48	0.22	1.45	0.65	2.18	0.97	0.00	0.00	0.00
March	31	23	0.48	0.22	1.45	0.65	2.18	0.97	0.00	0.00	0.00

Threshold wind speed (u*[5]	1.12	m/s	AP-42 Table 13.2.5-2
Convert threshold to equiv fastest mile (mph)	45.59	mph	
Roughness length (z_0)[5]	0.003	m	AP-42 Table 13.2.5-2
Measurement anemometer height (z)	6.71	m	Gary, Indiana
No. disturbances per day	50		Estimate
Percent of area disturbed between events	100	%	Conservative
Control efficiency	0	%	None

Fiber Pile Potential TSP/PM10/PM2.5 Emissions (based on 8,760 hours per year

Height of Pile	6.1	m
Diameter of Pile	3.81	m
Surface area of pile[6]	86	m^2

	40% of Pile	48% of Pile	12% of Pile	Total	
Uncontrolled TSP Emissions	**0.000**	**0.000**	**0.471**	**0.471**	**(tons/year)**
Uncontrolled PM-10 Emission	**0.000**	**0.000**	**0.236**	**0.236**	**(tons/year)**
Uncontrolled PM-2.5 Emissio	**0.000**	**0.000**	**0.035**	**0.035**	**(tons/year)**
Controlled TSP Emissions	**0.000**	**0.000**	**0.471**	**0.471**	**(tons/year)**
Controlled PM-10 Emissions	**0.000**	**0.000**	**0.236**	**0.236**	**(tons/year)**
Controlled PM-2.5 Emissions	**0.000**	**0.000**	**0.035**	**0.035**	**(tons/year)**

1. AP-42, Chapter 13.2.5 Industrial Wind Erosion, November 2006
2. Maximum wind gusts in March 2001 (usually the windest month of the year) were utilized for Gary, IN from NCDC websit
3. us/ur = 0.2 for 40%, us/ur = 0.6 for 48%, and us/ur = 0.9 for 12% of elevated pile surface area from AP-42, Chp. 13.2.5
4. Equation from AP-42, Chp. 13.2.5 = P = 58 * (u*-u*t)^2 + 25 * (u* - u*t)
5. Assumed uncrusted coal pile similar to fiber pile

Table A-4
Cargill, Inc. - Hammond, Indiana
Material Transfers

Emission Factor (EF) Equation[1]

EF (lb/ton) = k * 0.0032 * ((U / 5) ^ 1.3 / (M/2) ^ 1.4)

k =	Particle size multiplier =	0.74	for TSP
		0.35	for PM-10
		0.053	for PM-2.5
U =	mean wind speed, mph =	10.3	44 year average ending 2002 for Chicago, Il
M =	material moisture content, % =	15	Corn
M =	material moisture content, % =	40	Fiber
M =	material moisture content, % =	4	Germ
M =	material moisture content, % =	9.5	Gluten
M =	material moisture content, % =	15	Cracked Corn

Material Transfer Emission Factor =

3.61E-04	**lb TSP/ton Corn**	**Materials**	21,900,000 bu/yr
1.71E-04	**lb PM-10/ton Corn**		56 lbs/bu - corn
2.58E-05	**lb PM-2.5/ton Corn**		6.47 lbs/bu - fiber
			3.36 lb/bu - germ
9.14E-05	**lb TSP/ton Fiber**		2.2 lb/bu - gluten
4.32E-05	**lb PM-10/ton Fiber**		1.84 lb/bu - cracked corn
6.55E-06	**lb PM-2.5/ton Fiber**		
			613,200 Ton/yr corn
2.30E-03	**lb TSP/ton Germ**		70,847 ton/yr fiber
1.09E-03	**lb PM-10/ton Germ**		36,792 ton/yr germ
1.64E-04	**lb PM-2.5/ton Germ**		24,090 ton/yr gluten
			20,148 ton/yr cracked corn
6.84E-04	**lb TSP/ton Gluten**		
3.24E-04	**lb PM-10/ton Gluten**		
4.90E-05	**lb PM-2.5/ton Gluten**		
3.61E-04	**lb TSP/ton Cracked Corn**		
1.71E-04	**lb PM-10/ton Cracked Corn**		
2.58E-05	**lb PM-2.5/ton Cracked Corn**		

TSP/PM10/PM2.5 Emissions Calculation
Annual emissions based on maximum transfer rate

Transfer Description	**Maximum Material Transferred ton/yr**	**Potential Uncontrolled TSP Emissions ton/yr**	**Potential Uncontrolled PM 10 Emissions ton/yr**	**Potential Uncontrolled PM-2.5 Emissions ton/yr**	**Control Method**	**Control Efficiency**[2] **%**	**Potential Controlled TSP Emission ton/yr**	**Potential Controlled PM-10 Emission ton/yr**	**Potential Controlled PM-2.5 Emission ton/yr**
Corn Unloading	613,200	0.111	0.052	0.008	Baghouse/building	75%	0.028	0.013	0.002
Corn Transfer to Silos	613,200	0.111	0.052	0.008	Baghouse/building	75%	0.028	0.013	0.002
Corn Transfer from Silos	613,200	0.111	0.052	0.008	Baghouse/building	95%	0.006	0.003	0.000
Corn Transfer to Process (3 locations)	613,200	0.332	0.157	0.024	Baghouse/building	95%	0.017	0.008	0.001
Texas Shaker	613,200	0.111	0.052	0.008	Baghouse/building	75%	0.028	0.013	0.002
Fiber Transfer	70,847	0.003	0.002	0.000	Partial Enlcosure	55%	0.001	0.001	0.000
Germ Loadout	36,792	0.042	0.020	0.003	Baghouse/building	75%	0.011	0.005	0.001
Gluten Loadout	24,090	0.008	0.004	0.001	Baghouse/building	75%	0.002	0.001	0.000
Cracked Corn Loadout	20,148	0.004	0.002	0.000	None	0%	0.004	0.002	0.000
Total Material Transfers	**Uncontrolled Potential Emissions**	**0.832**	**0.393**	**0.059**	**Controlled Potential Emissions**		**0.123**	**0.058**	**0.009**

Notes:
1. AP-42, Chapter 13.2.4, November 2006.
2. Control Efficiencies based on Technical Background Document on Control of Fugitive Dust at Cement Manufacturing Facilities, March 19

APPENDIX B
SOURCE MAP

OCS Environmental, Inc.

130 Lincoln Street, Suite 1
Porter, Indiana 46304
Phone- (219) 983-1400
Fax - (219) 983-1414

SITE MAP
FUGITIVE DUST CONTROL PLAN
CARGILL, INC.
HAMMOND, INDIANA

DRAWN: S.Grenzebach	SCALE: As Shown	DATE: 10-24-08
CHECKED: M.Golando	DWG #: FDCP Site Map.dwg	
FILE: FDCP Site Map.dwg		

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Operating Permit Renewal

Source Description and Location

Source Name:	Cargill, Inc.
Source Location:	1100 Indianapolis Blvd., Hammond, IN 46320
County:	Lake
SIC Code:	2046
Permit Renewal No.:	T089-27009-00203
Permit Reviewer:	Kristen Willoughby

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Cargill, Inc. relating to the operation of a stationary wet corn milling facility. On September 24, 2008, Cargill, Inc. submitted an application to the OAQ requesting to renew its operating permit. Cargill, Inc. was issued a Part 70 Operating Permit T089-7994-00203 on June 28, 2004. This Part 70 Operating Permit Renewal resolves Cargill, Inc.'s appeal of Part 70 Operating Permit No. T089-7994-00203, the RACT Plan required under 326 IAC 8-7, and the EPA Consent Decree, United States v. Cargill, Inc., No. 05-2037 (D. Minn.).

Permitted Emission Units and Pollution Control Equipment

I. Anaerobic Wastewater Treatment Process

(a) One (1) anaerobic wastewater treatment process installed in July 1995. Biogas is generated in the wastewater treatment plant by anaerobic reaction. The biogas can be controlled by:

(1) Diverted to a plant process burner for energy recovery, which is the normal scenario; or

(2) One (1) Biogas Flare (Unit ID 800-05-E), installed in July 1995. The biogas flare converts the hydrogen sulfide (H_2S) in the biogas to sulfur dioxide (SO_2). The biogas flare exhausts to stack ID S800-05-E.

II. Alternate Carbohydrate Area

(b) Alternate Carbohydrate Mill Feed Hopper (Unit 127-30-B), installed in May 1993 and repurposed in 2008, with a maximum capacity of 0.836 tons per hour. Particulate emissions are controlled by dust collector (CE127-30-B) that exhausts to stack S127-30-B.

(c) No. 1 and No. 2 Alternate Carbohydrate Storage Bins (Unit ID 127-28-B and 127-29-B), installed in May 1993 and repurposed in 2008, each with a maximum throughput of 15 tons per hour. Carbohydrate is pneumatically conveyed to these hoppers equipped with bag filter dust collectors (CE127-28-B and CE127-29-B) that exhaust to stacks S127-28-B and S127-29-B.

(d) No. 1 and No. 2 Vacuum Cleaner Systems (Unit ID 127-21-B and 127-22-B), installed in May 1993, each with a maximum throughput of 0.3 tons per hour. These systems are for building dust. Particulate emissions are controlled by dust collectors that exhaust to stacks S127-21-B and S127-22-B.

III. Grind and Feedhouse Area

(e) Gluten Dryer System (Unit ID 121-01-G), installed in March 1995. Gluten meal is fed to a 12.5 MMBtu/hr natural and bio gas-fired ring dryer at a maximum throughput of 15,800 lb/hr. Particulate emissions are controlled by wet scrubber (CE121-01-G) that exhausts to stack S121-01-G.

(f) No. 2 Gluten Dryer (Unit ID 121A-01-G), approved for construction in 2008. Gluten meal is fed to a 17 MMBtu/hr natural and bio gas-fired ring dryer at a maximum throughput of 19,700 lb/hr. Particulate emissions are controlled by two (2) wet scrubbers operating in series, one venturi-type followed by one tray-type scrubber (collectively identified as Unit ID CE121A-01-G) that exhausts to stack S121A-01-G.

(g) One (1) Germ Dryer/Cooler (Unit ID 203-01-G), approved for construction in 2008. Corn germ is fed to a 30 MMBtu/hr natural and bio gas-fired germ dryer and cooler at a maximum throughput of 38,600 lb/hr. Particulate emissions are controlled by one (1) wet scrubber (Unit ID CE203-01-G) that exhausts to stack S203-01-G.

(h) No. 1 Bran Bunker (Unit ID 89-06-G), approved for construction in 2008, with a maximum throughput rate of 107,433 tons per year, using a bin vent filter (Unit ID CE089-06-G) with an outlet grain loading of 0.01 gr/dscf as control, and exhausting to stack S89-06-G.

(i) No. 2 Bran Bunker (Unit ID 89-07-G), approved for construction in 2008, with a maximum throughput rate of 107,433 tons per year, using a bin vent filter (Unit ID CE89-07-G) with an outlet grain loading of 0.01 gr/dscf as control, and exhausting to stack S89-07-G.

(j) One (1) Bran Conveyor System (Unit ID 89-08-G), approved for construction in 2008, with a maximum throughput rate of 107,433 tons per year, using existing scrubber CE89-01-G (constructed in 1995) as control, and exhausting to stack S89-01-G.

(k) One (1) Bran Preweigh Hopper (Unit ID 89-09-G), approved for construction in 2008, with a maximum throughput rate of 107,433 tons per year, using a bin vent filter (Unit ID CE89-09-G) with an outlet grain loading of 0.01 gr/dscf as control, and exhausting to stack S89-09-G.

(l) Fiber Drying Equipment (Unit ID 89-01-G), installed in October 1995. Wet fiber is fed to this 78 MMBtu/hr natural gas-fired dryer at a maximum throughput of 79,695 lb/hr. Particulate matter is controlled by a scrubber (CE89-01-G) that exhausts to stack S89-01-G.

(m) Germ Dryer/Cooler (Unit ID 124A-01-G), installed in November 1994. Corn germ is fed to this 12.9 MMBtu/hr natural and bio gas-fired germ dryer and cooler at a maximum throughput of 16,580 lb/hr. Particulate emissions are controlled by one (1) scrubber (CE124A-01-G) that exhaust to stack S124A-01-G.

(n) Central Vacuum Loadout (Unit ID 200-07-G), installed in October 2000, with a maximum throughput of 100 lb/hr. Particulate emissions are controlled by a dust collector (CE200-07-G) that exhausts to stack S200-07-G.

(o) Germ Tank 1310 (Unit ID 200-01-G), installed in October 2000, with a maximum throughput of 80,000 lb/hr. Particulate emissions are controlled by a dust collector (CE200-01-G) that exhausts to stack S200-01-G.

(p) Gluten Tank 1410 (Unit ID 200-02-G), installed in October 2000, with a maximum throughput of 80,000 lb/hr. Particulate emissions are controlled by a dust collector (CE200-02-G) that exhausts to stack S200-02-G.

(q) Corn Screenings Silo (Unit ID 200-06-G), installed in October 2000, with a maximum throughput of 11,000 lb/hr. Particulate emissions are controlled by a dust collector (CE200-06-G) that exhausts to stack S200-06-G.

(r) Gluten Tank 1010 (Unit ID 200-04-G), installed in October 2000, with a maximum throughput of 21,000 lb/hr. Particulate emissions are controlled by a dust collector (CE200-04-G) that exhausts to stack S200-04-G.

(s) Germ Tank 1110 (Unit ID 200-03-G), installed in October 2000, with a maximum throughput of 30,000 lb/hr. Particulate emissions are controlled by a dust collector (CE200-03-G) that exhausts to stack S200-03-G.

(t) Bulk Loadout (Unit ID 200-05-G), installed in October 2000, with a maximum throughput of 95,900 lb/hr. Particulate emissions are controlled by a dust collector (CE200-05-G) that exhausts to stack S200-05-G.

(u) Corn Dump Pit (Unit ID 140-05-G), installed in December 1995, with a maximum throughput of 840 tons/hr. Particulate emissions are controlled by filter baghouse (CE140-05-G) that exhausts to stack S140-05-G.

(v) Corn Elevator Conveying (Unit ID 140-07-G), installed in December 1995, with a maximum throughput of 140 tons/hr. Material is transferred from corn belt 1 to corn belt 2. Particulate emissions are controlled by a filter baghouse (CE140-07-G) that exhausts to stack S140-07-G.

(w) Corn Receiving and Storage, installed in December 1995. This system includes six Storage Bins, each with its own bin vent for control of particulate emissions, and each with a maximum throughput of 420 ton/hr:

(1) Bin #1: Unit ID 140-01-G
(2) Bin #2: Unit ID 140-02-G
(3) Bin #3: Unit ID 140-03-G
(4) Bin #4: Unit ID 140-04-G
(5) Bin #5: Unit ID 33-01-G
(6) Bin #6: Unit ID 33-02-G

(x) Gravity Take-up Conveyor (Corn Scale) (Unit ID 140-06-G), installed in December 1995, with a maximum throughput of 140 ton/hr. Corn is transferred from corn belt 2 to corn belt 3. Particulate emissions are controlled by baghouse (CE140-06-G) that exhausts to stack S140-06-G.

(y) Corn Cleaner (Unit ID 33-03-G), installed in December 1995, with a maximum throughput of 140 ton/hr. Corn passes through mechanical cleaners. Particulate emissions are controlled by a filter baghouse (CE33-03-G) that exhausts to stack S33-03-G.

(z) Corn Screenings System (Unit ID 30-16-G), installed in July 1976, with a maximum throughput of 8.4 ton/hr. This system includes a dirt storage silo equipped with bag filter collector (CE30-16-G) that exhausts to stack S30-16-G.

IV. Utility Area

The Utility area includes the following boiler used to supply steam for plant processes.

(aa) Natural gas-fired Package Boiler #1 (Unit ID 89-03-U), installed in 2006, with a maximum heat input capacity of 274 million Btu/hr, and exhausting to stack S89-03-U. Under NSPS 40 CFR 60 Subpart Db, Package Boiler #1 is a steam-generating unit with a heat input capacity greater than 100 million Btu/hr.

V. Refinery Area

(bb) Corn Syrup Solids Manufacturing System #2 (Unit ID 18-03-R), installed in July 1992, with a maximum throughput of 3.0 ton/hr. Corn syrup solids are fed through a cooling tunnel, milled, screened, and dropped to a receiver for packing. Particulate emissions are controlled by a jet pulse dust collector (CE18-03-R) that exhausts to stack S18-03-R.

(cc) Corn Syrup Spray Dryer #4 (Unit ID 100-03-R), installed in April 1992. Corn syrup is fed to a dryer at a maximum throughput of 4.8 ton/hr. The solids are sent through cyclones to a packing area. Particulate emissions are controlled by a wet scrubber (CE100-03-R) that exhausts to stack S100-03-R.

(dd) Corn Syrup Spray Dryer/Cooler System #3 (Unit ID 100-01-R), installed in July 1987. Corn syrup is fed to a dryer at a maximum rate of 4.8 ton/hr. The solids are sent through cyclones to a packing area. Particulate emissions are controlled by a wet venturi scrubber (CE100-01-R) that exhausts through stack S100-01-R.

(ee) Activated Carbon Regeneration Furnace #2 (Unit ID 104-01-R), installed in July 1995. Spent carbon is regenerated in this 13.2 MMBtu/hr natural gas-fired furnace at a maximum throughput of 1.146 ton/hr. Emissions are controlled by a venturi scrubber and an impingement furnace scrubber (CE104-01-R) that exhaust through stack S104-01-R.

(ff) Liquid Soda Ash Tank (Unit ID 104-02-R), installed in July 1995, with a maximum throughput of 15 ton/hr. Particulate emissions from loading this tank are controlled by a venturi scrubber (CE104-02-R) that exhausts to stack S104-02-R.

(gg) Filter Aid Hopper (Unit ID 104-03-R), installed in July 1995, with a maximum throughput of 0.75 ton/hr. This hopper is equipped with a jet pulse baghouse (CE104-03-R) that exhausts to stack S104-03-R.

(hh) Sodium Bisulfite Bag Dump (Unit ID 104-05-R), installed in July 1995, with a maximum throughput of 0.7 ton/hr. This unit is controlled by a jet pulse baghouse (CE104-05-R) that exhausts to stack S104-05-R.

(ii) Diatomaceous Earth Unloading (Unit ID 104-08-R), installed in November 1998**,** with a maximum throughput of 1.75 ton/hr. Diatomaceous earth (filter aid) is unloaded from railcar to silo. Particulate emissions are controlled by a Bin Vent Filter (DC2312) that exhausts to stack S104-08-R.

(jj) Citric Acid Dump Station (Unit ID 104-09-R), installed in November 1998, with a maximum throughput of 30 lb/hr. Citric Acid is added during the production of corn syrup. Particulate emissions are controlled by a built-in dust collector (CE104-09-R) that exhausts to stack S104-09-R.

VI. Starch Production Area

(kk) Batch Scale Hopper #1 (Unit ID 34-01-S), installed in January 1991, with a maximum throughput of 24 ton/hr. Starch is pneumatically conveyed to a hopper. Particulate emissions are controlled by a bag filter dust collector (CE34-01-S) that exhausts to stack S34-01-S.

(ll) Dextrin Starch Reactor #1 (Unit ID 34-02-S), installed in January 1991, with a maximum throughput of 6 ton/hr. Dried cornstarch is fed to a reactor heated by steam from the plant boiler. Particulate emissions are controlled by a bag filter dust collector (CE34-02-S) that exhausts to stack S34-02-S.

(mm) Dextrin Starch Cooler #1 (Unit ID 34-03-S), installed in January 1991, with a maximum throughput of 6 ton/hr. Roasted cornstarch is fed to a cooler and transferred to a hopper for storage. Particulate emissions are controlled by a bag filter dust collector (CE34-03-S) that exhausts to stack S34-03-S.

(nn) Surge Hopper #1 (Unit ID 34-05-S), installed in January 1991, with a maximum throughput of 6 ton/hr. Starch is pneumatically conveyed to a hopper. Particulate emissions are controlled by a bag filter dust collector (CE34-05-S) that exhausts to stack S34-05-S.

(oo) Dextrin Feed Hoppers #1 and #2 (System #1) (Unit IDs 34-06-S and 34-07-S), installed in April 1993, each with a maximum throughput of 6 ton/hr. Starch is gravity conveyed to these hoppers. Particulate emissions are controlled by bag filter dust collectors (CE34-06-S and CE34-07-S) that exhaust to stacks S34-06-S and S34-07-S.

(pp) Batch Scale Hopper #2 (Unit ID 34B-13-S), installed in October 1993, with a maximum throughput of 24 ton/hr. Starch is pneumatically conveyed to a hopper. Particulate emissions are controlled by a bag filter dust collector (CE34B-13-S) that exhausts to stack S34B-13-S.

(qq) Dextrin Starch Reactor #2 (Unit ID 34B-04-S), installed in October 1993, with a maximum throughput of 6 ton/hr. Dried cornstarch is fed to a reactor heated by steam from the plant boiler. Particulate emissions are controlled by a bag filter dust collector (CE34B-04-S) that exhausts to stack S34B-04-S.

(rr) Dextrin Starch Cooler #2 (Unit ID 34B-01-S), installed in October 1993, with a maximum throughput of 6 ton/hr. Roasted cornstarch is fed to a cooler and transferred to a hopper for storage. Particulate emissions are controlled by dust collector (CE34B-01-S) that exhausts to stack S34B-01-S.

(ss) Surge Hopper #2 (Unit ID 34B-03-S), installed in October 1993, with a maximum throughput of 6 ton/hr. Starch is pneumatically conveyed to a hopper. Particulate emissions are controlled by a bag filter dust collector (CE34B-03-S) that exhausts to stack S34B-03-S.

(tt) Dextrin Feed Hoppers #3 and #4 (System #2) (Unit IDs 34B-05-S and 34B-06-S), installed in October 1993, each with a maximum throughput of 6 ton/hr. Starch is gravity conveyed to these hoppers. Particulate emissions are controlled by bag filter dust collectors (CE34B-05-S and CE34B-06-S) that exhaust to stacks S34B-05-S and S34B-06-S.

(uu) Dextrin Bulk Loading Equipment (Unit ID 48-09-S), installed before 1977, with a maximum throughput of 30 ton/hr. Starch is pneumatically conveyed to this hopper. Particulate emissions are controlled by a bag filter dust collector (CE48-09-S) that exhausts to stack S48-09-S.

(vv) Starch Ring Dryer #2 (Unit ID 59-03-S), installed in November 1993. Starch is fed to this 25 MMBtu/hr natural gas-fired ring dryer at a maximum throughput of 13.5 ton/hr. Dried starch is collected with six cyclones in series. Particulate emissions are controlled by a wet scrubber (CE59-03-S) that exhausts to stack S59-03-S.

(ww) Starch Milling Systems #1 and #2 (Unit IDs 59-01-S and 59-02-S), installed in July 1976, each with a maximum throughput of 15 ton/hr. Dried cornstarch is milled and transferred to storage. Particulate emissions are controlled by bag filter dust collectors (CE59-01-S and CE59-02-S) that exhaust to stacks S59-01-S and S59-02-S.

(xx) Starch Ring Dryer #3 (Unit ID 125-01-S), installed in May 1980. Cornstarch is fed to this 62 MMBtu/hr natural gas-fired ring dryer at a maximum throughput of 26.55 ton/hr. Dried starch is collected with six cyclones in series. Particulate emissions are controlled by a wet scrubber (CE125-01-S) that exhausts to stack S125-01-S.

(yy) Special Starch Process with Starch Ring Dryer #4 (Unit ID 128-01-S), installed in December 1993. Cornstarch is fed to this 30 MMBtu/hr natural gas-fired dryer at a maximum throughput of 12.5 ton/hr. Dried starch is collected with six cyclones in series. Particulate emissions are controlled by wet scrubber (CE128-01-S) that exhausts to stack S128-01-S.

(zz) Reactors #2 through #8 (Unit IDs 128-07-S through 128-13-S), installed in November 1988 (2-4) and December 1991 (5-8), each can process up to 40 tons of starch. Cornstarch and propylene oxide are reacted through Reactors 2, 3, 4, and 7 only. When propylene oxide is used, each reactor can use up to 5 tons of propylene oxide per batch. When propylene oxide is used in the starch reaction, VOC emissions are controlled by a thermal oxidizer that exhausts to stack S128-14-S.

(aaa) Sodium Sulfate Storage Bin (Unit ID 128-25-S), installed in October 2000, with a maximum throughput of 1.1 ton/hr. Particulate emissions are controlled by a bin vent dust collector (FA1900), that exhausts to stack S128-25-S.

(bbb) Sodium Sulfate Weigh Bin (Unit ID 128-26-S), installed in October 2000, with a maximum throughput of 1.1 ton/hr. Particulate emissions are controlled by a bin vent dust collector (FA1950), that exhausts to stack S128-26-S.

(ccc) Cornstarch Storage Bins #20 through #36 (Unit IDs 120-01-S through 120-17-S), installed in July 1990, each with a maximum throughput of 75 ton/hr. Cornstarch is pneumatically conveyed to these storage bins. Particulate emissions are controlled by bag filter dust collectors that exhaust to stacks S120-01-S through S120-17-S.

(ddd) Waxy Cornstarch Bulk Storage Bins #95 through #98 (Unit IDs 126-01-S through 126-04-S), replaced in January 1996, each with a maximum throughput of 20.5 ton/hr. Waxy cornstarch is conveyed to these bins. Particulate emissions are controlled by dust collectors (CE126-01-S through CE126-04-S) that exhaust to stacks S126-01-S through S126-04-S.

(eee) Cornstarch Blending Systems #1 through #4 (Unit IDs 130-01-S through 130-04-S), installed in April 1988, each with a maximum throughput of 30 ton/hr. Cornstarch is blended and moved to the warehouse for packing. Particulate emissions are controlled by bag filter dust collectors (CE130-01-S through 130-04-S) that exhaust to stacks S130-01-S through S130-04-S.

(fff) Dextrin Blender (Unit ID 130-05-S), installed in October 1993, with a maximum throughput of 30 ton/hr. Cornstarch is blended and moved to the warehouse for packing. Particulate emissions are controlled by a bag filter dust collector (CE130-05-S) that exhausts to stack S130-05-S.

(ggg) One (1) 28,000 gallon horizontal propylene oxide tank (Unit ID 93-18-S), installed in 1988, with 95% efficient vapor recovery (liquid nitrogen condenser). This tank also provides propylene oxide to other starch processes.

VII. Starch Warehouse Area

(hhh) Channel 2 Receiver (Unit ID 93-32-W), installed in September 2000, with a maximum throughput of 15 ton/hr. Particulate emissions are controlled by a filter dust collector that exhausts to stack S93-32-W.

(iii) Channel 3 Receiver (Unit ID 93-33-W), installed in September 2000, with a maximum throughput of 25 ton/hr. Particulate emissions are controlled by a filter dust collector that exhausts to stack S93-33-W.

(jjj) Channel 4 Receiver (Unit ID 93-34-W), installed in September 2000, with a maximum throughput of 15 ton/hr. Particulate emissions are controlled by a filter dust collector that exhausts to stack S93-34-W.

(kkk) Channel 6 Receiver (Unit ID 93-35-W), installed in September 2000, with a maximum throughput of 4.5 ton/hr. Particulate emissions are controlled by a filter dust collector that exhausts to stack S93-35-W.

(lll) Channel 4/6 Packing (Unit ID 93-37-W), installed in September 2000, with a maximum throughput of 40 ton/hr. Particulate emissions are controlled by a filter dust collector that exhausts to stack S93-37-W.

(mmm) Channel 2/3 Packing (Unit ID 93-36-W), installed in September 2000, with a maximum throughput of 40 ton/hr. Particulate emissions are controlled by a filter dust collector that exhausts to stack S93-36-W.

(nnn) Central Vacuum System (Unit ID 93-38-W), installed in October 2000, with a maximum throughput of 100 lb/hr. Particulate emissions are controlled by a filter dust collector that exhausts to stack S93-38-W.

(ooo) Dried Corn Syrup Conveying System (Unit ID 93-04-W), installed in July 1976, with a maximum throughput of 15 ton/hr. Particulate emissions are controlled by a baghouse (CE93-04-W) that exhausts to stack S93-04-W.

(ppp) Corn Syrup Solids Conveying System (Unit ID 93-05-W), installed in July 1976, with a maximum throughput of 10 ton/hr. Particulate emissions are controlled by a baghouse (CE93-05-W) that exhausts to stack S93-05-W.

(qqq) Frodex Semi-bulk Packing System (Unit ID 93-08-W), installed in September 1989, with a maximum throughput of 10 ton/hr. Particulate emissions are controlled by a baghouse (CE93-08-W) that exhausts to stack S93-08-W.

(rrr) Cornstarch Bag Dumping Stations #1 and #2 (Unit IDs 93-09-W and 93-10-W), installed in April 1988, each with a maximum throughput of 1.2 ton/hr. Particulate emissions are controlled by bag filter dust collectors (CE93-09-W and CE93-10-W) that exhaust to stacks S93-09-W and S93-10-W.

(sss) Starch Bulk Loading (Unit ID 93-14-W), installed in April 1995, with a maximum throughput of 30 ton/hr. Particulate emissions are controlled by a baghouse (CE93-14-W) that exhausts to stack S93-14-W.

(ttt) Starch Bulk Loading Vacuum Cleanup System (Unit ID 93-15-W), installed in February 1994, with a maximum throughput of 1 ton/hr. Cleanup for cornstarch spills. Particulate emissions are controlled by bag filter dust collector (CE93-15-W) that exhausts to stack S93-15-W.

(uuu) Starch Mixing and Bulk Bagging Systems #1 and #2 (Unit IDs 93-16-W and 93-17-W), installed in August 1995, each with a maximum throughput of 25 ton/hr and 12.5 ton/hr, respectively. Particulate emissions are controlled by baghouses (CE93-16-W and CE93-17-W) that exhaust to stacks S93-16-W and S93-17-W.

(vvv) P.G. Starch Receiver (Unit ID 93-18-W), installed in September 1999, with a maximum throughput of 3 ton/hr. Starch is received from P.G. starch roll dryers for packaging. Particulate emissions are controlled by a dust collector (CE93-18-W) that exhausts to stack S93-18-W.

(www) P.G. Starch Packing (Unit ID 93-39-W), installed in January 2000, with a maximum throughput of 3 ton/hr. Particulate emissions are controlled by a dust collector (CE93-39-W) that exhausts to stack S93-39-W.

(xxxx) Corn Syrup Solids Manufacturing System #5, approved in 2010 for construction, identified as Unit ID 93-40-W, with a maximum capacity of 6,000 lbs/hr (dry basis), using dust collector (CE93-40-W) as control, and exhausting to stack S93-40-W.

Emission Units and Pollution Control Equipment Constructed and/or Operated without a Permit

(a) Two (2) wastewater treatment process centrifuges (WWTP - North and WWTP - South), installed in July 1995. The centrifuges dewater the excess biomass from wastewater treatment process. Exhaust from the process vents inside the WWTP building.

(b) Three (3) Gluten Filters, installed in December 1995. Gluten slurry is applied to the surface of a filter drum where an internal vacuum on the drum removes moisture from the slurry. The Gluten is then removed from the drum by a roller. Exhaust from the removal process is collected by a hood and exhausted from the building.

(c) Three (3) Gluten Vacuum Pumps, installed in December 1995. The pumps create the vacuum used to remove moisture from the gluten slurry on the gluten filter. Exhaust from the pumps is vented from the building.

(d) Twenty-four (24) steep tanks (Unit ID Steephouse - Grind 1), consisting of 21 steep tanks installed prior to 1973 and 3 steep tanks installed December 1995. The steep tanks contain a mildly acidic solution to soften the corn prior to milling. Tanks are individually vented and have only working/breathing losses.

(e) Refinery Vacuum Pumps (1-3) (Unit IDs RVF 1-1, RVF 1-2, and RVF 1-3 Precoating Vacuum Pump), installed in July 1995. The pumps create the vacuum used to pull liquid corn syrup through a filtering media. Exhaust from the pumps is vented from the building.

(f) Refinery Vacuum Pumps (4-6) (Unit IDs RVF 3-1, RVF 3-2, and RVF 3-3 Precoating Vacuum Pump), installed in November 1999. The pumps create the vacuum used to pull liquid corn syrup through a filtering media. Exhaust from the pumps is vented from the building.

(g) Refinery Vacuum Pumps (7-8) (Unit IDs RVF 2-1 and RVF 2-2), installed in July 1995. The pumps create the vacuum used to pull liquid corn syrup through a filtering media. Exhaust from the pumps is vented from the building.

(h) Two (2) HCL tanks (Unit ID HCL Tank – Refinery), installed in July 1995 and December 2002. Tanks store HCl used in the corn syrup manufacturing process. The tanks vent to an acid fume scrubber.

(i) Bldg 128 Tank Farm, installed in November 1999. Tanks include HCl, Acetic Anhydride, Sodium Bisulfate storage tanks, and the Acetic/Adipic mix tank. The tanks vent to an acid fume scrubber.

The total potential to emit of VOC is less than 10 tons per year from the units installed in 1995 and 1999. Therefore, these units would not have required a source modification for construction.

Emission Units and Pollution Control Equipment Removed From the Source

IV. Utility Area

(a) Boiler No. 1 (Unit ID 10-01-U), Combustion Engineering Model VP10R, installed in 1960, with a maximum rate of 96 MMBtu/hr heat input and natural gas-fired only. This unit exhausts through stack S10-01-U.

(b) Boiler No. 2 (Unit ID 10-02-U), Erie City Model 19M, installed in 1966, with a maximum rate of 160 MMBtu/hr heat input and natural gas-fired only. This unit exhausts through stack S10-02-U.

(c) Boiler No. 6 (Unit ID 10-03-U), Combustion Engineering Model VU-50, installed in 1956, with a maximum rate of 200 MMBtu/hr heat input and natural gas-fired with a fuel oil #6 secondary capability. This unit exhausts through stack S10-03-U.

(d) Boiler No. 7 (Unit ID 10-04-U), Combustion Engineering Model VU, installed in 1944, with a maximum rate of 120 MMBtu/hr heat input and natural gas-fired with a fuel oil #6 secondary capability. This unit also exhausts through stack S10-03-U.

(e) Boiler No. 8 (Unit ID 10-05-U), Combustion Engineering Model VU, installed in 1937, with a maximum rate of 120 MMBtu/hr heat input and natural gas-fired with a fuel oil #6 secondary capability. This unit exhausts through stack S10-05-U.

(f) Boiler No. 10 (Unit ID 10-06-U), Combustion Engineering Model VU, installed in 1937, with a maximum rate of 120 MMBtu/hr heat input and natural gas-fired with a fuel oil #6 secondary capability. This unit also exhausts through stack S10-05-U.

Insignificant Activities

1. Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour [326 IAC 6-1-2].

2. Fuel oil-fired combustion sources with heat input equal to or less than 2 million (2,000,000) Btu per hour and firing fuel containing less than five-tenths (0.5) percent sulfur by weight [326 IAC 6-1-2].

3. Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hour.

4. Combustion source flame safety purging on startup.

5. A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons.

6. A petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month.

7. VOC and HAP storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons.

8. VOC and HAP vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.

9. Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings.

10. Machining where an aqueous cutting coolant continuously floods the machining interface.

11. Cleaners and solvents characterized as follows:

    A) having a vapor pressure equal to or less than 2 kPa; 15mm Hg; or 0.3 psi measured at 38°C (100°F) or;

    B) having a vapor pressure equal to or less than 0.7 kPa; 5mm Hg; or 0.1 psi measured at 20°C (68°F); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.

12. The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-1-2]

13. Closed loop heating and cooling systems.

14. Structural steel and bridge fabricating activities using 80 tons or less of welding consumables.

15. Solvent recycling systems with batch capacity less than or equal to 100 gallons.

16. Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1% by volume.

17. Operation using aqueous solutions containing less than 1% by weight of VOCs excluding HAPs.

18. Noncontact cooling tower systems with forced and induced draft cooling tower system not regulated under a NESHAP.

19. Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.

20. Heat exchanger cleaning and repair.

21. Process vessel degassing and cleaning to prepare for internal repairs.

22. Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]

23. Asbestos abatement projects regulated by 326 IAC 14-10.

24. Purging of gas lines and vessels that is regulated to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process.

25. Equipment used to collect any material that might be released during a malfunction, process upset, or spill cleanup, including catch tanks, temporary liquid separators, tanks, and fluid handling equipment.

26. Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.

27. On-site fire and emergency response training approved by the department.

28. Diesel emergency generators not exceeding 1600 horsepower.

29. Stationary fire pumps.

30. Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations. [326 IAC 6-1-2]

31. Filter or coalesce media changeout.

32. A laboratory as defined in 326 IAC 2-7-1(21)(D).

Existing Approvals

Since the issuance of the Part 70 Operating Permit T089-7994-00203 on June 28, 2004, the source has constructed or has been operating under the following approvals as well:

Permit Type	Permit Number	Issuance Date
Administrative Amendment	089-19797-00203	November 17, 2004
Administrative Amendment	089-20933-00203	April 1, 2005
Administrative Amendment	089-21610-00203	August 22, 2005
Significant Source Modification	089-22309-00203	September 6, 2006
Significant Permit Modification	089-22333-00203	October 24, 2006
Administrative Amendment	089-23792-00203	November 14, 2006
Administrative Amendment	089-24595-00203	May 23,2007
Significant Source Modification	089-25241-00203	May 20, 2008
Significant Permit Modification	089-25259-00203	June 9, 2008
Administrative Amendment	089-27937-00203	June 15, 2009
Administrative Amendment	089-28584-00203	October 26, 2009

All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

The following terms and conditions from previous approvals have been revised in this Part 70 Operating Permit Renewal:

(a) The equipment list has been updated to reflect the unit capacities, add units from the consent decree, remove units that have been shut down and removed from the facility and to clarify that the biogas flare is the control device for the anaerobic wastewater treatment process.

(b) Section D.0 was added to incorporate the limits required pursuant to the Consent Decree entered by the United States District Court for the District of Minnesota on March 3, 2006 in United States v. Cargill, Inc. No. 05-2037 (D.Minn.). Placeholder language present throughout the permit in anticipation of this consent decree incorporation has been removed.

(c) In Section D.1 - the anaerobic wastewater treatment process, the hydrogen sulfide PSD minor limit was rewritten for clarification purposes, upon further review, based on the renewal calculations, an SO2 PSD minor limit was added, a preventative maintenance plan condition was added, and testing requirements for hydrogen sulfide and SO2 were added to demonstrate compliance with the PSD minor limits.

(d) All references to the repealed rule cite 326 IAC 6-1-10.1 have been removed from the permit.

(e) All references to the repealed rule cite 326 IAC 6-1-2(h) have been removed from the permit.

(f) Conditions D.3.4, D.3.5, D.5.2, D.6.2, and D.7.1 dealing with 326 IAC 6.8-1-2 have been clarified that the rule limits PM not just PM10.

(g) Boilers No. 1, 2, 6, 7, 8, and 10 have all been shut down and removed from the facility. Therefore, all conditions related to these units have been removed.

(h) The Package Boiler #1 is a natural gas fired boiler only capable of burning natural gas. Therefore, the requirement to submit a natural gas fired boiler certification has been removed for this unit.

(i) New Source Performance Standards have been removed from the D Sections and relocated to new E Sections where they are incorporated by reference. Therefore, Conditions D.4.11, D.4.12, and D.4.13 have been deleted. A Copy of the New Source Performance Standard can be found in its entirety as an attachment to the permit.

(j) The pressure drop range for the liquid soda ash tank (104-02-R) has been changed from 0.25 - 0.5 inches of water to 0.25 -10.0 inches of water based on manufacturer information.

(k) Condition D.6.1 was clarified to state that some of limits in 326 IAC 6.8-2 only allow a certain number of units to operate at any given time.

(l) Parametric monitoring for the scrubbers was separated from old Condition D.6.10 into new condition separate from the baghouses and the language updated for clarification purposes.

(m) The requirement to run the thermal oxidizer when propylene oxide is being added to the starch reactors was moved from parametric monitoring to compliance determination.

(n) RACT requirements pursuant to 326 IAC 8-7 were added to the permit and the place holder language removed.

(o) The requirements of 326 IAC 7-4.1 (Lake County Sulfur Dioxide Emission Limitations) were added to the permit.

(p) Revised fugitive dust calculations reveal the source is no longer subject to 326 IAC 6.8-10 (Lake County Fugitive Particulate Matter). Therefore, the requirements of 326 IAC 6.8-10 have been removed.

Air Pollution Control Justification as an Integral Part of the Process

The Permittee has submitted the following information to justify why the cyclones associated with the gluten dryers (121-01-G and 121A-01-G) and germ dryers (124A-01-G and 203-01-G) should be considered an integral part of the process:

(a) The cyclones were not installed for the purpose of particulate control; they are only present to provide product separation from the exhaust of the dryer.

(b) The cyclones pull exhaust from the dryers and feed it into the wet scrubbers (used for control). If the cyclones are not in operation, then exhaust cannot be directed to the wet scrubbers without a physical bypass being added to the system. No alternate method of operation is possible. The dryers could not operate without the cyclones and are, therefore, integral to the process.

IDEM, OAQ has evaluated the information submitted and agrees that the cyclones associated with the gluten dryers (121-01-G and 121A-01-G) and germ dryers (124A-01-G and 203-01-G) should be considered an integral part of the drying process. Therefore, the permitting level will be determined using the potential to emit after the cyclones.

County Attainment Status

The source is located in Lake County.

Pollutant	Designation
SO_2	Better than national standards.
CO	Attainment effective February 18, 2000, for the part of the city of East Chicago bounded by Columbus Drive on the north; the Indiana Harbor Canal on the west; 148th Street, if extended, on the south; and Euclid Avenue on the east. Unclassifiable or attainment effective November 15, 1990, for the remainder of East Chicago and Lake County.
O_3	Attainment effective June 4, 2010. [1]
PM_{10}	Attainment effective March 11, 2003, for the cities of East Chicago, Hammond, Whiting, and Gary. Unclassifiable effective November 15, 1990, for the remainder of Lake County.
NO_2	Cannot be classified or better than national standards.
Pb	Not designated.

[1]The U. S. EPA has acknowledged in both the proposed and final rulemaking for this redesignation that the anti-backsliding provisions for the 1-hour ozone standard no longer apply as a result of the redesignation under the 8-hour ozone standard. Therefore, permits in Lake County are no longer subject to review pursuant to Emission Offset, 326 IAC 2-3.
Basic nonattainment designation effective federally April 5, 2005, for PM2.5.

(a) Ozone Standards
Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Lake County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) PM2.5
U.S. EPA, in the Federal Register Notice 70 FR 943 dated January 5, 2005, has designated Lake County as nonattainment for PM2.5. On March 7, 2005 the Indiana Attorney General's Office, on behalf of IDEM, filed a law suit with the Court of Appeals for the District of Columbia Circuit challenging U.S. EPA's designation of nonattainment areas without sufficient data. However, in order to ensure that sources are not potentially

liable for a violation of the Clean Air Act, the OAQ is following the U.S. EPA's New Source Review Rule for PM2.5 promulgated on May 8th, 2008, and effective on July 15th 2008. Therefore, direct PM2.5 and SO2 emissions were reviewed pursuant to the requirements of Nonattainment New Source Review, 326 IAC 2-1.1-5. See the State Rule Applicability – Entire Source section.

(c) Other Criteria Pollutants
Lake County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, fugitive emissions are not counted toward the determination of PSD and Emission Offset applicability.

Source Status

This table reflects the unrestricted potential emissions of the source.

Pollutant	**Emissions** (ton/yr)
PM	16,882
PM_{10}	16,821
$PM_{2.5}$	16,790
SO_2	473
VOC	13,559
CO	612
NO_X	344

HAPs	**Potential To Emit** (ton/yr)
Propylene oxide	Greater than 10
Hydrochloric Acid	Less than 10
Toluene	Less than 10
Formaldehyde	Less than 10
Acetaldehyde	Less than 10
Total	Greater than 25

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM10, PM2.5, SO2, VOC, CO and NOx is equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7 and will be issued a Part 70 Operating Permit Renewal.

(b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is equal to or greater than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is equal to or greater than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

Part 70 Permit Conditions

This source is subject to the requirements of 326 IAC 2-7, pursuant to which the source has to meet the following:

(a) Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of issuance of Part 70 permits.

(b) Monitoring and related record keeping requirements which assume that all reasonable information is provided to evaluate continuous compliance with the applicable requirements.

Enforcement Issues

There are no pending enforcement actions.

Emission Calculations

See Appendix A of this Technical Support Document for detailed emission calculations.

Information submitted in this application impacts the netting and de minimis analysis done for SSM No. 089-25241-00203. Therefore, that analysis has been reopened and is attached as Appendix B of this Technical Support Document.

Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 permit renewal, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/ Emission Unit	PM	PM_{10}	$PM_{2.5}$	SO_2	VOC	CO	NO_X
General Plant	3.52	0.70	0.17	453.52	3.42	7.49	-
Feed Pile - Wind Erosion	0.47	0.24	0.04	-	-	-	-
Material Transfer - Fugitive	0.13	0.06	0.01	-	-	-	-
Alternate Carbohydrate Area	0.37	0.37	0.37	-	-	-	-
Tanks	-	-	-	1.13	-	-	-
Grind & Feedhouse	88.73	87.72	87.72	20.35	130.68	155.98	64.58
Utility	2.24	8.94	8.94	0.71	6.47	98.83	223.55
Refinery	37.73	38.06	38.06	0.03	48.12	12.03	5.67
Starch Production	60.18	63.07	63.07	0.30	403.04	309.25	50.67
Starch Warehouse	7.21	6.84	6.54	-	8.22	-	-
Channel 3 Refinery	4.00E-04	1.68E-04	1.68E-04	-	-	-	-
Total	**200.57**	**206.00**	**204.92**	**474.92**	**599.94**	**583.59**	**345.61**
Title V Major Source Thresholds	NA	100	100	100	100	100	100
PSD Major Source Thresholds	250	250	NA	250	250	250	250

Process/ Emission Unit	PM	PM_{10}	$PM_{2.5}$	SO_2	VOC	CO	NO_X
Nonattainment NSR Major Source Thresholds	NA	NA	100	100	NA	NA	NA
negl. = negligible *Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".							

