NEW HAMPSHIRE YANKEE

INSERVICE TESTING PROGRAM

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INSERVICE TESTING PROGRAM

CONTENTS

1.0 INTRODUCTION

1.1 General

This test plan describes the Inservice Testing (IST) program to verify the operational readiness of certain Class 1, 2, and 3 pumps and valves and their actuating and position indicating systems.

1.2 Codes and Standards

Pursuant to Title 10 of the Code of Federal Regulations, Part 50, Paragraph 50.55(a), the inservice testing requirements for the first inspection interval at Seabrook Station are based on the rules set forth in the 1980 edition of the ASME Boiler and Pressure Code, Section XI, including addenda through Winter 1981, any references to Section XI, or the Code, refer to the above edition and addenda to Section XI, unless stated otherwise. Where conformance with certain code requirements is determined to be impractical, specific relief will be requested as required by 10CFR50.55a (g) (5) (iii). The relief request bases are located in Section 6.0 of this test plan.

As permitted by Paragraph 50.55a (g) (4) (iv), the owner may elect, for certain components, to meet the requirements as set forth in subsequent editions and addenda of the Code which are incorporated by reference in Paragraph (b) of 10CFR50.55a. Any such "upgrading" will be specifically identified by revisions to this document.

1.3 Component Classification

The pumps and valves selected for inclusion in the inservice testing program are classified as Class 1, 2, and 3, based on the classification of the system, or portion of system, in which they are located.

The quality group classification system for radioactive water/steam-containing components important to the safety of water-cooled nuclear power plants is established by NRC Regulatory Guide 1.26, in conjunction with 10CFR50.55a for Class 2 and 3 and 10CFR50