(a) This existing stationary source is major for PSD because the emissions of at least one attainment pollutant are greater than two hundred fifty (>250) tons per year, and is not one of the twenty-eight (28) listed source categories.

(b) This existing stationary source is major for Emission Offset and/or Nonattainment NSR because the emissions of the nonattainment pollutant, PM2.5, are greater than one hundred (>100) tons per year.

PSD / Emission Offset

Upon submittal of the limits for the Consent Decree entered by the United States District Court for the District of Minnesota on March 3, 2006 in United States v. Cargill, Inc. No. 05-2037 (D.Minn.) it was discovered that additional units involved in SSM No. 089-25241-00203 had VOC emissions. Therefore, the tables below reflect the changes made to the netting and de minimus analysis due to the addition of those emissions. As part of this reevaluation a new baseline period was used for all pollutants except NO_x and project actuals were changed for some emissions. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

Emissions (ton/yr)						
Process / Emission Unit	PM	PM_{10}	SO_2	VOC	CO	NO_X
PTE (New Units)						
No. 2 Gluten Dryer	10.51	10.51	7.03	7.01	16.08	7.45
Germ Dryer/Cooler (new)	12.31	12.31	17.25	9.16	5.40	13.14
No. 1 Bran Bunker	0.03	0.03	-	-	-	-
No. 2 Bran Bunker	0.03	0.03	-	-	-	-
Bran Conveyor System	1.40	1.40	-	-	-	-
Bran Preweigh Hopper	0.03	0.03	-	-	-	-
PTE	24.30	24.30	24.28	16.17	21.48	20.59
Actual to Projected Actual (Grind Area Units Increased Utilization)						
Baseline	~~29.88~~ **21.89**	~~29.88~~ **21.89**	7.09	~~36.13~~ **31.21**	~~128.62~~ **80.58**	28.10
Projected Actuals	~~51.04~~ **43.03**	~~51.04~~ **43.03**	10.29	~~32.60~~ **37.67**	81.13	41.61
Emissions Increases (ATPA)	~~21.16~~ **21.14**	~~21.16~~ **21.14**	3.20	~~<0~~ **6.45**	~~<0~~ **0.55**	13.51
Actual to Projected Actual (BCD Area Modified Units)						
Baseline	1.13	1.13	-	-	-	-
Projected Actuals	1.70	1.70	-	-	-	-
Emissions Increases (ATPA)	0.57	0.57	**-**	**-**	**-**	**-**
Hybrid Test						
Total PTE New Units	24.30	24.30	24.28	16.17	21.48	20.59
Total Emissions Increase from ATPA	~~21.73~~ **21.71**	~~21.73~~ **21.71**	3.20	~~<0~~ **6.45**	~~<0~~ **0.55**	13.51

Emissions (ton/yr)						
Process / Emission Unit	PM	PM_{10}	SO_2	VOC	CO	NO_X
Hybrid Test Emissions Increase	~~46.02~~ **46.01**	~~46.02~~ **46.01**	27.48	~~16.17~~ **22.63**	~~21.48~~ **22.03**	34.10
PSD Significant Threshold	25	15	40	40	100	40

For any pollutant for which the emissions from the Hybrid Test in the above table are above the PSD Significant Threshold, a Contemporaneous Netting Analysis was conducted as shown in the table below in order to limit the emissions increases from this project to below the PSD Significant Threshold.

The Permittee has provided information as part of the application for this approval that based on Actual to Projected Actual test in 326 IAC 2-2-2 this modification at a major stationary source will not be major for Prevention of Significant Deterioration under 326 IAC 2-2-1. IDEM, OAQ has not reviewed this information and will not be making any determination in this regard as part of this approval. The applicant will be required to keep records and report in accordance with Source obligation in 326 IAC 2-2-8.

Netting Emissions (ton/yr)		
Process/ Emission Unit	PM	PM_{10}
PTE of New Units		
No. 2 Gluten Dryer	10.51	10.51
Germ Dryer/Cooler (new)	12.31	12.31
No. 1 Bran Bunker	0.03	0.03
No. 2 Bran Bunker	0.03	0.03
Bran Conveyor System	1.40	1.40
Bran Preweigh Hopper	0.03	0.03
PTE	24.30	24.30
Actual to Future Allowables (Existing Units)		
Baseline Grind Area	~~29.88~~ **21.89**	~~29.88~~ **21.89**
Baseline BCD Area	1.13	1.13
Total Baseline	~~31.01~~ **23.02**	~~31.01~~ **23.02**
Future Allowables Grind Area	~~51.04~~ **43.03**	~~51.04~~ **43.03**
Future Allowables BCD Area	1.70	1.70
Total Future Allowables	~~52.74~~ **44.73**	~~52.74~~ **44.73**
Actual to Future Allowables	~~21.73~~ **21.71**	~~21.73~~ **21.71**
Contemporaneous Netting		
PTE + Actual to Future Allowables	~~46.02~~ **46.01**	~~46.02~~ **46.01**
Gluten Dryer Modification (11/2004)	2.22	2.22
Germ & Gluten Storage Tanks Control Unit Modification (08/2005)	0.21	0.21
Boiler Modifications, including a Temporary Boiler (11/2006)	4.70	7.20
BCD Dryer, BCD Reactor, HPCD Reactor Shutdown (05/2007)	-0.58	-0.58
Grind Modernization (Units Shutdown Prior to Permit Issuance)	-34.46	-34.46
Emissions Increases of the Project - Upon Issuance	~~18.11~~ **18.10**	~~20.61~~ **20.60**
Existing Germ Dryer/Cooler (Shutdown required by permit within 180 days after issuance)	-5.65	-5.65

Netting Emissions (ton/yr)		
Process/ Emission Unit	PM	PM_{10}
Emissions Increase of the Project	~~12.46~~ **12.45**	~~14.96~~ **14.95**
PSD Significant Threshold	25	15

De Minimis Analysis (ton/yr)	
Process/Emission Unit	VOC
Emissions Increase Upon Issuance (Grind and BCD Area Modification)	~~24.10~~ **35.76**
Grind Modernization (Units Shutdown Prior to Permit Issuance)	~~-18.95~~ **-11.87**
Gluten Dryer Modification (11/2004)	0.14
Germ & Gluten Storage Tanks Control Unit Modification (08/2005)	-
Boiler Modifications, including a Temporary Boiler (11/2006)	3.40
BCD Dryer, BCD Reactor, HPCD Reactor Shutdown (05/2007)	-0.95
Emissions Increases of the Project - Upon Issuance	~~7.74~~ **26.48**
Existing Germ Dryer/Cooler (Shutdown required by permit within 180 days after issuance)	~~-2.45~~ **-1.54**
Emissions Increase for the Project	~~5.29~~ **24.94**
Emission Offset Threshold	25

The following PSD Minor Limits (326 IAC 2-2) were changed as a result of this reevaluation:

Unit	Unit ID	Control Device ID	PM/PM10 Emission Limit (lb/hr)
Fiber Dryer & Bran Conveyor System	89-01-G / 89-08-G	CE-89-01-G	~~4.891~~ 3.746
No. 1 Gluten Dryer	121-01-G	CE121-01-G	~~3.0~~ 2.245

Compliance with these limits in conjunction with the PM and PM10 limits discussed under the State Rule Applicability Section, will ensure that the PM emissions from Significant Source Modification No. 089-25241-00203 are less than 25 tons per twelve (12) consecutive month period and PM10 emissions from Significant Source Modification No. 089-25241-00203 are less than 15 tons per twelve (12) consecutive month period. Therefore, the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-1.1-5 (Nonattainment NSR) are rendered not applicable for PM/PM10 for Significant Source Modification No. 089-25241-00203.

The following units have been added to the list of those required to be removed from operation once the modification permitted under SSM 089-25241-00203 has been constructed pursuant to 326 IAC 2-3 (Emission Offset) due to this reevaluation:

(1) Hammermill No. 1 (201-01-G)
(2) Hammermill No. 2 (201-020-G)
(3) Pellet Cooler No. 1 (201-03-G)
(4) Pellet Cooler No. 2 (201-04-G)
(5) Loose Feed Bin Vent (201-05-G)
(6) Central Vacuum Pelletizing (201-06-G)

The shutdown of these units shall be permanent.

Compliance with these requirements in conjunction with the 326 IAC 2-3 (Emission Offset) requirements discussed under the State Rule Applicability Section will ensure that the VOC emissions from Significant Source Modification No. 089-25241-00203, are less than twenty-five (25) tons per twelve (12) consecutive month period. Therefore, the requirements of 326 IAC 2-3 (EO) are rendered not applicable for VOC for Significant Source Modification No. 089-25241-00203.

Federal Rule Applicability Determination

The following federal rules are applicable to the source:

NSPS:

(a) This source is subject to the New Source Performance Standards for Industrial-Commercial-Institutional Steam Generating Units (40 CFR 60, Subpart Db), which is incorporated by reference as 326 IAC 12. The unit subject to this rule include the following:

(1) Natural gas-fired Package Boiler #1 (Unit ID 89-03-U), installed in 2006, with a maximum heat input capacity of 274 million Btu/hr, and exhausting to stack S89-03-U. Under NSPS 40 CFR 60, Subpart Db, Package Boiler #1 is a steam-generating unit with a heat input capacity greater than 100 million Btu/hr.

Nonapplicable portions of the NSPS will not be incorporated by refererence in the permit. This source is subject to the following portions of Subpart Db:

(1) 40 CFR 60.40 (a) and (j)
(2) 40 CFR 60.41
(3) 40 CFR 60.44 (a)(1), (h), and (i)
(4) 40 CFR 60.46 (a) and (e)(1)
(5) 40 CFR 60.48 (b)(1), (c), (d), (e)(2)(3), and (f)
(6) 40 CFR 60.49 (a)(1)(3), (b), (d), (g), (i), (o), (v), and (w)

(b) The tank identified as 93-18-S has a storage capacity greater than 75 m^3 (19,812 gallons), is used to store volatile organic liquids (VOL), and was constructed after July 23, 1984. Therefore, this tank is subject to the New Source Performance Standards for Volatile Organic Liquid Storage Vessels for which Construction, Reconstruction, or Modification Commenced after July 23, 1984 (326 IAC 12, 40 CFR 60.110b - 117b, Subpart Kb).

Nonapplicable portions of the NSPS will not be incorporated by reference in the permit. The Permittee has elected to install a closed vent system and control device. This tank is subject to the following portions of Subpart Kb.

(1) 40 CFR 60.110b(a)
(2) 40 CFR 60.111b
(3) 40 CFR 60.112b(a)(3)
(4) 40 CFR 60.113b(c)
(5) 40 CFR 60.115b(c)
(6) 40 CFR 60.116b(a), (b), (c), and (e)(3)(i)

(c) The requirements of the New Source Performance Standard for Volatile Organic Liquid Storage Vessels for which Construction, Reconstruction, or Modification Commenced after July 23, 1984, 40 CFR 60, Subpart Kb, are not included in the permit for the Steephouse - Grind 1, Bldg 128 Tank Farm, or HCL Tank Refinery because non of these tanks store volatile organic compounds as defined in 40 CFR 51.100.

(d) This source is not subject to the requirements of the New Source Performance Standard for Grain Elevators, 40 CFR 60, Subpart DD, because the permanent storage capacity of the corn elevator does not exceed 35,200 m^3 (ca. 1 million bushels).

NESHAP:

(e) This source is subject to the National Emission Standards for Hazardous Air Pollutants for Organic Liquids Distribution (40 CFR 63, Subpart EEEE), which is incorporated by reference as 326 IAC 20-83. The unit subject to this rule include the following:

(1) One (1) 28,000 gallon horizontal propylene oxide tank (Unit ID 93-18-S), installed in 1988, with 95% efficient vapor recovery (liquid nitrogen condenser). This tank also provides propylene oxide to other starch processes.

Nonapplicable portions of the NESHAP will not be incorporated by reference in the permit. The emission unit is subject to the following portions of Subpart EEEE:

(1) 40 CFR 63.2330
(2) 40 CFR 63.2334(a)
(3) 40 CFR 63.2338(b)(2), (3)(ii) - (iv), and (4)
(4) 40 CFR 63.2341(b)(1)
(5) 40 CFR 63.2343(c)(1)(i), (c)(2)(i), (c)(2)(ii), (c)(3), (d)(1), and (d)(4)
(6) 40 CFR 63.2346(c)
(7) 40 CFR 63.2378(b)(1) - (3) and (c)
(8) 40 CFR 63.2382(b)(1)
(9) 40 CFR 63.2386(a), (b)(1) - (3), (c)(1) - (3), (c)(6), (c)(8), (c)(10), (d)(2)(i), (d)(3) - (4), and (e)
(10) 40 CFR 63.2390(a) and (d)
(11) 40 CFR 63.2394
(12) 40 CFR 63.2396(a)(3)
(13) 40 CFR 63.2398
(14) 40 CFR 63.2402
(15) 40 CFR 63.2406

(f) This source is subject to the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters (40 CFR 63, Subpart DDDDD), which is incorporated by reference as 326 IAC 20-95. The unit subject to this rule include the following:

(1) Natural gas-fired Package Boiler #1 (Unit ID 89-03-U), installed in 2006, with a maximum heat input capacity of 274 million Btu/hr, and exhausting to stack S89-03-U. Under NSPS 40 CFR 60 Subpart Db, Package Boiler #1 is a steam-generating unit with a heat input capacity greater than 100 million Btu/hr.

Nonapplicable portions of the NESHAP will not be incorporated by reference in the permit. The emission unit is subject to the following portions of Subpart DDDDD:

(1) 40 CFR 63.7480
(2) 40 CFR 63.7485
(3) 40 CFR 63.7490(a)(1), (d)
(4) 40 CFR 63.7495(b), (d)
(5) 40 CFR 63.7499(l)
(6) 40 CFR 63.7500(a)(1), (3)
(7) 40 CFR 63.7501
(8) 40 CFR 63.7505(a)
(9) 40 CFR 63.7515(e)
(10) 40 CFR 63.7540(a)(10), (b)
(11) 40 CFR 63.7545(a), (b)
(12) 40 CFR 63.7550(a), (b), (c), (d)
(13) 40 CFR 63.7555(a)

(14) 40 CFR 63.7560
(15) 40 CFR 63.7565
(16) 40 CFR 63.7570
(17) 40 CFR 63.7575
(18) Table 3 - Work Practice Standards
(19) Table 9 - Reporting Requirements
(20) Table 10 - Applicability of General Provisions to Subpart DDDDD

<u>CAM:</u>

(g) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to new or modified emission units that involve a pollutant-specific emission unit and meet the following criteria:

(1) has a potential to emit before controls equal to or greater than the Part 70 major source threshold for the pollutant involved;

(2) is subject to an emission limitation or standard for that pollutant; and

(3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

The following table is used to identify the applicability of each of the criteria, under 40 CFR 64.1, to each new or modified emission unit involved:

CAM Applicability Analysis for PM/PM_{10}/$PM_{2.5}$							
Emission Unit	**Control Device Used**	**Emission Limitation** (Y/N)	**Uncontrolled PTE** (ton/yr)	**Controlled PTE** (ton/yr)	**Part 70 Major Source Threshold** (ton/yr)	**CAM Applicable** (Y/N)	**Large Unit** (Y/N)
Alternate Carbohydrate Area							
127-30-B	dust collector	Y	0.10	0.001	100	N	N
127-28-B	dust collector	Y	23.65	0.24	100	N	N
127-29-B	dust collector	Y	23.65	0.24	100	N	N
127-21-B	dust collector	Y	13.52	0.14	100	N	N
127-22-B	dust collector	Y	13.52	0.14	100	N	N
Grind and Feedhouse Area							
121-01-G	wet scrubber	Y	>100	<100	100	Y	N
121A-01-G	wet scrubber	Y	>100	<100	100	Y	N
203-01-G	wet scrubber	Y	>100	<100	100	Y	N
89-06-G	bin vent filter	Y	2.79	0.03	100	N	N
89-07-G	bin vent filter	Y	2.79	0.03	100	N	N
89-08-G	scrubber	Y	139.63	1.40	100	Y	N
89-09-G	bin vent filter	Y	2.79	0.03	100	N	N
89-01-G	scrubber	Y	<100	<100	100	N	N
124A-01-G	scrubber	Y	>100	<100	100	Y	N
200-07-G	dust collector	Y	7.11	0.07	100	N	N
200-01-G	dust collector	Y	1.33	0.01	100	N	N
200-02-G	dust collector	Y	1.33	0.01	100	N	N
200-06-G	dust collector	Y	7.11	0.07	100	N	N
200-04-G	dust collector	Y	19.90	0.20	100	N	N
200-03-G	dust collector	Y	19.90	0.20	100	N	N
200-05-G	dust collector	Y	532.07	5.33	100	Y	N
140-05-G	filter baghouse	Y	5,631.43	5.63	100	Y	N
140-07-G	filter baghouse	Y	37.54	0.38	100	N	N

CAM Applicability Analysis for $PM/PM_{10}/PM_{2.5}$							
Emission Unit	**Control Device Used**	**Emission Limitation** (Y/N)	**Uncontrolled PTE** (ton/yr)	**Controlled PTE** (ton/yr)	**Part 70 Major Source Threshold** (ton/yr)	**CAM Applicable** (Y/N)	**Large Unit** (Y/N)
140-01-G	bin vent	Y	150.17	1.50	100	Y	N
140-02-G	bin vent	Y	150.17	1.50	100	Y	N
140-03-G	bin vent	Y	150.17	1.50	100	Y	N
140-04-G	bin vent	Y	150.17	1.50	100	Y	N
33-01-G	bin vent	Y	75.09	0.75	100	N	N
33-02-G	bin vent	Y	71.06	0.71	100	N	N
140-06-G	baghouse	Y	67.58	0.68	100	N	N
33-03-G	filter baghouse	Y	82.59	0.83	100	N	N
30-16-G	bag filter collector	Y	25.34	0.25	100	N	N
Refinery Area							
18-03-R	dust collector	Y	129.25	1.29	100	Y	N
100-03-R	wet scrubber	Y	1,745.41	17.45	100	Y	N
100-01-R	wet wcrubber	Y	1,447.28	14.47	100	Y	N
104-01-R	scrubber	Y	>100	<100	100	Y	N
104-02-R	scrubber	Y	67.45	0.67	100	N	N
104-03-R	baghouse	Y	19.13	0.19	100	N	N
104-05-R	baghouse	Y	35.20	0.35	100	N	N
104-08-R	bin vent filter	Y	<100	<100	100	N	N
104-09-R	dust collector	Y	<100	<100	100	N	N
Starch Production Area							
34-01-S	dust collector	Y	19.54	0.20	100	N	N
34-02-S	dust collector	Y	78.39	0.78	100	N	N
34-03-S	dust collector	Y	18.55	0.19	100	N	N
34-05-S	dust collector	Y	49.74	0.49	100	N	N
34-06-S	dust collector	Y	7.82	0.08	100	N	N
34-07-S	dust collector	Y	7.82	0.08	100	N	N
34B-13-S	dust collector	Y	29.36	0.29	100	N	N
34B-04-S	dust collector	Y	78.39	0.78	100	N	N
34B-01-S	dust collector	Y	18.24	0.18	100	N	N
34B-03-S	dust collector	Y	49.74	0.50	100	N	N
34B-05-S	dust collector	Y	13.27	0.13	100	N	N
34B-06-S	dust collector	Y	13.27	0.13	100	N	N
48-09-S	dust collector	Y	112.63	1.13	100	Y	N
59-03-S	wet scrubber	Y	>100	<100	100	Y	N
59-01-S	dust collector	Y	375.43	3.75	100	Y	N
59-02-S	dust collector	Y	375.43	3.75	100	Y	N
125-01-S	wet scrubber	Y	>100	<100	100	Y	N
128-01-S	cyclone	Y	>100	<100	100	Y	N
128-07-S	thermal oxidizer	N	<100	<100	100	N	N
128-08-S	thermal oxidizer	N	<100	<100	100	N	N
128-09-S	thermal oxidizer	N	<100	<100	100	N	N
128-10-S	thermal oxidizer	N	<100	<100	100	N	N
128-11-S	thermal oxidizer	N	<100	<100	100	N	N

CAM Applicability Analysis for $PM/PM_{10}/PM_{2.5}$							
Emission Unit	**Control Device Used**	**Emission Limitation** (Y/N)	**Uncontrolled PTE** (ton/yr)	**Controlled PTE** (ton/yr)	**Part 70 Major Source Threshold** (ton/yr)	**CAM Applicable** (Y/N)	**Large Unit** (Y/N)
128-12-S	thermal oxidizer	N	<100	<100	100	N	N
128-13-S	thermal oxidizer	N	<100	<100	100	N	N
128-25-S	dust collector	Y	<100	<100	100	N	N
128-26-S	dust collector	Y	<100	<100	100	N	N
120-01-S	dust collector	Y	244.36	2.44	100	Y	N
120-02-S	dust collector	Y	244.36	2.44	100	Y	N
120-03-S	dust collector	Y	244.36	2.44	100	Y	N
120-04-S	dust collector	Y	244.36	2.44	100	Y	N
120-05-S	dust collector	Y	244.36	2.44	100	Y	N
120-06-S	dust collector	Y	244.36	2.44	100	Y	N
120-07-S	dust collector	Y	244.36	2.44	100	Y	N
120-08-S	dust collector	Y	244.36	2.44	100	Y	N
120-09-S	dust collector	Y	244.36	2.44	100	Y	N
120-10-S	dust collector	Y	244.36	2.44	100	Y	N
120-11-S	dust collector	Y	244.36	2.44	100	Y	N
120-12-S	dust collector	Y	244.36	2.44	100	Y	N
120-13-S	dust collector	Y	244.36	2.44	100	Y	N
120-14-S	dust collector	Y	244.36	2.44	100	Y	N
120-15-S	dust collector	Y	244.36	2.44	100	Y	N
120-16-S	dust collector	Y	244.36	2.44	100	Y	N
120-17-S	dust collector	Y	244.36	2.44	100	Y	N
126-01-S	dust collector	Y	70.56	0.71	100	N	N
126-02-S	dust collector	Y	70.56	0.71	100	N	N
126-03-S	dust collector	Y	70.56	0.71	100	N	N
126-04-S	dust collector	Y	70.56	0.71	100	N	N
130-01-S	dust collector	Y	183.45	1.84	100	Y	N
130-02-S	dust collector	Y	183.45	1.84	100	Y	N
130-03-S	dust collector	Y	183.45	1.84	100	Y	N
130-04-S	dust collector	Y	183.45	1.84	100	Y	N
130-05-S	dust collector	Y	108.53	1.09	100	Y	N
Starch Warehouse Area							
93-32-W	dust collector	Y	<100	<100	100	N	N
93-33-W	dust collector	Y	<100	<100	100	N	N
93-34-W	dust collector	Y	<100	<100	100	N	N
93-35-W	dust collector	Y	<100	<100	100	N	N
93-37-W	dust collector	Y	<100	<100	100	N	N
93-36-W	dust collector	Y	<100	<100	100	N	N
93-38-W	dust collector	Y	<100	<100	100	N	N
93-04-W	baghouse	Y	30.03	0.30	100	N	N
93-05-W	baghouse	Y	28.94	0.29	100	N	N
93-08-W	baghouse	Y	36.18	0.36	100	N	N
93-09-W	dust collector	Y	43.41	0.43	100	N	N
93-10-W	dust collector	Y	43.41	0.43	100	N	N
93-14-W	baghouse	Y	119.39	1.19	100	Y	N
93-15-W	dust collector	Y	9.04	0.09	100	N	N
93-16-W	baghouse	Y	113.60	1.14	100	Y	N
93-17-W	baghouse	Y	231.54	2.32	100	Y	N
93-18-W	dust collector	Y	<100	<100	100	N	N

CAM Applicability Analysis for $PM/PM_{10}/PM_{2.5}$							
Emission Unit	**Control Device Used**	**Emission Limitation** (Y/N)	**Uncontrolled PTE** (ton/yr)	**Controlled PTE** (ton/yr)	**Part 70 Major Source Threshold** (ton/yr)	**CAM Applicable** (Y/N)	**Large Unit** (Y/N)
93-39-W	dust collector	Y	<100	<100	100	N	N
93-40-W	dust collector	Y	17.84	0.36	100	N	N

CAM Applicability Analysis for SO_2							
Emission Unit	**Control Device Used**	**Emission Limitation** (Y/N)	**Uncontrolled PTE** (ton/yr)	**Controlled PTE** (ton/yr)	**Part 70 Major Source Threshold** (ton/yr)	**CAM Applicable** (Y/N)	**Large Unit** (Y/N)
Wastewater Treatment Process							
Wastewater Treatment Process	biogas flare	Y	-	83.85	100	N	N
Grind and Feedhouse Area							
121-01-G	wet scrubber	N	21.10	4.22	100	N	N
121A-01-G	wet scrubber	Y	35.21	7.04	100	N	N
203-01-G	wet scrubber	Y	17.32	3.46	100	N	N
89-01-G	scrubber	N	19.75	4.11	100	N	N
124A-01-G	scrubber	N	7.44	1.51	100	N	N
Refinery Area							
104-01-R	scrubber	Y	0.03	0.03	100	N	N
Starch Production Area							
59-03-S	wet scrubber	N	0.06	0.06	100	N	N
125-01-S	wet scrubber	N	0.16	0.16	100	N	N
128-01-S	wet scrubber	N	0.08	0.08	100	N	N

*Note - No other units have SO_2 control devices.

CAM Applicability Analysis for VOC							
Emission Unit	**Control Device Used**	**Emission Limitation** (Y/N)	**Uncontrolled PTE** (ton/yr)	**Controlled PTE** (ton/yr)	**Part 70 Major Source Threshold** (ton/yr)	**CAM Applicable** (Y/N)	**Large Unit** (Y/N)
Wastewater Treatment Process							
Wastewater Treatment Process	biogas flare	Y	170.82	3.42	100	Y	N
Grind and Feedhouse Area							
121-01-G	wet scrubber	Y	28.81	14.40	100	N	N
121A-01-G	wet scrubbers	Y	7.41	3.71	100	N	N
203-01-G	wet scrubber	N	85.65	42.82	100	N	N
89-01-G	wet scrubber	Y	53.01	27.43	100	N	N
124A-01-G	wet scrubber	Y	36.79	18.55	100	N	N
Refinery Area							
100-01-R	wet scrubber	Y	47.22	23.61	100	N	N
100-03-R	wet scrubber	Y	17.70	8.85	100	N	N

CAM Applicability Analysis for VOC							
Emission Unit	**Control Device Used**	**Emission Limitation** (Y/N)	**Uncontrolled PTE** (ton/yr)	**Controlled PTE** (ton/yr)	**Part 70 Major Source Threshold** (ton/yr)	**CAM Applicable** (Y/N)	**Large Unit** (Y/N)
Starch Production Area							
59-03-S	wet scrubber	Y	125.90	63.25	100	Y	N
125-01-S	wet scrubber	Y	132.56	67.01	100	Y	N
128-01-S	wet scrubber	Y	2.85	1.78	100	N	N
128-07-S	thermal oxidizer	Y	>100	<100	100	Y	N
128-08-S	thermal oxidizer	Y	>100	<100	100	Y	N
128-09-S	thermal oxidizer	Y	>100	<100	100	Y	N
128-10-S	thermal oxidizer	Y	>100	<100	100	Y	N
128-11-S	thermal oxidizer	Y	>100	<100	100	Y	N
128-12-S	thermal oxidizer	Y	>100	<100	100	Y	N
128-13-S	thermal oxidizer	Y	>100	<100	100	Y	N

*Note - No other units have VOC control devices.

Based on this evaluation, the requirements of 40 CFR Part 64, CAM are applicable to 121-01-G, 121A-01-G, 201-01-G, 89-08-G, 124A-01-G, 200-05-G, 140-01-G through 140-05-G, 18-03-R, 100-01-R, 100-03-R, 104-01-R, 48-09-S, 59-01-S through 59-03-S, 125-01-S, 128-01-S, 120-01-S through 120-17-S, 130-01-S through 130-05-S, 93-14-W, 93-16-W, and 93-17-W for $PM/PM_{10}/PM_{2.5}$ upon issuance of the Title V Renewal. A CAM plan will be incorporated into this Part 70 permit renewal.

Based upon this evaluation, the requirements of 40 CFR Part 64, CAM are applicable to the wastewater treatment process, 59-03-S, 125-01-S, and 128-08-S through 128-13-S for VOC upon issuance of the Title V Renewal. A CAM plan will be incorporated into this Part 70 permit renewal.

State Rule Applicability Determination

The following state rules are applicable to the source:

Consent Decree
Pursuant to the Consent Decree entered by the United States District Court for the District of Minnesota on March 3, 2006 in United States v. Cargill, Inc. No. 05-2037 (D.Minn.), the Permittee shall comply with the following emission limitations:

Emission Source Description	EU or Emission Point ID	VOC (lb/hr)	CO (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)
Corn Syrup Solid Manufacturing System #2	18-03-R	0.45	-	-	-
Batch Scale Hopper #1	34-01-S	0.07	-	-	-
Dextrin Starch Reactor #1	34-02-S	0.27	-	-	-
Dextrin Starch Cooler #1	34-03-S	0.06	-	-	-
Surge Hopper #1	34-05-S	0.17	-	-	-
Dextrin Feed Hopper #1	34-06-S	0.02	-	-	-

Emission Source Description	EU or Emission Point ID	VOC (lb/hr)	CO (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)
(System #1)					
Dextrin Feed Hopper #2 (System #1)	34-07-S	0.02	-	-	-
Dextrin Starch Cooler #2	34B-01-S	0.06	-	-	-
Surge Hopper #2	34B-03-S	0.17	-	-	-
Dextrin starch Reactor #2	34B-04-S	0.27	-	-	-
Dextrin Feed Hopper #3 (System #2)	34B-05-S	0.02	-	-	-
Dextrin Feed Hopper #4 (System #2)	34B-06-S	0.02	-	-	-
Batch Scale Hopper #2	34B-13-S	0.10	-	-	-
Dextrin Bulk loading Equipment	48-09-S	0.39	-	-	-
Starch Milling System #1	59-01-S	0.16	-	-	-
Starch Milling System #2	59-02-S	0.16	-	-	-
Starch Ring Dryer #2	59-03-S	1.19	19.00	-	-
Dried Corn Syrup Conveying System	93-04-W	0.03	-	-	-
Corn Syrup Solids Conveying System	93-05-W	0.03	-	-	-
Frodex Semi-Bulk Packing System	93-08-W	0.03	-	-	-
Cornstarch Bag Dumping Station #1	93-09-W	0.02	-	-	-
Cornstarch Bag Dumping Station #2	93-10-W	0.02	-	-	-
Starch Bulk Loading	93-14-W	0.09	-	-	-
Starch Bulk loading Vacuum System	93-15-W	0.01	-	-	-
Starch Mixing and Bagging System #1	93-16-W	0.05	-	-	-
Starch Mixing and Bagging System #2	93-17-W	0.10	-	-	-
P.G. Starch Receiver	93-18-W	0.13	-	-	-
Channel 2 Receiver	93-32-W	0.08	-	-	-
Channel 3 Receiver	93-33-W	0.08	-	-	-
Channel 4 Receiver	93-34-W	0.08	-	-	-
Channel 6 Receiver	93-35-W	0.06	-	-	-
Channel 2/3 Packing	93-36-W	0.39	-	-	-
Channel 4/6 Packing	93-37-W	0.39	-		-
Central Vacuum System	93-38-W	0.02	-	-	-
P.G. Starch Packing	93.39-W	0.05	-	-	-
Corn Syrup Spray Dryer/Cooler System #3	100-01-R	0.50	1.00	-	-
Corn Spray Dryer #4	100-03-R	0.86	1.00	-	-
Activated Carbon Regeneration Furnace #2	104-01-R	10 ppm or 95% destruction	100 ppm or 90% destruction	0.11	5.0
Cornstarch Storage Bin #20	120-01-S	0.05	-	-	-
Cornstarch Storage Bin #21	120-02-S	0.05	-	-	-
Cornstarch Storage Bin #22	120-03-S	0.05	-	-	-
Cornstarch Storage Bin #23	120-04-S	0.05	-	-	-

Emission Source Description	EU or Emission Point ID	VOC (lb/hr)	CO (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)
Cornstarch Storage Bin #24	120-05-S	0.05	-	-	-
Cornstarch Storage Bin #25	120-06-S	0.05	-	-	-
Cornstarch Storage Bin #26	120-07-S	0.05	-	-	-
Cornstarch Storage Bin #27	120-08-S	0.05	-	-	--
Cornstarch Storage Bin #28	120-09-S	0.05	-	-	-
Cornstarch Storage Bin #29	120-10-S	0.05	-	-	-
Cornstarch Storage Bin #30	120-11-S	0.05	-	-	-
Cornstarch Storage Bin #31	120-12-S	0.05	-	-	-
Cornstarch Storage Bin #32	120-13-S	0.05	-	-	-
Cornstarch Storage Bin #33	120-14-S	0.05	-	-	-
Cornstarch Storage Bin #34	120-15-S	0.05	-	-	-
Cornstarch Storage Bin #35	120-16-S	0.05	-	-	-
Cornstarch Storage Bin #36	120-17-S	0.05	-	-	-
Fiber Drying Equipment	89-01-G	10.57	-	3.95	-
Gluten Dryer System	121-01-G	3.72	2.95	0.68	-
Germ Dryer/Cooler	124A-01-G	3.97	0.46	0.77	-
Starch Ring Dryer #3	125-01-S	0.86	6.00	-	-
Waxy Cornstarch Bulk Storage Bins #95	126-01-S	0.18	-	-	-
Waxy Cornstarch Bulk Storage Bins #96	126-02-S	0.18	-	-	-
Waxy Cornstarch Bulk Storage Bins #97	126-03-S	0.18	-	-	-
Waxy Cornstarch Bulk Storage Bins #98	126-04-S	0.18	-	-	-
Sp. Starch Process with Starch Ring Dryer #4	128-01-S	0.90	6.00	-	-
Thermal Oxidizer	S128-14-S	1.33	8.61	-	-
Cornstarch Blending System #1	130-01-S	0.04	-	-	-
Cornstarch Blending System #2	130-02-S	0.04	-	-	-
Cornstarch Blending System #3	130-03-S	0.04	-	-	-
Cornstarch Blending System #4	130-04-S	0.04	-	-	-
Dextrin Blender	130-05-S	0.09	-	-	-
Germ Tank 1310	200-01-G	0.16	-	-	-
Gluten Tank 1410	200-02-G	0.16	-	-	-
Germ Tank 1110	200-03-G	0.16	-	-	-
Gluten Tank 1010	200-04-G	0.16	-	-	-
Bulk Loadout	200-05-G	3.89	-	-	-
Biogas Flare	800-05-E	0.78	1.71	-	-
HCl Tank - Refinery		0.08	-	-	-
Bldg 128 Tank Farm		0.08	-	-	-
3 Gluten Filters		0.42	-	-	-
3 Gluten Vacuum Pumps		0.77	-		-
Refinery Vacuum Pumps (1-3)		0.43	-	-	-
Refinery Vacuum Pumps (4-6)		0.64	-	-	-

Emission Source Description	EU or Emission Point ID	VOC (lb/hr)	CO (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)
Refinery Vacuum Pumps (7-8)		0.64	-	-	-
WWTP Centrifuges (2)		0.04	-	-	-

The Permittee shall apply to have the above limitations incorporated into the State Implementation Plan.

326 IAC 2-3 (Emission Offset)
Significant Source Modification No. 089-25241-00203 - Since this source is considered a major Emission Offset source and the unrestricted potential to emit of this modification is greater than twenty-five (25) tons of VOC per year, this source has elected to limit the potential to emit of this modification. These limits, in conjunction with the De Minimis evaluation conducted by the source, will ensure the increases are less than significant threshold levels, are as follows:

(1) VOC Emission Offset

(a) Pursuant to 326 IAC 2-3 (Emission Offset), the following units shall be removed from operation once the modification permitted under SSM 089-25241-00203 has been constructed:

(1) Rotary Feed Dryer (89-03-G)
(2) Waxy Feed Drum Dryer (124-01-G)
(3) 1st Stage Germ Dryer (21A-02-G)
(4) 2nd Stage Germ Dryer (51A-02-G)
(5) Hammermill No. 1 (201-01-G)
(6) Hammermill No. 2 (201-020-G)
(7) Pellet Cooler No. 1 (201-03-G)
(8) Pellet Cooler No. 2 (201-04-G)
(9) Loose Feed Bin Vent (201-05-G)
(10) Central Vacuum Pelletizing (201-06-G)

Removal of these units shall reduce the controlled VOC emissions by 23.61 tons per twelve (12) consecutive month period. The shutdown of these units shall be permanent.

(b) The existing Germ Dryer/Cooler (124A-01-G) shall be shutdown and removed from the source no later than 180 days after the startup of the new Germ Dryer/Cooler (Unit ID 203-01-G). Removal of this unit shall reduce the controlled VOC emissions by 1.54 tons per twelve (12) consecutive month period. The shutdown and removal of this unit shall be permanent.

326 IAC 2-2 and 2-1.1-5 (PSD and Nonattainment New Source Review)
This source is a major stationary source for the purposes of PSD because it has the potential to emit two hundred fifty (250) tons per year or more of an air pollutant subject to regulation under the CAA. It is not one of the 28 listed source categories. The source has not been reviewed under the requirements of 326 IAC 2-2 because it was in existence prior to 1977 and there has not been a major modification, as defined in these rules, subject to the requirements of 326 IAC 2-2. The following conditions are necessary in order to keep the provisions of 326 IAC 2-2 (PSD) and 326 IAC 2-1.1-5 (Nonattainment NSR) not applicable.

(1) All biogas from the Anaerobic Wastewater Treatment Process shall either be combusted for energy recovery in a plant process or combusted in the Biogas Flare (Unit ID 800-0 5-E) such that H_2S emissions shall be limited to less than ten (10) tons per twelve (12) consecutive month period. Compliance with the this limit shall limit H_2S emissions from

the anaerobic wastewater treatment process to less than ten (10) tons per twelve (12) consecutive month period and render 326 IAC 2-2 not applicable.

(2) All biogas from the Anaerobic Wastewater Treatment Process shall either be combusted for energy recovery in a plant process or combusted in the Biogas Flare (Unit ID 800-0 5-E) such that SO_2 emissions shall be limited to less than forty (40) tons per twelve (12) consecutive month period. Compliance with the this limit shall limit SO_2 emissions from the anaerobic wastewater treatment process to less than forty (40) tons per twelve (12) consecutive month period and render 326 IAC 2-2 not applicable.

(3) Significant Source Modification No. 089-25241-00203 - Particulate Matter (PM) and Particulate Matter with aerodynamic diameter of less than or equal to 10 micrometers (PM10)

(A) The PM and PM10 emissions from the following operations shall not exceed the emissions limits listed in the tables below:

Unit	Unit ID	PM/PM10 Emission Limit (lb/hr)
No. 1 Alternate Carbohydrate Storage Bin	127-28-B	0.18
No. 2 Alternate Carbohydrate Storage Bin	127-29-B	0.18
Alternate Carbohydrate Mill Feed Hopper	127-30-B	0.028

Unit	Unit ID	Control Device ID	PM/PM10 Emission Limit (lb/hr)
Corn Screening System	30-16-G	CE30-16-G	0.06
Storage Bin No. 5 (Grind 1)	33-01-G	CE33-01-G	0.171
Storage Bin No. 6 (Grind 2)	33-02-G	CE33-02-G	0.171
Corn Cleaner	33-03-G	CE33-03-G	0.21
Fiber Dryer & Bran Conveyor System	89-01-G / 89-08-G	CE-89-01-G	3.746
No. 1 Gluten Dryer	121-01-G	CE121-01-G	2.245
Storage Bin #3	140-03-G	CE140-03-G	0.343
Storage Bin #4	140-04-G	CE140-04-G	0.343
Storage Bin #1	140-01-G	CE140-01-G	0.343
Storage Bin #2	140-02-G	CE140-02-G	0.343
Corn Dump Pit	140-05-G	CE140-05-G	1.286
Gravity Take-Up Conveyor	140-06-G	CE140-06-G	0.154
Corn Elevator Conveying	140-07-G	CE140-07-G	0.086
Germ Tank 1310	200-01-G	CE200-01-G	0.05
Gluten Tank 1410	200-02-G	CE200-02-G	0.05
Germ Tank 1110	200-03-G	CE200-03-G	0.05
Gluten Tank 1010	200-04-G	CE200-04-G	0.05
Bulk Loadout	200-05-G	CE200-05-G	1.21
Corn Screening Silo	200-06-G	CE200-06-G	0.02
Central Vacuum Loadout	200-07-G	CE200-07-G	0.02
No. 1 Bran Bunker	89-06-G	CE89-06-G	0.006
No. 2 Bran Bunker	89-07-G	CE89-07-G	0.006
Bran Preweigh Hopper	89-09-G	CE89-09-G	0.006
No. 2 Gluten Dryer	121A-01-G	CE121A-01-G	2.4
Germ Dryer/Cooler	203-01-G	CE203-01-G	2.81

(B) Pursuant to 326 IAC 2-2 (PSD), the following units shall be removed from operation once the modification permitted under SSM 089-25241-00203 has been constructed:

(1) Rotary Feed Dryer (89-03-G)
(2) Dry Feed Transfer (89-05-G)
(3) Germ Storage Silo (121-14-G)
(4) Waxy Feed Drum Dryer (124-01-G)
(5) Waxy Feed Mill Equipment (124-22-G)
(6) Wet Feed Transfer (124-23-G)
(7) Hammermill No. 1 (201-01-G)
(8) Hammermill No. 2 (201-02-G)
(9) Pellet Cooler No. 1 (201-03-G)
(10) Pellet Cooler No. 2 (201-04-G)
(11) Loose Feed Bin Vent (201-05-G)
(12) Central Vacuum Pelletizing (201-06-G)
(13) Receiver 1st Stage Germ Dryer (21A-01-G)
(14) 1st Stage Germ Dryer (21A-02-G)
(15) Receiver 2nd Stage Germ Dryer (51A-01-G)
(16) 2nd Stage Germ Dryer (51A-02-G)

Removal of these units shall reduce the PM/PM10 emissions by 21.60 tons per twelve (12) consecutive month period. The shutdown of these units shall be permanent.

(C) The existing Germ Dryer/Cooler (124A-01-G) shall be shutdown and removed from the source no later than 180 days after the startup of the new Germ Dryer/Cooler (Unit ID 203-01-G). Removal of this unit shall reduce PM/PM10 emissions by 3.54 tons per twelve (12) consecutive month period. The shutdown and removal of this unit shall be permanent.

Compliance with these PM and PM10 limits will ensure that the PM emissions from Significant Source Modification No. 089-25241-00203 are less than 25 tons per twelve (12) consecutive month period and PM10 emissions from Significant Source Modification No. 089-25241-00203 are less than 15 tons per twelve (12) consecutive month period. Therefore, the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-1.1-5 (Nonattainment NSR) are rendered not applicable for PM/PM10 for Significant Source Modification No. 089-25241-00203.

(4) The unrestricted potential to emit of Significant Source Modification No. 089-29467-00203 was greater than twenty-five (25) tons of PM per year, fifteen (15) tons of PM_{10} per year, and ten (10) tons of $PM_{2.5}$ per year, therefore source elected to limit the potential to emit of this modification as follows:

Equipment Description	Stack ID	PM10 Emission Limit (lb/hr)	PM2.5 Emission Limit (lb/hr)
Corn Syrup Solids Manufacturing System #5 (new)	stack S93-40-W	3.31	2.17

Compliance with these emission limits will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year, less than fifteen (15) tons of PM_{10} per year, and less than ten (10) tons of $PM_{2.5}$ per year; and therefore will render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-1.1-5 (Nonattainment NSR) not applicable.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The operation of this facility will emit greater than ten (10) tons per year for a single HAP and greater than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 would apply to the facility, however, pursuant to 326 IAC 2-4.1-1(a), because this facility was constructed before July 27, 1997, the requirements of 326 IAC 2-4.1 do not apply. Since July 27, 1997 the source has not had any modifications that were greater than ten (10) tons per year for a single HAP or greatet than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply to any of the modifications isssued since July 27, 1997.

326 IAC 2-6 (Emission Reporting)
Since this source is located in Lake County, and has a potential to emit NO_X and VOC greater than or equal to twenty-five (25) tons per year, an emission statement covering the previous calendar year must be submitted by July 1 of each year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

326 IAC 1-5-2 (Emergency Reduction Plans)
The source is subject to 326 IAC 1-5-2.

326 IAC 4-1 (Open Burning)
The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

326 IAC 5-1 (Opacity Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (20%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

Pursuant to 326 IAC 6.8-8 (Lake County: Continuous Compliance Plan)
The Permittee shall submit to IDEM and maintain at the source a copy of the Continuous Compliance Plan. The Permittee shall perform the inspections, monitoring, and record keeping requirements as specified in 326 IAC 6.8-8-7. The Permittee shall update the CCP, as needed, retain a copy on site, and make the updated CCP available for inspection as specified in 326 IAC 6.8-8-8.

326 IAC 6.8-10 (Lake County: Fugitive Particulate Matter)
The Permittee has the potential to emit less than five (5) tons per year of fugitive particulate matter. Therefore, the requirements of 326 IAC 6.8-10 are not applicable.

326 IAC 6.8-11 (Lake County: Particulate Matter Contingency Measures)
Pursuant to this rule, the Permittee shall comply with the applicable provisions of 326 IAC 6.8-11 (Lake County: Particulate Matter Contingency Measures).

326 IAC 6-4 (Fugitive Dust Emissions)
The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

326 IAC 6-5 (Fugitive Particulate Matter Emissions Limitations)
326 IAC 6-5, for fugitive particulate matter emissions, does not apply because the source is located in Lake County.

326 IAC 2-7-5(13)(Preventive Maintenance Plan)
Pursuant to 326 IAC 2-5-5(13), a Preventive Maintenance Plan, is required for these emission units and their control devices.

326 IAC 7-4.1-5 (Sulfur Dioxide Limitations for Lake County)

(a) Pursuant to 326 IAC 7-4.1-5 (Sulfur Dioxide Limitations), emissions of sulfur dioxide from the following units shall not exceed the following limitations:

Unit Name	Unit ID	PM Limit (lbs/hr)
Biogas Flare	800-05-E	9.13
Gluten Dryer System	121-01-G	0.68
Fiber Drying Equipment	89-01-G	3.95
Germ Dryer/Cooler	124A-01-G	0.77
Activated Carbon Regeneration Furnace #2	104-01-R	0.11

(b) Pursuant to 326 IAC 7-4.1-5(b) (Cargill, Inc. sulfur dioxide emission limitations), Cargill Inc. shall submit a quarterly report of the twelve (12) month rolling total of all sulfur dioxide emissions in tons per year.

326 IAC 8-7 (Specific VOC Reductions Requirements for Lake, Porter, Clark, and Floyd Counties)
Pursuant to 326 IAC 8-7-3(2) (Specific VOC Reduction Requirements for Lake, Porter, Clark and Floyd Counties):

(a) Emissions of VOC from the following units shall not exceed the following limitations:

Unit Name	Unit ID	VOC Limit (lbs/hr)
Gluten Dryer System	121-01-G	3.72
Germ Dryer/Cooler	124A-01-G	3.97
Steephouse – Grind 1	Bldg 23	0.0039 [1]
Corn Syrup Spray Dryer/Cooler System #3	100-01-R	0.50
Corn Syrup Spray Dryer #4	100-03-R	0.86
Corn Syrup Solids Mfg System #2	18-03-R	0.45
Cornstarch Storage Bin 20	120-01-S	0.05
Cornstarch Storage Bin 21	120-02-S	0.05
Cornstarch Storage Bin 22	120-03-S	0.05
Cornstarch Storage Bin 23	120-04-S	0.05
Cornstarch Storage Bin 24	120-05-S	0.05
Cornstarch Storage Bin 25	120-06-S	0.05
Cornstarch Storage Bin 26	120-07-S	0.05
Cornstarch Storage Bin 27	120-08-S	0.05
Cornstarch Storage Bin 28	120-09-S	0.05
Cornstarch Storage Bin 29	120-10-S	0.05
Cornstarch Storage Bin 30	120-11-S	0.05
Cornstarch Storage Bin 31	120-12-S	0.05
Cornstarch Storage Bin 32	120-13-S	0.05
Cornstarch Storage Bin 33	120-14-S	0.05

Unit Name	Unit ID	VOC Limit (lbs/hr)
Cornstarch Storage Bin 34	120-15-S	0.05
Cornstarch Storage Bin 35	120-16-S	0.05
Cornstarch Storage Bin 36	120-17-S	0.05
Starch Ring Dryer #3	125-01-S	0.86
Starch Ring Dryer #4	128-01-S	0.90
Starch Reactors (4)	128-02-S thru 128-04-S & 128-07-S	0.06
Cornstarch Blending System 1	130-01-S	0.04
Cornstarch Blending System 2	130-02-S	0.04
Cornstarch Blending System 3	130-03-S	0.04
Cornstarch Blending System 4	130-04-S	0.04
Dextrin Blender	130-05-S	0.09
Batch Scale Hopper #1	34-01-S	0.07
Dextrin Starch Reactor #1	34-02-S	0.27
Dextrin Starch Cooler #1	34-03-S	0.06
Surge Hopper #1	34-05-S	0.17
Dextrin Feed Hopper #1	34-06-S	0.02
Dextrin Feed Hopper #2	34-07-S	0.02
Dextrin Starch Cooler #2	34B-01-S	0.06
Surge Hopper #2	34B-03-S	0.17
Dextrin Starch Reactor #2	34B-04-S	0.27
Dextrin Feed Hopper #3	34B-05-S	0.02
Dextrin Feed Hopper #4	34B-06-S	0.02
Batch Scale Hopper #2	34B-13-S	0.10
Dextrin Bulk Loading	48-09-S	0.39
Starch Milling System #1	59-01-S	0.16
Starch Milling System #2	59-02-S	0.16
Starch Ring Dryer #2	59-03-S	1.19
Dried Corn Syrup Conveying System	93-04-W	0.03
Corn Syrup Solids Conveying System	93-05-W	0.03
Frodex Semi-Bulk Packing System	93-08-W	0.03
Cornstarch Bag Dumping Station #1	93-09-W	0.02
Cornstarch Bag Dumping Station #2	93-10-W	0.02
Starch Bulk Loading	93-14-W	0.09
Starch Bulk Loading Vacuum	93-15-W	0.01

1 – Units are lbs per bushel

Compliance with the above limits shall be achieved pursuant to the methods specified in 326 IAC 8-7-4.

(b) The following units have been removed from the source:

Unit Name	Unit ID
BCD Reaction and Separation	127-03-B
Gluten Ring Dryer #1	19-03-G
Waxy Feed Drum Dryer	124-01-G
1st Stage Germ Dryer – Grind 1	21A-02-G
1st Stage Germ Dryer – Grind 2	Bldg 123
2nd Stage Germ Dryer	51A-02-G

Unit Name	Unit ID
Feed Flash Dryer #1	Bldg 21
Feed Flash Dryer #2	Bldg 21A
Rotary Feed Dryer #1	Bldg 20A
Rotary Feed Dryer #2	Bldg 20A
Rotary Feed Dryer #3	Bldg 20A
Rotary Feed Dryer #4	Bldg 20A
Rotary Feed Dryer #5	Bldg 20A
Rotary Feed Dryer – Grind 2	Bldg 124
Millhouse Aspiration System – Grind 1	Bldg 15
Millhouse Aspiration System – Grind 2	Bldg 123
Steephouse – Grind 2	Bldg 53
Feed Pelletizing System – Point A	91-13-G
Feed Pelletizing System – Point B	91-14-G
Feed Pelletizing System – Point C	91-15-G
Feed Pelletizing System – Point D	91-16-G
Boiler #1	10-01-U
Boiler #2	10-02-U
Boiler #6	10-03-U
Boiler #7	10-04-U
Boiler #8	10-05-U
Boiler #10	10-06-U
Carbon Furnace – Old Refinery	Bldg 15
HCL Tanks – Old Refinery	17-04-R & 17-05-R
Starch Reactors (9)	Bldg 54
South Dextrin Furnace #1	Bldg 47
North Dextrin Furnace #2	Bldg 47

Removal of these units has reduced VOC emissions by 652.95 tons per twelve (12) consecutive month period. The shutdown of these units shall be permanent.

State Rule Applicability - Individual Facilities

Alternate Carbohydrate Area

326 IAC 6.8-2 (Lake County: PM10 Emission Requirements)
Pursuant to 326 IAC 6.8-2 (Lake County: PM10 Emission Requirements), emissions of particulate matter less than ten microns in diameter (PM10) shall not exceed the emissions limits listed in the table below:

Unit ID	PM10 Limit (gr/dscf)	PM10 Limit (lbs/hr)
Alternate Carbohydrate Mill Feed Hopper (127-30-B)	0.01	0.028
No. 1 & No. 2 Alternate Carbohydrate Storage Bins (127-28-B) & (127-29-B)	0.01 each	0.18 each
Vacuum Cleaners #1 & #2 (127-21-B) & (127-22-B)	0.01 each	0.031 each

The dust collectors used for control shall be in operation at all times their associated units are in operation, in order to comply with these limits.

Grind and Feedhouse Area

326 IAC 6.8-1-2(h) (Particulate Matter Limitations for Lake County)
Pursuant to Significant Source Modification 089-14389-00203, issued September 2001, and 326 IAC 6.8-1-2(h) (Nonattainment Area Particulate Limitations), emissions of particulate matter from the following units shall not exceed the following limitations:

Unit ID	PM Limit (gr/dscf)	PM Limit (lbs/hr)
Central Vacuum Loadout (200-07-G)	0.005	0.02
Germ Tank 1310 (200-01-G)	0.005	0.05
Gluten Tank 1410 (200-02-G),	0.005	0.05
Corn Screenings Silo (200-06-G)	0.005	0.02
Gluten Tank 1010 (200-04-G)	0.005	0.05
Germ Tank 1110 (200-03-G)	0.005	0.05
Bulk Loadout (200-05-G)	0.005	1.21

The dust collectors used for control shall be in operation at all times their associated units are in operation, in order to comply with these limits.

326 IAC 6.8-1-2 (Particulate Matter Limitations for Lake County)
Pursuant to Significant Source Modification 089-25241-00203 and 326 IAC 6.8-1-2 (Nonattainment Area Particulate Limitations, emissions of particulate matter from the following units shall not exceed the following limitations:

Summary of Process Weight Rate Limits		
Unit ID	PM Limit (gr/dscf)	PM Limit (lbs/hr)
No. 2 Gluten Dryer (121A-01-G)	0.03	3.0
Germ Dryer/Cooler (203-01-G)	0.03	3.0
No. 1 Bran Bunker (89-06-G)	0.03	3.0
No. 2 Bran Bunker (89-07-G)	0.03	3.0
Bran Conveyor System (89-08-G)	0.03	3.0
Bran Preweigh Hopper (89-09-G)	0.03	3.0

The scrubbers and bin vent filters used for control shall be in operation at all times their associated units are in operation, in order to comply with these limits.

326 IAC 7-4.1 (Lake County Sulfur Dioxide Emission Limitations)
Pursuant to 326 IAC 7-4.1 (Lake County Sulfur Dioxide Emission Limitations), the sulfur dioxide emission rate from these units shall not exceed the following:

(a) SO2 emissions from the stack serving the No. 2 Gluten Dryer (121A-01-G) shall not exceed 0.3 lb/MMBtu.

(b) SO2 emissions from the stack serving the Germ Dryer/ Cooler (203-01-G) shall not exceed 0.3 lb/MMBtu.

The wet scrubbers used for control shall be in operation at all times their associated units are in operation, in order to comply with these limits.

Utility Area

326 IAC 6.8-1-2 (Particulate Matter Limitations for Lake County)
Pursuant to 326 IAC 6.8-1-2(b)(3), Package Boiler #1 shall burn natural gas only and particulate matter emissions shall not exceed 0.01 grains per dry standard cubic foot (dscf). Package Boiler #1 is a natural gas fired boiler and has a potential to emit of particulate emissions less than 0.01 grains per dry standard cubic foot (dscf), therefore, it can comply with this limit.

326 IAC 7-4.1-1 (Lake County Sulfur Dioxide Emission Limitations)
The Package Boiler #1 has a potential to emit of less than twenty-five (25) tons per year and ten (10) pounds per hour of sulfur dioxide. Therefore, 326 IAC 7-4.1-1 does not apply.

326 IAC 10 (Nitrogen Oxide Rules)
The Package Boiler #1 is not a blast furnace gas fired boiler or located in Clark or Floyd Counties or an electricity generating unit as defined under 326 IAC 10-4-2(16). Therefore, 326 IAC 10 does not apply.

Refinery Area

326 IAC 6.8-2 (Particulate Matter less than 10 microns in diameter (PM10))
Pursuant to 326 IAC 6.8-2 (Lake County: PM10 Emission Requirements), emissions of particulate matter less than ten microns in diameter (PM10) shall be limited to the following:

Unit ID	PM10 Limit (gr/dscf)	PM10 Limit (lbs/hr)
Corn Syrup Solids Mfg System #2 (18-03-R)	0.01	0.30
Corn Syrup Spray Dryer #4 (100-03-R)	0.01	4.2
Corn Syrup Spray Dryer/Cooler System #3 (100-01-R)	0.015	4.96
Activated Carbon Regeneration Furnace #2 (104-01-R)	0.015	0.728
Liquid Soda Ash Tank (104-02-R)	0.02	0.154
Filter Aid Hopper (104-03-R)	0.02	0.044
Sodium Bisulfite Bag Dump (104-05-R)	0.02	0.080

The scrubbers and dust collectors used for control shall be in operation at all times their associated units are in operation, in order to comply with these limits.

326 IAC 6.8-1-2(h) (Particulate Matter Limitations for Lake County)
Pursuant to CP 089-1230-00203, issued November 1998, and 326 IAC 6.8-1-2(h) (Nonattainment Area Particulate Limitations), emissions of particulate matter shall be limited to the following:

Unit ID	PM Limit (gr/dscf)	PM Limit (lbs/hr)
Diatomaceous Earth Unloading Silo (104-08-R)	0.01	0.064
Citric Acid Dump Station (104-09-R)	0.01	0.026

The bin vent filters and dust collectors used for control shall be in operation at all times their associated units are in operation, in order to comply with these limits.

Starch Production Area

326 IAC 6.8-2 (Particulate Matter less than 10 microns in diameter (PM10))
Pursuant to 326 IAC 6.8-2 (Lake County: PM10 Emission Requirements, emissions of particulate matter less than ten microns in diameter (PM10) shall be limited to the following.

Unit ID	PM10 Limit (gr/dscf)	PM10 Limit (lbs/hr)
Batch Scale Hopper #1 (34-01-S)	0.01	0.04
Dextrin Starch Reactor #1 (34-02-S)	0.01	0.180
Dextrin Starch Cooler #1 (34-03-S)	0.01	0.042
Surge Hopper #1 (34-05-S)	0.01	0.11
Dextrin Feed Hoppers #1 and #2 (34-06-S & 34-07-S)	0.01 each	0.030 each
Batch Scale Hopper #2 (34B-13-S)	0.01	0.067
Dextrin Starch Reactor #2 (34B-04-S)	0.01	0.179
Dextrin Starch Cooler #2 (34B-01-S)	0.01	0.042
Surge Hopper #2 (34B-03-S)	0.01	0.114
Dextrin Feed Hoppers #3 and #4 (34B-05-S & 34B-06-S)	0.01 each	0.030 each
Dextrin Bulk Loading Equipment (48-09-S)	0.01	0.26
Starch Ring Dryer #2 (59-03-S)	0.006	3.50
Starch Milling Systems #1 and #2 (59-01-S and 59-02-S)	0.01 each	0.43 each
Starch Ring Dryer #3 (125-01-S)	0.006	3.50
Special Starch Process / Starch Ring Dryer #4 (128-01-S)	0.01	3.5
Cornstarch Storage Bins 20-36 (120-01-S to 120-17-S)	0.01 each	0.56 each
Waxy Cornstarch Storage Bins 95-98 (126-01-S to 126-04-S)	0.01 each	0.16 each
Cornstarch Blending Systems 1-4 (130-01-S to 130-04-S)	0.01	0.42
Dextrin Blender (130-05-S)	0.01	0.248

The dust collectors and scrubbers used for control shall be in operation at all times their associated units are in operation, in order to comply with these limits.

326 IAC 6.8-1-2(h) (Particulate Matter Limitation for Lake County)
Pursuant to CP 089-01531-00203, issued November 1999, and 326 IAC 6.8-1-2(h) (Non-attainment Area Particulate Limitations), emissions of particulate matter shall be limited to the following.

Unit ID	PM Limit (gr/dscf)	PM Limit (lbs/hr)
Sodium Sulfate Storage Bin (128-25-S)	0.005	0.03
Sodium Sulfate Weigh Bin (128-26-S)	0.005	0.03

The dust collectors used for control shall be in operation at all times their associated units are in operation, in order to comply with these limits.

326 IAC 7-4.1-1 (Lake County Sulfur Dioxide Emission Limitations)
The Starch Ring Dryer #2, Starch Ring Dryer #3, Special Starch Process/Starch Ring Dryer #4, and Reactors #2 through #8 each have a potential to emit of less than twenty-five (25) tons per year and ten (10) pounds per hour of sulfur dioxide. Therefore, 326 IAC 7-4.1-1 does not apply.

Starch Warehouse Area

326 IAC 6.8-1-2(a) (Particulate Matter Limitations for Lake County)
Pursuant to 326 IAC 6.8-1-2(a), particulate matter (PM) emissions from the Corn Syrup Solids Manufacturing System #5 (Unit ID 93-40-W) shall not exceed three-hundredths (0.03) grain per dry standard cubic foot (dscf).

326 IAC 6.8-1-2(h) (Particulate Matter Limitations for Lake County)
Pursuant to Minor Source Modification 089-12593-00203, issued September 2000, and 326 IAC 6.8-1-2(h) (Non-attainment Area Particulate Limitations), emissions of particulate matter from the following units shall be limited to the following:

Unit ID	PM Limit (gr/dscf)	PM Limit (lbs/hr)
Channel 2 Receiver (93-32-W)	0.005	0.10
Channel 3 Receiver (93-33-W)	0.005	0.10
Channel 4 Receiver (93-34-W)	0.005	0.10
Channel 6 Receiver (Dextrin) (93-35-W)	0.005	0.10
Channel 4/6 Packing (Dextrin)(93-37-W)	0.005	0.51
Channel 2/3 Packing (93-36-W)	0.005	0.51
Central Vacuum System (93-38-W)	0.005	0.02
P.G. Starch Receiver (93-18-W)	0.01	0.343
P.G. Starch Packing (Unit ID 93-39-W)	0.01	0.13

The dust collectors used for control shall be in operation at all times their associated units are in operation, in order to comply with these limits.

326 IAC 6.8-2 (Particulate Matter less than 10 microns in diameter (PM10))
Pursuant to 326 IAC 6.8-2 (Lake County PM10 Emission Requirements), emissions of particulate matter less than ten microns in diameter (PM10) from the following units shall be limited to the following:

Unit ID	PM10 Limit (gr/dscf)	PM10 Limit (lbs/hr)
Dried Corn Syrup (Frodex) Conveying System (93-04-W)	0.01	0.069
Corn Syrup Solids Conveying System (93-05-W)	0.01	0.066
Frodex Semi-bulk Packing System (93-08-W)	0.01	0.083
Cornstarch Bag Dump Stations 1 & 2 (93-09-W and 93-10-W)	0.01 each	0.10 each
Starch Bulk Loading (93-14-W)	0.01	0.273
Starch Bulk Loading Vacuum Cleanup System (93-15-W)	0.01	0.021
Starch Mixing and Bulk Bagging System #1 (93-16-W)	0.01	0.130
Starch Mixing and Bulk Bagging System #2 (93-17-W)	0.01	0.264

The dust collectors used for control shall be in operation at all times their associated units are in operation, in order to comply with these limits.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance

Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance determination requirements applicable to this source are as follows:

(1) Compliance Determination Requirements
The biogas stream from anaerobic reaction shall be diverted to an active plant process burner or to the biogas flare at all times that a biogas stream is being generated.

(2) Particulate Matter

(a) The bag filter dust collectors for PM and PM10 control shall be in operation and control emissions from their associated facilities at all times that the facilities are in operation.

(b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

(3) Volatile Organic Compounds (VOC)

(a) The thermal oxidizer for VOC control for Reactors 2, 3, 4, and 7 shall be installed, calibrated, maintained, and operated, at a minimum, according to the manufacturer's specifications and recommendations.

(b) The Permittee shall operate the thermal oxidizer at all times propylene oxide is being added to special starch Reactors 2, 3, 4, and 7.

(4) Testing

Summary of Testing Requirements					
Emission Unit	**Control Device**	**Timeframe for Testing**	**Pollutant**	**Frequency of Testing**	**Limit or Requirement**
Starch Ring Dryer #2	scrubber	180 days	VOC	Once every 5 years	28.61 lb/hr
Corn Syrup Spray Dryer/Cooler System #3	scrubber	180 days	VOC	Once every 5 years	10.78 lb/hr
Corn Spray Dryer #4	scrubber	180 days	VOC	Once every 5 years	4.04 lb/hr
Fiber Drying Equipment	scrubber	180 days	VOC	Once every 5 years	10.57 lb/hr
Gluten Dryer System	scrubber	180 days	VOC	Once every 5 years	6.51 lb/hr and 1.29 lb/hr
Germ Dryer/Cooler	scrubber	180 days	VOC	Once every 5 years	8.33 lb/hr and 0.78 lb/hr
Starch Ring Dryer #3	scrubber	180 days	VOC	Once every 5 years	28.93 lb/hr

Summary of Testing Requirements

Emission Unit	Control Device	Timeframe for Testing	Pollutant	Frequency of Testing	Limit or Requirement
Sp. Starch Process with Starch Ring Dryer #4	scrubber	180 days	VOC	Once every 5 years	0.49 lb/hr
Thermal Oxidizer	Thermal Oxidizer	180 days	VOC	Once every 5 years	1.33 lb/hr
anaerobic wastewater treatment process (Biogas Flare)	*Biogas Flare	180 days	VOC H2S SO2	Once	0.78 lb/hr <10tpy <25tpy & 9.13 lb/hr
3 Gluten Filters		180 days	VOC	Once every 5 years	0.42 lb/hr
3 Gluten Vacuum Pumps		180 days	VOC	Once every 5 years	0.77 lb/hr
HCl Tank - Refinery		180 days	VOC	Once every 5 years	0.08 lb/hr
Bldg 128 Tank Farm		180 days	VOC	Once every 5 years	0.08 lb/hr
Thermal Oxidizer	Thermal Oxidizer	180 days	CO	Once every 5 years	8.61 lb/hr
Activated Carbon Regeneration Furnace #2	scrubber	180 days	CO	Once every 5 years	100 ppm or 90 % destruction
Fiber Drying Equipment	scrubber	180 days	SO_2	Once every 5 years	3.95 lb/hr
Gluten Dryer System	scrubber	180 days	SO_2	Once every 5 years	0.68 lb/hr
Germ Dryer/Cooler	scrubber	180 days	SO_2	Once every 5 years	0.77 lb/hr
Activated Carbon Regeneration Furnace #2	scrubber	180 days	SO_2	Once every 5 years	0.11 lb/hr
No. 1 and No. 2 Alternate Carbohydrate Storage Bins	dust collector	60/180 days	PM/PM_{10}	Once every 5 years	0.18 lb/hr each 0.01 gr/dscf each
Alternate Carbohydrate Mill Feed Hopper	dust collector	60/180 days	PM/PM_{10}	Once every 5 years	0.028 lb/hr 0.01 gr/dscf
Gluten Ring Dryer	scrubber	five (5) years from the date of the most recent valid compliance demonstration	PM/PM_{10}	Once every 5 years	2.245 lb/hr PM/PM_{10} and 3.0 lb/hr PM_{10} and 0.03 gr/dscf PM_{10}

Summary of Testing Requirements					
Emission Unit	**Control Device**	**Timeframe for Testing**	**Pollutant**	**Frequency of Testing**	**Limit or Requirement**
No. 2 Gluten Dryer	scrubber	60/180 days	PM/PM_{10}	Once every 5 years	2.4 lb/hr PM/PM_{10} and 3.0 lb/hr PM and 0.03 gr/dscf PM
Germ Dryer/Cooler	scrubber	60/180 days	PM/PM_{10}	Once every 5 years	2.81 lb/hr PM/PM_{10} and 3.0 lb/hr PM and 0.03 gr/dscf PM
Fiber Dryer	scrubber	60/180 days	PM_{10}	Once every 5 years	4.5 lb/hr and 0.01 gr/dscf
Fiber Dryer and Bran Conveying System	scrubber	60/180 days	PM/PM_{10}	Once every 5 years	3.746 lb/hr
Bran Conveying System	scrubber	60/180 days	PM	Once every 5 years	3.0 lb/hr and 0.03 gr/dscf
No. 2 Gluten Dryer	scrubber	60/180 days	SO_2	Once every 5 years	0.3 lb/MMBtu
Germ Dryer/Cooler	scrubber	60/180 days	SO_2	Once every 5 years	0.3 lb/MMBtu
No. 1 Bran Bunker	bin vent filter	60/180 days	PM/PM_{10}	Once every 5 years	0.006 lb/hr PM/PM_{10} and 3.0 lb/hr PM and 0.03 gr/dscf PM
No. 2 Bran Bunker	bin vent filter	60/180 days	PM/PM_{10}	Once every 5 years	0.006 lb/hr PM/PM_{10} and 3.0 lb/hr PM and 0.03 gr/dscf PM
Bran Preweigh Hopper	bin vent filter	60/180 days	PM/PM_{10}	Once every 5 years	0.006 lb/hr PM/PM_{10} and 3.0 lb/hr PM and 0.03 gr/dscf PM
Corn Syrup Spray Dryer #4	scrubber	five (5) years from the date of the most recent valid compliance demonstration	PM_{10}	Once every 5 years	4.2 lb/hr and 0.01 gr/dscf
Corn Syrup Spray Dryer/Cooler #3	scrubber	five (5) years from the date of the most recent valid compliance demonstration	PM_{10}	Once every 5 years	4.96 lb/hr and 0.015 gr/dscf
Starch Ring Dryer #2	scrubber	five (5) years from the date of the most recent valid compliance demonstration	PM_{10}	Once every 5 years	3.50 lb/hr and 0.006 gr/dscf

Summary of Testing Requirements					
Emission Unit	**Control Device**	**Timeframe for Testing**	**Pollutant**	**Frequency of Testing**	**Limit or Requirement**
Starch Ring Dryer #3	scrubber	five (5) years from the date of the most recent valid compliance demonstration	PM_{10}	Once every 5 years	3.50 lb/hr and 0.006 gr/dscf
Special Starch Process w/ Starch Ring Dryer #4	scrubber	five (5) years from the date of the most recent valid compliance demonstration	PM_{10}	Once every 5 years	3.5 lb/hr and 0.01 gr/dscf

*This test is to show the control device is designed and operating properly. Since the control device is an open flare, there is no way to directly measure emissions.

The compliance monitoring requirements applicable to this source are as follows:

Control	Parameter	Frequency	Range or Value	Excursions and Exceedances
Source Wide Emission Limitations - Activated Carbon Regeneration Furnace #2	Temperature	continuously	as determined in the most recent valid compliance stack test	Response Steps
Source Wide Emission Limitations - CE89-01-G	Minimum Flow Rate of Scrubbing Liquor (gallons/minute)	Daily	400	Response Steps
Source Wide Emission Limitations - CE89-01-G	pH of Scrubbing Liquor	Daily	7.0	Response Steps
Source Wide Emission Limitations - CE21-01-G	pH of Scrubbing Liquor	Daily	5.5	Response Steps
Source Wide Emission Limitations - CE124A-01-G	pH of Scrubbing Liquor	Daily	5.5	Response Steps
Source Wide Emission Limitations - CE104-01-R	pH of Scrubbing Liquor	Daily	7.0	Response Steps
Wastewater Treatment Process - Biogas Flare	Flame Presence	Once per shift	yes or no	Response Steps
Alternate Carbohydrate Area - Baghouses	Water Pressure Drop	Daily	0.1 to 6 inches	Response Steps
Alternate Carbohydrate Area - Baghouses	Visible Emissions	Daily	Normal-Abnormal	Response Steps
Grind and Feedhouse Area - Baghouses	Water Pressure Drop	Daily	0.1 to 6 inches	Response Steps
Grind and Feedhouse Area - Scrubbers	Visible Emissions	Daily	Normal-Abnormal	Response Steps
Grind and Feedhouse Area - 89-01-G, 89-08-G	Water Pressure Drop	Daily	0.1 to 6 inches	Response Steps
Grind and Feedhouse Area - 203-01-G	Water Pressure Drop	Daily	6 to 12 inches	Response Steps
Grind and Feedhouse Area - 124A-01-G	Water Pressure Drop	Daily	10 to 19 inches	Response Steps

Control	Parameter	Frequency	Range or Value	Excursions and Exceedances
Grind and Feedhouse Area - 121-01-G, 121A-01-G	Water Pressure Drop	Daily	12 to 19 inches	Response Steps
Refinery Area - Baghouses	Visible Emissions	Daily	Normal-Abnormal	Response Steps
Refinery Area - Baghouses	Water Pressure Drop	Daily	0.1 to 6 inches	Response Steps
Refinery Area - 18-03-R	Water Pressure Drop	Daily	5 to 15 inches	Response Steps
Refinery Area - Scrubbers	Visible Emissions	Daily	Normal-Abnormal	Response Steps
Refinery Area - 104-02-R	Water Pressure Drop	Daily	0.25 to 10 inches	Response Steps
Refinery Area - 100-03-R	Water Pressure Drop	Daily	1 to 8 inches	Response Steps
Refinery Area - 100-01-R	Water Pressure Drop	Daily	0.1 to 6 inches	Response Steps
Refinery Area - 104-01-R	Water Pressure Drop	Daily	0.1 to 8 inches	Response Steps
Starch Production Area - Baghouses	Visible Emissions	Daily	Normal-Abnormal	Response Steps
Starch Production Area - Scrubbers	Visible Emissions	Daily	Normal-Abnormal	Response Steps
Starch Production Area - Baghouses	Water Pressure Drop	Daily	0.1 to 6 inches	Response Steps
Starch Production Area - 59-03-S	Water Pressure Drop	Daily	1 to 11 inches	Response Steps
Starch Production Area - 125-01-S	Water Pressure Drop	Daily	5 to 17 inches	Response Steps
Starch Production Area - 128-01-S	Water Pressure Drop	Daily	0.1 to 10 inches	Response Steps
Starch Production Area - Thermal Oxidizer	Temperature	Continuous	1300 °F or as determined in the most recent valid compliance stack test	Response Steps
Starch Warehouse Area - Baghouses	Visible Emissions	Daily	Normal-Abnormal	Response Steps
Starch Warehouse Area - Baghouses	Water Pressure Drop	Daily	0.1 to 6 inches	Response Steps
Starch Warehouse Area - 93-40-W	Water Pressure Drop	Daily	1 to 8 inches	Response Steps

(1) Broken or Failed Bag Detection - applies to all baghouses at the source

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks or dust traces.

(2) Scrubber Failure Detection - applies to all scrubbers at the source
In the event that a scrubber's failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). Failure to take response steps shall be considered a deviation from this permit.

(3) Biogas Sampling - applies to the anaerobic wastewater treatment process
The Permittee shall perform bimonthly sampling of the biogas generated by the anaerobic digester. Samples shall be analyzed for H2S and SO2 content and H2S and SO2 emissions calculated using the following mass balance equations:

$$H2Ss\left({}^{lb}/_{hr}\right) * CE = H2S\left({}^{lb}/_{hr}\right) * 8760\left({}^{hr}/_{yr}\right) * \frac{1\ ton}{2000\ lb} = H2S\left({}^{ton}/_{yr}\right)$$

$$\left[H2S\left({}^{lb}/_{hr}\right) * \frac{MWSO2}{MWH2S}\right] + SO2s = SO2\left({}^{lb}/_{hr}\right) * 8760\left({}^{hr}/_{yr}\right) * \frac{1\ ton}{2000 lb} = SO2\left({}^{ton}/_{yr}\right)$$

Where:

$H2S_s$ = The H2S emissions from the sample in pounds per hour.
CE = The control efficiency/ rate at which the flare converts H2S to SO2 is 99.9%.
MWH2S = The molecular weight of H2S is 34.08.
MWSO2 = The molecular weight of SO2 is 64.06.
SO2s = The SO2 emissions from the sample in pounds per hour.

(4) Flame Presence- applies to the biogas flare
The Permittee shall monitor and record the flame presence for the Biogas Flare once during each shift of operation that the biogas stream is venting to the flare. The flame presence shall be determined using either a thermal sensor or flame detector at the point of the flame.

These monitoring conditions are necessary because the biogas flare, baghouses, scrubbers, and thermal oxidizer must operate properly to ensure compliance with 326 IAC 2-2 (PSD), 326 IAC 7-4.1 (Lake County Sulfur Dioxide Emission Limitations), 326 IAC 2-1.1-5 (Nonattainment NSR), 326 IAC 6.8 (Particulate Matter Limitations for Lake County), 326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark and Floyd Counties), 40 CFR 64 (CAM), and 326 IAC 2-7 (Part 70).

Recommendation

The staff recommends to the Commissioner that the Part 70 Operating Permit Renewal be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on September 24, 2008. Additional information was received on December 3, 2008, December 31, 2008, April 29, 2009, July 30, 2009, August 25, 2009, November 13, 2009, December 28, 2010 and January 11, 2011.

Conclusion

The operation of this wet corn milling facility shall be subject to the conditions of the attached Part 70 Operating Permit Renewal Renewal No. T089-27009-00203.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Kristen Willoughby at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 233-3031 or toll free at 1-800-451-6027 extension (3-3031).

(b) A copy of the findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

Appendix A: Emissions Calculations

Company Name: **Cargill, Inc.**
Address City IN Zip: **1100 Indianapolis Blvd, Hammond, IN 46320**
Title V Renewal Number: **089-27009-00203**
Reviewer: **Kristen Willoughby**
Date: **11/30/2010**

NOTES
EF: EMISSION FACTOR
CE: CONTROL EFFICIENCY
MDR: MAXIMUM DESIGN RATE
MDC: MAXIMUM DESIGN CAPACITY
Ts: STACK DISCHARGE TEMPERATURE
UNITS FOR EMISSIONS ARE IN (TPY) EXCEPT WHERE GIVEN

I. Total: Stack Emissions
(Under NG)

	POTENTIAL TO EMIT					
	BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	3853	92475	16877	46	196	---
PM10	3840	92162	16820	48	205	---
PM2.5	3833	91997	16790	47	205	---
SOx	102	2439	445	102	447	---
NOx	79	1888	344	79	346	---
VOC	3094	74244	13550	135	591	---
CO	140	3155	612	133	584	---
HAPs (Total)	2952	70843	12930	72	316	---

II. Total: Fugitive Emissions

	POTENTIAL TO EMIT					
	BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	16	370	5	15	4	---
PM10	3	74	1	3	1	---
PM2.5	1	18	0	1	0	---
SOx	6	151	28	6	28	---
NOx	0	0	0	0	0	---
VOC	2	49	9	2	9	---
CO	0	0	0	0	0	---
HAPs (Total)	2	49	9	2	9	---

III. Total: Source Wide Emissions

(Under NG)

	POTENTIAL TO EMIT					
	BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	3869	92845	16882	61	200.57	---
PM10	3843	92236	16821	51	206.00	---
PM2.5	3834	92016	16790	48	204.92	---
SOx	108	2590	473	109	474.92	---
NOx	79	1888	344	79	345.61	---
VOC	3096	74292	13559	137	599.94	---
CO	140	3155	612	133	583.59	---
HAPs (Total)	2954	70892	12939	74	325.38	---

General Plant Area

Anaerobic Wastewater Treatment Process
CNTRL DEV: Biogas Flare (800-05-E) MDR (lbs/hr): 2039 STACK ID (DIAM:HEIGHT): (0.67: 16)
Stack ID S800-05-E YEARLY PROD (lbs/yr): N/A FLOWRATE (ACFM): 1000
CNTRL DEV: None Ts(°F): 1400

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 3-02-999-99			POTENTIAL TO EMIT: BEFORE CONTROLS			POTENTIAL TO EMIT: AFTER CONTROLS		
POLLUTANT	EF(lb/lb)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0	0	0.00	0.00	0.00	0.00	0.00	0.00
PM10	0	0	0.00	0.00	0.00	0.00	0.00	0.00
PM2.5	0	0	0.00	0.00	0.00	0.00	0.00	0.00
SOx	0	0	0.00	0.00	0.00	19.14	83.85	N/A
NOx	0	0	0.00	0.00	0.00	0.00	0.00	N/A
VOC	0	0.98	39.00	936.00	170.82	0.78	3.42	N/A
CO	0	0	0.00	0.00	0.00	1.71	7.49	N/A
HAPs (H2S)	0.005	0.999	10.20	244.68	44.65	0.010	0.04	N/A

Groth (Model #8391A), Installed: 7/95
H2S emissions originate from the anaerobic generator. biogas = 480 scf/m = 28800 scf/hr
MDR is pounds per hour of biogas sent to a process burner or biogas flare for conversion to SO2. 28800 scf/hr x 0.0708 lbs/scf = 2039 lbs/hr biogas
Average H2S concentration is less than 0.5% in biogas stream 2039 lbs/hr @ 0.5% H2S = 10 lbs/hr x 8760hr/yr = 87600 lbs/yr = 43 TPY
Virtually all H2S converted to SO2 at plant process burner or biogas flare 99.99% of the time (normal operating procedure) biogas goes to in-plant process burner - H2S PTE is less than 0.05 TPY.
Note - After control emissions for VOC, CO, and HAPs are dervied from an AP-42 emisssion factor

H2S Combustion Reaction

$2\,H_2S + 3\,O_2 \quad 2\,SO_2 + 2\,H_2O$

MW H2S = 34.08
MW SO2 = 64.06

Assuming 99.9% conversion from H2S to SO2

10.20	(lb/hr) *	99.9%	=	10.18	(lb/hr) H2S			
10.18	(lb/hr) *	64.06	/	34.08	=	19.14	(lb/hr) of SO2	

Unit WWTP Centrifuge - North
CNTRL DEV: None

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	lb/day	ton/yr
WWTP Centrifuge - North	2	1000	5	70	996	946	0.01	0.31	0.06

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44
100% of VOC is HAPs for this unit.

Unit WWTP Centrifuge - South
CNTRL DEV: None

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	lb/day	ton/yr
WWTP Centrifuge - South	2	1000	5	70	996	946	0.01	0.31	0.06

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44
100% of VOC is HAPs for this unit.

Paved Roads and Areas (Unit ID 800-04-E-F)
P2,S1

Emission Factor (EF) Equation[1]

EF (lb/VMT) = [k * sL ^ 0.91 * W ^ 1.02] * (1-P/4N)

k = Particle size multiplier = 0.011 for TSP (lb/VMT)
0.0022 for PM10 (lb/VMT)
0.00054 for PM-2.5 (lb/VMT)

sL = Silt loading (g/m^2) = 1.1 Table 13.2.1-3, Mean
W = Vehicle weight (tons) = see Table below
P = number of days during the averaging period with at least 0.01 in of precipitation = 120 Figure 13.2.1-2
N = number of days in the averaging period = 365

Average

TSP/PM10/PM2.5 Emissions Calculation

Vehicle Traffic	Average Vehicles/day	Empty Weight tons	Loaded Weight tons	Average Vehicle Weight tons	TSP Emission Factor lbs/VMT	PM-10 Emission Factor lbs/VMT	PM-2.5 Emission Factor lbs/VMT	Number of Trips trips/yr	Total Trip Distance miles	Vehicle Mile Traveled mile/yr	Uncontrolled TSP Emissions ton/yr	Uncontrolled PM-10 Emissions ton/yr	Uncontrolled PM-2.5 Emissions ton/yr
Employee [2]	210	1.5	1.5	1.5	0.02	0.00	0.00	76,650	0.34	26,061	0.217	0.043	0.011
Feed Trucks	5	18	40	29.0	0.34	0.07	0.02	1,825	0.81	1,478	0.252	0.050	0.012
Germ Trucks	3	18	40	29.0	0.34	0.07	0.02	1,095	1.21	1,325	0.226	0.045	0.011
Gluten Trucks	1	18	40	29.0	0.34	0.07	0.02	365	1.21	442	0.075	0.015	0.004
Syrup Trucks	3	18	40	29.0	0.34	0.07	0.02	1,095	0.46	504	0.086	0.017	0.004
Starch Trucks	5	18	40	29.0	0.34	0.07	0.02	1,825	0.85	1,551	0.265	0.053	0.013
Chemical Truc	2	18	40	29.0	0.34	0.07	0.02	730	1.1	803	0.137	0.027	0.007
Bagged Products Trucks	25	18	40	29.0	0.34	0.07	0.02	9,125	0.93	8,486	1.449	0.290	0.071
Corn Trucks	48	18	40	29.0	0.34	0.07	0.02	17,520	0.27	4,730	0.808	0.162	0.040
							Total	**Uncontrolled Emissions (tons/yr)**			3.516	0.703	0.173

1. AP-42, Chapter 13.2.1 Paved Roads, January 2011.
2. Includes cars, pick-up trucks and SUVs.

Non-combustible Source-wide SO2 emissions (Unit ID 800-06-E)

P2,S3 MDR (Tons produced/hr): N/A STACK ID (DIAM:HEIGHT): N/A
YEARLY PROD (T/yr): N/A FLOWRATE (ACFM): N/A
CNTRL DEV: None Ts(°F): N/A
PERMITTED OPERATING HRS: 8760 hr/yr

	(Stack)		POTENTIAL TO EMIT						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0	0	0.0000	0	0.0000		0.0000	0.0000	0.0000
PM10	0	0	0.0000	0	0.0000		0.0000	0.0000	0.0000
PM2.5	0	0	0.0000	0	0.0000		0.0000	0.0000	0.0000
SOx		0	78.1000	1,874.4000	342.0780		78.1000	342.0780	N/A
NOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

	(Fugitive)		POTENTIAL TO EMIT						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0	0	0.0000	0	0.0000		0.0000	0.0000	0.0000
PM10	0	0	0.0000	0	0.0000		0.0000	0.0000	0.0000
PM2.5	0	0	0.0000	0	0.0000		0.0000	0.0000	0.0000
SOx		0	6.3000	151.2000	27.5940		6.3000	27.5940	N/A
NOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

Cargill's study of SO2 emissions from various plant areas has derived 78.1 lbs/hr stack and 6.3 lbs/hr fugitive.
84.4 lbs/hr; 369.67 TPY from various building fugitives and tanks based on engineering estimates.
****

Total: Stack Emissions - General Plant

	POTENTIAL TO EMIT						
	BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.000	0.000	0		0.000	0.00	0.000
PM10	0.000	0.000	0		0.000	0.00	0.000
PM2.5	0.000	0.000	0		0.000	0.00	0.000
SOx	78.100	1,874.400	342		97.244	425.93	N/A
NOx	0.000	0.000	0		0.000	0.00	N/A
VOC	39.000	936.000	171		0.780	3.42	N/A
CO	0.000	0.000	0		1.710	7.49	N/A
HAPs	10.195	244.680	45		0.010	0.04	N/A

Total: Fugitive Emissions - General Plant

	POTENTIAL TO EMIT						
	BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	15.401	369.630	4		15.401	4	N/A
PM10	3.080	73.926	1		3.080	1	N/A
PM2.5	0.756	18.145	0		0.756	0	N/A
SOx	6.300	151.200	28		6.300	28	N/A
NOx	0.000	0.000	0		0.000	0	N/A
VOC	0.000	0.000	0		0.000	0	N/A
CO	0.000	0.000	0		0.000	0	N/A
HAPs	0.000	0.000	0		0.000	0	N/A

Total: Emissions - General Plant

	POTENTIAL TO EMIT						
	BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	15.401	369.630	4		15.401	3.52	0.000
PM10	3.080	73.926	1		3.080	0.70	0.000
PM2.5	0.756	18.145	0		0.756	0.17	0.000
SOx	84.400	2,025.600	370		103.544	453.52	N/A
NOx	0.000	0.000	0		0.000	0.00	N/A
VOC	39.000	936.000	171		0.780	3.42	N/A
CO	0.000	0.000	0		1.710	7.49	N/A
HAPs	10.195	244.680	45		0.010	0.04	N/A

Feed Pile - Wind Erosion

Emission Factor Calculation[1]

Month	Day	Fastest Mile $(U^+)^2$ (mph)	Daily[3] $u^* = 0.02xU^+_{10}$ (mph)	Daily[3] $u^* = 0.02xU^+_{10}$ (m/s)	Daily[3] $u^* = 0.06xU^+_{10}$ (mph)	Daily[3] $u^* = 0.06xU^+_{10}$ (m/s)	Daily[3] $u^* = 0.09xU^+_{10}$ (mph)	Daily[3] $u^* = 0.09xU^+_{10}$ (m/s)	Erosion Potential[4] $P = 58 * (u^*-u^*_t)^2 + 25 * (u^* - u^*_t)$ Pi, (g/m^2) **40% of Pile**	**48% of Pile**	**12% of Pile**
March	1	23	0.48	0.22	1.45	0.65	2.18	0.97	0.00	0.00	0.00
March	2	24.2	0.51	0.23	1.53	0.68	2.29	1.02	0.00	0.00	0.00
March	3	29.3	0.62	0.28	1.85	0.83	2.77	1.24	0.00	0.00	3.82
March	4	34.4	0.72	0.32	2.17	0.97	3.26	1.46	0.00	0.00	14.91
March	5	32.2	0.68	0.30	2.03	0.91	3.05	1.36	0.00	0.00	9.47
March	6	32.2	0.68	0.30	2.03	0.91	3.05	1.36	0.00	0.00	9.47
March	7	20.8	0.44	0.20	1.31	0.59	1.97	0.88	0.00	0.00	0.00
March	8	23	0.48	0.22	1.45	0.65	2.18	0.97	0.00	0.00	0.00
March	9	20.8	0.44	0.20	1.31	0.59	1.97	0.88	0.00	0.00	0.00
March	10	28.9	0.61	0.27	1.82	0.82	2.74	1.22	0.00	0.00	3.18
March	11	25.3	0.53	0.24	1.60	0.71	2.39	1.07	0.00	0.00	0.00
March	12	29.9	0.63	0.28	1.89	0.84	2.83	1.27	0.00	0.00	4.85
March	13	29.9	0.63	0.28	1.89	0.84	2.83	1.27	0.00	0.00	4.85
March	14	23	0.48	0.22	1.45	0.65	2.18	0.97	0.00	0.00	0.00
March	15	29.9	0.63	0.28	1.89	0.84	2.83	1.27	0.00	0.00	4.85
March	16	34.4	0.72	0.32	2.17	0.97	3.26	1.46	0.00	0.00	14.91
March	17	25.3	0.53	0.24	1.60	0.71	2.39	1.07	0.00	0.00	0.00
March	18	20.8	0.44	0.20	1.31	0.59	1.97	0.88	0.00	0.00	0.00
March	19	23	0.48	0.22	1.45	0.65	2.18	0.97	0.00	0.00	0.00
March	20	23.6	0.50	0.22	1.49	0.67	2.23	1.00	0.00	0.00	0.00
March	21	24.2	0.51	0.23	1.53	0.68	2.29	1.02	0.00	0.00	0.00
March	22	22.5	0.47	0.21	1.42	0.63	2.13	0.95	0.00	0.00	0.00
March	23	20.8	0.44	0.20	1.31	0.59	1.97	0.88	0.00	0.00	0.00
March	24	25.3	0.53	0.24	1.60	0.71	2.39	1.07	0.00	0.00	0.00
March	25	23	0.48	0.22	1.45	0.65	2.18	0.97	0.00	0.00	0.00
March	26	23	0.48	0.22	1.45	0.65	2.18	0.97	0.00	0.00	0.00
March	27	20.7	0.44	0.19	1.31	0.58	1.96	0.88	0.00	0.00	0.00
March	28	18.3	0.38	0.17	1.15	0.52	1.73	0.77	0.00	0.00	0.00
March	29	20.7	0.44	0.19	1.31	0.58	1.96	0.88	0.00	0.00	0.00
March	30	23	0.48	0.22	1.45	0.65	2.18	0.97	0.00	0.00	0.00
March	31	23	0.48	0.22	1.45	0.65	2.18	0.97	0.00	0.00	0.00

Threshold wind speed (u^*)[5]	1.12	m/s	AP-42 Table 13.2.5-2
Convert threshold to equiv fastest mile (mph)	45.59	mph	
Roughness length (z_0)[5]	0.003	m	AP-42 Table 13.2.5-2
Measurement anemometer height (z_a)	6.71	m	Gary, Indiana
No. disturbances per day	50		Estimate
Percent of area disturbed between events	100	%	Conservative
Control efficiency	0	%	None

Fiber Pile Potential TSP/PM10/PM2.5 Emissions (based on 8,760 hours per year)

Height of Pile	6.1	m
Diameter of Pile	3.81	m
Surface area of pile [6]	86	m^2

	40% of Pile	48% of Pile	12% of Pile	Total	
Uncontrolled TSP Emissions	**0.000**	**0.000**	**0.471**	**0.471**	**(tons/year)**
Uncontrolled PM-10 Emissions	**0.000**	**0.000**	**0.236**	**0.236**	**(tons/year)**
Uncontrolled PM-2.5 Emissions	**0.000**	**0.000**	**0.035**	**0.035**	**(tons/year)**
Controlled TSP Emissions	**0.000**	**0.000**	**0.471**	**0.471**	**(tons/year)**
Controlled PM-10 Emissions	**0.000**	**0.000**	**0.236**	**0.236**	**(tons/year)**
Controlled PM-2.5 Emissions	**0.000**	**0.000**	**0.035**	**0.035**	**(tons/year)**

1. AP-42, Chapter 13.2.5 Industrial Wind Erosion, November 2006.
2. Maximum wind gusts in March 2001 (usually the windiest month of the year) were utilized for Gary, IN from NCDC website.
3. us/ur = 0.2 for 40%, us/ur = 0.6 for 48%, and us/ur = 0.9 for 12% of elevated pile surface area from AP-42, Chp. 13.2.5
4. Equation from AP-42, Chp. 13.2.5 = P = 58 * (u*-u*t)^2 + 25 * (u* - u*t)
5. Assumed uncrusted coal pile similar to fiber pile.

Material Transfer - Fugitive Emissions

Emission Factor (EF) Equation[1]

EF (lb/ton) =	k * 0.0032 * ((U / 5) ^ 1.3 / (M/2) ^ 1.4)		
k =	Particle size multiplier =	0.74	for TSP
		0.35	for PM-10
		0.053	for PM-2.5
U =	mean wind speed, mph =	10.3	44 year average ending 2002 for Chicago, IL
M =	material moisture content, % =	15	Corn
M =	material moisture content, % =	40	Fiber
M =	material moisture content, % =	4	Germ
M =	material moisture content, % =	9.5	Gluten
M =	material moisture content, % =	15	Cracked Corn

Material Transfer Emission Factor =	**3.61E-04**	**lb TSP/ton Corn**	**Materials**	21,900,000	bu/yr
	1.71E-04	**lb PM-10/ton Corn**		56	lbs/bu - corn
	2.58E-05	**lb PM-2.5/ton Corn**		6.47	lbs/bu - fiber
				3.36	lb/bu - germ
	9.14E-05	**lb TSP/ton Fiber**		2.2	lb/bu - gluten
	4.32E-05	**lb PM-10/ton Fiber**		1.84	lb/bu - cracked corn
	6.55E-06	**lb PM-2.5/ton Fiber**			
				613,200	Ton/yr corn
	2.30E-03	**lb TSP/ton Germ**		70,847	ton/yr fiber
	1.09E-03	**lb PM-10/ton Germ**		36,792	ton/yr germ
	1.64E-04	**lb PM-2.5/ton Germ**		24,090	ton/yr gluten
				20,148	ton/yr cracked corn
	6.84E-04	**lb TSP/ton Gluten**			
	3.24E-04	**lb PM-10/ton Gluten**			
	4.90E-05	**lb PM-2.5/ton Gluten**			
	3.61E-04	**lb TSP/ton Cracked Corn**			
	1.71E-04	**lb PM-10/ton Cracked Corn**			
	2.58E-05	**lb PM-2.5/ton Cracked Corn**			

TSP/PM10/PM2.5 Emissions Calculation
Annual emissions based on maximum transfer rates

Transfer Description	Maximum Material Transferred ton/yr	Potential Uncontrolled TSP Emissions ton/yr	Potential Uncontrolled PM-10 Emissions ton/yr	Potential Uncontrolled PM-2.5 Emissions ton/yr	Control Method	Control Efficiency [2] %	Potential Controlled TSP Emission ton/yr	Potential Controlled PM-10 Emission ton/yr	Potential Controlled PM-2.5 Emission ton/yr
Corn Unloading	613,200	0.111	0.052	0.008	Baghouse/ building	75%	0.028	0.013	0.002
Corn Transfer to Silos	613,200	0.111	0.052	0.008	Baghouse/ building	75%	0.028	0.013	0.002
Corn Transfer from Silos	613,200	0.111	0.052	0.008	Baghouse/ building	95%	0.006	0.003	0.000
Corn Transfer to Process (3 locations)	613,200	0.332	0.157	0.024	Baghouse/ building	95%	0.017	0.008	0.001
Texas Shaker	613,200	0.111	0.052	0.008	Baghouse/ building	75%	0.028	0.013	0.002
Fiber Transfer	70,847	0.003	0.002	0.000	Partial Enclosure	0%	0.003	0.002	0.000
Germ Loadout	36,792	0.042	0.020	0.003	Baghouse/ building	75%	0.011	0.005	0.001
Gluten Loadout	24,090	0.008	0.004	0.001	Baghouse/ building	75%	0.002	0.001	0.000
Cracked Corn Loadout	20,148	0.004	0.002	0.000	None	0%	0.004	0.002	0.000
Total Material Transfers	**Uncontrolled Potential Emissions**	**0.832**	**0.393**	**0.059**	**Controlled Potential Emissions**		**0.125**	**0.059**	**0.009**

Notes:
1. AP-42, Chapter 13.2.4, November 2006.
2. Control Efficiencies based on Technical Background Document on Control of Fugitive Dust at Cement Manufacturing Facilities, March 1998

Alternate Carbohydrate Area

P1;S3: No 1. and No. 2 Alternate Carbohydrate Storage Bins
(Unit Ids 127-28-B and 127-29-B respectively)
CNTRL DEV: Bag Filter Dust Collectors (CE127-28-B and CE127-29-B)

MDR (T/hr): 30
YEARLY PROD (T/yr): 262800
STACK ID (DIAM:HEIGHT): 1'; 180'
FLOWRATE (ACFM): 2300
Ts(°F): 120

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-014-01			POTENTIAL TO EMIT					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(LB/hr)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.18	0.99	5.4000	129.60	23.6520	0.0540	0.2365	0.003
PM10	0.18	0.99	5.4000	129.60	23.6520	0.0540	0.2365	0.003
PM2.5	0.180	0.99	5.4000	129.60	23.6520	0.0540	0.2365	0.003
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
HAPs	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A

EF: based on manufacture's specifications provided by the source in SPM No. 089-25259-00203
*No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

P1;S4: Alternate Carbohydrate Feeder Hopper (127-30-B)
CNTRL DEV: Bag Filter Dust Collector (CE127-30-B)

MDR (T/hr): 0.836
YEARLY PROD (T/yr): 7318.98
STACK ID (DIAM:HEIGHT): 1'; 155'
FLOWRATE (ACFM): 380
Ts(°F): 160

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-014-01			POTENTIAL TO EMIT					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.028	0.99	0.0234	0.5615	0.1025	0.0002	0.0010	0.000
PM10	0.028	0.99	0.0234	0.5615	0.1025	0.0002	0.0010	0.000
PM2.5	0.028	0.99	0.0234	0.5615	0.1025	0.0002	0.0010	0.000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
HAPs	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A

EF: based on manufacture's specifications provided by the source in SPM No. 089-25259-00203
*No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

P1,S2; Vacuum Cleaner #1, #2
(127-21-B, 127-22-B)
CNTRL DEV: Bag Filter Dust Collectors (CE127-21-B and CE127-22-B)

MDR (T/hr): 0.3
YEARLY PROD (T/yr): 2628
STACK ID (DIAM:HEIGHT): 1'; 4'
FLOWRATE (ACFM): 360
Ts(°F): 70

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 3-02-999-99			POTENTIAL TO EMIT					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	10.29	0.99	3.0857	74.0571	13.5154	0.0309	0.1352	0.0100
PM10	10.29	0.99	3.0857	74.0571	13.5154	0.0309	0.1352	0.0100
PM2.5	10.286	0.99	3.0857	74.0571	13.5154	0.0309	0.1352	0.010
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
HAPs	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
*No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

Total: Stack Emissions - Alternate Carbohydrate Area

	POTENTIAL TO EMIT					
	BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	8.509	204.219	37.270	0.085	0.373	0.013
PM10	8.509	204.219	37.270	0.085	0.373	0.013
PM2.5	8.509	204.219	37.270	0.085	0.373	0.013
SOx	0.000	0.000	0.000	0.000	0.000	N/A
NOx	0.000	0.000	0.000	0.000	0.000	N/A
VOC	0.000	0.000	0.000	0.000	0.000	N/A
CO	0.000	0.000	0.000	0.000	0.000	N/A
HAPs	0.000	0.000	0.000	0.000	0.000	N/A

2004 Steep Tank Bag Sample and Analysis Testing
Grind Area Steeping Tanks
Using Equations from AP-42, 7.1, Sept 1997.

Eqn 1-1: Lt = Ls + Lw = Total Losses from Vertical Fixed Roof Tanks, lb
Ls = standing storage losses, lb
Lw = working losses, lb

Estimate Standing Losses

Eqn 1-2: Ls = 365*Vv*Wv*Ke*Ks = Standing Storage Loss, lb — Ls = 127.79 lbs vapor
Vv = vapor space volume, ft^3
Wv = vapor density, lb/ft^3
Ke = vapor space expansion factor, dimensionless
Ks = vented vapor saturation factor, dimensionless
365 = constant, d

Calculate Vapor Space Volume:

Eqn 1-3: Vv = π/4*D^2*Hvo = Vapor Space Volume, ft^3 — Vv = 805.8 ft
D = tank diameter, ft — D = 18 ft
Hvo = vapor space outage, ft
Eqn 1-4: Hvo = (Hs - Hl) + Hro = Vapor Space Outage for Conical Tank, ft — Hvo = 3.17 ft
Hs - Hl = distance from top of liquid level to
base of conical tank top, ft — Hs - Hl = 2.5 ft
Hro = roof outage, ft = 1/3 Hr — Hro = 0.67 ft
Hr = height of the conical roof, ft — Hr = 2.0 ft

Calculate Vapor Density:

Eqn 1-9: Wv = Mv*Pva / R*Tla = Vapor Density, lb/ft^3 — Wv = 0.0638 lb/ft^3
Mv = vapor molecular weight in the vapor space, lb/lb-mole
R = ideal gas constant, psia*ft^3/lb-mole*R — R = 10.731 psia-ft^3/lb-mole-°R
Pva = vapor pressure at daily avg liquid surface temp, psia
Tla = daily avg liquid surface temp, °R — Tla = 593 °R (range is 126-140F)
Vapor in headspace is at atm pressure, psia — Patm = 14.696 psia
Vapor consists of 3 components: — Pva = 14.696 psia (same as atmospheric)
Water vapor partial pressure from steam tables @ 140F — Pwater = 2.889 psia
SO2 vapor partial pressure (using heavy steep SO2 conc):
1200 ppm = 1200 mg SO2/liter sol'n = 1.2 g SO2/liter sol'n
1 liter of sol'n weights 1000 g
1000 g sol'n - 1.2 g SO2 = 998.8 g water
1.2 g SO2/998.8 g water = 0.120 g SO2/100 g water
From Perry's Chem Egnr Handbook, table 2-11, p.2-77, 7th ed.
use partial pressure of SO2 over a solution @ 140F
of 17.14 mmHg. — P_{SO2} = 17.1429 mmHg (Perry's Handbook)
17.14 / 760 * 14.636 = 0.3301 psia — P_{SO2} = 0.3301 psia
Pva = total pressure of liquid stored, psia = ΣPi
Pi = partial pressure of vapor component gas
yi = Pi / ΣPi = Pi / Pva
yi = vapor mole (volume) fraction of vapor component gas
Mi = molecular weight of vapor component gas
Mv = ΣMi*yi = molecular weight of vapor
mi = Mi*yi / ΣMi*yi = Mi*yi / Mv
mi = mass fraction of vapor component gas in the vapor

Vapor Component Gas	Partial Pressure of Vapor Component Gas, psia (Pi)	Vapor Mole Fraction (volume) of Vapor Component Gas, mol gas/mol vapor (yi)	Molecular Weight of Vapor Component Gas, lb/lb-mole (Mi)	Molecular Weight of Vapor, lb/lb-mole (ΣMi*yi=Mv)	Vapor Mass Fraction, lb gas/lb vapor (mi)
SO2	0.3301	0.0225	64	27.624	0.0520
Water	2.889	0.1966	18	27.624	0.1281
Air	11.477	0.7810	29	27.624	0.8199
Totals	14.696	1.0000	-----	-----	1.0000

Mv = 27.624 lb/lb-mole

Calculate Vapor Space Expansion Factor:

Eqn 1-16: Ke = ΔTv/Tla + (ΔPv-ΔPb)/(Pa-Pva)

ΔTv = daily vapor temp range, °R

ΔPv = daily vapor pressure range, psi

ΔPb = breather vent pressure setting range, psi

Pa = atmospheric pressure, psia

Pva = vapor pressure at daily avg liquid surface temp, psia

Tla = daily avg liquid surface temp, °R

Ke =	0.024	
ΔTv =	14	°R (use same as surface temp)
ΔPv =	0	negligible at 126-140F range
ΔPb =	0	vents are open
Pa =	14.696	psia
Pva =	14.696	psia
Tla =	593	°R

Calculate Vented Vapor Saturation Factor:

Eqn 1-22: Ks = 1 / (1+ 0.053Pva*Hvo) = Vented Vapor Saturation Factor, dimensionless

Pva = vapor pressure at daily avg liquid surface temp, psia

Hvo = vapor space outage, ft

Ks =	0.2885	
Pva =	14.696	psia
Hvo =	3.17	ft

Calculate SO2 Release from Standing Losses:

Mass fraction of SO2 in vapor = mi (see above)

SO2 release = mi_{SO2} x Ls

SO2 release from standing losses = 6.6511 lbs SO2/year per tank
negligible

mi_{SO2} =	0.0520	lb SO2/lb vapor (see table)
Ls =	127.792	lbs vapor (see above)

SO2 Release from Standing Losses:

Future SO2 release = 6.6511 lbs SO2/year per tank * 8760 tanks/year

Baseline SO2 release = 159.63 lbs SO2/year
0.08 tons SO2/year

120000	bushels/day throughput rate
5000	bushels capacity/tank
24	tanks/day for steeping

Estimate Working Losses

Each steep tank holds 5000 bushels of corn.

in steeping and "empty/fill" steeping process.

No. of Tanks = daily throughput, bushels/day / 5000 bushels/tank

per day per tank, calculate the total number of cycles per year for

Cycles per year = No. of tanks/day x 13 cycles/tank x 365 days

120000	bushels/day throughput rate
5000	bushels capacity/tank
13	cycles/tank
24.0	tanks/day for steeping
365	days steeping operation
113880	total cycles

Calculate Volume of Vapor Displaced from Each Tank During Each Cycle:

Estimate the height of the corn fill line in the tank using tank dimensions:

Vc = tank corn capacity / density of corn

Volume of bottom of a cone:

Vbcn = 1/3*π/4*D^2*Hcn

Remaining volume of corn:

Vcr = volume of corn/tank - volume of the cone

Height in cylindrical section of the tank:

Vcr = π/4*D^2*Hcyl

Hcyl = Vcr*4/πD^2

Volume above the corn fill line in the cylindrical section:

Vacf = π/4*D^2*Hacf

Volume of conical roof:

Vcrf = 1/3*π/4*D^2*Hcrf

Total volume above the corn fill line:

Vt = Vacf + Vcrf

ρ_c =	0.8	bushels corn/ft^3
Hc =	6250	ft^3 corn/tank
D =	18	ft (measured)
Hcn =	8.5	ft (measured)
Vbc =	721.0	ft^3
Vcr =	5529.0	ft^3 corn remaining
Hcyl =	21.73	ft (calculated)
Hacf =	4.3	ft (measured)
Vacf =	1094.22	ft^3
Hcrf =	2	ft (measured)
Vcrf =	169.65	ft^3
Vt =	1263.86	ft^3 (volume per cycle)

Calculate the Total Volume of the Vapor Displaced Annually:

Vvap = No. of cycles * volume per cycle

Vvap =	143,928,687	ft^3

Calculate SO2 Released From Working Losses of Vented Vapor:

time was sampled in October 2004.

Calculate the Volume Occupied by One Mole at 140F:

V = nRT/p

Calculate the Vapor Density:

ρ_v = $\frac{\text{100 ft^3 SO2 x 1 mole SO2 x 64 lbs SO2}}{\text{10^6 ft^3 vapor x V x 1 mole SO2}}$

SO2 release = ρ_v x Vvap

SO2 Releases from Working Losses = 2,102.85 lbs SO2

SO2 =	100	ppm
	100 ft^3 of SO2/10^6 ft^3 of vapor	
T =	600	°R
R =	1545	psfa-ft^3/lb-mol-R
V =	438.04	ft^3
ρ_v =	1.5E-05	lbs SO2/ft^3 vapor

Total SO2 Releases:	2,262.48	lbs SO2/year
	1.1312	tons SO2/year
	0.2583	lb/hr
	6.20	lb/day

****

Grind and Feedhouse Area

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Gluten Dryer System (121-01-G) MDR (T/hr): 7.9 STACK ID (DIAM:HEIGHT): 3'; 100'
YEARLY PROD (T/yr): 69204 FLOWRATE (ACFM): 9,570
CNTRL DEV: Scrubber (CE121-01-G) Ts(°F): 179

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-007-54

			POTENTIAL TO EMIT						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	4.50	0.94	35.55	853.20	155.71		2.13	9.34	0.03
PM10	4.50	0.94	35.55	853.20	155.71		2.13	9.34	0.03
PM2.5	4.50	0.94	35.55	853.20	155.71		2.13	9.34	0.03
SOx*	0.609	0.8	4.81	115.47	21.07		0.96	4.21	N/A
NOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
VOC**	0	0.5	6.51	156.24	28.51		3.26	14.26	N/A
CO*	0.3727	0	2.94	70.66	12.90		2.94	12.90	N/A
HAPs	0	0.5	1.63	39.12	7.14		0.82	3.57	N/A

EF: back calculated using manufacturer's specifications of 0.03 gr/dscf grain loading
Actual Emissions based on 0.03 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.
*Emission Factors are based on stack test data from the source.
**Emission rate based on a 0.00112 lb VOC/bu factor applied to a 140,000 bu/day production factor.

Gluten Dryer (121-01-G)
In-Process Fuel Combustion

MDC (mmBtu/hr): 12.5 HEAT CONTENT (Btu/cft): 1020 STACK ID (DIAM:HEIGHT): 3'; 100'
CNTRL DEV: Scrubber (CE121-01-G) MDR (mmcft/hr): 0.0123 QTY BURNED (mmcft/yr): 41.03 FLOWRATE (ACFM): 9,570
Ts(°F): 179

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-007-54

			POTENTIAL TO EMIT						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0.94	0.02	0.56	0.10		0.00	0.01	0.00
PM10	7.6	0.94	0.09	2.24	0.41		0.01	0.02	0.00
PM2.5	7.6	0.94	0.09	2.24	0.41		0.01	0.02	0.00
SOx	0.6	0.8	0.01	0.18	0.03		0.00	0.01	N/A
NOx	100	0	1.23	29.41	5.37		1.23	5.37	N/A
VOC	5.5	0.5	0.07	1.62	0.30		0.03	0.15	N/A
CO	84	0	1.03	24.71	4.51		1.03	4.51	N/A
Worst Single HAP	1.8	0.5	0.02	0.53	0.10		0.01	0.05	N/A

E.F. based on AP-42 and 40 CFR 98.
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.
Emissions based on company's submittal of 8760 hours/year

Total: Gluten Dryer System

	POTENTIAL TO EMIT						
	BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	35.57	853.76	155.81		2.13	9.35	0.03
PM10	35.64	855.44	156.12		2.14	9.37	0.03
PM2.5	35.64	855.44	156.12		2.14	9.37	0.03
SOx	4.82	115.64	21.10		0.96	4.22	N/A
NOx	1.23	29.41	5.37		1.23	5.37	N/A
VOC	6.58	157.86	28.81		3.29	14.40	N/A
CO	3.97	95.37	17.40		3.97	17.40	N/A
HAPs	1.65	39.65	7.24		0.83	3.62	N/A

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No. 2 Gluten Dryer (121A-01-G) MDR (T/hr): 9.85 STACK ID (DIAM:HEIGHT): TBD
YEARLY PROD (T/yr): 86286 FLOWRATE (ACFM): TBD
CNTRL DEV: 2 Wet Scrubbers (CE121A-01-G) Ts(°F): TBD

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-007-54

			POTENTIAL TO EMIT						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	4.50	0.94	44.33	1063.80	194.14		2.66	11.65	TBD
PM10	4.50	0.94	44.33	1063.80	194.14		2.66	11.65	TBD
PM2.5	4.50	0.94	44.33	1063.80	194.14		2.66	11.65	TBD
SOx*	0.815	0.8	8.03	192.67	35.16		1.61	7.03	N/A
NOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
VOC*	0.1625	0.5	1.60	38.42	7.01		0.80	3.51	N/A
CO*	0.3727	0	3.67	88.11	16.08		3.67	16.08	N/A
HAPs	0	0.5	0.00	0.00	0.00		0.00	0.00	N/A

EF: The EF for this unit is assumed to be the same as the EF for the Gluten Dryer System, since these units perform the same function. This unit is required to be tested once construction is complete.
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.
*Emission Factors are based on stack test data from the source for unit 121-01-G.

Gluten Dryer (121A-01-G)
In-Process Fuel Combustion

MDC (mmBtu/hr): 17 HEAT CONTENT (Btu/cft): 1020 STACK ID (DIAM:HEIGHT): TBD
CNTRL DEV: NONE MDR (mmcft/hr): 0.0167 QTY BURNED (mmcft/yr): 41.03 FLOWRATE (ACFM): TBD
Ts(°F): TBD

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-007-54

			POTENTIAL TO EMIT						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0.94	0.03	0.76	0.14		0.00	0.01	TBD
PM10	7.6	0.94	0.13	3.04	0.55		0.01	0.03	TBD
PM2.5	7.6	0.94	0.13	3.04	0.55		0.01	0.03	TBD
SOx	0.6	0.8	0.01	0.24	0.04		0.00	0.01	N/A
NOx	100	0	1.67	40.00	7.30		1.67	7.30	N/A
VOC	5.5	0.5	0.09	2.20	0.40		0.05	0.20	N/A
CO	84	0	1.40	33.60	6.13		1.40	6.13	N/A
Worst Single HAP	1.8	0.5	0.03	0.72	0.13		0.02	0.07	N/A

E.F. based on AP-42 and 40 CFR 98.
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.
Emissions based on company's submittal of 8760 hours/year

Total: Gluten Dryer System

	POTENTIAL TO EMIT						
	BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	44.36	1,064.56	194.28		2.66	11.66	TBD
PM10	44.45	1,066.84	194.70		2.67	11.68	TBD
PM2.5	44.45	1,066.84	194.70		2.67	11.68	TBD
SOx	8.04	192.91	35.21		1.61	7.04	N/A
NOx	1.67	40.00	7.30		1.67	7.30	N/A
VOC	1.69	40.62	7.41		0.85	3.71	N/A
CO	5.07	121.71	22.21		5.07	22.21	N/A
HAPs	0.03	0.72	0.13		0.02	0.07	N/A

Germ Dryer/Cooler (203-01-G)
MDR (T/hr): 19.3 | STACK ID (DIAM:HEIGHT): TBD
YEARLY PROD (T/yr): 169068 | FLOWRATE (ACFM): TBD
CNTRL DEV: Wet Scrubber (CE203-01-G) | Ts(°F): TBD

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-007-54			POTENTIAL TO EMIT					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	4.50	0.94	86.85	2084.40	380.40	5.21	22.82	TBD
PM10	4.50	0.94	86.85	2084.40	380.40	5.21	22.82	TBD
PM2.5	4.50	0.94	86.85	2084.40	380.40	5.21	22.82	TBD
SOx*	0.204	0.8	3.94	94.49	17.24	0.79	3.45	N/A
NOx	0	0	0.00	0.00	0.00	0.00	0.00	N/A
VOC*	1.0048	0.5	19.39	465.42	84.94	9.70	42.47	N/A
CO*	0.0638	0	1.23	29.55	5.39	1.23	5.39	N/A
HAPs	0	0	0.00	0.00	0.00	0.00	0.00	N/A

EF: The EF for this unit is assumed to be the same as the EF for unit 124A-01-G, since these units perform the same function. This unit is required to be tested once construction is complete.
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.
*Emission Factors are based on stack test data from the source for unit 124A-01-G.

Germ Dryer/Cooler (203-01-G)
In-Process Fuel Combustion
MDC (mmBtu/hr): 30 | HEAT CONTENT (Btu/cft): 1020 | STACK ID (DIAM:HEIGHT): TBD
CNTRL DEV: Wet Scrubber (CE203-01-G) | MDR (mmcft/hr): 0.0294 | QTY BURNED (mmcft/yr): 41.03 | FLOWRATE (ACFM): TBD
Ts(°F): TBD

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-007-54			POTENTIAL TO EMIT					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0.94	0.06	1.34	0.24	0.00	0.01	TBD
PM10	7.6	0.94	0.22	5.36	0.98	0.01	0.06	TBD
PM2.5	7.6	0.94	0.22	5.36	0.98	0.01	0.06	TBD
SOx	0.6	0.8	0.02	0.42	0.08	0.00	0.02	N/A
NOx	100	0	2.94	70.59	12.88	2.94	12.88	N/A
VOC	5.5	0.5	0.16	3.88	0.71	0.08	0.35	N/A
CO	84	0	2.47	59.29	10.82	2.47	10.82	N/A
Worst Single HAP	1.8	0.5	0.05	1.27	0.23	0.03	0.12	N/A

E.F. based on AP-42 and 40 CFR 98.
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.
Emissions based on company's submittal of 8760 hours/year

Total: Gluten Dryer System

	POTENTIAL TO EMIT					
	BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	86.91	2,085.74	380.65	5.21	22.84	TBD
PM10	87.07	2,089.76	381.38	5.22	22.88	TBD
PM2.5	87.07	2,089.76	381.38	5.22	22.88	TBD
SOx	3.95	94.92	17.32	0.79	3.46	N/A
NOx	2.94	70.59	12.88	2.94	12.88	N/A
VOC	19.55	469.31	85.65	9.78	42.82	N/A
CO	3.70	88.85	16.21	3.70	16.21	N/A
HAPs	0.05	1.27	0.23	0.03	0.12	N/A

No. 1 Bran Bunker
(89-06-G)
CNTRL DEV: Dust Collector (CE89-06-G)
MDR (T/hr): 12.26 | STACK ID (DIAM:HEIGHT): TBD
YEARLY PROD (T/yr): 107,433 | FLOWRATE (ACFM): 80
Ts(°F): 110

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-007-52			POTENTIAL TO EMIT					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.05	0.99	0.64	15.30	2.79	0.006	0.028	0.010
PM10	0.05	0.99	0.64	15.30	2.79	0.006	0.028	0.010
PM2.5	0.05	0.99	0.64	15.30	2.79	0.006	0.028	0.010
SOx	0	0	0.00	0.00	0.00	0.000	0.000	N/A
NOx	0	0	0.00	0.00	0.00	0.000	0.000	N/A
VOC	0	0	0.00	0.00	0.00	0.000	0.000	N/A
CO	0	0	0.00	0.00	0.00	0.000	0.000	N/A
HAPs	0	0	0.00	0.00	0.00	0.000	0.000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

No. 2 Bran Bunker
(89-07-G)
CNTRL DEV: Dust Collector (CE89-07-G)
MDR (T/hr): 12.26 | STACK ID (DIAM:HEIGHT): TBD
YEARLY PROD (T/yr): 107,433 | FLOWRATE (ACFM): 80
Ts(°F): 110

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-007-52			POTENTIAL TO EMIT					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.05	0.99	0.64	15.30	2.79	0.006	0.028	0.010
PM10	0.05	0.99	0.64	15.30	2.79	0.006	0.028	0.010
PM2.5	0.05	0.99	0.64	15.30	2.79	0.006	0.028	0.010
SOx	0	0	0.00	0.00	0.00	0.000	0.000	N/A
NOx	0	0	0.00	0.00	0.00	0.000	0.000	N/A
VOC	0	0	0.00	0.00	0.00	0.000	0.000	N/A
CO	0	0	0.00	0.00	0.00	0.000	0.000	N/A
HAPs	0	0	0.00	0.00	0.00	0.000	0.000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

Bran Conveyor System
(89-08-G)
CNTRL DEV: Dust Collector (CE89-08-G)
MDR (T/hr): 12.26 | STACK ID (DIAM:HEIGHT): TBD
YEARLY PROD (T/yr): 107,433 | FLOWRATE (ACFM): 4,000
Ts(°F): 110

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-007-52			POTENTIAL TO EMIT					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	2.60	0.99	31.88	765.11	139.63	0.319	1.396	0.010
PM10	2.60	0.99	31.88	765.11	139.63	0.319	1.396	0.010
PM2.5	2.60	0.99	31.88	765.11	139.63	0.319	1.396	0.010
SOx	0	0	0.00	0.00	0.00	0.000	0.000	N/A
NOx	0	0	0.00	0.00	0.00	0.000	0.000	N/A
VOC	0	0	0.00	0.00	0.00	0.000	0.000	N/A
CO	0	0	0.00	0.00	0.00	0.000	0.000	N/A
HAPs	0	0	0.00	0.00	0.00	0.000	0.000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

Bran Preweigh Hopper
(89-09-G)
CNTRL DEV: Dust Collector (CE89-09-G)
MDR (T/hr): 12.26 | STACK ID (DIAM:HEIGHT): TBD
YEARLY PROD (T/yr): 107,433 | FLOWRATE (ACFM): 80
Ts(°F): 110

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-007-52			POTENTIAL TO EMIT					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.05	0.99	0.64	15.30	2.79	0.006	0.028	0.010
PM10	0.05	0.99	0.64	15.30	2.79	0.006	0.028	0.010
PM2.5	0.05	0.99	0.64	15.30	2.79	0.006	0.028	0.010
SOx	0	0	0.00	0.00	0.00	0.000	0.000	N/A
NOx	0	0	0.00	0.00	0.00	0.000	0.000	N/A
VOC	0	0	0.00	0.00	0.00	0.000	0.000	N/A
CO	0	0	0.00	0.00	0.00	0.000	0.000	N/A
HAPs	0	0	0.00	0.00	0.00	0.000	0.000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

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Corn Screening System MDR (T/hr): 8.4 STACK ID (DIAM:HEIGHT): (0.7': 50')
(30-16-G) (pneumatic conveying to corn screen tank) YEARLY PROD (T/yr): 73,584 FLOWRATE (ACFM): 1350
CNTRL DEV: Bin Vent Filter (CE30-16-G)* Ts(°F): 70

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 3-02-007-44			POTENTIAL TO EMIT: BEFORE CONTROLS			POTENTIAL TO EMIT: AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.69	0.99	5.79	138.86	25.34	0.058	0.253	0.005
PM10	0.69	0.99	5.79	138.86	25.34	0.058	0.253	0.005
PM2.5	0.69	0.99	5.79	138.86	25.34	0.058	0.253	0.005
SOx	0	0	0.00	0.00	0.00	0.000	0.000	N/A
NOx	0	0	0.00	0.00	0.00	0.000	0.000	N/A
VOC	0	0	0.00	0.00	0.00	0.000	0.000	N/A
CO	0	0	0.00	0.00	0.00	0.000	0.000	N/A
HAPs	0	0	0.00	0.00	0.00	0.000	0.000	N/A

Boone Aeration & Environmental guarantee to Cargill based on 99+% control efficiency = 0.005 gr/dscf (application).
Actual emissions based on 0.005 gr/dscf for 8760 hours; accepted by Cargill as actual emissions and limitation (application).
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.
*Bin Vent Filter on Corn Screenings Tank and Torit DC 3010 bag filter on the pneumatic conveyor at the turn.

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Germ Tank 1110 MDR (T/hr): 15 STACK ID (DIAM:HEIGHT): 1': 94
(200-03-G) YEARLY PROD (T/yr): 131,400 FLOWRATE (ACFM): 1200
CNTRL DEV: Dust Collector (CE200-03-G) Ts(°F): 140

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-007-52			POTENTIAL TO EMIT: BEFORE CONTROLS			POTENTIAL TO EMIT: AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.30	0.99	4.54	109.03	19.90	0.045	0.199	0.005
PM10	0.30	0.99	4.54	109.03	19.90	0.045	0.199	0.005
PM2.5	0.30	0.99	4.54	109.03	19.90	0.045	0.199	0.005
SOx	0	0	0.00	0.00	0.00	0.000	0.000	N/A
NOx	0	0	0.00	0.00	0.00	0.000	0.000	N/A
VOC	0	0	0.16	3.74	0.68	0.156	0.682	N/A
CO	0	0	0.00	0.00	0.00	0.000	0.000	N/A
HAPs	0	0	0.00	0.00	0.00	0.000	0.000	N/A

EF: back calculated using manufacturer's specifications of 0.005 gr/dscf grain loading
Actual Emissions based on 0.005 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
200-03-G	20	1200	5	70	1195	1136	0.16	0.68

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

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Gluten Tank 1010 MDR (T/hr): 10.5 STACK ID (DIAM:HEIGHT): 1': 94
(200-04-G) YEARLY PROD (T/yr): 91,980 FLOWRATE (ACFM): 1200
CNTRL DEV: Dust Collector (CE200-04-G) Ts(°F): 140

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-007-52			POTENTIAL TO EMIT: BEFORE CONTROLS			POTENTIAL TO EMIT: AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.43	0.99	4.54	109.03	19.90	0.045	0.199	0.005
PM10	0.43	0.99	4.54	109.03	19.90	0.045	0.199	0.005
PM2.5	0.43	0.99	4.54	109.03	19.90	0.045	0.199	0.005
SOx	0	0	0.00	0.00	0.00	0.000	0.000	N/A
NOx	0	0	0.00	0.00	0.00	0.000	0.000	N/A
VOC	0	0	0.16	3.74	0.68	0.156	0.682	N/A
CO	0	0	0.00	0.00	0.00	0.000	0.000	N/A
HAPs	0	0	0.00	0.00	0.00	0.000	0.000	N/A

EF: back calculated using manufacturer's specifications of 0.005 gr/dscf grain loading
Actual Emissions based on 0.005 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
200-04-G	20	1200	5	70	1195	1136	0.16	0.68

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

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Corn Screenings Silo MDR (T/hr): 5.5 STACK ID (DIAM:HEIGHT): 1': 94
(200-06-G) YEARLY PROD (T/yr): 48180 FLOWRATE (ACFM): 400
CNTRL DEV: Dust Collector (CE200-06-G) Ts(°F): 100

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-007-52			POTENTIAL TO EMIT: BEFORE CONTROLS			POTENTIAL TO EMIT: AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.29	0.99	1.62	38.94	7.11	0.016	0.071	0.005
PM10	0.29	0.99	1.62	38.94	7.11	0.016	0.071	0.005
PM2.5	0.29	0.99	1.62	38.94	7.11	0.016	0.071	0.005
SOx	0	0	0.00	0.00	0.00	0.000	0.000	N/A
NOx	0	0	0.00	0.00	0.00	0.000	0.000	N/A
VOC	0	0	0.00	0.00	0.00	0.000	0.000	N/A
CO	0	0	0.00	0.00	0.00	0.000	0.000	N/A
HAPs	0	0	0.00	0.00	0.00	0.000	0.000	N/A

EF: back calculated using manufacturer's specifications of 0.005 gr/dscf grain loading
Actual Emissions based on 0.005 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

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Fiber Drying Equipment MDR (T/hr): 39.8475 STACK ID (DIAM:HEIGHT): 7'; 104'
(89-01-G) YEARLY PROD (T/yr): 349064.1 FLOWRATE (ACFM): 81705
CNTRL DEV: Scrubber (CE89-01-G) Ts(°F): 176

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-007-54			POTENTIAL TO EMIT: BEFORE CONTROLS			POTENTIAL TO EMIT: AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.48	0.9	19.13	459.04	83.78	1.91	8.38	0.003
PM10	0.29	0.9	11.56	277.34	50.61	1.16	5.06	0.002
PM2.5	0.29	0.9	11.56	277.34	50.61	1.16	5.06	0.002
SOx*	0.112	0.8	4.46	107.11	19.55	0.89	3.91	N/A
NOx	0	0	0.00	0.00	0.00	0.00	0.00	N/A
VOC*	0.2932	0.5	11.68	280.40	51.17	5.84	25.59	N/A
CO*	0.3727	0	14.85	356.43	65.05	14.85	65.05	N/A
HAPs	0	0	0.00	0.00	0.00	0.00	0.00	N/A

EF: back calculated using manufacturer's specifications of 0.010 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.
*Emission Factors are based on stack test data from the source.

Fiber Dryer (89-01-G)
In-Process Fuel Combustion
MDC (mmBtu/hr): 78 HEAT CONTENT (Btu/cft): 1020 STACK ID (DIAM:HEIGHT): 7'; 104'
CNTRL DEV: Wet Scrubber (CE89-01-G) MDR (mmcft/hr): 0.0765 QTY BURNED (mmcft/yr): 256.70 FLOWRATE (ACFM): 81705
Ts(°F): 176

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-007-54			POTENTIAL TO EMIT: BEFORE CONTROLS			POTENTIAL TO EMIT: AFTER CONTROLS		
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.15	3.49	0.64	0.15	0.64	0.00
PM10	7.6	0	0.58	13.95	2.55	0.58	2.55	0.00
PM2.5	7.6	0	0.58	13.95	2.55	0.58	2.55	0.00
SOx	0.6	0	0.05	1.10	0.20	0.05	0.20	N/A
NOx	100	0	7.65	183.53	33.49	7.65	33.49	N/A
VOC	5.5	0	0.42	10.09	1.84	0.42	1.84	N/A
CO	84	0	6.42	154.16	28.14	6.42	28.14	N/A
Worst Case Single HAP	1.8	0	0.14	3.30	0.60	0.14	0.60	N/A

E.F. based on AP-42 and 40 CFR 98.
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.
Emissions based on company's submittal of 8760 hours/year

Total: Fiber Dryer (89-01-G)

	POTENTIAL TO EMIT					
	BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	19.27	462.53	84.41	2.06	9.01	0.003
PM10	12.14	291.29	53.16	1.74	7.61	0.002
PM2.5	12.14	291.29	53.16	1.74	7.61	0.002
SOx	4.51	108.21	19.75	0.94	4.11	N/A
NOx	7.65	183.53	33.49	7.65	33.49	N/A
VOC	12.10	290.49	53.01	6.26	27.43	N/A
CO	21.27	510.59	93.18	21.27	93.18	N/A
HAPs	0.14	3.30	0.60	0.14	0.60	N/A

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Germ Dryer Cooler (124A-01-G)
MDR (T/hr): 8.29
YEARLY PROD (T/yr): 72,620
STACK ID (DIAM:HEIGHT): 3'; 101'
FLOWRATE (ACFM): 13,600
Ts(°F): 200
CNTRL DEV: scrubber (CE124A-01-G)

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-007-54

			POTENTIAL TO EMIT					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	8.90	0.95	73.78	1770.74	323.16	3.69	16.16	0.039
PM10	8.90	0.95	73.78	1770.74	323.16	3.69	16.16	0.039
PM2.5	8.90	0.95	73.78	1770.74	323.16	3.69	16.16	0.039
SOx*	0.204	0.8	1.69	40.59	7.41	0.34	1.48	N/A
NOx	0	0	0.00	0.00	0.00	0.00	0.00	N/A
VOC**	0	0.5	8.33	199.92	36.49	4.17	18.24	N/A
CO*	0.0638	0	0.53	12.69	2.32	0.53	2.32	N/A
HAPs**	0	0.5	2.08	49.92	9.11	1.04	4.56	N/A

EF: back calculated using manufacturer's specifications of 0.02 gr/dscf grain loading
Actual Emissions based on 0.02 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.
*Emission Factors are based on stack test data from the source.
**VOC and HAP emissions are based on stack test data from May 2007.

Germ Dryer Cooler (124A-01-G)
In-Process Fuel Combustion
MDC (mmBtu/hr): 12.9
MDR (mmcft/hr): 0.0126
HEAT CONTENT (Btu/cft): 1020
QTY BURNED (mmcft/yr): 47.30
STACK ID (DIAM:HEIGHT): 2'; 40'
FLOWRATE (ACFM): 9,000
Ts(°F): 150
CNTRL DEV: NONE

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-007-54

			POTENTIAL TO EMIT					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.02	0.58	0.11	0.02	0.11	0.00
PM10	7.6	0	0.10	2.31	0.42	0.10	0.42	0.00
PM2.5	7.6	0	0.10	2.31	0.42	0.10	0.42	0.00
SOx	0.6	0	0.01	0.18	0.03	0.01	0.03	N/A
NOx	100	0	1.26	30.35	5.54	1.26	5.54	N/A
VOC	5.5	0	0.07	1.67	0.30	0.07	0.30	N/A
CO	84	0	1.06	25.50	4.65	1.06	4.65	N/A
HAPs	0	0	0.00	0.00	0.00	0.00	0.00	N/A

E.F. based on AP-42 and 40 CFR 98.
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.
Emissions based on company's submittal of 8760 hours/year

Total: Germ Dryer Cooler (124A-01-G)

	POTENTIAL TO EMIT					
	BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	73.81	1,771.32	323.27	3.71	16.26	0.04
PM10	73.88	1,773.05	323.58	3.79	16.58	0.04
PM2.5	73.88	1,773.05	323.58	3.79	16.58	0.04
SOx	1.70	40.77	7.44	0.35	1.51	N/A
NOx	1.26	30.35	5.54	1.26	5.54	N/A
VOC	8.40	201.59	36.79	4.23	18.55	N/A
CO	1.59	38.19	6.97	1.59	6.97	N/A
HAPs	2.08	49.92	9.11	1.04	4.56	N/A

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Germ Tank 1310
(200-01-G)
MDR (T/hr): 40
YEARLY PROD (T/yr): 350400
STACK ID (DIAM:HEIGHT): 1': 94
FLOWRATE (ACFM): 80
Ts(°F): 140
CNTRL DEV: Dust Collector (CE200-01-G)

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-008-06

			POTENTIAL TO EMIT					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.01	0.99	0.30	7.27	1.33	0.003	0.013	0.005
PM10	0.01	0.99	0.30	7.27	1.33	0.003	0.013	0.005
PM2.5	0.01	0.99	0.30	7.27	1.33	0.003	0.013	0.005
SOx	0	0	0.00	0.00	0.00	0.000	0.000	N/A
NOx	0	0	0.00	0.00	0.00	0.000	0.000	N/A
VOC	0	0	0.16	3.74	0.68	0.156	0.682	N/A
CO	0	0	0.00	0.00	0.00	0.000	0.000	N/A
HAPs	0	0	0.00	0.00	0.00	0.000	0.000	N/A

EF: back calculated using manufacturer's specifications of 0.005 gr/dscf grain loading
Actual Emissions based on 0.005 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
200-01-G	20	1200	5	70	1195	1136	0.16	0.68

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

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Gluten Tank 1410
(200-02-G)
MDR (T/hr): 40
YEARLY PROD (T/yr): 350400
STACK ID (DIAM:HEIGHT): 1': 94
FLOWRATE (ACFM): 80
Ts(°F): 140
CNTRL DEV: Dust Collector (CE200-02-G)

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-008-06

			POTENTIAL TO EMIT					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.01	0.99	0.30	7.27	1.33	0.003	0.013	0.005
PM10	0.01	0.99	0.30	7.27	1.33	0.003	0.013	0.005
PM2.5	0.01	0.99	0.30	7.27	1.33	0.003	0.013	0.005
SOx	0	0	0.00	0.00	0.00	0.000	0.000	N/A
NOx	0	0	0.00	0.00	0.00	0.000	0.000	N/A
VOC	0	0	0.16	3.74	0.68	0.156	0.682	N/A
CO	0	0	0.00	0.00	0.00	0.000	0.000	N/A
HAPs	0	0	0.00	0.00	0.00	0.000	0.000	N/A

EF: back calculated using manufacturer's specifications of 0.005 gr/dscf grain loading
Actual Emissions based on 0.005 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
200-02-G	20	1200	5	70	1195	1136	0.16	0.68

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

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Bulk Loadout | MDR (T/hr): 47.95 | STACK ID (DIAM:HEIGHT): 3': 100
(200-05-G) | YEARLY PROD (T/yr): 420042 | FLOWRATE (ACFM): 30000
CNTRL DEV: Dust Collector (CE200-05-G) | Ts(°F): 100

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO. 03-02-007-55			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	2.54	0.99	121.68	2,920.41	532.97		1.22	5.33	0.005
PM10	2.54	0.99	121.68	2,920.41	532.97		1.22	5.33	0.005
PM2.5	2.54	0.99	121.68	2,920.41	532.97		1.22	5.33	0.005
SOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
NOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
VOC	0	0	3.89	93.45	17.05		3.89	17.05	N/A
CO	0	0	0.00	0.00	0.00		0.00	0.00	N/A
HAPs	0	0	0.00	0.00	0.00		0.00	0.00	N/A

EF: back calculated using manufacturer's specifications of 0.005 gr/dscf grain loading
Actual Emissions based on 0.005 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source			Moisture %	Temperature F			Potential to Emit	
ID	PPM	ACFM			SCFM	DSCFM	lb/hr	ton/yr
200-05-G	20	30000	5	70	29887	28392	3.89	17.05

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

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Central Vacuum Loadout | MDR (T/hr): 0.05 | STACK ID (DIAM:HEIGHT): 1': 15
(200-07-G) | YEARLY PROD (T/yr): 438 | FLOWRATE (ACFM): 400
CNTRL DEV: Dust Collector (CE200-07-G) | Ts(°F): 100

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO. 03-02-007-55			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	32.45	0.99	1.62	38.94	7.11		0.016	0.071	0.005
PM10	32.45	0.99	1.62	38.94	7.11		0.016	0.071	0.005
PM2.5	32.45	0.99	1.62	38.94	7.11		0.016	0.071	0.005
SOx	0	0	0.00	0.00	0.00		0.000	0.000	N/A
NOx	0	0	0.00	0.00	0.00		0.000	0.000	N/A
VOC	0	0	0.00	0.00	0.00		0.000	0.000	N/A
CO	0	0	0.00	0.00	0.00		0.000	0.000	N/A
HAPs	0	0	0.00	0.00	0.00		0.000	0.000	N/A

EF: back calculated using manufacturer's specifications of 0.005 gr/dscf grain loading
Actual Emissions based on 0.005 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

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Corn Receiver Storage Bins #1 and #2 | MDR (T/hr): 840 | STACK ID (DIAM:HEIGHT): 1'; 30'
(140-01-G & 140-02-G) (cement silos) | YEARLY PROD (T/yr): 7,358,400 | FLOWRATE (ACFM): 2000
CNTRL DEV: Bin Vent | Ts(°F): 70

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO. 03-02-007-55			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.04	0.99	34.29	822.86	150.17		0.34	1.50	0.02
PM10	0.04	0.99	34.29	822.86	150.17		0.34	1.50	0.02
PM2.5	0.04	0.99	34.29	822.86	150.17		0.34	1.50	0.02
SOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
NOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
VOC	0	0	0.00	0.00	0.00		0.00	0.00	N/A
CO	0	0	0.00	0.00	0.00		0.00	0.00	N/A
HAPs	0	0	0.00	0.00	0.00		0.00	0.00	N/A

EF: back calculated using manufacturer's specifications of 0.020 gr/dscf grain loading
Actual Emissions based on 0.02 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

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Corn Receiving and Storage Bins #3 and #4 | MDR (T/hr): 840 | STACK ID (DIAM:HEIGHT): 1'; 30'
(140-03-G & 140-04-G) (metal silos) | YEARLY PROD (T/yr): 7,358,400 | FLOWRATE (ACFM): 2000
CNTRL DEV: Bin Vent | Ts(°F): 70

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO. 03-02-007-55			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.04	0.99	34.29	822.86	150.17		0.34	1.50	0.02
PM10	0.04	0.99	34.29	822.86	150.17		0.34	1.50	0.02
PM2.5	0.04	0.99	34.29	822.86	150.17		0.34	1.50	0.02
SOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
NOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
VOC	0	0	0.00	0.00	0.00		0.00	0.00	N/A
CO	0	0	0.00	0.00	0.00		0.00	0.00	N/A
HAPs	0	0	0.00	0.00	0.00		0.00	0.00	N/A

EF: back calculated using manufacturer's specifications of 0.020 gr/dscf grain loading
Actual Emissions based on 0.02 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

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Corn Receiving and Storage Bin #5 | MDR (T/hr): 420 | STACK ID (DIAM:HEIGHT): 1'; 100'
(33-01-G) (Day Tank) | YEARLY PROD (T/yr): 3,679,200 | FLOWRATE (ACFM): 1000
CNTRL DEV: Bin Vent | Ts(°F): 70

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO. 03-02-007-55			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.04	0.99	17.14	411.43	75.09		0.17	0.75	0.02
PM10	0.04	0.99	17.14	411.43	75.09		0.17	0.75	0.02
PM2.5	0.04	0.99	17.14	411.43	75.09		0.17	0.75	0.02
SOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
NOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
VOC	0	0	0.00	0.00	0.00		0.00	0.00	N/A
CO	0	0	0.00	0.00	0.00		0.00	0.00	N/A
HAPs	0	0	0.00	0.00	0.00		0.00	0.00	N/A

EF: back calculated using manufacturer's specifications of 0.020 gr/dscf grain loading
Actual Emissions based on 0.02 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

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Corn Receiving and Storage Bin #6 | MDR (T/hr): 420 | STACK ID (DIAM:HEIGHT): 1'; 100'
(33-02-G)(Day Tank) | YEARLY PROD (T/yr): 3,679,200 | FLOWRATE (ACFM): 1000
CNTRL DEV: Bin Vent | Ts(°F): 100

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO. 03-02-007-55			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.04	0.99	16.22	389.39	71.06		0.16	0.71	0.02
PM10	0.04	0.99	16.22	389.39	71.06		0.16	0.71	0.02
PM2.5	0.04	0.99	16.22	389.39	71.06		0.16	0.71	0.02
SOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
NOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
VOC	0	0	0.00	0.00	0.00		0.00	0.00	N/A
CO	0	0	0.00	0.00	0.00		0.00	0.00	N/A
HAPs	0	0	0.00	0.00	0.00		0.00	0.00	N/A

EF: back calculated using manufacturer's specifications of 0.020 gr/dscf grain loading
Actual Emissions based on 0.02 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

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Corn Dump Pit
(140-05-G)
CNTRL DEV: Torit & Day Baghouse
(BH-1) (CE140-05-G)

MDR (T/hr): 840
YEARLY PROD (T/yr): 7,358,400

STACK ID (DIAM:HEIGHT): (3.4': 70')
FLOWRATE (ACFM): 30000
Ts(°F): 70

PERMITTED OPERATING HRS: 8,760 hr/yr

SCC NO. 3-02-007-51

			POTENTIAL TO EMIT						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	1.53	0.999	1,285.71	30,857.14	5,631.43		1.29	5.63	0.005
PM10	1.53	0.999	1,285.71	30,857.14	5,631.43		1.29	5.63	0.005
PM2.5	1.53	0.999	1,285.71	30,857.14	5,631.43		1.29	5.63	0.005
SOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
NOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
VOC	0	0	0.00	0.00	0.00		0.00	0.00	N/A
CO	0	0	0.00	0.00	0.00		0.00	0.00	N/A
HAPs	0	0	0.00	0.00	0.00		0.00	0.00	N/A

Torit Donaldson guarantee to Cargill based on 1500 lb/hr load - 99.9% control efficiency = 0.005 gr/dscf (application).
Actual emissions based on 0.005 gr/dscf for 8760 hours; accepted by Cargill as actual emissions and limitation (application).
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

****

Gravity Take-Up Conveyor (Corn Scale System)
(140-06-G)
CNTRL DEV: Baghouse (CE140-06-G)

MDR (T/hr): 140
YEARLY PROD (T/yr): 1226400

STACK ID (DIAM:HEIGHT): 1':16'
FLOWRATE (ACFM): 1800
Ts(°F): 70

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-007-55

			POTENTIAL EMISSIONS						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.11	0.99	15.43	370.29	67.58		0.15	0.68	0.01
PM10	0.11	0.99	15.43	370.29	67.58		0.15	0.68	0.01
PM2.5	0.11	0.99	15.43	370.29	67.58		0.15	0.68	0.010
SOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
NOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
VOC	0	0	0.00	0.00	0.00		0.00	0.00	N/A
CO	0	0	0.00	0.00	0.00		0.00	0.00	N/A
HAPs	0	0	0.00	0.00	0.00		0.00	0.00	N/A

EF: back calculated using manufacturer's specifications of 0.010 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

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Corn Elevator Conveying
(140-07-G)
CNTRL DEV: Baghouse (CE140-07-G)

MDR (T/hr): 140
YEARLY PROD (T/yr): 1,226,400

STACK ID (DIAM:HEIGHT): 1'; 16'
FLOWRATE (ACFM): 1000
Ts(°F): 70

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-007-52

			POTENTIAL TO EMIT						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.06	0.99	8.57	205.71	37.54		0.09	0.38	0.01
PM10	0.06	0.99	8.57	205.71	37.54		0.09	0.38	0.01
PM2.5	0.06	0.99	8.57	205.71	37.54		0.09	0.38	0.010
SOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
NOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
VOC	0	0	0.00	0.00	0.00		0.00	0.00	N/A
CO	0	0	0.00	0.00	0.00		0.00	0.00	N/A
HAPs	0	0	0.00	0.00	0.00		0.00	0.00	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

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Corn Cleaner
(33-03-G)
CNTRL DEV: Baghouse (CE33-03-G)

MDR (T/hr): 140
YEARLY PROD (T/yr): 1,226,400

STACK ID (DIAM:HEIGHT): 1'; 16'
FLOWRATE (ACFM): 2200
Ts(°F): 70

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-007-55

			POTENTIAL TO EMIT						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.13	0.99	18.86	452.57	82.59		0.19	0.83	0.01
PM10	0.13	0.99	18.86	452.57	82.59		0.19	0.83	0.01
PM2.5	0.13	0.99	18.86	452.57	82.59		0.19	0.83	0.01
SOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
NOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
VOC	0	0	0.00	0.00	0.00		0.00	0.00	N/A
CO	0	0	0.00	0.00	0.00		0.00	0.00	N/A
HAPs	0	0	0.00	0.00	0.00		0.00	0.00	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

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Unit ID Gluten Filter
CNTRL DEV: None

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-007-55

			POTENTIAL TO EMIT						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.00	0	0.00	0.00	0.00		0.00	0.00	0.00
PM10	0.00	0	0.00	0.00	0.00		0.00	0.00	0.00
PM2.5	0.00	0	0.00	0.00	0.00		0.00	0.00	0.00
SOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
NOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
VOC	0	0	0.42	10.08	1.84		0.42	1.84	N/A
CO	0	0	0.00	0.00	0.00		0.00	0.00	N/A
HAPs	0	0	0.02	0.50	0.09		0.02	0.09	N/A

*VOC and HAP emissions are based on stack test data from April 2003.

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Unit ID Gluten Vacuum Pumps
CNTRL DEV: None

MDR (T/hr): 104.17
YEARLY PROD (T/yr): 912,500

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 03-02-007-55

			POTENTIAL TO EMIT						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.00	0	0.00	0.00	0.00		0.00	0.00	0.00
PM10	0.00	0	0.00	0.00	0.00		0.00	0.00	0.00
PM2.5	0.00	0	0.00	0.00	0.00		0.00	0.00	0.00
SOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
NOx	0	0	0.00	0.00	0.00		0.00	0.00	N/A
VOC	0.0047	0	0.49	11.75	2.14		0.49	2.14	N/A
CO	0	0	0.00	0.00	0.00		0.00	0.00	N/A
HAPs	0.0047	0	0.49	11.75	2.14		0.49	2.14	N/A

EF: based on 0.000132 lb VOC/bu factor from an engineering test performed at plant in Cedar Rapids, Iowa.

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Total: Stack Emissions - Grind and Feedhouse Area

	POTENTIAL TO EMIT						
	BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	1,864.621	44,750.913	8,167.042		20.257	88.725	0.269
PM10	1,857.891	44,589.379	8,137.562		20.028	87.721	0.268
PM2.5	1,857.891	44,589.379	8,137.562		20.028	87.721	0.268
SOx	23.019	552.446	100.821		4.646	20.352	N/A
NOx	14.745	353.882	64.584		14.745	64.584	N/A
VOC	53.754	1,290.092	235.442		29.835	130.678	N/A
CO	35.613	854.705	155.984		35.613	155.984	N/A
HAPs	4.463	107.118	19.549		2.556	11.194	N/A

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Utility Area
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Natural Gas Fired Package Boiler #1
(89-03-U)
CNTRL DEV: NONE
Installed: 2006

MDC (mmBtu/hr): 274
MDR (mmcft/hr): 0.2686

HEAT CONTENT (Btu/cft): 1,020
QTY BURNED (mmcft/yr): 2353.1765

STACK ID (DIAM:HEIGHT): (4.6':89')
FLOWRATE (ACFM): 69,137
Ts(°F): 286

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 1-02-006-01			POTENTIAL TO EMIT					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.5104	12.2494	2.2355	0.5104	2.2355	0.0012
PM10	7.6	0	2.0416	48.9976	8.9421	2.0416	8.9421	0.0048
PM2.5	7.6	0	2.0416	48.9976	8.9421	2.0416	8.9421	0.0048
SOx	0.6	0	0.1612	3.8682	0.7060	0.1612	0.7060	N/A
NOx	190	0	51.0392	1,224.9412	223.5518	51.0392	223.5518	N/A
VOC	5.5	0	1.4775	35.4588	6.4712	1.4775	6.4712	N/A
CO	84	0	22.5647	541.5529	98.8334	22.5647	98.8334	N/A
LEAD	0.00005	0	0.0000	0.0003	0.0001	0.0000	0.0001	N/A

E.F. based on AP-42 Chapter 1.4 and 40 CFR 98.
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

Refinery Area

P4;S2: #2 Corn Syrup Solids Manufacturing MDR (T/hr): 3 STACK ID (DIAM:HEIGHT): 1';30'
(18-03-R) YEARLY PROD (T/yr): 26280 FLOWRATE (ACFM): 3670
CNTRL DEV: Dust Collector (CE 18-03-R) Ts(°F): 105

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO. 03-02-007-54			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	9.84	0.99	29.508	708.203	129.247		0.295	1.292	0.010
PM10	9.84	0.99	29.508	708.203	129.247		0.295	1.292	0.010
PM2.5	9.84	0.99	29.508	708.203	129.247		0.295	1.292	0.010
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	See Below	0	0.536	12.869	2.349		0.536	2.349	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
18-03-R	24	3670	5	105	3430	3258	0.54	2.35

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

P4;S3: #4 Corn Syrup Spray Dryer MDR (T/hr): 4.8 STACK ID (DIAM:HEIGHT): 8';90'
(100-03-R) YEARLY PROD (T/yr): 42048 FLOWRATE (ACFM): 50000
CNTRL DEV: Wet scrubber (CE 100-03-R) Ts(°F): 110

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO. 03-02-007-54			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	83.02	0.99	398.50	9,563.9	1,745.41		3.985	17.454	0.010
PM10	83.02	0.99	398.50	9,563.9	1,745.41		3.985	17.454	0.010
PM2.5	83.02	0.99	398.50	9,563.9	1,745.41		3.985	17.454	0.010
SOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
VOC*	N/A	0.5	4.0400	96.9600	17.6952		2.0200	8.8476	N/A
CO*	N/A	0	0.7300	17.5200	3.1974		0.7300	3.1974	N/A
HAPs*	N/A	0.5	1.0100	24.2400	4.4238		0.5050	2.2119	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.
*VOC, CO and HAP emissions are based on stack test data from May 2007.

Corn Syrup Spray Dryer/Cooler System #3 MDR (T/hr): 4.8 STACK ID (DIAM:HEIGHT): 8.6';100'
(100-01-R) YEARLY PROD (T/yr): FLOWRATE (ACFM): 42187
CNTRL DEV: Wet Venturi Scrubber (CE 100-01-R) Ts(°F): 120

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO. 03-02-007-54			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	68.84	0.99	330.43	7,930.3	1,447.28		3.304	14.473	0.010
PM10	68.84	0.99	330.43	7,930.3	1,447.28		3.304	14.473	0.010
PM2.5	68.84	0.99	330.43	7,930.3	1,447.28		3.304	14.473	0.010
SOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
VOC*	N/A	0.5	10.7800	258.7200	47.2164		5.3900	23.6082	N/A
CO*	N/A	0	0.9300	22.3200	4.0734		0.9300	4.0734	N/A
HAPs*	N/A	0.5	2.6950	64.6800	11.8041		1.3475	5.9021	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.
*VOC, CO and HAP emissions are based on stack test data from May 2007.

P4;S5: Activated Carbon Regeneration Furnace #2 MDR (T/hr): 1.146 STACK ID (DIAM:HEIGHT): 2';110'
(104-01-R) YEARLY PROD (T/yr): 10038.96 FLOWRATE (ACFM): 6622
CNTRL DEV: Scrubber (CE104-01-R) Ts(°F): 160

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT							
SCC NO. 03-02-007-54			BEFORE CONTROLS				AFTER CONTROLS			
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	31.75	0.98	36.390	873.372	159.390		0.728	3.188	0.015
PM10	31.75	0.98	36.390	873.372	159.390		0.728	3.188	0.015
PM2.5	31.75	0.98	36.390	873.372	159.390		0.728	3.188	0.015
SOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

EF: back calculated using manufacturer's specifications of 0.015 gr/dscf grain loading
Actual Emissions based on 0.015 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

P4;S5A: Activated Carbon Regeneration Furnace #2
In-Process Fuel Combustion
(104-01-R) MDC (mmBtu/hr): 13.2 HEAT CONTENT (Btu/cft): 1020 STACK ID (DIAM:HEIGHT): 2';110'
CNTRL DEV: NONE MDR (mmcft/hr): 0.0129 QTY BURNED (mmcft/yr): 43.40 FLOWRATE (ACFM): 6622
Ts(°F): 160

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO. 03-02-007-54			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.0246	0.5901	0.1077		0.0246	0.1077	0.0005
PM10	7.6	0	0.0984	2.3605	0.4308		0.0984	0.4308	0.0020
PM2.5	7.6	0	0.0984	2.3605	0.4308		0.0984	0.4308	0.0020
SOx	0.6	0	0.0078	0.1864	0.0340		0.0078	0.0340	N/A
NOx	100	0	1.2941	31.0588	5.6682		1.2941	5.6682	N/A
VOC	5.5	0	0.0712	1.7082	0.3118		0.0712	0.3118	N/A
CO	84	0	1.0871	26.0894	4.7613		1.0871	4.7613	N/A
Hexane	1.8	0	0.0233	0.5591	0.1020		0.0233	0.1020	N/A

E.F. based on AP-42 Chapter 1.4 and 40 CFR 98.
Emissions based on company's submittal of 8760 hours/year
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

Total: P4;S5: Activated Carbon Regeneration Furnace #2

	POTENTIAL TO EMIT						
	BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	36.4151	873.9617	159.4980		0.7524	3.2955	0.0155
PM10	36.4888	875.7321	159.8211		0.8262	3.6186	0.0170
PM2.5	36.4888	875.7321	159.8211		0.8262	3.6186	0.0170
SOx	0.0078	0.1864	0.0340		0.0078	0.0340	N/A
NOx	1.2941	31.0588	5.6682		1.2941	5.6682	N/A
VOC	0.0712	1.7082	0.3118		0.0712	0.3118	N/A
CO	1.0871	26.0894	4.7613		1.0871	4.7613	N/A
HAPs	0.0233	0.5591	0.1020		0.0233	0.1020	N/A

P4; S6: Liquid Soda Ash Tank MDR (T/hr): 15 STACK ID (DIAM:HEIGHT): 1';70'
(104-02-R) YEARLY PROD (T/yr): 1650 FLOWRATE (ACFM): 1000
CNTRL DEV: Venturi Scrubber (CE-104-02-R) Ts(°F): 130

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO.			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	1.03	0.99	15.400	369.588	67.450		0.154	0.674	0.020
PM10	1.03	0.99	15.400	369.588	67.450		0.154	0.674	0.020
PM2.5	1.03	0.99	15.400	369.588	67.450		0.154	0.674	0.020
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.000	0.000	0.000		0.000	0.000	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.000	0.000	0.000		0.000	0.000	N/A

EF: back calculated using manufacturer's specifications of 0.02 gr/dscf grain loading
Actual Emissions based on 0.02 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

***

P4;S8: Filter Aid Hopper
(104-03-R)
CNTRL DEV: Dust Collector (CE 104-03-R)

MDR (T/hr): 0.75
YEARLY PROD (T/yr): 6570

STACK ID (DIAM:HEIGHT): 1';40'
FLOWRATE (ACFM): 250
Ts(°F): 60

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO. 03-02-999-99			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	5.82	0.99	4.368	104.835	19.132		0.044	0.191	0.020
PM10	5.82	0.99	4.368	104.835	19.132		0.044	0.191	0.020
PM2.5	5.82	0.99	4.368	104.835	19.132		0.044	0.191	0.020
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.000	0.000	0.000		0.000	0.000	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.000	0.000	0.000		0.000	0.000	N/A

EF: back calculated using manufacturer's specifications of 0.02 gr/dscf grain loading
Actual Emissions based on 0.02 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

***

P4;S9: Sodium Bisulfate Bag Dump
(104-05-R)
CNTRL DEV: Dust Collector (CE-104-05-R)

MDR (T/hr): 0.7
YEARLY PROD (T/yr): 6132

STACK ID (DIAM:HEIGHT): 1';40'
FLOWRATE (ACFM): 460
Ts(°F): 60

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO.			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	11.48	0.99	8.0374	192.8967	35.2036		0.0804	0.3520	0.0200
PM10	11.48	0.99	8.0374	192.8967	35.2036		0.0804	0.3520	0.0200
PM2.5	11.48	0.99	8.0374	192.8967	35.2036		0.0804	0.3520	0.0200
SOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

EF: back calculated using manufacturer's specifications of 0.02 gr/dscf grain loading
Actual Emissions based on 0.02 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

***

Unit ID RVF 1-1
CNTRL DEV: None

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit lb/day	Potential to Emit ton/yr
RVF 1-1	20	1250	5	70	1245	1183	0.16	3.89	0.71

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

***

Unit ID RVF 1-2
CNTRL DEV: None

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit lb/day	Potential to Emit ton/yr
RVF 1-2	20	1250	5	70	1245	1183	0.16	3.89	0.71

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

***

Unit ID Precoating Vacuum Pump
CNTRL DEV: None

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit lb/day	Potential to Emit ton/yr
Precoating Vacuum Pump	20	1250	5	70	1245	1183	0.16	3.89	0.71

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

***

Unit ID RVF 2-1
CNTRL DEV: None

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit lb/day	Potential to Emit ton/yr
RVF 2-1	20	1250	5	70	1245	1183	0.16	3.89	0.71

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

****
Unit ID RVF 2-2
CNTRL DEV: None

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit lb/day	Potential to Emit ton/yr
RVF 2-2	20	1250	5	70	1245	1183	0.16	3.89	0.71

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44
****
Unit ID RVF 3-1
CNTRL DEV: None

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit lb/day	Potential to Emit ton/yr
RVF 3-1	20	900	5	70	897	852	0.12	0.12	0.51

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44
****
Unit ID RVF 3-2
CNTRL DEV: None

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit lb/day	Potential to Emit ton/yr
RVF 3-2	20	900	5	70	897	852	0.12	2.80	0.51

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44
****
Unit ID RVF 3-2 Precoating Vacuum Pump
CNTRL DEV: None

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit lb/day	Potential to Emit ton/yr
RVF 3-2 Precoating Pump	20	900	5	70	897	852	0.12	2.80	0.51

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44
****
Unit ID HCL Tank
CNTRL DEV: None

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit lb/day	Potential to Emit ton/yr
RVF 3-2 Precoating Pump	10	100	5	70	100	95	0.01	0.16	0.03

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44
****
Unit ID 15-06-R MDR (T/hr): 0.0003 STACK ID (DIAM:HEIGHT): N/A
Building 15 HCl Emissions (Indoor) YEARLY PURCHASE (T/yr): 7.277 FLOWRATE (ACFM): N/A
CNTRL DEV: None (All Toluene Emissions) Ts(°F): N/A
Vent through general building ventilation PERMITTED OPERATING HRS: 8760 hr/yr

(Fugitive Emissions) SCC NO. 03-02-007-52			POTENTIAL TO EMIT						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
PM10	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
PM2.5	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
SOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
VOC	2000	0	0.6000	14.4000	2.6280		0.6000	2.6280	N/A
CO	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
HAP	2000	0	0.6000	14.4000	2.6280		0.6000	2.6280	N/A

Emissions based on SOCMI factors
HAP: Hydrogen chloride

Unit ID 15-07-F
Building 15 HCl Emissions (Outdoor)
CNTRL DEV: None

MDR (T/hr): 0.00015
YEARLY PURCHASE (T/yr): 0.000

STACK ID (DIAM:HEIGHT): N/A
FLOWRATE (ACFM): N/A
Ts(°F): N/A

PERMITTED OPERATING HRS: 8760 hr/yr

(Fugitive Emissions)			POTENTIAL TO EMIT						
SCC NO. 03-02-007-52			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
PM10	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
PM2.5	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
SOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
VOC	2000	0	0.3000	7.2000	1.3140		0.3000	1.3140	N/A
CO	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
HAP	2000	0	0.3000	7.2000	1.3140		0.3000	1.3140	N/A

Emissions based on SOCMI factors
HAP: Hydrogen chloride

Total: Stack Emissions - Refinery Area

	POTENTIAL TO EMIT						
	BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	822.655	19,743.720	3,603.23		9.343	37.73	0.106
PM10	822.729	19,745.490	3,603.55		9.416	38.06	0.107
PM2.5	822.729	19,745.490	3,603.55		9.416	38.06	0.107
SOx	0.008	0.186	0.03		0.008	0.03	N/A
NOx	1.294	31.059	5.67		1.294	5.67	N/A
VOC	17.495	417.205	76.63		10.085	44.17	N/A
CO	2.747	65.929	12.03		2.747	12.03	N/A
HAPs	4.628	111.079	20.27		2.776	12.16	N/A

Total: Fugitive Emissions - Refinery Area

	POTENTIAL TO EMIT						
	BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.000	0.000	0		0.000	0	N/A
PM10	0.000	0.000	0		0.000	0	N/A
PM2.5	0.000	0.000	0		0.000	0	N/A
SOx	0.000	0.000	0		0.000	0	N/A
NOx	0.000	0.000	0		0.000	0	N/A
VOC	0.900	21.600	4		0.900	3.9	N/A
CO	0.000	0.000	0		0.000	0	N/A
HAPs	0.900	21.600	4		0.900	3.9	N/A

HAPs: HCl

Total: Emissions - Refinery Area

	POTENTIAL TO EMIT						
	BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	822.655	19,743.720	3,603.23		9.343	37.73	0.106
PM10	822.729	19,745.490	3,603.55		9.416	38.06	0.107
PM2.5	822.729	19,745.490	3,603.55		9.416	38.06	0.107
SOx	0.008	0.186	0.03		0.008	0.03	N/A
NOx	1.294	31.059	5.67		1.294	5.67	N/A
VOC	18.395	438.805	80.57		10.985	48.12	N/A
CO	2.747	65.929	12.03		2.747	12.03	N/A
HAPs	5.528	132.679	24.21		3.676	16.10	N/A

Starch Production Area

P5;S5: Batch Scale Hopper #1
(34-01-S)
CNTRL DEV: Dust Collector (CE34-01-S)

MDR (T/hr): 24
YEARLY PROD (T/yr): 210240

STACK ID (DIAM:HEIGHT): 1';70'
FLOWRATE (ACFM): 550
Ts(°F): 100

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO. 03-02-014-01			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.19	0.99	4.4617	107.0816	19.5424		0.0446	0.1954	0.0100
PM10	0.19	0.99	4.4617	107.0816	19.5424		0.0446	0.1954	0.0100
PM2.5	0.19	0.99	4.4617	107.0816	19.5424		0.0446	0.1954	0.0100
SOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
VOC	0	0	0.0676	1.6215	0.2959		0.0676	0.2959	N/A
CO	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source			Moisture %	Temperature F			Potential to Emit	
ID	PPM	ACFM			SCFM	DSCFM	lb/hr	ton/yr
34-01-S	20	550	5	100	519	493	0.07	0.30

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

P5;S6: Dextrin Starch Reactor #1
(34-02-S)
CNTRL DEV: Dust Collector (CE34-02-S)

MDR (T/hr): 6
YEARLY PROD (T/yr): 52560

STACK ID (DIAM:HEIGHT): 1';40'
FLOWRATE (ACFM): 2600
Ts(°F): 200

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO.			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	2.98	0.99	17.896	429.506	78.385		0.179	0.784	0.010
PM10	2.98	0.99	17.896	429.506	78.385		0.179	0.784	0.010
PM2.5	2.98	0.99	17.896	429.506	78.385		0.179	0.784	0.010
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.068	1.626	0.297		0.068	0.297	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source			Moisture %	Temperature F			Potential to Emit	
ID	PPM	ACFM			SCFM	DSCFM	lb/hr	ton/yr
34-02-S	5	2600	5	200	2080	1976	0.07	0.30

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

P5;S7: Dextrin Starch Cooler #1
(34-03-S)
CNTRL DEV: Dust Collector (CE34-03-S)

MDR (T/hr): 6
YEARLY PROD (T/yr): 52560

STACK ID (DIAM:HEIGHT): 1';25'
FLOWRATE (ACFM): 550
Ts(°F): 130

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO. 03--01-014-01			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.71	0.99	4.235	101.637	18.549		0.042	0.185	0.010
PM10	0.71	0.99	4.235	101.637	18.549		0.042	0.185	0.010
PM2.5	0.71	0.99	4.235	101.637	18.549		0.042	0.185	0.010
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.016	0.385	0.070		0.016	0.070	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source			Moisture %	Temperature F			Potential to Emit	
ID	PPM	ACFM			SCFM	DSCFM	lb/hr	ton/yr
34-03-S	5	550	5	130	492	468	0.02	0.07

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

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P5;S8: Surge Hopper #1 MDR (T/hr): 6 STACK ID (DIAM:HEIGHT): 1';85'
(34-05-S) YEARLY PROD (T/yr): 52560 FLOWRATE (ACFM): 1400
CNTRL DEV: Dust Collector (CE34-05-S) Ts(°F): 100

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO. 03-02-014-01			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	1.89	0.99	11.357	272.571	49.744		0.114	0.497	0.010
PM10	1.89	0.99	11.357	272.571	49.744		0.114	0.497	0.010
PM2.5	1.89	0.99	11.357	272.571	49.744		0.114	0.497	0.010
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.043	1.032	0.188		0.043	0.188	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
34-05-S	5	1400	5	100	1320	1254	0.04	0.19

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

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P5;S9: Dextrin Feed Hoppers #1 & 2 MDR (T/hr): 12 STACK ID (DIAM:HEIGHT): 1';70'
(34-06-S & 34-07-S) YEARLY PROD (T/yr): 105120 FLOWRATE (ACFM): 220
CNTRL DEV: Dust Collector (CE34-06-S & CE34-07-S) Ts(°F): 100

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO. 03-02-014-01			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.15	0.99	1.785	42.833	7.817		0.018	0.078	0.010
PM10	0.15	0.99	1.785	42.833	7.817		0.018	0.078	0.010
PM2.5	0.15	0.99	1.785	42.833	7.817		0.018	0.078	0.010
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.011	0.263	0.048		0.011	0.048	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.000	0.000	0.000		0.000	0.000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
34-06-S	5	220	5	200	176	167	0.01	0.03
34-04-S	5	200	5	200	160	152	0.01	0.02

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

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P5;S10: Batch Scale Hopper #2 MDR (T/hr): 24 STACK ID (DIAM:HEIGHT): 1';70'
(34B-13-S) YEARLY PROD (T/yr): 210240 FLOWRATE (ACFM): 900
CNTRL DEV: Dust Collector (CE34B-04-S) Ts(°F): 150

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO. 03-02-014-01			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.28	0.99	6.703	160.862	29.357		0.067	0.294	0.010
PM10	0.28	0.99	6.703	160.862	29.357		0.067	0.294	0.010
PM2.5	0.28	0.99	6.703	160.862	29.357		0.067	0.294	0.010
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.025	0.609	0.111		0.025	0.111	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
34B-13-S	5	900	5	150	779	740	0.03	0.11

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

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P5;S11: Dextrin Starch Cooler #2
(34B-01-S)
CNTRL DEV: Dust Collector (CE34B-01-S)

MDR (T/hr): 6
YEARLY PROD (T/yr): 52560

STACK ID (DIAM:HEIGHT): 1';25'
FLOWRATE (ACFM): 550
Ts(°F): 140

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
	SCC NO. 03-02-014-01		BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.69	0.99	4.164	99.943	18.240		0.042	0.182	0.010
PM10	0.69	0.99	4.164	99.943	18.240		0.042	0.182	0.010
PM2.5	0.69	0.99	4.164	99.943	18.240		0.042	0.182	0.010
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.016	0.378	0.069		0.016	0.069	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	ton/yr
34B-01-S	5	550	5	140	484	460	0.02	0.07

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

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P5;S12: Surge Hopper #2
(34B-03-S)
CNTRL DEV: Bag Filter (CE34B-03-S)

MDR (T/hr): 6
YEARLY PROD (T/yr): 52560

STACK ID (DIAM:HEIGHT): 1';40'
FLOWRATE (ACFM): 1400
Ts(°F): 100

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
	SCC NO. 03-02-014-01		BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	1.89	0.99	11.3571	272.5714	49.7443		0.1136	0.4974	0.0100
PM10	1.89	0.99	11.3571	272.5714	49.7443		0.1136	0.4974	0.0100
PM2.5	1.89	0.99	11.3571	272.5714	49.7443		0.1136	0.4974	0.0100
SOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
VOC	0	0	0.0430	1.0318	0.1883		0.0430	0.1883	N/A
CO	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	ton/yr
34B-03-S	5	1400	5	100	1320	1254	0.04	0.19

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

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P5;S13: Dextrin Starch Reactor #2
(34B-04-S)
CNTRL DEV: Dust Collector (CE34B-04-S)

MDR (T/hr): 6
YEARLY PROD (T/yr): 52560

STACK ID (DIAM:HEIGHT): 1';40'
FLOWRATE (ACFM): 2600
Ts(°F): 200

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
	SCC NO. 03-02-014-01		BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	2.98	0.99	17.896	429.506	78.385		0.179	0.784	0.010
PM10	2.98	0.99	17.896	429.506	78.385		0.179	0.784	0.010
PM2.5	2.98	0.99	17.896	429.506	78.385		0.179	0.784	0.010
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.068	1.626	0.297		0.068	0.297	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	ton/yr
34B-04-S	5	2600	5	200	2080	1976	0.07	0.30

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

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P5;S14: Dextrin Feed Hoppers: 3 and 4 (System2)
(34B-05-S and 34B-06-S)
CNTRL DEV: Dust Collector (CE34B-05-S & CE34B-06-S)

MDR (T/hr): 12
YEARLY PROD (T/yr): 105120

STACK ID (DIAM:HEIGHT): 1';8'
FLOWRATE (ACFM): 440
Ts(°F): 200

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
	SCC NO. 3-02-014-01		BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.25	0.99	3.029	72.686	13.265		0.030	0.133	0.010
PM10	0.25	0.99	3.029	72.686	13.265		0.030	0.133	0.010
PM2.5	0.25	0.99	3.029	72.686	13.265		0.030	0.133	0.010
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.011	0.275	0.050		0.011	0.050	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	ton/yr
34B-05-S	5	220	5	200	176	167	0.01	0.03
34B-06-S	5	220	5	200	176	167	0.01	0.03

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

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P5;S15: Dextrin Bulk Loading MDR (T/hr): 30 STACK ID (DIAM:HEIGHT): 1';28'
(48-09-S) YEARLY PROD (T/yr): 262800 FLOWRATE (ACFM): 3000
CNTRL DEV: Dust Collector (CE48-09-S) Ts(°F): 70

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO. 03-02-014-01			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.86	0.99	25.714	617.143	112.629		0.257	1.126	0.010
PM10	0.86	0.99	25.714	617.143	112.629		0.257	1.126	0.010
PM2.5	0.86	0.99	25.714	617.143	112.629		0.257	1.126	0.010
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.097	2.336	0.426		0.097	0.426	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source			Moisture %	Temperature F			Potential to Emit	
ID	PPM	ACFM			SCFM	DSCFM	lb/hr	ton/yr
48-09-S	5	3000	5	70	2989	2839	0.10	0.43

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

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P5;S20: Starch Milling Systems: 1&2 MDR (T/hr): 30 STACK ID (DIAM:HEIGHT): 2';60'
(59-01-S and 59-02-S) YEARLY PROD (T/yr): 262800 FLOWRATE (ACFM): 10000
CNTRL DEV: Dust Collector (CE59-01-S & CE59-02-S) Ts(°F): 70

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO. 03-02-014-01			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	2.86	0.99	85.714	2,057.143	375.429		0.857	3.754	0.010
PM10	2.86	0.99	85.714	2,057.143	375.429		0.857	3.754	0.010
PM2.5	2.86	0.99	85.714	2,057.143	375.429		0.857	3.754	0.010
SOx	0	0	0.00	0.00	0.00		0.000	0.000	N/A
NOx	0	0	0.00	0.00	0.00		0.000	0.000	N/A
VOC	0	0	0.32	7.79	1.42		0.324	1.421	N/A
CO	0	0	0.00	0.00	0.00		0.000	0.000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source			Moisture %	Temperature F			Potential to Emit	
ID	PPM	ACFM			SCFM	DSCFM	lb/hr	ton/yr
59-01-S	5	5000	5	70	4981	4732	0.16	0.71
59-02-S	5	5000	5	70	4981	4732	0.16	0.71

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

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P5;S21: Starch Ring Dryer #2 | MDR (T/hr): 13.5 | STACK ID (DIAM:HEIGHT): 6';60'
(59-03-S) | YEARLY PROD (T/yr): 117980 | FLOWRATE (ACFM): 78707
CNTRL DEV: Wet Scrubber (CE59-03-S) | Ts(°F): 104

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT					
SCC NO. 03-02-007-54			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	26	0.99	350.168	8,404.032	1,533.736	3.502	15.337	0.006
PM10	26	0.99	350.168	8,404.032	1,533.736	3.502	15.337	0.006
PM2.5	26	0.99	350.168	8,404.032	1,533.736	3.502	15.337	0.006
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0.5	28.6100	686.6400	125.3118	14.3050	62.6559	N/A
CO	0	0	25.7800	618.7200	112.9164	25.7800	112.9164	N/A
HAPs	0	0.5	7.1530	171.6720	31.3301	3.5765	15.6651	N/A

EF: back calculated using manufacturer's specifications of 0.006 gr/dscf grain loading
Actual Emissions based on 0.006 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.
*VOC, CO and HAP emissions are based on stack test data from May 2007.

P5;S21A: Starch Ring Dryer#2 (59-03-S)
In-Process Fuel Combustion

MDC (mmBtu/hr): 25 | HEAT CONTENT (Btu/cft): 1020 | STACK ID (DIAM:HEIGHT): 6';60'
CNTRL DEV: NONE | MDR (mmcft/hr): 0.0245 | QTY BURNED (mmcft/yr): 99.00 | FLOWRATE (ACFM): 78707
Ts(°F): 104

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT					
SCC NO. 03-02-007-54			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.0466	1.1176	0.2040	0.0466	0.2040	0.0001
PM10	7.6	0	0.1863	4.4706	0.8159	0.1863	0.8159	0.0003
PM2.5	7.6	0	0.1863	4.4706	0.8159	0.1863	0.8159	0.0003
SOx	0.6	0	0.0147	0.3529	0.0644	0.0147	0.0644	N/A
NOx	100	0	2.4510	58.8235	10.7353	2.4510	10.7353	N/A
VOC	5.5	0	0.1348	3.2353	0.5904	0.1348	0.5904	N/A
CO	84	0	2.0588	49.4118	9.0176	2.0588	9.0176	N/A
Hexane	1.8	0	0.0441	1.0588	0.1932	0.0441	0.1932	N/A

E.F. based on AP-42 Chapter 1.4 and 40 CFR 98.
Emissions based on company's submittal of 8760 hours/year
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

Total: Starch Ring Dryer #2 (59-03-S)

	POTENTIAL TO EMIT					
	BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	350.2146	8,405.1496	1,533.9398	3.5482	15.5413	0.0056
PM10	350.3543	8,408.5026	1,534.5517	3.6880	16.1532	0.0058
PM2.5	350.3543	8,408.5026	1,534.5517	3.6880	16.1532	0.0058
SOx	0.0147	0.3529	0.0644	0.0147	0.0644	N/A
NOx	2.4510	58.8235	10.7353	2.4510	10.7353	N/A
VOC	28.7448	689.8753	125.9022	14.4398	63.2463	N/A
CO	27.8388	668.1318	121.9340	27.8388	121.9340	N/A
HAPs	7.1971	172.7308	31.5234	3.6206	15.8583	N/A

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P5;S24: Corn Starch Storage Bins #20-36 | MDR (T/hr): 375 | STACK ID (DIAM:HEIGHT): 1';50'
(120-01-S thru 120-17-S) | YEARLY PROD (T/yr): 3285000 | FLOWRATE (ACFM): 7000
CNTRL DEV: Dust Collector | Ts(°F): 110

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT					
SCC NO. 4-02-013-01			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.15	0.99	55.789	1,338.947	244.358	0.558	2.444	0.010
PM10	0.15	0.99	55.789	1,338.947	244.358	0.558	2.444	0.010
PM2.5	0.15	0.99	55.789	1,338.947	244.358	0.558	2.444	0.010
SOx	0	0	0.000	0.000	0.000	0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000	0.000	0.000	N/A
VOC	0	0	0.211	5.069	0.925	0.211	0.925	N/A
CO	0	0	0.000	0.000	0.000	0.000	0.000	N/A
HAPs	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.
Permit Limitation Pursuant to 326 IAC 6.8-2-8: 5 of 17 tanks at a time

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
120-01-S	5	1400	5	110	1297	1232	0.04	0.19
120-02-S	5	1400	5	110	1297	1232	0.04	0.19
120-03-S	5	1400	5	110	1297	1232	0.04	0.19
120-04-S	5	1400	5	110	1297	1232	0.04	0.19
120-05-S	5	1400	5	110	1297	1232	0.04	0.19
120-06-S	5	1400	5	110	1297	1232	0.04	0.19
120-07-S	5	1400	5	110	1297	1232	0.04	0.19
120-08-S	5	1400	5	110	1297	1232	0.04	0.19
120-09-S	5	1400	5	110	1297	1232	0.04	0.19
120-10-S	5	1400	5	110	1297	1232	0.04	0.19
120-11-S	5	1400	5	110	1297	1232	0.04	0.19
120-12-S	5	1400	5	110	1297	1232	0.04	0.19
120-13-S	5	1400	5	110	1297	1232	0.04	0.19
120-14-S	5	1400	5	110	1297	1232	0.04	0.19
120-15-S	5	1400	5	110	1297	1232	0.04	0.19
120-16-S	5	1400	5	110	1297	1232	0.04	0.19
120-17-S	5	1400	5	110	1297	1232	0.04	0.19

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

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P5;S25: Starch Ring Dryer #3 MDR (T/hr): 26.55 STACK ID (DIAM:HEIGHT): (7.33': 130')
(125-01-S) YEARLY PROD (T/yr): 232578 FLOWRATE (ACFM): 83140
CNTRL DEV: Entoleter Wet Vortex Scrubber (CE125-01-S) Ts(°F): 111

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO. 03-02-007-54			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	5.42	0.977	143.795	3,451.091	629.824		3.307	14.486	0.005
PM10	5.42	0.977	143.795	3,451.091	629.824		3.307	14.486	0.005
PM2.5	5.42	0.977	143.795	3,451.091	629.824		3.307	14.486	0.005
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0.5	29.930	718.320	131.093		14.965	65.547	N/A
CO	0	0	29.790	714.960	130.480		29.790	130.480	N/A
HAPs	0	0.5	7.233	173.592	31.681		3.617	15.840	N/A

EF calculated using alleged scrubber efficiency and Entoleter's guaranteed outlet loading of 0.005
grains at 83140 acfm and 111 °F (max 3.5 lbs/hr) from 5/27/98 application for scrubber replacement.
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.
*VOC, CO and HAP emissions are based on stack test data from May 2007.

P5;S25A: Starch Ring Dryer #3 (125-01-S)
In-Process Fuel Combustion

MDC (mmBtu/hr): 62 HEAT CONTENT (Btu/cft): 1020 STACK ID (DIAM:HEIGHT): (7.33': 130')
CNTRL DEV: NONE MDR (mmcft/hr): 0.0608 QTY BURNED (mmcft/yr): 204.00 FLOWRATE (ACFM): 83140
Ts(°F): 111

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO. 03-02-007-54			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.1155	2.7718	0.5058		0.1155	0.5058	0.0002
PM10	7.6	0	0.4620	11.0871	2.0234		0.4620	2.0234	0.0007
PM2.5	7.6	0	0.4620	11.0871	2.0234		0.4620	2.0234	0.0007
SOx	0.6	0	0.0365	0.8753	0.1597		0.0365	0.1597	N/A
NOx	100	0	6.0784	145.8824	26.6235		6.0784	26.6235	N/A
VOC	5.5	0	0.3343	8.0235	1.4643		0.3343	1.4643	N/A
CO	84	0	5.1059	122.5412	22.3638		5.1059	22.3638	N/A
Hexane	1.8	0	0.1094	2.6259	0.4792		0.1094	0.4792	N/A

E.F. based on AP-42 Chapter 1.4 and 40 CFR 98.
Emissions based on company's submittal of 8760 hours/year
No emission factors available for PM2.5, therefore IDEM assumes PM

Total: Starch Ring Dryer #3 (125-01-S)

	POTENTIAL TO EMIT						
	BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	143.9109	3,453.8627	630.3299		3.4228	14.9918	0.0052
PM10	144.2574	3,462.1780	631.8475		3.7693	16.5093	0.0057
PM2.5	144.2574	3,462.1780	631.8475		3.7693	16.5093	0.0057
SOx	0.0365	0.8753	0.1597		0.0365	0.1597	N/A
NOx	6.0784	145.8824	26.6235		6.0784	26.6235	N/A
VOC	30.2643	726.3435	132.5577		15.2993	67.0110	N/A
CO	34.8959	837.5012	152.8440		34.8959	152.8440	N/A
HAPs	7.3424	176.2179	32.1598		3.7259	16.3195	N/A

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P5;S26: Waxy Corn Starch Storage Bins (#95-98) MDR (T/hr): 20.5 STACK ID (DIAM:HEIGHT): 1';64'
(126-01-S thru 126-04-S) YEARLY PROD (T/yr): 179580 FLOWRATE (ACFM): 2000
CNTRL DEV: Dust Collector (CE126-01-S through CE126-04-S) Ts(°F): 104

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO. 03-02-014-01			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.79	0.99	16.109	386.626	70.559		0.161	0.706	0.010
PM10	0.79	0.99	16.109	386.626	70.559		0.161	0.706	0.010
PM2.5	0.79	0.99	16.109	386.626	70.559		0.161	0.706	0.010
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.045	1.083	0.198		0.045	0.198	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.000	0.000	0.000		0.000	0.000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.
Permit Limitation Pursuant to 326 IAC 6.8-2-8: 1 of 5 bins at a time

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
126-01-S	5	1480	5	104	1386	1316	0.05	0.20
126-02-S	5	1480	5	104	1386	1316	0.05	0.20
126-03-S	5	1480	5	104	1386	1316	0.05	0.20
126-04-S	5	1480	5	104	1386	1316	0.05	0.20
126-05-S	5	1480	5	104	1386	1316	0.05	0.20

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

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P5;S27: Special Starch Process w/ Starch Ring Dryer #4
(128-01-S)
CNTRL DEV: Wet Scrubber (CE128-01-S)

MDR (T/hr): 12.5
YEARLY PROD (T/yr): 109500

STACK ID (DIAM:HEIGHT): 6';30'
FLOWRATE (ACFM): 60000
Ts(°F): 104

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO. 03-02-007-54			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	13.53	0.98	169.149	4,059.574	740.872		3.383	14.817	0.007
PM10	13.53	0.98	169.149	4,059.574	740.872		3.383	14.817	0.007
PM2.5	13.53	0.98	169.149	4,059.574	740.872		3.383	14.817	0.007
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0.5	0.490	11.760	2.146		0.245	1.073	N/A
CO	0	0	4.810	115.440	21.068		4.810	21.068	N/A
HAPs	0	0.5	0.121	2.904	0.530		0.061	0.265	N/A

EF: back calculated using manufacturer's specifications of 0.007 gr/dscf grain loading
Actual Emissions based on 0.007 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.
*VOC, CO and HAP emissions are based on stack test data from May 2007.

P5;S27A: Special Starch Process w/ Starch Ring Dryer #4 (128-01-S)
In-Process Fuel Combustion

CNTRL DEV: NONE

MDC (mmBtu/hr): 30
MDR (mmcft/hr): 0.0294

HEAT CONTENT (Btu/cft): 1020
QTY BURNED (mmcft/yr): 98.70

STACK ID (DIAM:HEIGHT): 6';30'
FLOWRATE (ACFM): 60000
Ts(°F): 104

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL TO EMIT						
SCC NO. 03-02-007-54			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.056	1.341	0.245		0.056	0.245	0.000
PM10	7.6	0	0.224	5.365	0.979		0.224	0.979	0.000
PM2.5	7.6	0	0.2235	5.3647	0.9791		0.2235	0.9791	0.0005
SOx	0.6	0	0.018	0.424	0.077		0.018	0.077	N/A
NOx	100	0	2.941	70.588	12.882		2.941	12.882	N/A
VOC	5.5	0	0.162	3.882	0.709		0.162	0.709	N/A
CO	84	0	2.471	59.294	10.821		2.471	10.821	N/A
Hexane	1.8	0	0.053	1.271	0.232		0.053	0.232	N/A

E.F. based on AP-42 Chapter 1.4 and 40 CFR 98.
Emissions based on company's submittal of 8760 hours/year
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

Total: Special Starch Process w/ Starch Ring Dryer #4 (128-01-S)

	POTENTIAL TO EMIT						
	BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	169.2048	4,060.9156	741.1171		3.4389	15.0622	0.0071
PM10	169.3725	4,064.9392	741.8514		3.6065	15.7965	0.0075
PM2.5	169.3725	4,064.9392	741.8514		3.6065	15.7965	0.0075
SOx	0.0176	0.4235	0.0773		0.0176	0.0773	N/A
NOx	2.9412	70.5882	12.8824		2.9412	12.8824	N/A
VOC	0.6518	15.6424	2.8547		0.4068	1.7816	N/A
CO	7.2806	174.7341	31.8890		7.2806	31.8890	N/A
HAPs	0.1739	4.1746	0.7619		0.1134	0.4969	N/A

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Reactors #2- 8 (128-07-S through 128-13-S)
MDR (batches/hr): 0.292
YEARLY PROD (T/yr): N/A
STACK ID (DIAM:HEIGHT): (1': 95)
FLOWRATE (ACFM): 1000
Ts(°F): 1300
CNTRL DEV: Thermal Oxidizer (PK9030)
Stack ID #5
PERMITTED OPERATING HRS: **8760** hr/yr

	SCC NO. 3-02-014-01		POTENTIAL EMISSIONS						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/batch)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**		(lbs/hr)	(TPY)	(gr/dscf)
PM	0	0	0.00	0.00	**0.00**		0.00	0.00	0.000
PM10	0	0	0.00	0.00	**0.00**		0.00	0.00	0.000
PM2.5	0	0	0.00	0.00	**0.00**		0.00	0.00	0.000
SOx	0	0	0.00	0.00	**0.00**		0.00	0.00	N/A
NOx	0	0	0.00	0.00	**0.00**		0.00	0.00	N/A
VOC	10000	0.98	2,916.67	70,000.00	**12,775.00**		**58.33**	**255.50**	N/A
CO	0	0	0.00	0.00	**0.00**		0.00	0.00	N/A
HAPs	10000	0.98	2,916.67	70,000.00	**12,775.00**		58.33	255.50	N/A

HAPs: PO
based on max propylene oxide (PO) emissions of 5 tons/batch, 7 batches/day, 365 d/yr.

Thermal Oxidizer PK9030
(Natural Gas Combustion)
Stack ID #5
MDC (mmBtu/hr): 1
MDR (mmcft/hr): 0.0010
HEAT CONTENT (Btu/cft): 1020
QTY BURNED (mmcft/yr): 8.588
STACK ID (DIAM:HEIGHT): (1': 95)
FLOWRATE (ACFM): 1000
Ts(°F): 1300
PERMITTED OPERATING HRS: **8760** hr/yr

	SCC NO. 1-02-006-03		POTENTIAL EMISSIONS						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**		(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.002	0.045	0.008		0.002	0.008	0.001
PM10	7.6	0	0.007	0.179	0.033		0.007	0.033	0.003
PM2.5	7.6	0	0.0075	0.1788	0.0326		0.0075	0.0326	0.0029
SOx	0.6	0	0.001	0.014	0.003		0.001	0.003	N/A
NOx	100	0	0.098	2.353	0.429		0.098	0.429	N/A
VOC	5.5	0	0.005	0.129	0.024		0.005	0.024	N/A
CO	84	0	0.082	1.976	0.361		0.082	0.361	N/A
Hexane	1.8	0	0.002	0.042	0.008		0.002	0.008	N/A

E.F. based on AP-42 Chapter 1.4 and 40 CFR 98.
Emissions based on company's submittal of 8760 hours/year
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

			POTENTIAL EMISSIONS						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**		(lbs/hr)	(TPY)	(gr/dscf)
PM	0	0	0.000	0.000	0.000		0.000	0.000	N/A
PM10	0	0	0.000	0.000	0.000		0.000	0.000	N/A
PM2.5	0	0	0.000	0.000	0.000		0.000	0.000	N/A
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0.95	1.330	31.920	5.825		0.067	0.291	N/A
CO	0	0.95	8.610	206.640	37.712		0.431	1.886	N/A
Hexane	0	0.95	0.333	7.992	1.459		0.017	0.073	N/A

*VOC, CO and HAP emissions are based on stack test data from May 2007.

Total: Reactors #2- 8 (128-07-S through 128-13-S)

	POTENTIAL TO EMIT						
	BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.0019	0.0447	0.0082		0.0019	0.0082	0.0007
PM10	0.0075	0.1788	0.0326		0.0075	0.0326	0.0029
PM2.5	0.0075	0.1788	0.0326		0.0075	0.0326	0.0029
SOx	0.0006	0.0141	0.0026		0.0006	0.0026	N/A
NOx	0.0980	2.3529	0.4294		0.0980	0.4294	N/A
VOC	2,918.0021	70,032.0494	12,780.8490		58.4052	255.8149	N/A
CO	8.6924	10.5865	38.0725		0.5129	2.2463	N/A
HAPs	2,917.0014	70,000.3754	12,776.4663		58.3517	255.5807	N/A

****

Sodium Sulfate Storage Bin
(128-25-S)
CNTRL DEV: Dust Collector (FA1900)
MDR (T/hr): 1.1
YEARLY PROD (T/yr): 9636
STACK ID (DIAM:HEIGHT):
FLOWRATE (ACFM):
Ts(°F):
PERMITTED OPERATING HRS: 8760 hr/yr

	SCC NO. 03-05-011-05		POTENTIAL TO EMIT						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	2.1E-03	0.99	0.002	0.055	0.010		2.31E-05	1.01E-04	N/A
PM10	9.9E-04	0.99	0.001	0.026	0.005		1.09E-05	4.77E-05	N/A
PM2.5	9.9E-04	0.99	0.001	0.026	0.005		1.09E-05	4.77E-05	N/A
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.000	0.000	0.000		0.000	0.000	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

E.F. based on AP-42 Chapter 11.12
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

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Sodium Sulfate Weigh Bin
(128-26-S)
CNTRL DEV: Dust Collector (FA1950)
MDR (T/hr): 1.1
YEARLY PROD (T/yr): 9636
PERMITTED OPERATING HRS: 8760 hr/yr

	SCC NO. 03-05-011-05		POTENTIAL TO EMIT						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	2.10E-03	0.99	0.002	0.055	0.010		2.31E-05	1.01E-04	N/A
PM10	9.90E-04	0.99	0.001	0.026	0.005		1.09E-05	4.77E-05	N/A
PM2.5	9.9E-04	0.99	0.001	0.026	0.005		1.09E-05	4.77E-05	N/A
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.000	0.000	0.000		0.000	0.000	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

E.F. based on AP-42 Chapter 11.12
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

P5;S33: Corn Starch Blending Systems #1-#4 | MDR (T/hr): 120 | STACK ID (DIAM:HEIGHT):
(130-01-S to 130-04-S) | YEARLY PROD (T/yr): 1051200 | FLOWRATE (ACFM): 5200
CNTRL DEV: Dust Collector (CE130-01-S through 130-04-S) | Ts(°F): 104

			PERMITTED OPERATING HRS:		8760 hr/yr				
			POTENTIAL TO EMIT						
SCC NO. 03-02-014-01			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.35	0.99	41.884	1,005.228	183.454		0.419	1.835	0.010
PM10	0.35	0.99	41.884	1,005.228	183.454		0.419	1.835	0.010
PM2.5	0.35	0.99	41.884	1,005.228	183.454		0.419	1.835	0.010
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.169	4.049	0.739		0.169	0.739	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
130-01-S	5	1300	5	70	1295	1230	0.04	0.18
130-02-S	5	1300	5	70	1295	1230	0.04	0.18
130-03-S	5	1300	5	70	1295	1230	0.04	0.18
130-04-S	5	1300	5	70	1295	1230	0.04	0.18

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

P5;S34: Dextrin Blender | MDR (T/hr): 30 | STACK ID (DIAM:HEIGHT):
(130-05-S) | YEARLY PROD (T/yr): 262800 | FLOWRATE (ACFM): 3000
CNTRL DEV: Dust Collector (CE130-05-S) | Ts(°F): 90

			PERMITTED OPERATING HRS:		8760 hr/yr				
			POTENTIAL TO EMIT						
SCC NO. 03-02-014-01			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.83	0.99	24.779	594.701	108.533		0.248	1.085	0.010
PM10	0.83	0.99	24.779	594.701	108.533		0.248	1.085	0.010
PM2.5	0.83	0.99	24.779	594.701	108.533		0.248	1.085	0.010
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.094	2.251	0.411		0.094	0.411	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
130-05-S	5	3000	5	90	2880	2736	0.09	0.41

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

Unit ID Building 128 Tank Farm
CNTRL DEV: None

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit lb/day	Potential to Emit ton/yr
BLDG 128 Tank Farm	10	1200	5	70	1195	1136	0.08	1.87	0.34

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)
Note: 100% of VOC are HAPs for this unit
Molecular Weight of Propane = 44

P5;S29: Propylene Oxide Station - Outdoor | MDR (T/hr): 0.0001 | STACK ID (DIAM:HEIGHT): N/A
(128-14-S-F) | YEARLY PURCHASE (T/yr): 0.876 | FLOWRATE (ACFM): N/A
CNTRL DEV: None | Ts(°F): N/A

			PERMITTED OPERATING HRS:		8760 hr/yr				
(Fugitive Emissions)			POTENTIAL TO EMIT						
SCC NO. 03-02-007-52			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000
PM10	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000
PM2.5	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000
SOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
VOC	2000	0	0.2000	4.8000	0.8760		0.2000	0.8760	N/A
CO	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
HAP	2000	0	0.2000	4.8000	0.8760		0.2000	0.8760	N/A

Emissions based on SOCMI factors

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P5;S30: Building 128 PO Emissions
(128-15-S)
CNTRL DEV: None

MDR (T/hr): 0.0004
YEARLY PURCHASE (T/yr): 3.066

STACK ID (DIAM:HEIGHT): N/A
FLOWRATE (ACFM): N/A
Ts(°F): N/A

PERMITTED OPERATING HRS: 8760 hr/yr

(Fugitive Emissions)
SCC NO. 03-02-007-52

			POTENTIAL TO EMIT						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000
PM10	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000
PM2.5	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000
SOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
VOC	2000	0	0.7000	16.8000	3.0660		0.7000	3.0660	N/A
CO	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
HAP	2000	0	0.7000	16.8000	3.0660		0.7000	3.0660	N/A

Emissions based on SOCMI factors

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Unit ID 54-17-S
Building 54 PO Emissions
CNTRL DEV: None
Vent through general building ventilation

MDR (T/hr): 0.0001
YEARLY PURCHASE (T/yr): 1.007

STACK ID (DIAM:HEIGHT): N/A
FLOWRATE (ACFM): N/A
Ts(°F): N/A

PERMITTED OPERATING HRS: 8760 hr/yr

(Fugitive Emissions)
SCC NO. 03-02-007-52

			POTENTIAL TO EMIT						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000
PM10	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000
PM2.5	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000
SOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
VOC	2000	0	0.2300	5.5200	1.0074		0.2300	1.0074	N/A
CO	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A
HAP	2000	0	0.2300	5.5200	1.0074		0.2300	1.0074	N/A

Emissions based on SOCMI factors

****

Propylene Oxide Storage Tank
(93-18-S)

MDR (gallons): 927936
YEARLY PROD (gallons/yr): 927936

STACK ID (DIAM:HEIGHT): N/A
FLOWRATE (ACFM): N/A
Ts(°F): N/A

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 4-07-208-03

			POTENTIAL EMISSIONS						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/1000gal)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**		(lbs/hr)	(TPY)	(gr/dscf)
PM	0	0	0.000	0.000	**0.000**		0.000	0.000	0
PM10	0	0	0.000	0.000	**0.000**		0.000	0.000	0
PM2.5	0	0	0.000	0.000	**0.000**		0.000	0.000	0
SOx	0	0	0.000	0.000	**0.000**		0.000	0.000	N/A
NOx	0	0	0.000	0.000	**0.000**		0.000	0.000	N/A
VOC		0	1.027	24.658	**4.500**		1.027	4.500	N/A
CO	0	0	0.000	0.000	**0.000**		0.000	0.000	N/A
HAPs		0	1.027	24.658	**4.500**		1.027	4.500	N/A

HAP: Propylene oxide

Total: Stack Emissions - Starch Production Area

	POTENTIAL TO EMIT						
	BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	996.211	23,909.069	4363.41		13.741	60.18	0.179
PM10	996.868	23,924.837	4366.28		14.400	63.07	0.182
PM2.5	996.868	23,924.837	4366.28		14.400	63.07	0.182
SOx	0.069	1.666	0.30		0.069	0.30	N/A
NOx	11.569	277.647	50.67		11.569	50.67	N/A
VOC	2,980.078	71,519.991	13052.40		90.966	398.09	N/A
CO	78.708	1,692.823	344.74		70.528	309.25	N/A
HAPs	2,932.820	70,380.025	12845.75		66.917	293.10	N/A

Total: Fugitive Emissions - Starch Production Area

	POTENTIAL TO EMIT						
	BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.000	0.000	0.00		0.000	0.00	0.000
PM10	0.000	0.000	0.00		0.000	0.00	0.000
PM2.5	0.000	0.000	0.00		0.000	0.00	0.000
SOx	0.000	0.000	0.00		0.000	0.00	N/A
NOx	0.000	0.000	0.00		0.000	0.00	N/A
VOC	1.130	27.120	4.95		1.130	4.95	N/A
CO	0.000	0.000	0.00		0.000	0.00	N/A
HAPs	1.130	27.120	4.95		1.130	4.95	N/A

Total: Emissions - Starch Production Area

	POTENTIAL TO EMIT						
	BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	996.211	23,909.069	4363.41		13.741	60.18	0.179
PM10	996.868	23,924.837	4366.28		14.400	63.07	0.182
PM2.5	996.868	23,924.837	4366.28		14.400	63.07	0.182
SOx	0.069	1.666	0.30		0.069	0.30	N/A
NOx	11.569	277.647	50.67		11.569	50.67	N/A
VOC	2,981.208	71,547.111	13057.35		92.096	403.04	N/A
CO	78.708	1,692.823	344.74		70.528	309.25	N/A
HAPs	2,933.950	70,407.145	12850.70		68.047	298.05	N/A

Starch Warehouse Area

Channel 2 Filter Receiver
93-32-W
CNTRL DEV: Bag Filter Dust Collector

MDR (T/hr): 15
YEARLY PROD (T/yr): N/A

STACK ID (DIAM:HEIGHT): (1': 77.5')
FLOWRATE (ACFM): 2400
Ts(°F): 90

PERMITTED OPERATING HRS: 8760 hr/yr

SCC # 3-02-005-40

	AP-42 Factors		POTENTIAL EMISSIONS						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.0625	0.99	0.938	22.500	4.106		0.009	0.041	0.0005
PM10	0.01575	0.99	0.236	5.670	1.035		0.002	0.010	0.0001
PM2.5	0.00275	0.99	0.041	0.990	0.181		0.0004	0.002	0.00002
SOx	0	0	0	0	0		0	0	N/A
NOx	0	0	0	0	0		0	0	N/A
VOC	0	0	0.08	1.801	0.329		0.075	0.329	N/A
CO	0	0	0	0	0		0	0	N/A
HAPs	0	0	0	0	0		0	0	N/A

Emission factors obtained from the AP-42, Section 9.9.1 Grain Elevators and Processes (Storage Bin).
(PM) EF = 0.025 lb/ton * 2.5 = 0.06 lb/ton (PM10) EF = 0.0063 lb/ton * 2.5 = 0.01575 lb/ton (PM2.5) EF = 0.0011lb/ton*2.5 = 0.00275lb/ton
Emission Factor is multiplied by the Dustiness Ratio (DR), DR for corn = 2.5

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
93-32-W	5	2400	5	90	2304	2189	0.08	0.33

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

Channel 3 Filter Receiver
93-33-W
CNTRL DEV: Bag Filter Dust Collector

MDR (T/hr): 25
YEARLY PROD (T/yr): N/A

STACK ID (DIAM:HEIGHT): (1': 77.5')
FLOWRATE (ACFM): 2400
Ts(°F): 90

PERMITTED OPERATING HRS: 8760 hr/yr

SCC # 3-02-005-40

	AP-42 Factors		POTENTIAL EMISSIONS						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.0625	0.99	1.563	37.500	6.844		0.016	0.068	0.0008
PM10	0.01575	0.99	0.394	9.450	1.725		0.004	0.017	0.0002
PM2.5	0.00275	0.99	0.069	1.650	0.301		0.0007	0.003	0.00003
SOx	0	0	0	0	0		0	0	N/A
NOx	0	0	0	0	0		0	0	N/A
VOC	0	0	0.08	1.801	0.329		0.075	0.329	N/A
CO	0	0	0	0	0		0	0	N/A
HAPs	0	0	0	0	0		0	0	N/A

Emission factors obtained from the AP-42, Section 9.9.1 Grain Elevators and Processes (Storage Bin).
(PM) EF = 0.025 lb/ton * 2.5 = 0.06 lb/ton (PM10) EF = 0.0063 lb/ton * 2.5 = 0.01575 lb/ton (PM2.5) EF = 0.0011lb/ton*2.5 = 0.00275lb/ton
Emission Factor is multiplied by the Dustiness Ratio (DR), DR for corn = 2.5

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
93-33-W	5	2400	5	90	2304	2189	0.08	0.33

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

Channel 2/3 Packing
93-36-W
CNTRL DEV: Bag Filter Dust Collector

MDR (T/hr): 40
YEARLY PROD (T/yr): N/A

STACK ID (DIAM:HEIGHT): (2': 10')
FLOWRATE (ACFM): 12000
Ts(°F): 70

PERMITTED OPERATING HRS: 8760 hr/yr

SCC # 3-02-005-30

	AP-42 Factors		POTENTIAL EMISSIONS						
			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.1525	0.99	6.100	146.400	26.718		0.061	0.267	0.0006
PM10	0.085	0.99	3.400	81.600	14.892		0.034	0.149	0.0003
PM2.5	0.0145	0.99	0.580	13.920	2.540		0.006	0.025	0.0001
SOx	0	0	0	0	0		0	0	N/A
NOx	0	0	0	0	0		0	0	N/A
VOC	0	0	0.39	9.345	1.705		0.389	1.705	N/A
CO	0	0	0	0	0		0	0	N/A
HAPs	0	0	0	0	0		0	0	N/A

Emission factors obtained from the AP-42, Section 9.9.1 Grain Elevators and Processes (Headhouse & Grain Handling).
(PM) EF = 0.061 lb/ton * 2.5 = 0.1525 lb/ton (PM10) EF = 0.034 lb/ton * 2.5 = 0.085 lb/ton (PM2.5)EF= 0.0058 lb/ton * 2.5 = 0.0145 lb/ton
Emission Factor is multiplied by the Dustiness Ratio (DR), DR for corn = 2.5

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
93-36-W	5	12000	5	70	11955	11357	0.39	1.71

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

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Central Vacuum System
93-38-W
CNTRL DEV: Bag Filter Dust Collector

MDR (T/hr): 0.05
YEARLY PROD (T/yr): N/A

STACK ID (DIAM:HEIGHT):
FLOWRATE (ACFM):
Ts(°F):

PERMITTED OPERATING HRS: 8760 hr/yr

SCC # 3-02-005-30

			POTENTIAL EMISSIONS						
AP-42 Factors			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.1525	0.99	0.008	0.183	0.033		0.000	0.000	N/A
PM10	0.085	0.99	0.004	0.102	0.019		0.000	0.000	N/A
PM2.5	0.0145	0.99	0.001	0.017	0.003		0.000	0.000	N/A
SOx	0	0	0	0	0		0	0	N/A
NOx	0	0	0	0	0		0	0	N/A
VOC	0	0	0.02	0.39	0.07		0.02	0.07	N/A
CO	0	0	0	0	0		0	0	N/A
HAPs	0	0	0	0	0		0	0	N/A

Emission factors obtained from the AP-42, Section 9.9.1 Grain Elevators and Processes (Headhouse & Grain Handling).
(PM) EF = 0.061 lb/ton * 2.5 = 0.1525 lb/ton (PM10) EF = 0.034 lb/ton * 2.5 = 0.085 lb/ton (PM2.5)EF= 0.0058 lb/ton * 2.5 = 0.0145 lb/ton
Emission Factor is multiplied by the Dustiness Ratio (DR), DR for corn = 2.5

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
93-38-W	5	500	5	70	498	473	0.02	0.07

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

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Channel 4 Filter Receiver
93-34-W
CNTRL DEV: Bag Filter Dust Collector

MDR (T/hr): 15
YEARLY PROD (T/yr): N/A

STACK ID (DIAM:HEIGHT): (1': 77.5')
FLOWRATE (ACFM): 2400
Ts(°F): 90

PERMITTED OPERATING HRS: 8760 hr/yr

SCC # 3-02-005-40

			POTENTIAL EMISSIONS						
AP-42 Factors			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.0625	0.99	0.938	22.500	4.106		0.009	0.041	0.0005
PM10	0.01575	0.99	0.236	5.670	1.035		0.002	0.010	0.0001
PM2.5	0.00275	0.99	0.041	0.990	0.181		0.0004	0.002	0.00002
SOx	0	0	0	0	0		0	0	N/A
NOx	0	0	0	0	0		0	0	N/A
VOC	0	0	0.08	1.80	0.33		0.08	0.33	N/A
CO	0	0	0	0	0		0	0	N/A
HAPs	0	0	0	0	0		0	0	N/A

Emission factors obtained from the AP-42, Section 9.9.1 Grain Elevators and Processes (Storage Bin).
(PM) EF = 0.025 lb/ton * 2.5 = 0.06 lb/ton (PM10) EF = 0.0063 lb/ton * 2.5 = 0.01575 lb/ton (PM2.5) EF = 0.0011lb/ton*2.5 = 0.00275lb/ton
Emission Factor is multiplied by the Dustiness Ratio (DR), DR for corn = 2.5

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
93-34-W	5	2400	5	90	2304	2189	0.08	0.33

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

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Channel 6 Receiver
93-35-W
CNTRL DEV: Bag Filter Dust Collector

MDR (T/hr): 4.5
YEARLY PROD (T/yr): N/A

STACK ID (DIAM:HEIGHT): (1': 77.5')
FLOWRATE (ACFM): 2400
Ts(°F): 90

PERMITTED OPERATING HRS: 8760 hr/yr

SCC # 3-02-005-40

			POTENTIAL EMISSIONS						
AP-42 Factors			BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.0625	0.99	0.281	6.750	1.232		0.003	0.012	0.0001
PM10	0.01575	0.99	0.071	1.701	0.310		0.001	0.003	0.0000
PM2.5	0.00275	0.99	0.012	0.297	0.054		0.0001	0.001	0.00001
SOx	0	0	0	0	0		0	0	N/A
NOx	0	0	0	0	0		0	0	N/A
VOC	0	0	0.06	1.50	0.27		0.06	0.27	N/A
CO	0	0	0	0	0		0	0	N/A
HAPs	0	0	0	0	0		0	0	N/A

Emission factors obtained from the AP-42, Section 9.9.1 Grain Elevators and Processes (Storage Bin).
(PM) EF = 0.025 lb/ton * 2.5 = 0.06 lb/ton (PM10) EF = 0.0063 lb/ton * 2.5 = 0.01575 lb/ton (PM2.5) EF = 0.0011lb/ton*2.5 = 0.00275lb/ton
Emission Factor is multiplied by the Dustiness Ratio (DR), DR for corn = 2.5

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
93-35-W	5	2000	5	90	1920	1824	0.06	0.27

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

Channel 4/6 Packing
93-37-W
CNTRL DEV: Bag Filter Dust Collector

MDR (T/hr): 40
YEARLY PROD (T/yr): N/A

STACK ID (DIAM:HEIGHT): (2': 10')
FLOWRATE (ACFM): 12000
Ts(°F): 70

PERMITTED OPERATING HRS: 8760 hr/yr

SCC # 3-02-005-30			POTENTIAL EMISSIONS						
	AP-42 Factors		BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.1525	0.99	6.100	146.400	26.718		0.061	0.267	0.0006
PM10	0.085	0.99	3.400	81.600	14.892		0.034	0.149	0.0003
PM2.5	0.0145	0.99	0.580	13.920	2.540		0.006	0.025	0.0001
SOx	0	0	0	0	0		0	0	N/A
NOx	0	0	0	0	0		0	0	N/A
VOC	0	0	0.389	9.345	1.705		0.389	1.705	N/A
CO	0	0	0	0	0		0	0	N/A
HAPs	0	0	0	0	0		0	0	N/A

Emission factors obtained from the AP-42, Section 9.9.1 Grain Elevators and Processes (Headhouse & Grain Handling).
(PM) EF = 0.061 lb/ton * 2.5 = 0.1525 lb/ton (PM10) EF = 0.034 lb/ton * 2.5 = 0.085 lb/ton (PM2.5)EF= 0.0058 lb/ton * 2.5 = 0.0145 lb/ton
Emission Factor is multiplied by the Dustiness Ratio (DR), DR for corn = 2.5

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
93-37-W	5	12000	5	70	11955	11357	0.39	1.71

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

P6;S2: Dried Corn Syrup Conveying System
(93-04-W)
CNTRL DEV: Dust Collector (CE93-04-W)

MDR (T/hr): 15
YEARLY PROD (T/yr): 131400

STACK ID (DIAM:HEIGHT): 1';65'
FLOWRATE (ACFM): 800
Ts(°F): 70

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL EMISSIONS						
	SCC NO.		BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.46	0.99	6.857	164.571	30.034		0.069	0.300	0.010
PM10	0.46	0.99	6.857	164.571	30.034		0.069	0.300	0.010
PM2.5	0.46	0.99	6.857	164.571	30.034		0.069	0.300	0.010
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.026	0.623	0.114		0.026	0.114	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
93-04-W	5	800	5	70	797	757	0.03	0.11

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

P6;S3: Corn Syrup Solids Conveying System
(93-05-W)
CNTRL DEV: Dust Collector (CE93-05-W)

MDR (T/hr): 10
YEARLY PROD (T/yr): 87600

STACK ID (DIAM:HEIGHT): 1';45'
FLOWRATE (ACFM): 800
Ts(°F): 90

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL EMISSIONS						
	SCC NO.		BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.66	0.99	6.608	158.587	28.942		0.066	0.289	0.010
PM10	0.66	0.99	6.608	158.587	28.942		0.066	0.289	0.010
PM2.5	0.66	0.99	6.608	158.587	28.942		0.066	0.289	0.010
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.026	0.623	0.114		0.026	0.114	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
93-05-W	5	800	5	70	797	757	0.03	0.11

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

P6;S5: Frodex Semi-Bulk Packing System
(93-08-W)
CNTRL DEV: Dust Collector (CE93-08-W)

MDR (T/hr): 10
YEARLY PROD (T/yr): 87600

STACK ID (DIAM:HEIGHT): 1';25'
FLOWRATE (ACFM): 1000
Ts(°F): 90

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL EMISSIONS						
	SCC NO.		BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.83	0.99	8.260	198.234	36.178		0.083	0.362	0.010
PM10	0.83	0.99	8.260	198.234	36.178		0.083	0.362	0.010
PM2.5	0.83	0.99	8.260	198.234	36.178		0.083	0.362	0.010
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.031	0.750	0.137		0.031	0.137	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
93-08-W	5	1000	5	90	960	912	0.03	0.14

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

P6;S6: Cornstarch Bag Dumping Station #1 and #2
(93-09-W and 93-10-W)
CNTRL DEV: Dust Collector (CE93-09-W & CE93-10-W)

MDR (T/hr): 2.4
YEARLY PROD (T/yr): 21024

STACK ID (DIAM:HEIGHT): 1';10'
FLOWRATE (ACFM): 1200
Ts(°F): 90

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL EMISSIONS						
	SCC NO.		BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	4.13	0.99	9.912	237.881	43.413		0.099	0.434	0.010
PM10	4.13	0.99	9.912	237.881	43.413		0.099	0.434	0.010
PM2.5	4.13	0.99	9.912	237.881	43.413		0.099	0.434	0.010
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.039	0.934	0.171		0.039	0.171	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.0000	0.0000	0.0000		0.0000	0.0000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
93-09-W	5	600	5	70	598	568	0.02	0.09
93-10-W	5	600	5	70	598	568	0.02	0.09

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

P6;S7: Starch Bulk Loading
(93-14-W)
CNTRL DEV: Dust Collector (CE93-14-W)

MDR (T/hr): 30
YEARLY PROD (T/yr): 262800

STACK ID (DIAM:HEIGHT): 1';68'
FLOWRATE (ACFM): 3300
Ts(°F): 90

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL EMISSIONS						
	SCC NO. 4-02-013-01		BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.91	0.99	27.257	654.171	119.386		0.273	1.194	0.010
PM10	0.91	0.99	27.257	654.171	119.386		0.273	1.194	0.010
PM2.5	0.91	0.99	27.257	654.171	119.386		0.273	1.194	0.010
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.095	2.270	0.414		0.095	0.414	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.000	0.000	0.000		0.000	0.000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
93-14-W	5	3300	5	140	2904	2759	0.09	0.41

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

P6;S8: Starch Bulk Loading Vacuum Cleanup System
(93-15-W)
CNTRL DEV: Dust Collector (CE93-15-W)

MDR (T/hr): 1
YEARLY PROD (T/yr): 8760

STACK ID (DIAM:HEIGHT): 1';15'
FLOWRATE (ACFM): 250
Ts(°F): 90

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 4-02-013-01			POTENTIAL EMISSIONS BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	2.06	0.99	2.065	49.558	9.044		0.021	0.090	0.010
PM10	2.06	0.99	2.065	49.558	9.044		0.021	0.090	0.010
PM2.5	2.06	0.99	2.065	49.558	9.044		0.021	0.090	0.010
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.008	0.195	0.036		0.008	0.036	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.000	0.000	0.000		0.000	0.000	N/A

EF: back calculated using manufacturer's specifications of 0.01 gr/dscf grain loading
Actual Emissions based on 0.01 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
93-15-W	5	250	5	70	249	237	0.01	0.04

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

P6;S9: Starch Mixing and Bagging System #1
(93-16-W)
CNTRL DEV: Dust Collector (CE93-16-W)

MDR (T/hr): 25
YEARLY PROD (T/yr): 219000

STACK ID (DIAM:HEIGHT): 1';19'
FLOWRATE (ACFM): 1570
Ts(°F): 90

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO.			POTENTIAL EMISSIONS BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	1.04	0.99	25.936	622.454	113.598		0.259	1.136	0.020
PM10	1.04	0.99	25.936	622.454	113.598		0.259	1.136	0.020
PM2.5	1.04	0.99	25.936	622.454	113.598		0.259	1.136	0.020
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.047	1.126	0.205		0.047	0.205	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.000	0.000	0.000		0.000	0.000	N/A

EF: back calculated using manufacturer's specifications of 0.02 gr/dscf grain loading
Actual Emissions based on 0.02 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
93-16-W	5	1500	5	90	1440	1368	0.05	0.21

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

P6;S10: Starch Mixing and Bagging System #2
(93-17-W)
CNTRL DEV: Dust Collector (CE93-17-W)

MDR (T/hr): 12.5
YEARLY PROD (T/yr): 109500

STACK ID (DIAM:HEIGHT): 1';33'
FLOWRATE (ACFM): 3200
Ts(°F): 90

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO.			POTENTIAL EMISSIONS BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	4.23	0.99	52.862	1,268.696	231.537		0.529	2.315	0.020
PM10	4.23	0.99	52.862	1,268.696	231.537		0.529	2.315	0.020
PM2.5	4.23	0.99	52.862	1,268.696	231.537		0.529	2.315	0.020
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.100	2.401	0.438		0.100	0.438	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.000	0.000	0.000		0.000	0.000	N/A

EF: back calculated using manufacturer's specifications of 0.02 gr/dscf grain loading
Actual Emissions based on 0.02 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
93-17-W	5	3200	5	90	3072	2918	0.10	0.44

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

P. G. Starch Receiver | MDR (T/hr): 3 | STACK ID (DIAM:HEIGHT):
93-18-W | YEARLY PROD (T/yr): N/A | FLOWRATE (ACFM):
CNTRL DEV: Dust Collector (CE93-18-W) | Ts(°F):

PERMITTED OPERATING HRS: 8760 hr/yr

SCC # 3-02-005-30			POTENTIAL EMISSIONS						
	AP-42 Factors		BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.1525	0.99	0.458	10.980	2.004		0.005	0.020	N/A
PM10	0.085	0.99	0.255	6.120	1.117		0.003	0.011	N/A
PM2.5	0.0145	0.99	0.044	1.044	0.191		0.000	0.002	N/A
SOx	0	0	0	0	0		0	0	N/A
NOx	0	0	0	0	0		0	0	N/A
VOC	0	0	0.13	3.115	0.568		0.130	0.568	N/A
CO	0	0	0	0	0		0	0	N/A
HAPs	0	0	0	0	0		0	0	N/A

Emission factors obtained from the AP-42, Section 9.9.1 Grain Elevators and Processes (Headhouse & Grain Handling).
(PM) EF = 0.061 lb/ton * 2.5 = 0.1525 lb/ton (PM10) EF = 0.034 lb/ton * 2.5 = 0.085 lb/ton (PM2.5)EF= 0.0058 lb/ton * 2.5 = 0.0145 lb/ton
Emission Factor is multiplied by the Dustiness Ratio (DR), DR for corn = 2.5

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
93-18-W	5	4000	5	70	3985	3786	0.13	0.57

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

P. G. Starch Packing | MDR (T/hr): 3 | STACK ID (DIAM:HEIGHT):
93-39-W | YEARLY PROD (T/yr): N/A | FLOWRATE (ACFM):
CNTRL DEV: Dust Collector (CE93-39-W) | Ts(°F):

PERMITTED OPERATING HRS: 8760 hr/yr

SCC # 3-02-005-30			POTENTIAL EMISSIONS						
	AP-42 Factors		BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	0.1525	0.99	0.458	10.980	2.004		0.005	0.020	N/A
PM10	0.085	0.99	0.255	6.120	1.117		0.003	0.011	N/A
PM2.5	0.0145	0.99	0.044	1.044	0.191		0.000	0.002	N/A
SOx	0	0	0	0	0		0	0	N/A
NOx	0	0	0	0	0		0	0	N/A
VOC	0	0	0.05	1.16811548	0.213181075		0.048671478	0.213181075	N/A
CO	0	0	0	0	0		0	0	N/A
HAPs	0	0	0	0	0		0	0	N/A

Emission factors obtained from the AP-42, Section 9.9.1 Grain Elevators and Processes (Headhouse & Grain Handling).
(PM) EF = 0.061 lb/ton * 2.5 = 0.1525 lb/ton (PM10) EF = 0.034 lb/ton * 2.5 = 0.085 lb/ton (PM2.5)EF= 0.0058 lb/ton * 2.5 = 0.0145 lb/ton
Emission Factor is multiplied by the Dustiness Ratio (DR), DR for corn = 2.5

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
93-39-W	5	1500	5	70	1494	1420	0.05	0.21

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

Corn Syrup Solids Manufacturing System #5 | MDR (T/hr): 3 | STACK ID (DIAM:HEIGHT): TBD
(93-40-W) | YEARLY PROD (T/yr): 26280 | FLOWRATE (ACFM): 2000
CNTRL DEV: Dust Collector (CE93-40-W) | Ts(°F): 105

PERMITTED OPERATING HRS: 8760 hr/yr

			POTENTIAL EMISSIONS						
	SCC NO.		BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	1.34	0.98	4.020	96.485	17.609		0.080	0.352	0.005
PM10	1.34	0.98	4.020	96.485	17.609		0.080	0.352	0.005
PM2.5	1.34	0.98	4.020	96.485	17.609		0.080	0.352	0.005
SOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
NOx	0	0	0.000	0.000	0.000		0.000	0.000	N/A
VOC	0	0	0.244	5.844	1.067		0.244	1.067	N/A
CO	0	0	0.000	0.000	0.000		0.000	0.000	N/A
HAPs	0	0	0.000	0.000	0.000		0.000	0.000	N/A

EF: back calculated using manufacturer's specifications of 0.005 gr/dscf grain loading
Actual Emissions based on 0.005 gr/dscf, and 8760 hrs/yr (company submittal)
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

VOC Emissions Assumptions: PPM as propane; Standard temp = 68F;

Source ID	PPM	ACFM	Moisture %	Temperature F	SCFM	DSCFM	Potential to Emit lb/hr	Potential to Emit ton/yr
93-40-W	20	2000	5	105	1869	1776	0.24	1.07

Methodology
SCFM = ACFM * (528 / (460 - Temperature F))
DSCFM = ACFM * (1 - Moisture %)
VOC Emissions (lb/hr) = 60 (min/hr) * DSCFM * (PPM * MW / (385.1 * 10^6))
VOC Emissions (ton/yr) = VOC Emissions (lb/hr) * 8, 760 (hr/yr) / 2,000 (lb/hr)

Molecular Weight of Propane = 44

Total: Starch Warehouse Area

	POTENTIAL EMISSIONS						
	BEFORE CONTROLS				AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)
PM	160.618	3,854.831	703.507		1.646	7.211	0.108
PM10	152.028	3,648.671	665.882		1.560	6.835	0.106
PM2.5	145.188	3,484.511	635.923		1.492	6.535	0.105
SOx	0.000	0.000	0.00		0.000	0.00	N/A
NOx	0.000	0.000	0.00		0.000	0.00	N/A
VOC	1.876	45.033	8.219		1.876	8.219	N/A
CO	0.000	0.000	0.00		0.000	0.00	N/A
HAPs	0.000	0.000	0.00		0.000	0.00	N/A

Channel 3 Refinery Area

Diatomaceous Earth Unloading Silo (104-08-R) MDR (T/hr): 1.75 STACK ID (DIAM:HEIGHT): (0.5': 85')
104B RR track YEARLY PROD (T/yr): 15330 FLOWRATE (ACFM): 750
CNTRL DEV: Smoot Bin Vent Filter Ts(°F): 68
DC2312 PERMITTED OPERATING HRS: **8760** hr/yr

	3-05-011-04		POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.0035	0.99	0.006	0.049	**0.027**	6.13E-05	2.68E-04	0.000
PM10	0.0017	0.99	0.003	0.024	**0.013**	2.98E-05	1.30E-04	0.000
PM2.5	0.0017	0.99	0.003	0.024	**0.013**	2.98E-05	1.30E-04	0.000
SOx	0	0	0.000	0.000	**0.000**	0.000	0.000	N/A
NOx	0	0	0.000	0.000	**0.000**	0.000	0.000	N/A
VOC	0	0	0.000	0.000	**0.000**	0.000	0.000	N/A
CO	0	0	0.000	0.000	**0.000**	0.000	0.000	N/A
HAPs	0	0	0.000	0.000	**0.000**	0.000	0.000	N/A

E.F. based on AP-42 Chapter 11.12
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

Citric Acid Dump Station - DC (104-09-R) MDR (T/hr): 0.015 STACK ID (DIAM:HEIGHT): (0.5': 40')
CNTRL DEV: dust collector - (CE104-09-R) YEARLY PROD (T/yr): 131.4 FLOWRATE (ACFM): 300
Ts(°F): 68
PERMITTED OPERATING HRS: **8760** hr/yr

	3-05-011-01		POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.2	0.99	0.003	0.072	**0.013**	3.00E-05	0.0001	0.0000
PM10	0.058	0.99	0.001	0.021	**0.004**	8.70E-06	3.81E-05	0.0000
PM2.5	0.058	0.99	0.001	0.021	**0.004**	8.70E-06	3.81E-05	0.0000
SOx	0	0	0.000	0.000	**0.000**	0.000	0.000	N/A
NOx	0	0	0.000	0.000	**0.000**	0.000	0.000	N/A
VOC	0	0	0.000	0.000	**0.000**	0.000	0.000	N/A
CO	0	0	0.000	0.000	**0.000**	0.000	0.000	N/A
HAPs	0	0	0.000	0.000	**0.000**	0.000	0.000	N/A

Emission Factor (EF) from FIRE Version 5.0 - general material handling.
No emission factors available for PM2.5, therefore IDEM assumes PM2.5 is equivalent to PM10.

Totals - Channel 3 Refinery

	POTENTIAL EMISSIONS					
	BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.009	0.121	**0.04**	9.13E-05	**4.00E-04**	0.000
PM10	0.004	0.045	**0.02**	3.85E-05	**1.68E-04**	0.000
PM2.5	0.004	0.045	**0.02**	3.85E-05	**1.68E-04**	0.000
SOx	0.000	0.000	**0.0**	0.000	**0.0**	N/A
NOx	0.000	0.000	**0.0**	0.000	**0.0**	N/A
VOC	0.000	0.000	**0.0**	0.000	**0.0**	N/A
CO	0.000	0.000	**0.0**	0.000	**0.0**	N/A
HAPs	0.000	0.000	**0.0**	0.000	**0.0**	N/A

Appendix A: Emissions Calculations
Summary

Company Name: Cargill, Inc.
Address City IN Zip: 1100 Indianapolis Blvd., Hammond, IN 46320
Significant Source Modification No.: 089-25241-00203
Significant Permit Modification No.: 089-25259-00203
Reviewer: Kristen Layton
Date: February 20, 2008

PROJECT EMISSION SUMMARIES, NETTING ANALYSIS, AND DE MINIMIS ANALYSIS

	Emissions (ton/yr)					
Process/Emission Unit	**PM**	**PM_{10}**	**SO_2**	**VOC**	**CO**	**NO_x**
PTE (New Units)						
No. 2 Gluten Dryer	10.51	10.51	7.03	7.01	16.08	7.45
Germ Dryer/Cooler (new)	12.31	12.31	17.25	9.16	5.40	13.14
No. 1 Bran Bunker	0.03	0.03	-	-	-	-
No. 2 Bran Bunker	0.03	0.03	-	-	-	-
Bran Conveyor System	1.40	1.40	-	-	-	-
Bran Preweigh Hopper	0.03	0.03	-	-	-	-
PTE	**24.30**	**24.30**	**24.28**	**16.17**	**21.48**	**20.59**
Actual to Projected Actual (Grind Area Units Increased Utilization)						
Baseline	21.89	21.89	7.09	31.21	80.58	28.10
Projected Actuals	43.03	43.03	10.29	37.67	81.13	41.61
Emissions Increase (ATPA)	**21.14**	**21.14**	**3.20**	**6.45**	**0.55**	**13.51**
Actual to Projected Actual (BCD Area Modified Units)						
Baseline	1.13	1.13	-	-	-	-
Projected Actuals	1.70	1.70	-	-	-	-
Emissions Increase (ATPA)	**0.57**	**0.57**	**-**	**-**	**-**	**-**
Hybrid Test						
Total PTE New Units	24.30	24.30	24.28	16.17	21.48	20.59
Total Emissions Increase from ATPA	21.71	21.71	3.20	6.45	0.55	13.51
Hybrid Test Emissions Increase	**46.01**	**46.01**	**27.48**	**22.63**	**22.03**	**34.10**
PSD Significant Threshold	**25**	**15**	**40**	**40**	**100**	**40**

Cargill, Inc. - Hammond

PROJECT EMISSION SUMMARIES, NETTING ANALYSIS, AND DE MINIMIS ANALYSIS

Netting Emissions (ton/yr)		
Process / Emission Unit	**PM**	**PM_{10}**
PTE of New Units		
No. 2 Gluten Dryer	10.51	10.51
Germ Dryer/Cooler (new)	12.31	12.31
No. 1 Bran Bunker	0.03	0.03
No. 2 Bran Bunker	0.03	0.03
Bran Conveyor System	1.40	1.40
Bran Preweigh Hopper	0.03	0.03
PTE	24.30	24.30
Actual to Future Allowables (Existing Units)		
Baseline Grind Area	21.89	21.89
Baseline BCD Area	1.13	1.13
Total Baseline	**23.02**	**23.02**
Future Allowables Grind Area	43.03	43.03
Future Allowables BCD Area	1.70	1.70
Total Future Allowables	**44.73**	**44.73**
Actual to Future Allowables	**21.71**	**21.71**
Contemporaneous Netting		
PTE + Actual to Future Allowables	46.01	46.01
Grind Modernization (Units shutdown prior to issuance)	-34.46	-34.46
Gluten Dryer Modification (Appl 12/2003, Approval 11/2004)	2.22	2.22
Germ & Gluten Storage Tanks Control Unit Mods (Appl 6/2004, Approval 8/2005)	0.21	0.21
Boiler Modifications, includes Temp Boiler (Appl 11/2005, Approvals 9/2006 & 11/2006)	4.7	7.2
BCD Dryer, BCD Reactor, HPCD Reactor Shutdowns (Appl 4/2007, Approval 5/2007)	-0.58	-0.58
Emissions Increase of the Project - Upon Issuance	18.10	20.60
Existing Germ Dryer/Cooler (Shutdown required by permit within 180 days after issuance)	-5.65	-5.65
Emissions Increase for the Project	12.45	14.95
PSD Significant Threshold	25	15

Cargill, Inc. - Hammond

PROJECT EMISSION SUMMARIES, NETTING ANALYSIS, AND DE MINIMIS ANALYSIS

De Minimis Analysis (ton/yr)	
Process/Emission Unit	**VOC**
Emissions Increase Upon issuance (Grind and BCD Area Modification)	35.76
Grind Modernization (Units shutdown prior to issuance)	-11.87
Gluten Dryer Modification (Appl 12/2003, Approval 11/2004)	0.14
Germ & Gluten Storage Tanks Control Unit Mods (Appl 6/2004, Approval 8/2005)	-
Boiler Modifications, includes Temp Boiler (Appl 11/2005, Approvals 9/2006 & 11/2006)	3.40
BCD Dryer, BCD Reactor, HPCD Reactor Shutdowns (Appl 4/2007, Approval 5/2007)	-0.95
Emissions Increase of the Project - Upon Issuance	26.48
Existing Germ Dryer/Cooler (Shutdown required by permit within 180 days after issuance)	-1.54
Emissions Increase for the Project	24.94
PSD Significant Threshold	25

Only net emission increases count towards De Minimis.
NSR is not triggered.
PSD/Offsets are not triggered.
NOTE: No onsite contractors at this facility.
NOTE: PM emissions include condensibles based on SIP.
NOTE: SO2 increase excludes reductions (netting) for shutdown of Consent Decree units beyond the mandates reductions.

CARGIL, INC. - HAMMOND
BCD Area - PM/PM-10/PM-2.5 Emission Factors and Operating Data

PM Source Units	ID No.	Manufacture Specifications (lb/hr)	Baseline Emission Factor (lb/hr)	Future Emission Factor (lb/hr)	Comments
No. 1 BCD Storage Hopper (convert to Unit 127-28-B)	127-23-B	0.18	0.1800	-	Process shutdown and converted to Alt Carbohydrate process (now Unit 127-28-B)
No. 2 BCD Storage Hopper (convert to Unit 127-29-B)	127-24-B	0.18	0.1800	-	Process shutdown and converted to Alt Carbohydrate process (now Unit 127-29-B)
BCD Mill Feed Hopper (convert to Unit 127-30-B)	127-25-B	0.028	0.0280	-	Process shutdown and converted to Alt Carbohydrate process (now Unit 127-30-B)
No. 1 Alt. Carbohydrate Storage Bin (formerly 127-23-B)	127-28-B	0.18	-	0.1800	Using same emission factor as Unit #127-23-B, because the same emission unit and baghouse are used.
No. 2 Alt. Carbohydrate Storage Bin (formerly 127-24-B)	127-29-B	0.18	-	0.1800	Using same emission factor as Unit #127-24-B, because the same emission unit and baghouse are used.
Alt. Carbohydrate Mill Feed Hopper (formerly 127-25-B)	127-30-B	0.028	-	0.0280	Using same emission factor as Unit #127-25-B, because the same emission unit and baghouse are used.

BCD Operating Data

Unit	ID No.	Baseline Operating Hours	Future Operating Hours	Comments
No. 1 BCD Storage Hopper (convert to Unit 127-28-B)	127-23-B	5,840	-	Data from operations, normal historic operating hours.
No. 2 BCD Storage Hopper (convert to Unit 127-29-B)	127-24-B	5,840	-	Data from operations, normal historic operating hours.
BCD Mill Feed Hopper (convert to Unit 127-30-B)	127-25-B	5,840	-	Data from operations, normal historic operating hours.
No. 1 Alt. Carbohydrate Storage Bin (formerly 127-23-B)	127-28-B	-	8,760	Operation baghouse at 8760 max operating hours.
No. 2 Alt. Carbohydrate Storage Bin (formerly 127-24-B)	127-29-B	-	8,760	Operation baghouse at 8760 max operating hours.
Alt. Carbohydrate Mill Feed Hopper (formerly 127-25-B)	127-30-B	-	8,760	Operation baghouse at 8760 max operating hours.

CARGIL, INC. - HAMMOND
BCD Area - PM/PM-10/PM-2.5 Emission Calculations

		Baseline Actual Emissions						Future Potential Emissions						
PM Source Units	ID No.	BH Hours of Operation	Controlled Emission Factor (lb/hr)	Uncontrolled Emission Factor (lb/hr)	Cap Eff	Ctrl Eff	Baseline Emissions (tpy)	BH Hours of Operation	Controlled Emission Factor (lb/hr)	Uncontrolled Emission Factor (lb/hr)	Cap Eff	Ctrl Eff	Future Controlled Emissions (tpy)	Net Emissions Increase per Unit (tpy)
No. 1 BCD Storage Hopper (convert to Unit 127-28-B)	127-23-B	5,840	0.180	900	100%	99.98%	0.53	PROCESS CONVERTED TO ALT CARBOHYDRATE PROCESS					-	(0.53)
No. 2 BCD Storage Hopper (convert to Unit 127-29-B)	127-24-B	5,840	0.180	900	100%	99.98%	0.53	PROCESS CONVERTED TO ALT CARBOHYDRATE PROCESS					-	(0.53)
BCD Mill Feed Hopper (convert to Unit 127-30-B)	127-25-B	5,840	0.028	140	100%	99.98%	0.08	PROCESS CONVERTED TO ALT CARBOHYDRATE PROCESS					-	(0.08)
No. 1 Alt. Carbohydrate Storage Bin (formerly 127-23-B)	127-28-B	FORMERLY NO. 1 BCD STORAGE HOPPER 127-23-B						8,760	0.180	900	100%	99.98%	0.79	0.79
No. 2 Alt. Carbohydrate Storage Bin (formerly 127-24-B)	127-29-B	FORMERLY NO. 2 BCD STORAGE HOPPER 127-24-B						8,760	0.180	900	100%	99.98%	0.79	0.79
Alt. Carbohydrate Mill Feed Hopper (formerly 127-25-B)	127-30-B	FORMERLY BCD MILL FEED HOPPER 127-25-B						8,760	0.028	140	100%	99.98%	0.12	0.12
						Total Baseline Emissions:	**1.13**					**Total Controlled Future Emissions:**	**1.70**	
												Total Emissions Inceases:		**0.57**

All units controlled by a baghouse.

Emissions Increase/Decrease: 0.57 TPY

CARGIL, INC. - HAMMOND
BCD AREA FACILITY DATA

Unit	ID No.	Control Equip	Capture Efficiency	Control Efficiency
No. 1 BCD Storage Hopper (convert to Unit 127-28-B)	127-23-B	Baghouse	100.0%	99.98%
No. 2 BCD Storage Hopper (convert to Unit 127-29-B)	127-24-B	Baghouse	100.0%	99.98%
BCD Mill Feed Hopper (convert to Unit 127-30-B)	127-25-B	Baghouse	100.0%	99.98%
No. 1 Alt. Carbohydrate Storage Bin (formerly 127-23-B)	127-28-B	Baghouse	100.0%	99.98%
No. 2 Alt. Carbohydrate Storage Bin (formerly 127-24-B)	127-29-B	Baghouse	100.0%	99.98%
Alt. Carbohydrate Mill Feed Hopper (formerly 127-25-B)	127-30-B	Baghouse	100.0%	99.98%

CARGILL, INC. - HAMMOND
Grind - PM/PM-10/PM-2.5 Emission Factors

		Baseline Emission Factor Calcs					Future Emission Factor Calcs				Emission Factors	
PM Source Units	**ID No.**	**Baseline Rated Grain Loading (gr/scf)**	**Baseline Rated Flow Rate (acfm)**	**Baseline Rated Temp (F)**	**lb/hr Emission Factor**	***Adjusted Emission Factor (lbs/hr)**	**Future Rated Grain Loading (gr/scf)**	**Future Rated Flow Rate (acfm)**	**Future Rated Temp (F)**	**lb/hr Emission Factor**	**Baseline Emission Factor (lb/hr)**	****Future Emission Factor (lb/hr)**
Corn Screening System	30-16-G	0.01	855	70	0.0733	0.0600	Using SIP Limit			0.06	0.0600	0.0600
Storage Bin No. 5 (Grind 1)	33-01-G	0.02	1,000	70	0.1714	0.1710	Using SIP Limit			0.171	0.1710	0.1710
Storage Bin No. 6 (Grind 2)	33-02-G	0.02	1,000	70	0.1714	0.1710	Using SIP Limit			0.171	0.1710	0.1710
Corn Cleaner	33-03-G	0.01	2,200	70	0.1886	-	Using SIP Limit			0.21	0.1886	0.2100
Fiber Dryer	89-01-G	0.01	81,705	176	5.8361	4.5000	Taking a Limit of:			3.427	4.5000	3.4274
Rotary Feed Dryer	89-03-G	0.03	35,000	1,000	3.2671	-	Shutdown				3.2671	0
Dry Feed Transfer (grind 1)	89-05-G	0.01	1,000	70	0.0857	-	Shutdown				0.0857	0
No. 1 Gluten Dryer (existing)	121-01-G	0.03	9,700	179	2.05	-	Taking a Limit of:			2.245	2.0500	2.2448
Germ Storage Silo	121-14-G	0.01	1,200	100	0.0973	-	Shutdown				0.0973	0
Waxy Feed Drum Dryer	124-01-G	0.03	41,520	135	5.40	-	Shutdown				5.4000	0
Waxy Feed Mill Equipment	124-22-G	0.01	600	70	0.0514	0.0510	Shutdown				0.0510	0
Wet Feed Transfer (grind 2)	124-23-G	0.01	1,000	70	0.0857	-	Shutdown				0.0857	0
Germ Dryer/Cooler (existing)	124A-01-G	0.02	13,600	200	2.02	1.87	Shutdown				1.8700	0
Storage Bin #3	140-03-G	0.02	1,000	70	0.1714	-	Using SIP Limit			0.343	0.1714	0.3430
Storage Bin #4	140-04-G	0.02	1,000	70	0.1714	-	Using SIP Limit			0.343	0.1714	0.3430
Storage Bin #1	140-01-G	0.02	1,000	70	0.1714	-	Using SIP Limit			0.343	0.1714	0.3430
Storage Bin #2	140-02-G	0.02	1,000	70	0.1714	-	Using SIP Limit			0.343	0.1714	0.3430
Corn Dump Pit	140-05-G	0.01	30,000	70	2.5714	1.2860	Using SIP Limit			1.286	1.2860	1.2860
Gravity Take-Up Conveyor	140-06-G	0.01	1,800	70	0.1543	0.1540	Using SIP Limit			0.154	0.1540	0.1540
Corn Elevator Conveying	140-07-G	0.01	1,000	70	0.0857	-	Using SIP Limit			0.086	0.0857	0.0860
Germ Tank 1310	200-01-G	0.01	80	70	0.0034	-	Using SIP Limit			0.05	0.0034	0.0500
Gluten Tank 1410	200-02-G	0.01	80	70	0.0034	-	Using SIP Limit			0.05	0.0034	0.0500
Germ Tank 1110	200-03-G	0.01	1,200	70	0.0514	0.0500	Using SIP Limit			0.05	0.0500	0.0500
Gluten Tank 1010	200-04-G	0.01	1,200	70	0.0514	0.0500	Using SIP Limit			0.05	0.0500	0.0500
Bulk Loadout	200-05-G	0.01	30,000	70	1.2857	1.2100	Using SIP Limit			1.21	1.2100	1.2100
Corn Screenings Silo	200-06-G	0.01	400	70	0.0171	-	Using SIP Limit			0.02	0.0171	0.0200
Central Vacuum Loadout	200-07-G	0.01	400	70	0.0171	-	Using SIP Limit			0.02	0.0171	0.0200
Hammermill No. 1	201-01-G	0.01	4,000	70	0.1714	0.1500	Shutdown				0.1500	0
Hammermill No. 2	201-02-G	0.01	4,000	70	0.1714	0.1500	Shutdown				0.1500	0
Pellet Cooler No. 1	201-03-G	0.02	1,700	70	0.2186	-	Shutdown				0.2186	0
Pellet Cooler No. 2	201-04-G	0.02	1,700	70	0.2186	-	Shutdown				0.2186	0
Loose Feed Bin Vent	201-05-G	0.01	80	70	0.0034	-	Shutdown				0.0034	0
Central Vacuum Pelletizing	201-06-G	0.01	400	70	0.0171	-	Shutdown				0.0171	0
Receiver 1st Stage Germ Dryer	21A-01-G	0.02	1,000	100	0.1217	0.1200	Shutdown				0.1200	0
1st Stage Germ Dryer	21A-02-G	0.01	5,730	150	0.68	0.67	Shutdown				0.6700	0
Receiver 2nd Stage Germ Dryer	51A-01-G	0.02	1,200	100	0.1947	0.1900	Shutdown				0.1900	0
2nd Stage Germ Dryer	51A-02-G	0.02	5,730	150	0.68	-	Shutdown				0.6800	0
No. 2 Gluten Dryer (New)	121A-01-G	New Unit					Current Test Data			2.05	-	2.4000
Germ Dryer (New)	203-01-G	New Unit					Current Test Data			2.02	-	2.8100
No. 1 Bran Bunker (New)	89-06-G	New Unit					0.01	80	110	0.0064	-	0.0064
No. 2 Bran Bunker (New)	89-07-G	New Unit					0.01	80	110	0.0064	-	0.0064
Bran Conveyor System	89-08-G	New Unit (see note below)					0.01	4,000	110	0.3188	-	0.3188
Bran Preweigh Hopper	89-09-G	New Unit					0.01	80	110	0.0064	-	0.0064

*Baseline emission factors were adjusted down to the SIP Limit if the calculated emisison factor was higher.

**Per request of the source, the future emission factors for the new No. 2 Gluten Dryer (121A-01-G) and Germ Dryer (203-01-G) have been conservatively adjusted.

NOTE: Baseline emission factors are based on grain loading unit where test data was not available. Baseline hours of operation were based on baseline period production ratio "actual:capacity".

NOTE: Unit 89-08-G, using grain loading and the additional flow from the high pressure fan system to compute emission rate. This unit feeds into Fiber Dryer 89-01-G scrubber using a high pressure fan for exhaust transfer.

Test Data for Future EF	ID	Date	Emissions (lb/hr)	NOTES:
No. 2 Gluten Dryer (New)	121A-01-G	05/17/07	2.05	Recent test data, front + back half PM, compliance test using Methods 5 and 202.
No. 1 Gluten Dryer (existing)	121-01-G	05/17/07	2.05	Add a 9.5% safety factor to test data for future limit.
Fiber Dryer	89-01-G	05/17/07	3.13	Add a 9.5% safety factor to test data for future limit.
Germ Dryer (New)	203-01-G	05/11/07	2.02	Recent test data, front + back half PM, compliance test using Methods 5 and 202.

Test Data for Baseline EF	ID	Date	Emissions (lb/hr)	NOTES:
No. 1 Gluten Dryer (existing)	121-01-G	05/17/07	2.05	Recent test data = Front + back half PM, compliance test using Methods 5 and 202.
Waxy Feed Drum Dryer	124-01-G	12/07/93	5.40	Baseline PM Test Data. Method 5. This test pre-dates the baseline period of 97/98 but is the only data available.
Germ Dryer/Cooler (existing)	124A-01-G	05/17/07	2.02	Recent test data = Front + back half PM, compliance test using Methods 5 and 202.
1st Stage Germ Dryer	21A-02-G	see note	0.68	Baseline PM test data, Method 5. Using data from 2nd stage germ dryer test, 1st stage germ not available. See note below.
2nd Stage Germ Dryer	51A-02-G	05/15/96	0.68	Baseline PM Test Data. Method 5. This test pre-dates the baseline period of 97/98 but only data available.

EF = Emission Factor

CARGILL, INC. - HAMMOND
Grind - PM/PM-10/PM-2.5 Emission Calculations

		Baseline Actual Emissions						Future Potential Emissions						
PM Source Units	ID No.	Baseline Hours of Operation	Controlled Emission Rate (lb/hr)	Uncontrolled Emission Rate (lb/hr)	Cap Eff	Ctl Eff	Baseline Emissions (tpy)	Future Hours of Operation	Controlled Emission Rate (lb/hr)	Uncontrolled Emission Rate (lb/hr)	Cap Eff	Ctl Eff	Controlled Future Emissions (tpy)	Net Emissions per Unit (tpy)
Corn Screening System	30-16-G	3,789	0.060	50.0	100%	99.88%	0.11	8,760	0.060	50.0	100%	99.88%	0.26	0.15
Storage Bin No. 5 (Grind 1)	33-01-G	3,789	0.171	142.5	100%	99.88%	0.32	8,760	0.171	142.5	100%	99.88%	0.75	0.43
Storage Bin No. 6 (Grind 2)	33-02-G	3,789	0.171	142.5	100%	99.88%	0.32	8,760	0.171	142.5	100%	99.88%	0.75	0.43
Corn Cleaner	33-03-G	4,380	0.189	157.1	100%	99.88%	0.41	8,760	0.210	157.1	100%	99.88%	0.83	0.41
Fiber Dryer	89-01-G	3,789	4.500	41.3	100%	89.10%	8.52	8,760	3.427	31.4	100%	89.10%	15.01	6.49
Rotary Feed Dryer	89-03-G	3,789	3.267	311.2	100%	98.95%	6.19	Shutdown					0.00	(6.19)
Dry Feed Transfer (grind 1)	89-05-G	3,789	0.086	71.4	100%	99.88%	0.16	Shutdown					0.00	(0.16)
No. 1 Gluten Dryer	121-01-G	3,789	2.050	306.0	100%	99.33%	3.88	8,760	2.245	335.0	100%	99.33%	9.83	5.95
Germ Storage Silo	121-14-G	3,789	0.097	486.7	100%	99.98%	0.18	Shutdown					0.00	(0.18)
Waxy Feed Drum Dryer	124-01-G	3,789	5.400	534.7	100%	98.99%	10.23	Shutdown					0.00	(10.23)
Waxy Feed Mill Equipment	124-22-G	3,789	0.051	42.5	100%	99.88%	0.10	Shutdown					0.00	(0.10)
Wet Feed Transfer (grind 2)	124-23-G	3,789	0.086	8.4	100%	98.98%	0.16	Shutdown					0.00	(0.16)
Germ Dryer/Cooler (old)	124A-01-G	3,789	1.870	36.3	100%	94.85%	3.54	Shutdown					0.00	(3.54)
Storage Bin #3	140-03-G	5,840	0.171	16.8	100%	98.98%	0.50	8,760	0.343	16.8	100%	98.98%	0.75	0.25
Storage Bin #4	140-04-G	5,840	0.171	857.1	100%	99.98%	0.50	8,760	0.343	857.1	100%	99.98%	0.75	0.25
Storage Bin #1	140-01-G	5,840	0.171	16.8	100%	98.98%	0.50	8,760	0.343	16.8	100%	98.98%	0.75	0.25
Storage Bin #2	140-02-G	5,840	0.171	857.1	100%	99.98%	0.50	8,760	0.343	857.1	100%	99.98%	0.75	0.25
Corn Dump Pit	140-05-G	5,840	1.286	1071.7	100%	99.88%	3.76	8,760	1.286	1071.7	100%	99.88%	5.63	1.88
Gravity Take-Up Conveyor	140-06-G	4,380	0.154	128.3	100%	99.88%	0.34	8,760	0.154	128.3	100%	99.88%	0.67	0.34
Corn Elevator Conveying	140-07-G	4,380	0.086	71.4	100%	99.88%	0.19	8,760	0.086	71.4	100%	99.88%	0.38	0.19
Germ Tank 1310	200-01-G	3,789	0.003	2.9	100%	99.88%	0.01	8,760	0.050	2.9	100%	99.88%	0.02	0.01
Gluten Tank 1410	200-02-G	3,789	0.003	2.9	100%	99.88%	0.01	8,760	0.050	2.9	100%	99.88%	0.02	0.01
Germ Tank 1110	200-03-G	3,789	0.050	41.7	100%	99.88%	0.09	8,760	0.050	41.7	100%	99.88%	0.22	0.12
Gluten Tank 1010	200-04-G	3,789	0.050	41.7	100%	99.88%	0.09	8,760	0.050	41.7	100%	99.88%	0.22	0.12
Bulk Loadout	200-05-G	2,920	1.210	1008.3	100%	99.88%	1.77	8,760	1.210	1008.3	100%	99.88%	5.30	3.53
Corn Screening Silo	200-06-G	3,789	0.017	14.3	100%	99.88%	0.03	8,760	0.020	14.3	100%	99.88%	0.08	0.04
Central Vacuum Loadout	200-07-G	2,920	0.017	14.3	100%	99.88%	0.03	8,760	0.020	14.3	100%	99.88%	0.08	0.05
Hammermill No. 1	201-01-G	3,789	0.150	125.0	100%	99.88%	0.28	Shutdown					0.00	(0.28)
Hammermill No. 2	201-02-G	3,789	0.150	125.0	100%	99.88%	0.28	Shutdown					0.00	(0.28)
Pellet Cooler No. 1	201-03-G	3,789	0.219	20.8	100%	98.95%	0.41	Shutdown					0.00	(0.41)
Pellet Cooler No. 2	201-04-G	3,789	0.219	20.8	100%	98.95%	0.41	Shutdown					0.00	(0.41)
Loose Feed Bin Vent	201-05-G	3,789	0.003	2.9	100%	99.88%	0.01	Shutdown					0.00	(0.01)
Central Vacuum Pelletizing	201-06-G	2,920	0.017	14.3	100%	99.88%	0.03	Shutdown					0.00	(0.03)
Receiver 1st Stage Germ Dryer	21A-01-G	3,789	0.120	2.3	100%	94.85%	0.23	Shutdown					0.00	(0.23)
1st Stage Germ Dryer	21A-02-G	3,789	0.670	13.0	100%	94.85%	1.27	Shutdown					0.00	(1.27)
Receiver 2nd Stage Germ Dryer	51A-01-G	3,789	0.190	3.7	100%	94.85%	0.36	Shutdown					0.00	(0.36)
2nd Stage Germ Dryer	51A-02-G	3,789	0.680	13.2	100%	94.85%	1.29	Shutdown					0.00	(1.29)
No. 2 Gluten Dryer (New)	121A-01-G	New Unit					0.00	8,760	2.400	358.2	100%	99.33%	10.51	10.51
Germ Dryer (New)	203-01-G	New Unit					0.00	8,760	2.810	54.6	100%	94.85%	12.31	12.31
No. 1 Bran Bunker (New)	89-06-G	New Unit					0.00	8,760	0.006	5.3	100%	99.88%	0.03	0.03
No. 2 Bran Bunker (New)	89-07-G	New Unit					0.00	8,760	0.006	5.3	100%	99.88%	0.03	0.03
Bran Conveyor System	89-08-G	New Unit					0.00	8,760	0.319	2.9	100%	89.10%	1.40	1.40
Bran Preweigh Hopper	89-09-G	New Unit					0.00	8,760	0.006	5.3	100%	99.88%	0.03	0.03
						Total Baseline Emissions:	**47.03**				**Total Controlled Future Emissions:**		**67.31**	

New bran conveyor exhausts into fiber dryer scrubber, using increase flow and grain loading for additional particulate calculation.

Total Emissions Increase: **45.44**

43.25% Use this to adjust baseline for hours on continuously operated BH units and throughputs on units with lb/ton emission factors.

BH units that do not have 6,172 operating hrs on the baseline had specific operating hours estimated by the plant engineers.

Increase/Decrease:	20.28	TPY
PSD/Offset Threshold:	25/15	TPY

CARGILL, INC. - HAMMOND
Grind - SO2 Emission Factors

SO2 Source Units	ID No.	Baseline Rated Max Capacity (tpy)	Future Rated Max Capacity (tpy)	Baseline Emission Factor Calculations: Baseline Stack Test Data (lb/hr)	Test Date	Thruput During Test (lb/hr)*	lb/ton Emission Factor based on test data	Future Emission Factor Calculations: Future Stack Test Data (lb/hr)	Test Date	Thruput During Test (lb/hr)*	lb/ton Emission Factor based on test data	Mandatory Controls from Consent Order	Baseline Emission Factor (lb/ton)	Future Emission Factor (lb/ton)	Comments*
Steep Tanks (Grind 1)	Bldg 24	1,226,400	1,226,400	NA	Oct 2004	NA	0.00000	NA	Oct 2004	NA	0.00000	No	0.00000	0.00000	See Steep EF calculation.
Steep Tanks (Grind 2)	Bldg 53	204,400	204,400	NA	Oct 2004	NA	0.00000	NA	Oct 2004	NA	0.00000	No	0.00000	0.00000	See Steep EF calculation.
Fiber Dryer	89-01-G	349,064	349,064	0.847	10/12/99	75,710	0.0224	Used same EF as baseline			0.0224	Yes	0.0224	0.0224	Per CD mandate, used same baseline and future emission factors.
Rotary Feed Dryer	89-03-G	389,820	0	0.565	10/13/99	84,550	0.0134	Shutdown				Yes	0.0134	0	Since unit is to be shutdown, baseline emission factor is reduced by 90% per CD.
No. 1 Gluten Dryer (existing)	121-01-G	86,286	86,286	1.14	02/25/00	18,715	0.1218	Used same EF as baseline			0.1218	Yes	0.1218	0.1218	Per CD mandate, used same baseline and future emission factors.
Waxy Feed Drum Dryer	124-01-G	242,214	0	0.565	10/13/99	52,535	0.0215	Shutdown				Yes	0.0215	0	Since unit is to be shutdown, baseline emission factor is reduced by 90% per CD.
Germ Dryer/Cooler (existing)	124A-01-G	72,620	0	0.191	10/20/99	15,751	0.0243	Shutdown				Yes	0.0243	0	Since unit is to be shutdown, baseline emission factor is reduced by 90% per CD.
1st Stage Germ Dryer	21A-02-G	65,700	0	0.747	05/15/96	14,250	0.1048	Shutdown				Yes	0.1048	0	Since unit is to be shutdown, baseline emission factor is reduced by 90% per CD.
2nd Stage Germ Dryer	51A-02-G	74,460	0	0.01	05/15/96	16,150	0.0012	Shutdown				Yes	0.0012	0	Since unit is to be shutdown, baseline emission factor is reduced by 90% per CD.
No. 2 Gluten Dryer (New)	121A-01-G	0	86,286	NEW UNIT				1.29	5/17/2007	15,830	0.1630	No	-	0.1630	Using recent test data for identical unit.
Germ Dryer (New)	203-01-G	0	169,068	NEW UNIT				1.47	5/11/2007	14,410	0.2040	No	-	0.2040	Using recent test data for identical unit.

Test Data for Future EF	Unit ID	Test Date	Emissions lb/hr	Prod Rate (lb/hr)	Comments:
No. 2 Gluten Dryer (New)	121A-01-G	05/17/07	1.29	15,830	Using for future potential EF calculation. EPA Test Method 6C used.
Germ Dryer (New)	203-01-G	05/11/07	1.47	14,410	Using for future potential EF calculation. EPA Test Method 6C used.

Test Data for Baseline EF	Unit ID	Test Date	Emissions lb/hr	Prod Rate (lb/hr)*	90% Reduced	NOTES:
1st Stage Germ Dryer	21A-02-G	05/15/96	7.47	14,250	0.747	Using for baseline EF calculation. EPA Test Method 6C used.
2nd Stage Germ Dryer	51A-02-G	05/15/96	0.1	16,150	0.01	Using for baseline EF calculation. EPA Test Method 6C used.
Fiber Dryer	89-01-G	10/12/99	8.47	75,710	0.847	Using for baseline EF calculation. EPA Test Method 6C used.
Rotary Feed Dryer	89-03-G	10/13/99	5.65	84,550	0.565	Using for baseline EF calculation. EPA Test Method 6C used.
No. 1 Gluten Dryer (existing)	121-01-G	02/25/00	11.4	18,715	1.14	Using for baseline EF calculation. EPA Test Method 6C used.
Waxy Feed Drum Dryer	124-01-G	10/13/99	5.65	52,535	0.565	Using for baseline EF calculation. EPA Test Method 6C used. Used same EF as Rotary Feed, no other test data available.
Germ Dryer/Cooler (existing)	124A-01-G	10/20/99	1.91	15,751	0.191	Using for baseline EF calculation. EPA Test Method 6C used.

CD = Consent Decree

95.0% *For test throughput data, using 95% of unit's capacity unless actual throughput data is available.

EF = Emission Factor

Baseline for consent decree emissions has not been established. 95% reduction used for demonstrative purposes only.

2004 Steep Tank Bag Sample and Analysis Testing
Grind Area Steeping Tanks
Using Equations from AP-42, 7.1, Sept 1997.

Eqn 1-1: Lt = Ls + Lw = Total Losses from Vertical Fixed Roof Tanks, lb
Ls = standing storage losses, lb
Lw = working losses, lb

Estimate Standing Losses
Eqn 1-2: Ls = 365*Vv*Wv*Ke*Ks = Standing Storage Loss, lb — Ls = 127.79 lbs vapor
Vv = vapor space volume, ft^3
Wv = vapor desity, lb/ft^3
Ke = vapor space expansion factor, dimensionless
Ks = vented vapor saturation factor, dimensionless
365 = constant, d

Calculate Vapor Space Volume:
Eqn 1-3: Vv = π/4*D^2*Hvo = Vapor Space Volume, ft^3 — Vv = 805.8 ft
D = tank diameter, ft — D = 18 ft
Hvo = vapor space outage, ft
Eqn 1-4: Hvo = (Hs - Hl) + Hro = Vapor Space Outage for Conical Tank, ft — Hvo = 3.17 ft
Hs - Hl = distance from top of liquid level to base of conical tank top, ft — Hs - Hl = 2.5 ft
Hro = roof outage, ft = 1/3 Hr — Hro = 0.67 ft
Hr = height of the conical roof, ft — Hr = 2.0 ft

Calculate Vapor Density:
Eqn 1-9: Wv = Mv*Pva / R*Tla = Vapor Density, lb/ft^3 — Wv = 0.0638 lb/ft^3
Mv = vapor molecular weight in the vapor space, lb/lb-mole
R = ideal gas constant, psia*ft^3/lb-mole*R — R = 10.731 psia-ft^3/lb-mole-°R
Pva = vapor pressure at daily avg liquid surface temp, psia
Tla = daily avg liquid surface temp, °R — Tla = 593 °R (range is 126-140F)
Vapor in headspace is at atm pressure, psia — Patm = 14.696 psia
Vapor consists of 3 components: — Pva = 14.696 psia (same as atmospheric)
Water vapor partial pressure from steam tables @ 140F — Pwater = 2.889 psia
SO2 vapor partial pressure (using heavy steep SO2 conc):
1200 ppm = 1200 mg SO2/liter sol'n = 1.2 g SO2/liter sol'n
1 liter of sol'n weights 1000 g
1000 g sol'n - 1.2 g SO2 = 998.8 g water
1.2 g SO2/998.8 g water = 0.120 g SO2/100 g water
From Perry's Chem Egnr Handbook, table 2-11, p.2-77, 7th ed.
use partial pressure of SO2 over a solution @ 140F
of 17.14 mmHg. — P_{SO2} = 17.1429 mmHg (Perry's Handbook)
17.14 / 760 * 14.636 = 0.3301 psia — P_{SO2} = 0.3301 psia
Pva = total pressure of liquid stored, psia = ΣPi
Pi = partial pressure of vapor component gas
yi = Pi / ΣPi = Pi / Pva
yi = vapor mole (volume) fraction of vapor component gas
Mi = molecular weight of vapor component gas
Mv = ΣMi*yi = molecular weight of vapor
mi = Mi*yi / ΣMi*yi = Mi*yi / Mv
mi = mass fraction of vapor component gas in the vapor

Vapor Component Gas	Partial Pressure of Vapor Component Gas, psia (Pi)	Vapor Mole Fraction (volume) of Vapor Component Gas, mol gas/mol vapor (yi)	Molecular Weight of Vapor Component Gas, lb/lb-mole (Mi)	Molecular Weight of Vapor, lb/lb-mole (ΣMi*yi=Mv)	Vapor Mass Fraction, lb gas/lb vapor (mi)
SO2	0.3301	0.0225	64	27.624	0.0520
Water	2.889	0.1966	18	27.624	0.1281
Air	11.477	0.7810	29	27.624	0.8199
Totals	14.696	1.0000	-----	-----	1.0000

Mv = 27.624 lb/lb-mole

Calculate Vapor Space Expansion Factor:
Eqn 1-16: Ke = ΔTv/Tla + (ΔPv-ΔPb)/(Pa-Pva) — Ke = 0.024
ΔTv = daily vapor temp range, °R — ΔTv = 14 °R (use same as surface temp)
ΔPv = daily vapor pressure range, psi — ΔPv = 0 negligible at 126-140F range
ΔPb = breather vent pressure setting range, psi — ΔPb = 0 vents are open
Pa = atmospheric pressure, psia — Pa = 14.696 psia
Pva = vapor pressure at daily avg liquid surface temp, psia — Pva = 14.696 psia
Tla = daily avg liquid surface temp, °R — Tla = 593 °R

Calculate Vented Vapor Saturation Factor:

Eqn 1-22: Ks = 1 / (1+ 0.053Pva*Hvo) = Vented Vapor Saturation Factor, dimensionless — Ks = 0.2885
Pva = vapor pressure at daily avg liquid surface temp, psia — Pva = 14.696 psia
Hvo = vapor space outage, ft — Hvo = 3.17 ft

Calculate SO2 Release from Standing Losses:
Mass fraction of SO2 in vapor = mi (see above) — mi_{SO2} = 0.0520 lb SO2/lb vapor (see table)
SO2 release = mi_{SO2} x Ls — Ls = 127.792 lbs vapor (see above)
SO2 release from standing losses = 6.6511 lbs SO2/year per tank
negligible

Baseline SO2 Release from Standing Losses:
Baseline SO2 release = 6.6511 lbs SO2/year per tank * 16.4 tanks/day
Baseline SO2 release = 108.93 lbs SO2/year
0.05 tons SO2/year

81886.3 bushels/day throughput rate
5000 bushels capacity/tank
16.4 tanks/day for steeping

Future SO2 Release from Standing Losses:
Future SO2 release = 6.6511 lbs SO2/year per tank * 8760 tanks/year
Baseline SO2 release = 159.63 lbs SO2/year
0.08 tons SO2/year

120000 bushels/day throughput rate
5000 bushels capacity/tank
24 tanks/day for steeping

Baseline Estimate Working Losses
Each steep tank holds 5000 bushels of corn.
With the daily throughput rate, calculate the number of tanks involved in steeping
No. of Tanks = daily throughput, bushels/day / 5000 bushels/tank

81886.3 bushels/day throughput rate
5000 bushels capacity/tank
13 cycles/tank
16.4 tanks/day for steeping

Assuming 365 days in operation for steeping process and 13 cycles per day per
Cycles per year = No. of tanks/day x 13 cycles/tank x 365 days

365 days steeping operation
77710.1 total cycles

Calculate Volume of Vapor Displaced from Each Tank During Each Cycle:
Estimate the height of the corn fill line in the tank using tank dimensions: — ρ_c = 0.8 bushels corn/ft^3
Vc = tank corn capacity / density of corn — Hc = 6250 ft^3 corn/tank
Volume of bottom of a cone: — D = 18 ft (measured)
Vbcn = 1/3*π/4*D^2*Hcn — Hcn = 8.5 ft (measured)
Remaining volume of corn: — Vbc = 721.0 ft^3
Vcr = volume of corn/tank - volume of the cone — Vcr = 5529.0 ft^3 corn remaining
Height in cylindrical section of the tank:
Vcr = π/4*D^2*Hcyl
Hcyl = Vcr*4/πD^2 — Hcyl = 21.73 ft (calculated)
Volume above the corn fill line in the cylindrical section: — Hacf = 4.3 ft (measured)
Vacf = π/4*D^2*Hacf — Vacf = 1094.22 ft^3
Volume of conical roof: — Hcrf = 2 ft (measured)
Vcrf = 1/3*π/4*D^2*Hcrf — Vcrf = 169.65 ft^3
Total volume above the corn fill line:
Vt = Vacf + Vcrf — Vt = 1263.86 ft^3 (volume per cycle)

Calculate the Total Volume of the Vapor Displaced Annually:
Vvap = No. of cycles * volume per cycle — Vvap = 98,214,899 ft^3

Calculate SO2 Released From Working Losses of Vented Vapor:
Measured vapor concentration after approximately 26 hours of steep time was — SO2 = 100 ppm
100 ft^3 of SO2/10^6 ft^3 of vapor

Calculate the Volume Occupied by One Mole at 140F: — T = 600 °R
V = nRT/p — R = 1545 psfa-ft^3/lb-mol-R
Calculate the Vapor Density: — V = 438.04 ft^3

$$\rho_v = \frac{100 \text{ ft}^3 \text{ SO2} \times 1 \text{ mole SO2} \times 64 \text{ lbs SO2}}{10^6 \text{ ft}^3 \text{ vapor} \times V \times 1 \text{ mole SO2}}$$

ρ_v = 1.5E-05 lbs SO2/ft^3 vapor

SO2 release = ρ_v x Vvap
SO2 Releases from Working Losses = 1,434.96 lbs SO2/year

Total Baseline SO2 Releases:	1,543.88	lbs SO2/year
	0.7719	tons SO2/year
	0.1762	lb/hr
	4.23	lb/day

Future Estimate Working Losses		120000	bushels/day throughput rate
Each steep tank holds 5000 bushels of corn.		5000	bushels capacity/tank
With the daily throughput rate, calculate the number of tanks involved in steeping and "empty/fill" steeping process.		13	cycles/tank
No. of Tanks = daily throughput, bushels/day / 5000 bushels/tank		24.0	tanks/day for steeping
Assuming 365 days in operation for steeping process and 13 cycles per day per tank, calculate the total number of cycles per year for steeping.		365	days steeping operation
Cycles per year = No. of tanks/day x 13 cycles/tank x 365 days		113880	total cycles
Calculate Volume of Vapor Displaced from Each Tank During Each Cycle:			
Estimate the height of the corn fill line in the tank using tank dimensions:	ρ_c =	0.8	bushels corn/ft^3
Vc = tank corn capacity / density of corn	Hc =	6250	ft^3 corn/tank
Volume of bottom of a cone:	D =	18	ft (measured)
Vbcn = 1/3*π/4*D^2*Hcn	Hcn =	8.5	ft (measured)
Remaining volume of corn:	Vbc =	721.0	ft^3
Vcr = volume of corn/tank - volume of the cone	Vcr =	5529.0	ft^3 corn remaining
Height in cylindrical section of the tank:			
Vcr = π/4*D^2*Hcyl			
Hcyl = Vcr*4/πD^2	Hcyl =	21.73	ft (calculated)
Volume above the corn fill line in the cylindrical section:	Hacf =	4.3	ft (measured)
Vacf = π/4*D^2*Hacf	Vacf =	1094.22	ft^3
Volume of conical roof:	Hcrf =	2	ft (measured)
Vcrf = 1/3*π/4*D^2*Hcrf	Vcrf =	169.65	ft^3
Total volume above the corn fill line:			
Vt = Vacf + Vcrf	Vt =	1263.86	ft^3 (volume per cycle)
Calculate the Total Volume of the Vapor Displaced Annually:			
Vvap = No. of cycles * volume per cycle	Vvap =	143,928,687	ft^3
Calculate SO2 Released From Working Losses of Vented Vapor:			
sampled in October 2004.	SO2 =	100	ppm
		100 ft^3 of SO2/10^6 ft^3 of vapor	
Calculate the Volume Occupied by One Mole at 140F:	T =	600	°R
V = nRT/p	R =	1545	psfa-ft^3/lb-mol-R
Calculate the Vapor Density:	V =	438.04	ft^3
$\rho_v = \frac{100\ ft^3\ SO_2 \times 1\ mole\ SO_2 \times 64\ lbs\ SO_2}{10^6\ ft^3\ vapor \times V \times 1\ mole\ SO_2}$	ρ_v =	1.5E-05	lbs SO2/ft^3 vapor

SO2 release = ρ_v x Vvap

SO2 Releases from Working Losses = 2,102.85 lbs SO2

Total Future SO2 Releases:	2,262.48	lbs SO2/year
	1.1312	tons SO2/year
	0.2583	lb/hr
	6.20	lb/day

CARGILL, INC. - HAMMOND - PERMIT MODIFICATION REQUEST
Grind - SO2 Emission Calculations

		Baseline Actual Emissions						Future Potential Emissions						
SO2 Source Units	**ID No.**	**Baseline Thruput (tons)**	**Controlled Emission Factor (lb/ton)**	**Uncontrolled Emission Factor (lb/ton)**	**Cap Eff**	**Ctrl Eff**	**Baseline Emissions (tpy)**	**Future Throughput (tons)**	**Controlled Emission Factor (lb/ton)**	**Uncontrolled Emission Factor (lb/ton)**	**Cap Eff**	**Ctrl Eff**	**Controlled Future Emissions (tpy)**	**Net Emissions per Unit (tpy)**
Steep Tanks (Grind 1 & 2)	Bldg 24 & 53	530,401.8	N/A	N/A	0%	0.0%	0.77	1,226,400.0	N/A	N/A	0%	0.0%	1.13	0.36
Fiber Dryer	89-01-G	240,782.5	0.022	0.112	100%	80.0%	2.69	349,064.1	0.02237	0.112	100%	80.0%	3.91	1.21
Rotary Feed Dryer	89-03-G	268,895.7	0.013	0.013	100%	0.0%	1.80	SHUTDOWN					-	(1.80)
No. 1 Gluten Dryer (existing)	121-01-G	59,519.6	0.122	0.609	100%	80.0%	3.63	86,286.0	0.12183	0.609	100%	80.0%	5.26	1.63
Waxy Feed Drum Dryer	124-01-G	167,077.9	0.022	0.022	100%	0.0%	1.80	SHUTDOWN					-	(1.80)
Germ Dryer/Cooler (existing)	124A-01-G	50,093.2	0.024	0.024	100%	0.0%	0.61	SHUTDOWN					-	(0.61)
1st Stage Germ Dryer	21A-02-G	45,319.5	0.105	0.105	100%	0.0%	2.38	SHUTDOWN					-	(2.38)
2nd Stage Germ Dryer	51A-02-G	51,362.1	0.00124	0.00124	100%	0.0%	0.03	SHUTDOWN					-	(0.03)
No. 2 Gluten Dryer (New)	121A-01-G	New Unit						86,286.0	0.163	0.815	100%	80.0%	7.03	7.03
Germ Dryer (New)	203-01-G	New Unit						169,068.0	0.204	1.020	100%	80.0%	17.25	17.25

Total Baseline Emissions: **13.70**

Total Controlled Future Emissions: **34.57**

Total Emissions Increases: **27.48**

Increase/Decrease: 20.87 tpy
PSD/Offset Threshold: 40 tpy

Percent of max capacity operated during the baseline period: 43.25%

Note: Calcualtions for the Baseline and Future emissions for the Steep Tanks are found on pages 8-10.

				Baseline Emission Factor Calcs				Future Emission Factor Calcs								
VOC Source Units	ID No.	Baseline Rated Max Capacity (tpy)	Future Rated Max Capacity (tpy)	Baseline Stack Test Data (lb/hr)	Test Date	Thruput During Test (lb/hr)*	lb/ton Emission Factor based on test data	Future Stack Test Data (lb/hr)	Test Date	Thruput During Test (lb/hr)*	lb/ton Emission Factor based on test data	Mandatory Controls from Consent Order	Baseline Emission Factor	Units	Future Emission Factor (lb/ton)	Comments
Fiber Dryer	89-01-G	349,064	349,064	5.55	10/12/99	75,710	0.1466	4.207	10/16/08	75,710	0.1111	No	0.1466	lb/ton	0.1111	Baseline test data used for baseline EFs. Baseline test data used for future EFs, since no current test data available.
Rotary Feed Dryer	89-03-G	389,820	0	0.33	10/12/99	84,550	0.00781	Shutdown				Yes	0.0078	lb/ton	0	Baseline EF is less than the required CD reduction of 10 ppm.
No. 1 Gluten Dryer (existing)	121-01-G	86,286	86,286	5.8	2/25/00	18,715	0.6198	1.286	5/17/07	15,830	0.1625	No	0.6198	lb/ton	0.1625	Using baseline and current test data. Current test data gives a lower emission factor.
Waxy Feed Drum Dryer	124-01-G	242,214	0	5.55	10/12/99	52,535	0.2113	Shutdown				No	0.2113	lb/ton	0	Using baseline test data.
Germ Dryer/Cooler (existing)	124A-01-G	72,620	0	0.77	10/20/99	15,751	0.0978	Shutdown				No	0.0978	lb/ton	0	Using baseline test data.
1st Stage Germ Dryer	21A-02-G	65,700	0	0.0385	10/20/99	15,751	0.0049	Shutdown				Yes	0.0049	lb/ton	0	Since unit is to be shutdown, baseline EF is reduced by 95% per CD. Using baseline test data from Germ Dryer 124A-01, no other data available.
2nd Stage Germ Dryer	51A-02-G	74,460	0	0.0385	10/20/99	15,751	0.0049	Shutdown				Yes	0.0049	lb/ton	0	Since unit is to be shutdown, baseline EF is reduced by 95% per CD. Using baseline test data from Germ Dryer 124A-01, no other data available.
Hammermill No. 1	201-01-G	BH controlled		0.56	**	**	**	Shutdown				No	0.5600	lb/hr	0	baghouse controlled, therefore, using lb/hr
Hammermill No. 2	201-02-G	BH controlled		0.56	**	**	**	Shutdown				No	0.5600	lb/hr	0	baghouse controlled, therefore, using lb/hr
Pellet Cooler No. 1	201-03-G	262,800		2.4	**	57,000	0.0842	Shutdown				No	0.0842	lb/ton	0	
Pellet Cooler No. 2	201-04-G	262,800		2.4	**	57,000	0.0842	Shutdown				No	0.0842	lb/ton	0	
Loose Feed Bin Vent	201-05-G	394,200		0.01	**	85,500	0.0002	Shutdown				No	0.0002	lb/ton	0	
Central Vacuum Pelletizing	201-06-G	438		0.01	**	95	0.2105	Shutdown				No	0.2105	lb/ton	0	
Germ Tank 1310	200-01-G	350,400	350,400	0.16	N/A	80,000	0.0040	0.16	N/A	80,000	0.0040	No	0.0040	lb/ton	0.0040	
Gluten Tank 1410	200-02-G	350,400	350,400	0.16	N/A	80,000	0.0040	0.16	N/A	80,000	0.0040	No	0.0040	lb/ton	0.0040	
Germ Tank 1110	200-03-G	131,400	131,400	0.16	N/A	30,000	0.0107	0.16	N/A	30,000	0.0107	No	0.0107	lb/ton	0.0107	
Gluten Tank 1010	200-04-G	91,980	91,980	0.16	N/A	21,000	0.0152	0.16	N/A	21,000	0.0152	No	0.0152	lb/ton	0.0152	
Bulk Loadout	200-05-G	420,042	420,042	3.89	N/A	95,900	0.0811	3.89	N/A	95,900	0.0811	No	0.0811	lb/ton	0.0811	
No. 2 Gluten Dryer (New)	121A-01-G	-	86,286	New Unit				1.286	5/17/07	15,830	0.1625	No	-	lb/ton	0.1625	Using current test data.
Germ Dryer (New)	203-01-G	-	169,068	New Unit				0.781	5/11/07	14,410	0.1084	No	-	lb/ton	0.1084	Using current test data.

Future Stack Test Data	Unit ID	Test Date	Avg Prod Rate (lb/hr)	Emissions (lb/hr)	95% Reduction	NOTES:
No. 2 Gluten Dryer (New)	121A-01-G	5/17/07	15,830	1.286	NA	Recent test data, Method 25A.
Germ Dryer (New)	203-01-G	5/11/07	14,410	0.781	0.03905	Recent test data, Method 25A.
Fiber Dryer	89-01-G	10/16/08	75,710	4.207	NA	Avg test was 3.707 lb/hr

Baseline Stack Test Data	Unit ID	Emissions (lb/hr)	Test Date	95% Reduction	NOTES:
Fiber Dryer	89-01-G	5.55	10/12/99	NA	Using for baseline EF calcs. EPA Test Method 25A used.
Rotary Feed Dryer	89-03-G	0.33	10/12/99	0.33	0.33 lb/hr (5.1 ppm) is less than 10 ppm consent order reduction, no reduction required. Using for baseline EF calcs. EPA Test Method 25A used.
Gluten Dryer	121-01-G	5.8	2/25/00	NA	Using for baseline EF calcs. EPA Test Method 25A used.
Germ Dryer/Cooler	124A-01-G	0.77	10/20/99	NA	Using for baseline EF calcs. EPA Test Method 25A used.
1st Stage Germ Dryer	21A-02-G	0.77	10/20/99	0.0385	Using for baseline EF calcs. EPA Test Method 25A used. Using same as Germ Dryer/Cooler since no other data available.
2nd Stage Germ Dryer	51A-02-G	0.77	10/20/99	0.0385	Using for baseline EF calcs. EPA Test Method 25A used. Using same as Germ Dryer/Cooler since no other data available.
Waxy Feed Dryer	124-01-G	5.55	10/12/99	NA	Using for baseline EF calcs. EPA Test Method 25A used. Using same as Germ Dryer/Cooler since no other data available.

CD = Consent Decree

95.0% *For test throughput data, using 95% of unit's capacity unless actual throughput data is available.

EF = Emission Factor

Baseline for consent decree emissions has not been established. 95% reduction used for demonstrative purposes only.

** Per 9/20/2000 permit application

CARGILL, INC. - HAMMOND - PERMIT MODIFICATION REQUEST
Grind - VOC Emission Calculations

		Baseline Actual Emissions						Future Potential Emissions						
VOC Source Units	ID No.	Baseline Thruput (tons)	Controlled Emission Factor (lb/ton)	Uncontrolled Emission Factor (lb/ton)	Cap Eff	Ctrl Eff	Baseline Emissions (tpy)	Future Thruput (tons)	Controlled Emission Factor (lb/ton)	Uncontrolled Emission Factor (lb/ton)	Cap Eff	Ctrl Eff	Controlled Future Emissions (tpy)	Net Emissions per Unit (tpy)
Fiber Dryer	89-01-G	150,965.6	0.147	0.147	100%	0%	11.07	349,064.1	0.111	0.111	100%	0%	19.40	8.33
Rotary Feed Dryer	89-03-G	168,592.0	0.0078	0.1301	100%	94%	0.66	SHUTDOWN					-	(0.66)
No. 1 Gluten Dryer (existing)	121-01-G	37,317.6	0.620	0.620	100%	0%	11.57	86,286.0	0.162	0.162	100%	0%	7.01	(4.56)
Waxy Feed Drum Dryer	124-01-G	104,754.4	0.211	0.211	100%	0%	11.07	SHUTDOWN					-	(11.07)
Germ Dryer/Cooler (existing)	124A-01-G	31,407.4	0.098	0.098	100%	0%	1.54	SHUTDOWN					-	(1.54)
1st Stage Germ Dryer	21A-02-G	28,414.4	0.0049	0.0049	100%	0%	0.07	SHUTDOWN					-	(0.07)
2nd Stage Germ Dryer	51A-02-G	32,203.0	0.0049	0.0049	100%	0%	0.08	SHUTDOWN					-	(0.08)
Hammermill No. 1	201-01-G	3,788.6	hours operated	0.5600	lb/hr EF		1.06	SHUTDOWN					-	(1.06)
Hammermill No. 2	201-02-G	3,788.6	hours operated	0.5600	lb/hr EF		1.06	SHUTDOWN					-	(1.06)
Pellet Cooler No. 1	201-03-G	113,657.5	0.0842	0.0842	100%	0%	4.79	SHUTDOWN					-	(4.79)
Pellet Cooler No. 2	201-04-G	113,657.5	0.0842	0.0842	100%	0%	4.79	SHUTDOWN					-	(4.79)
Loose Feed Bin Vent	201-05-G	170,486.3	0.0002	0.0002	100%	0%	0.02	SHUTDOWN					-	(0.02)
Central Vacuum Pelletizing	201-06-G	189.4	0.2105	0.2105	100%	0%	0.02	SHUTDOWN					-	(0.02)
Germ Tank 1310	200-01-G	151,543.4	0.0040	0.0040	100%	0%	0.30	350,400.0	0.004	0.004	100%	0%	0.70	0.40
Gluten Tank 1410	200-02-G	151,543.4	0.0040	0.0040	100%	0%	0.30	350,400.0	0.004	0.004	100%	0%	0.70	0.40
Germ Tank 1110	200-03-G	56,828.8	0.0107	0.0107	100%	0%	0.30	131,400.0	0.011	0.011	100%	0%	0.70	0.40
Gluten Tank 1010	200-04-G	39,780.1	0.0152	0.0152	100%	0%	0.30	91,980.0	0.015	0.015	100%	0%	0.70	0.40
Bulk Loadout	200-05-G	181,662.6	0.0811	0.0811	100%	0%	7.37	420,042.0	0.081	0.081	100%	0%	17.04	9.67
No. 2 Gluten Dryer (New)	121A-01-G	New Unit						86,286.0	0.162	0.162	100%	0%	7.01	7.01
Germ Dryer (New)	203-01-G	New Unit						169,068.0	0.108	0.108	100%	0%	9.16	9.16

Total Baseline Emissions: **56.35**

Total Controlled Future Emissions: **62.42**

Total Emission Increase: **35.76**

Increase/Decrease: 6.07 tpy

PSD/Offset Threshold: 40 tpy

Percent of max capacity operated during the baseline period: 43.25%

CARGILL, INC. - HAMMOND

Grind - CO Emission Factors

CO Source Units	ID No.	Baseline Rated Max Capacity (tpy)	Future Rated Max Capacity (tpy)	Baseline Emission Factor Calcs: Baseline Stack Test Data (lb/hr)	Baseline Emission Factor Calcs: Test Date	Baseline Emission Factor Calcs: Thruput During Test (lb/hr)*	Baseline Emission Factor Calcs: lb/ton Emission Factor based on test data	Future Emission Factor Calcs: Future Stack Test Data (lb/hr)	Future Emission Factor Calcs: Test Date	Future Emission Factor Calcs: Thruput During Test (lb/hr)*	Future Emission Factor Calcs: lb/ton Emission Factor based on test data	Mandatory Controls from Consent Order	Baseline Emission Factor (lb/ton)	Future Emission Factor (lb/ton)	Comments
Fiber Dryer	89-01-G	349,064	349,064	2.95	5/17/2007	15,830	0.3727	2.95	5/17/2007	15,830	0.3727	No	0.3727	0.3727	Used current test data from the gluten dryer because of similarities. No baseline test data available.
Rotary Feed Dryer	89-03-G	389,820	0	0.295	5/17/2007	15,830	0.0373	Shutdown				Yes	0.0373	0	Since unit is to be shutdown, baseline EF is reduced by 90% per CD. Used test data from the gluten dryer because of emission similarities. No baseline test data available.
No. 1 Gluten Dryer (existing)	121-01-G	86,286	86,286	26.3	2/25/2000	18,715	2.8106	2.95	5/17/2007	15,830	0.3727	No	2.8106	0.3727	Used actual test data for baseline and future
Waxy Feed Drum Dryer	124-01-G	242,214	0	2.95	5/17/2007	15,830	0.3727	Shutdown				No	0.3727	0	Used current test data from the gluten dryer because of similarities. No baseline test data available.
Germ Dryer/Cooler (existing)	124A-01-G	72,620	0	0.46	5/11/2007	14,410	0.0638	Shutdown				No	0.0638	0	Used current test data for baseline EF since no baseline test data is available.
1st Stage Germ Dryer	21A-02-G	65,700	0	0.46	5/11/2007	14,410	0.0638	Shutdown				Yes	0.0638	0	Used current test data for baseline EF since no baseline test data is available. EF used for baseline based on test data that is already below the required 100 ppm CD reduction.
2nd Stage Germ Dryer	51A-02-G	74,460	0	0.46	5/11/2007	14,410	0.0638	Shutdown				Yes	0.0638	0	Used current test data for baseline EF since no baseline test data is available. EF used for baseline based on test data that is already below the required 100 ppm CD reduction.
No. 2 Gluten Dryer (New)	121A-01-G	-	86,286	New Unit				2.95	5/17/2007	15,830	0.3727	No	-	0.3727	Using current test data.
Germ Dryer (New)	203-01-G	-	169,068	New Unit				0.46	5/11/2007	14,410	0.0638	No	-	0.0638	Using current test data.

Stack Test Data	Unit ID	Test Date	Avg Rate (lb/hr)	Emissions (lb/hr)	90% Reduced	NOTES:
Gluten Dryer	121-01-G	2/25/2000	18,715	26.30	NA	Used for baseline EF calculation. EPA Method 10 used.
Gluten Dryer	121-01-G	5/17/2007	15,830	2.95	0.2950	Used for baseline EF calculation. EPA Method 10 used.
Germ Dryer	124A-01-G	5/11/2007	14,410	0.46	<100ppm	Used for baseline EF calculation. EPA Method 10 used. (no reduction taken for CD because already less than 100 ppm)

Using gluten test data for fiber and feed dryers (most conservative and similar in emissions)

CD = Consent Decree

EF = Emission Factor 95.0% *For test throughput data, using 95% of unit's capacity unless actual throughput data is available.

Baseline for consent decree emissions have no been established. 95% reduction used for demonstrative purposes only.

CARGILL, INC. - HAMMOND
Grind - CO Emission Calculations

CO Source Units	ID No.	Baseline Actual Emissions: Baseline Thruput (tons)	Controlled Emission Factor (lb/ton)	Uncontrolled Emission Factor (lb/ton)	Cap Eff	Ctrl Eff	Baseline Emissions (tpy)	Future Potential Emissions: Future Thruput (tons)	Controlled Emission Factor (lb/ton)	Uncontrolled Emission Factor (lb/ton)	Cap Eff	Ctrl Eff	Future Controlled Emissions (tpy)	Net Emissions per Unit (tpy)
Fiber Dryer	89-01-G	150,965.6	0.373	0.373	100%	0%	28.13	349,064.1	0.373	0.373	100%	0%	65.05	36.92
Rotary Feed Dryer	89-03-G	168,592.0	0.037	0.037	100%	0%	3.14	SHUTDOWN					-	(3.14)
No. 1 Gluten Dryer (existing)	121-01-G	37,317.6	2.811	2.811	100%	0%	52.44	86,286.0	0.373	0.373	100%	0%	16.08	(36.36)
Waxy Feed Drum Dryer	124-01-G	104,754.4	0.373	0.373	100%	0%	19.52	SHUTDOWN					-	(19.52)
Germ Dryer/Cooler (existing)	124A-01-G	31,407.4	0.064	0.064	100%	0%	1.00	SHUTDOWN					-	(1.00)
1st Stage Germ Dryer	21A-02-G	28,414.4	0.064	0.064	100%	0%	0.91	SHUTDOWN					-	(0.91)
2nd Stage Germ Dryer	51A-02-G	32,203.0	0.064	0.064	100%	0%	1.03	SHUTDOWN					-	(1.03)
No. 2 Gluten Dryer (New)	121A-01-G	New Unit						86,286.0	0.373	0.373	100%	0%	16.08	16.08
Germ Dryer (New)	203-01-G	New Unit						169,068.0	0.064	0.064	100%	0%	5.40	5.40

Total Baseline Emissions: 106.18

Total Controlled Future Emissions: 102.61

Total Emission Increases: 58.39

Increase/Decrease: -3.57 tpy

PSD/Offset Threshold: 100 tpy

Percent of max capacity operated during the baseline period: 43.25%

CARGILL, INC. - HAMMOND
Grind - NOx Emission Factors

NOx Source Units	ID No.	Baseline Heat Input (mmbtu/hr)	Future Rated Max Heat Input Capacity (mmbtu/hr)	AP-42 Emission Factor (lb/mmcf)	Baseline lb/hr based on AP-42	Future lb/hr based on AP-42	Baseline Emission Factor (lb/hr)	Future Emission Factor (lb/hr)	Comments
Fiber Dryer	89-01-G	78	78	100	7.8000	7.8000	7.8000	7.8000	Using AP-42, Table 1.4-1, EF for small industrial boilers
Rotary Feed Dryer	89-03-G	65	-	100	6.5000	-	6.5000	0	Using AP-42, Table 1.4-1, EF for small industrial boilers
No. 1 Gluten Dryer (existing)	121-01-G	15	17	100	1.5000	1.7000	1.5000	1.7000	Using AP-42, Table 1.4-1, EF for small industrial boilers
Waxy Feed Drum Dryer	124-01-G	35	-	100	3.5000	-	3.5000	0	Using AP-42, Table 1.4-1, EF for small industrial boilers
Germ Dryer/Cooler (existing)	124A-01-G	12.9	-	100	1.2900	-	1.2900	0	Using AP-42, Table 1.4-1, EF for small industrial boilers
1st Stage Germ Dryer	21A-02-G	0.5	-	100	0.0500	-	0.0500	0	Using AP-42, Table 1.4-1, EF for small industrial boilers
2nd Stage Germ Dryer	51A-02-G	0.5	-	100	0.0500	-	0.0500	0	Using AP-42, Table 1.4-1, EF for small industrial boilers
No. 2 Gluten Dryer (New)	121A-01-G	New Unit	17	100	-	1.7000	-	1.7000	Using AP-42, Table 1.4-1, EF for small industrial boilers
Germ Dryer (New)	203-01-G	New Unit	30	100	-	3.0000	-	3.0000	Using AP-42, Table 1.4-1, EF for small industrial boilers

Natural Gas Heating Value: 1000 mmbtu/mmcf

EF = Emission Factor

CARGILL, INC. - HAMMOND
Grind - NOx Emission Calculations

		Baseline Actual Emissions						Future Potential Emissions						
NOx Source Units	ID No.	Baseline Hours of Operation	Controlled Emission Rate (lb/hr)	Uncontrolled Emission Rate (lb/hr)	Cap Eff	Ctrl Eff	Baseline Emissions (tpy)	Future Hours of Operation	Controlled Emission Rate (lb/hr)	Uncontrolled Emission Rate (lb/hr)	Cap Eff	Ctrl Eff	Future Controlled Emissions (tpy)	Net Emissions per Unit (tpy)
Fiber Dryer	89-01-G	6,042.6	7.800	7.800	100%	0%	23.57	8,760.0	7.800	7.800	100%	0%	34.16	10.60
Rotary Feed Dryer	89-03-G	6,042.6	6.500	6.500	100%	0%	19.64	SHUTDOWN					-	(19.64)
No. 1 Gluten Dryer (existing)	121-01-G	6,042.6	1.500	1.500	100%	0%	4.53	8,760.0	1.700	1.700	100%	0%	7.45	2.91
Waxy Feed Drum Dryer	124-01-G	6,042.6	3.500	3.500	100%	0%	10.57	SHUTDOWN					-	(10.57)
Germ Dryer/Cooler (existing)	124A-01-G	6,042.6	1.290	1.290	100%	0%	3.90	SHUTDOWN					-	(3.90)
1st Stage Germ Dryer	21A-02-G	6,042.6	0.050	0.050	100%	0%	0.15	SHUTDOWN					-	(0.15)
2nd Stage Germ Dryer	51A-02-G	6,042.6	0.050	0.050	100%	0%	0.15	SHUTDOWN					-	(0.15)
No. 2 Gluten Dryer (New)	121A-01-G	NEW UNIT TO REPLACE 124A-01-G						8,760.0	1.700	1.700	100%	0%	7.45	7.45
Germ Dryer (New)	203-01-G	New Unit						8,760.0	3.000	3.000	100%	0%	13.14	13.14

Total Baseline Emissions: **62.51**

Total Controlled Future Emissions: **62.20**

Total Emission Increase: **34.10**

Increase/Decrease: -0.31 tpy

PSD/Offset Threshold: 40 tpy

CARGILL, INC. - HAMMOND

Estimated HAPS based on Cargill estimated percentages

Estimated HAPS increase from Grind Project:

2.34	**TPY Combined HAPS**
1.17	**TPY Acetaldehyde**
0.72	**TPY Formaldehyde**
0.46	**TPY Methanol**

Pollutant	Fiber Dryer Emission Factor (10/12/99 stack test) lb/hr	Estimated HAP% of VOC	Potential Emissions TPY	Each Germ Dryer Emission Factor (May 2007 stack test) lb/hr	Estimated HAP% of VOC	Potential Emissions TPY	Each Gluten Dryer Emission Factor (May 2007 stack test) lb/hr	Estimated HAP% of VOC	Potential Emissions TPY
VOC	5.55		24.31	0.78		3.42	1.29		5.63
Acetaldehyde		8.00	1.94		3.70	0.1266		7.10	0.3999
Formaldehyde		9.50	2.31						
Methanol		4.40	1.07		1.00	0.0342		1.60	0.0901
Total HAPS			**5.32**			**0.16**			0.49
								Two gluten dryers:	**0.98**

Total Future Potential HAPS: **6.46** **TPY (one fiber dryer, one germ dryer and two gluten dryers operating)**

Total Emissions Increases: **2.45** **TPY (one fiber dryer, one germ dryer and two gluten dryers operating)**

Pollutant	Fiber Dryer Emission Factor (10/12/99 stack test) lb/hr	Estimated HAP% of VOC	Baseline Emissions TPY	Each Germ Dryer Emission Factor (May 2007 stack test) lb/hr	Estimated HAP% of VOC	Baseline Emissions TPY	Each Gluten Dryer Emission Factor (May 2007 stack test) lb/hr	Estimated HAP% of VOC	Baseline Emissions TPY
VOC	5.55		16.77	0.78		2.36	1.29		3.89
Acetaldehyde		8.00	1.34		3.70	0.0873		7.10	0.2759
Formaldehyde		9.50	1.59						
Methanol		4.40	0.74		1.00	0.0236		1.60	0.0622
Total HAPS			**3.67**			**0.11**			**0.34**

Total Baseline HAPS: **4.12** **TPY (one fiber dryer, one germ dryer and one gluten dryer operating)**

Ratio of Baseline hours to Future hours:	**0.6898**

BASELINE CORN THROUGHPUT

82,775 Baseline Bushels Per Day
30,213,000 Baseline Annualized Bushels
845,964 Baseline Annualized Tons Corn

FUTURE CORN THROUGHPUT

120,000 Future Bushels Per Day
43,800,000 Future Annualized Bushels
1,226,400 Future Annualized Tons Corn

CARGILL, INC. - HAMMOND
Throughput and Production Data

Year	Million Bushels	Bushels	2yr Period Bushels Ascending	Daily Bushels	Grind ratio Percent of Max Capacity (120,000 bu/d)
1997	30.212	30,212,000	61,724,000	82,773	69.0%
1998	31.512	31,512,000	59,777,000	86,334	71.9%
1999	28.265	28,265,000	51,493,000	77,438	64.5%
2000	23.228	23,228,000	48,805,650	63,638	53.0%
Oct 2001-Sep 2002		25,577,650	37,885,846	70,076	58.4%
Oct-2002 thru Sep-2003		12,308,196	24,078,196	33,721	28.1%
	11.770	11,770,000	26,810,000	32,247	26.9%
2004	15.040	15,040,000	30,602,000	41,205	34.3%
2005	15.562	15,562,000	31,171,000	42,636	35.5%
2006	15.609	15,609,000	-	42,764	35.6%
Sep 97 - Aug 99 period is highest baseline					
Sep-97	2.518	2,517,667		83,922	69.9%
Oct-97	2.518	2,517,667		81,215	67.7%
Nov-97	2.518	2,517,667		83,922	69.9%
Dec-97	2.518	2,517,667		81,215	67.7%
Jan-98	2.626	2,626,000		84,710	70.6%
Feb-98	2.626	2,626,000		93,786	78.2%
Mar-98	2.626	2,626,000		84,710	70.6%
Apr-98	2.626	2,626,000		87,533	72.9%
May-98	2.626	2,626,000		84,710	70.6%
Jun-98	2.626	2,626,000		87,533	72.9%
Jul-98	2.626	2,626,000		84,710	70.6%
Aug-98	2.626	2,626,000	60,426,000	84,710	70.6%
Sep-98	2.626	2,626,000		87,533	72.9%
Oct-98	2.626	2,626,000		84,710	70.6%
Nov-98	2.626	2,626,000		87,533	72.9%
Dec-98	2.626	2,626,000		84,710	70.6%
Jan-99	2.355	2,355,417		75,981	63.3%
Feb-99	2.355	2,355,417		84,122	70.1%
Mar-99	2.355	2,355,417		75,981	63.3%
Apr-99	2.355	2,355,417		78,514	65.4%
May-99	2.355	2,355,417		75,981	63.3%
Jun-99	2.355	2,355,417		78,514	65.4%
Jul-99	2.355	2,355,417		75,981	63.3%
Aug-99	2.355	2,355,417		75,981	63.3%

Dryer	Unit ID	Baseline Hours of Operation*	Future Hours of Operation
Fiber Dryer	89-01-G	6042.60	8760
Rotary Feed Dryer	89-03-G	6042.60	0
No. 1 Gluten Dryer (existing)	121-01-G	6042.60	8760
Waxy Feed Drum Dryer	124-01-G	6042.60	0
Germ Dryer/Cooler (existing)	124A-01-G	6042.60	8760
1st Stage Germ Dryer	21A-02-G	6042.60	0
2nd Stage Germ Dryer	51A-02-G	6042.60	0
No. 2 Gluten Dryer (New)	121A-01-G	6042.60	8760
Germ Dryer (New)	203-01-G	6042.60	8760

To determine hours of operation, took ratio of baseline production to future production

120,000 Baseline Plant Bushel Capacity Per Day

* Ratio for baseline hours of op = baseline actual/baseline capacity

97 & 98 is the highest 2-yr period over the last 10 years.

BASELINE CORN THROUGHPUT

82,775 Baseline Actual Bushels Per Day
30,213,000 Baseline Annualized Bushels
845,964 Baseline Annualized Tons Corn

FUTURE CORN THROUGHPUT

120,000 Future Bushels Per Day
43,800,000 Future Annualized Bushels
1,226,400 Future Annualized Tons Corn

The maximum plant capacity is 120,000 bushels per day.
56 lbs per bushel of corn.

Average percent of max capacity during baseline period (Oct. 2001 - Sep. 2003): 43.25%
see below

mon/yr	Grind 1 bu/mon	Grind 2 bu/mon	Total Grind bu/mon	**12-month periods Bushels/yr**
Sep-01	2,225,900	502,700	2,728,600	
Oct-01	2,594,700	509,000	3,103,700	
Nov-01	2,101,600	456,400	2,558,000	
Dec-01	2,208,900	572,200	2,781,100	
Jan-02	1,983,800	377,400	2,361,200	
Feb-02	1,651,050	434,500	2,085,550	
Mar-02	1,633,500	469,900	2,103,400	
Apr-02	1,599,900	370,000	1,969,900	
May-02	1,659,900	522,700	2,182,600	
Jun-02	1,614,700	259,500	1,874,200	
Jul-02	1,827,200	0	1,827,200	
Aug-02	1,383,700	0	1,383,700	
Sep-02	1,347,100	0	1,347,100	25,577,650
Oct-02	1,217,100	0	1,217,100	
Nov-02	1,118,500	0	1,118,500	
Dec-02	1,226,400	0	1,226,400	
Jan-03	1,086,500	0	1,086,500	
Feb-03	908,300	0	908,300	
Mar-03	1,070,000	0	1,070,000	
Apr-03	1,051,400	0	1,051,400	
May-03	906,200	0	906,200	
Jun-03	767,193	0	767,193	
Jul-03	851,754	0	851,754	
Aug-03	1,124,428	0	1,124,428	
Sep-03	980,421	0	980,421	12,308,196

CARGILL, INC. - HAMMOND
GRIND AREA FACILITY DATA

Unit	ID No.	Baseline Dryer: Max Heat Input Cap (mmbtu/hr)	Future Dryer: Max Heat Input Cap (mmbtu/hr)	Baseline Max Capacity Throughput (Raw Material)	Units	Baseline TPY Max Capacity Throughput (Raw Material)	Future Max Capacity Throughput (Raw Material)	Units	Future TPY Max Capacity Throughput (Raw Material)	Baseline PM Cap Eff	Baseline PM Ctrl Eff	Future PM Cap Eff	Future PM Ctrl Eff	Baseline Rated Unit Flow (acfm)	Future Rated Flow (scfm)	Baseline Rated Unit Temp (F)	Future Rated Temp (F)	Baseline Equip Grain Loading (gr/acfm)	Future Equip Grain Loading (gr/acfm)
Steep Tanks (Grind 1)	Bldg 24	-	-	43,800,000	bu/yr	1,226,400	43,800,000	bu/yr	1,226,400	-	-	-	-	-	-	-	-	-	-
Steep Tanks (Grind 2)	Bldg 53	-	-	7,300,000	bu/yr	204,400	7,300,000	bu/yr	204,400	-	-	-	-	-	-	-	-	-	-
Corn Screening System	30-16-G	-	-		NA, BH Control			NA, BH Control		100%	99.88%	100%	99.88%	855	-	70	-	0.01	0.01
Storage Bin No. 5 (Grind 1)	33-01-G	-	-		NA, BH Control			NA, BH Control		100%	99.88%	100%	99.88%	1,000	-	70	-	0.02	0.01
Storage Bin #6 (Grind 2)	33-02-G	-	-		NA, BH Control			NA, BH Control		100%	99.88%	100%	99.88%	1,000	-	70	-	0.02	0.01
Corn Cleaner	33-03-G	-	-		NA, BH Control			NA, BH Control		100%	99.88%	100%	99.88%	2,200	-	70	-	0.01	0.01
Fiber Dryer	89-01-G	78	78	79,695	lb/hr	349,064	79,695	lb/hr	349,064	100%	89.10%	100%	89.10%	81,705	-	176	-	0.01	0.01
Rotary Feed Dryer	89-03-G	65	-	89,000	lb/hr	389,820	0	-	0	100%	98.95%	100%	98.95%	35,000	-	1000	-	0.03	-
Dry Feed Transfer (grind 1)	89-05-G	-	-		NA, BH Control			NA, BH Control		100%	99.88%	100%	99.88%	1,000	-	70	-	0.01	-
No. 1 Gluten Dryer (existing)	121-01-G	15	17	19,700	lb/hr	86,286	19,700	lb/hr	86,286	100%	99.33%	100%	99.33%	9,700	-	179	-	0.03	0.03
Germ Storage Silo	121-14-G	-	-		NA, BH Control			NA, BH Control		100%	99.98%	100%	99.98%	1,200	-	100	-	0.01	-
Waxy Feed Drum Dryer	124-01-G	35	-	55,300	lb/hr	242,214	0	-	0	100%	98.99%	100%	98.99%	41,520	-	135	-	0.03	-
Waxy Feed Mill Equipment	124-22-G	-	-		NA, BH Control			NA, BH Control		100%	99.88%	100%	99.88%	600	-	70	-	0.01	-
Wet Feed Transfer (grind 2)	124-23-G	-	-		NA, BH Control			NA, BH Control		100%	98.98%	100%	98.98%	1,000	-	70	-	0.01	-
Germ Dryer/Cooler (existing)	124A-01-G	12.9	-	16,580	lb/hr	72,620	0	-	0	100%	94.85%	100%	94.85%	13,600	-	200	-	0.02	0.02
Storage Bin #3	140-03-G	-	-		NA, BH Control			NA, BH Control		100%	98.98%	100%	98.98%	1,000	-	70	-	0.02	0.01
Storage Bin #4	140-04-G	-	-		NA, BH Control			NA, BH Control		100%	99.98%	100%	99.98%	1,000	-	70	-	0.02	0.01
Storage Bin #1	140-01-G	-	-		NA, BH Control			NA, BH Control		100%	98.98%	100%	98.98%	1,000	-	70	-	0.02	0.01
Storage Bin #2	140-02-G	-	-		NA, BH Control			NA, BH Control		100%	99.98%	100%	99.98%	1,000	-	70	-	0.02	0.01
Corn Dump Pit	140-05-G	-	-		NA, BH Control			NA, BH Control		100%	99.88%	100%	99.88%	30,000	-	70	-	0.01	0.01
Gravity Take-Up Conveyor	140-06-G	-	-		NA, BH Control			NA, BH Control		100%	99.88%	100%	99.88%	1,800	-	70	-	0.01	0.01
Corn Elevator Conveying	140-07-G	-	-		NA, BH Control			NA, BH Control		100%	99.88%	100%	99.88%	1,000	-	70	-	0.01	0.01
Germ Tank 1310	200-01-G	-	-		NA, BH Control			NA, BH Control		100%	99.88%	100%	99.88%	80	-	70	-	0.005	0.005
Gluten Tank 1410	200-02-G	-	-		NA, BH Control			NA, BH Control		100%	99.88%	100%	99.88%	80	-	70	-	0.005	0.005
Germ Tank 1110	200-03-G	-	-		NA, BH Control			NA, BH Control		100%	99.88%	100%	99.88%	1,200	-	70	-	0.005	0.005
Gluten Tank 1010	200-04-G	-	-		NA, BH Control			NA, BH Control		100%	99.88%	100%	99.88%	1,200	-	70	-	0.005	0.005
Bulk Loadout	200-05-G	-	-		NA, BH Control			NA, BH Control		100%	99.88%	100%	99.88%	30,000	-	70	-	0.005	0.005
Corn Screenings Silo	200-06-G	-	-		NA, BH Control			NA, BH Control		100%	99.88%	100%	99.88%	400	-	70	-	0.005	0.005
Central Vacuum Loadout	200-07-G	-	-		NA, BH Control			NA, BH Control		100%	99.88%	100%	99.88%	400	-	70	-	0.005	0.005
Hammermill No. 1	201-01-G	-	-		NA, BH Control			NA, BH Control		100%	99.88%	100%	99.88%	4,000	-	70	-	0.005	-
Hammermill No. 2	201-02-G	-	-		NA, BH Control			NA, BH Control		100%	99.88%	100%	99.88%	4,000	-	70	-	0.005	-
Pellet Cooler No. 1	201-03-G	-	-	60,000	lb/hr	262,800	0	-	0	100%	98.95%	100%	98.95%	1,700	-	70	-	0.015	-
Pellet Cooler No. 2	201-04-G	-	-	60,000	lb/hr	262,800	0	-	0	100%	98.95%	100%	98.95%	1,700	-	70	-	0.015	-
Loose Feed Bin Vent	201-05-G	-	-	394,200	tpy	394,200	0	-	0	100%	99.88%	100%	99.88%	80	-	70	-	0.005	-
Central Vacuum Pelletizing	201-06-G	-	-	100	lb/hr	438	0	-	0	100%	99.88%	100%	99.88%	400	-	70	-	0.005	-
Receiver 1st Stage Germ Dryer	21A-01-G	-	-	15,000	lb/hr	65,700	0	-	0	100%	94.85%	100%	94.85%	1,000	-	100	-	0.015	-
1st Stage Germ Dryer	21A-02-G	0.5	-	15,000	lb/hr	65,700	0	-	0	100%	94.85%	100%	94.85%	5,730	-	150	-	0.01	-
Receiver 2nd Stage Germ Dryer	51A-01-G	-	-	17,000	lb/hr	74,460	0	-	0	100%	94.85%	100%	94.85%	1,200	-	100	-	0.02	-
2nd Stage Germ Dryer	51A-02-G	0.5	-	17,000	lb/hr	74,460	0	-	0	100%	94.85%	100%	94.85%	5,730	-	150	-	0.015	-
No. 2 Gluten Dryer (New)	121A-01-G	New Unit	17		New Unit		19,700	lb/hr	86,286	-	-	100%	99.33%	-	-	-	-	-	0.03
Germ Dryer (New)	203-01-G	New Unit	30		New Unit		38,600	lb/hr	169,068	-	-	100%	94.85%	-	-	-	-	-	0.01
No. 1 Bran Bunker (New)	89-06-G	New Unit	-		New Unit			NA, BH Control		-	-	100%	99.88%	-	80	-	110	-	0.01
No. 2 Bran Bunker (New)	89-07-G	New Unit	-		New Unit			NA, BH Control		-	-	100%	99.88%	-	80	-	110	-	0.01
Bran Conveyor System*	89-08-G	New Unit	-		New Unit			NA, exhaust to 89-01-G, use flow		-	-	100%	89.10%	-	4,000	-	110	-	0.01
Bran Preweigh Hopper	89-09-G	New Unit	-		New Unit			NA, BH Control		-	-	100%	99.88%	-	80	-	110	-	0.01

* The new bran conveyor will exhaust to the Fiber Dryer scrubber (89-01-G), therefore, use the flow increase and grain loading for emission calcs.
56 lbs corn/bushel

CARGILL, INC. - HAMMOND

Consent Order Control Mandates for Hammond Grind Facilities

Unit	ID	SO2 % Control	SO2 ppm	VOC % Control	VOC ppm	CO % Control	CO ppm	Comments
1st Stage Germ Dryer	21A-02-G	90%	20	95%	10	90%	100	Reduce SO2 by 90% or to 20 ppm, CO by 90% or to 100 ppm & VOC by 95% or to 10 ppm for baseline emission factors to account for this reduction mandate; this dryer will no longer operate
2nd Stage Germ Dryer	51A-02-G	90%	20	95%	10	90%	100	Reduce SO2 by 90% or to 20 ppm, CO by 90% or to 100 ppm & VOC by 95% or to 10 ppm for baseline emission factors to account for this reduction mandate; this dryer will no longer operate
Fiber Dryer	89-01-G	90%	20	-	-	-	-	Reduce SO2 by 90% or to 20 ppm for baseline emission factors to account for this reduction mandate; this dryer will no longer operate
Rotary Feed Dryer	89-03-G	90%	20	95%	10	90%	100	Reduce SO2 by 90% or to 20 ppm, CO by 90% or to 100 ppm & VOC by 95% or to 10 ppm for baseline emission factors to account for this reduction mandate; this dryer will no longer operate
Gluten Dryer	121-01-G	90%	20	-	-	-	-	Reduce SO2 by 90% or to 20 ppm for baseline emission factors to account for this reduction mandate; this dryer will no longer operate
Germ Dryer	124A-01-G	90%	20	-	-	-	-	Reduce SO2 by 90% or to 20 ppm for baseline emission factors to account for this reduction mandate; this dryer will no longer operate

Indiana Department of Environmental Management
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Michael Golando
Cargill, Inc.
1100 Indianapolis Blvd
Hammond, IN 46320

DATE: June 13, 2011

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
Title V
089-27009-00203

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

June 13, 2011

TO: Hammond Public Library

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: Cargill, Inc.
Permit Number: 089-27009-00203

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 11/30/07

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: Interested Parties / Applicant

DATE: June 13, 2011

RE: Cargill Inc. / 089-27009-00203

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

In order to conserve paper and reduce postage costs, IDEM's Office of Air Quality is now sending many permit decisions on CDs in Adobe PDF format. The enclosed CD contains information regarding the company named above.

This permit is also available on the IDEM website at:
http://www.in.gov/ai/appfiles/idem-caats/

If you would like to request a paper copy of the permit document, please contact IDEM's central file room at:

Indiana Government Center North, Room 1201
100 North Senate Avenue, MC 50-07
Indianapolis, IN 46204
Phone: 1-800-451-6027 (ext. 4-0965)
Fax (317) 232-8659

Please Note: *If you feel you have received this information in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV.*

Enclosures
CD Memo.dot 11/14/08

Mail Code 61-53

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2		James Fritz Facility Manager Cargill, Inc. 1100 Indianapolis Blvd Hammond IN 46320 *(RO CAATS)*									
3		East Chicago City Council 4525 Indianapolis Blvd East Chicago IN 46312 *(Local Official)*									
4		Gary - Hobart Water Corp 650 Madison St, P.O. Box M486 Gary IN 46401-0486 *(Affected Party)*									
5		Lake County Health Department-Gary 1145 W. 5th Ave Gary IN 46402-1795 *(Health Department)*									
6		WJOB / WZVN Radio 6405 Olcott Ave Hammond IN 46320 *(Affected Party)*									
7		Hammond City Council and Mayors Office 5925 Calumet Avenue Hammond IN 46320 *(Local Official)*									
8		Hammond Public Library 564 State St Hammond IN 46320-1532 *(Library)*									
9		Laurence A. McHugh Barnes & Thornburg 100 North Michigan South Bend IN 46601-1632 *(Affected Party)*									
10		Shawn Sobocinski 3229 E. Atlanta Court Portage IN 46368 *(Affected Party)*									
11		Ms. Carolyn Marsh Lake Michigan Calumet Advisory Council 1804 Oliver St Whiting IN 46394-1725 *(Affected Party)*									
12		Mark Coleman 9 Locust Place Ogden Dunes IN 46368 *(Affected Party)*									
13		Mr. Chris Hernandez Pipefitters Association, Local Union 597 8762 Louisiana St., Suite G Merrillville IN 46410 (Affected Party)									
14		Craig Hogarth 7901 West Morris Street Indianapolis IN 46231 *(Affected Party)*									
15		Lake County Commissioners 2293 N. Main St, Building A 3rd Floor Crown Point IN 46307 *(Local Official)*									

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2		Barbara G. Perez 506 Lilac Street East Chicago IN 46312 *(Affected Party)*									
3		Mr. Robert Garcia 3733 Parrish Avenue East Chicago IN 46312 *(Affected Party)*									
4		Susan Grenzebach OCS Environmental 130 Lincoln St. Porter IN 46304 *(Consultant)*									
5		Ms. Karen Kroczek 8212 Madison Ave Munster IN 46321-1627 *(Affected Party)*									
6		Calumet Township Trustee 31 E 5th Avenue Gary IN 46402 *(Affected Party)*									
7		Joseph Hero 11723 S Oakridge Drive St. John IN 46373 *(Affected Party)*									
8		Gary City Council 401 Broadway # 209 Gary IN 46402 *(Local Official)*									
9		Ron Novak Hammond Dept. of Environmental Management 5925 Calumnet Ave. Hammond IN 46320 *(Local Official)*									
10		Mr. Larry Davis 268 South, 600 West Hebron IN 46341 *(Affected Party)*									
11		Gitte Laasby Post Tribune 1433 E. 83rd Ave Merrillville IN 46410 *(Affected Party)*									
12		Susan Severtson City of Gary Law Dept. 401 Broadway 4th Floor Gary IN 46402 *(Local Official)*									
13		Mark Zeltwanger 26545 CR 52 Nappanee IN 46550 (Affected Party)									
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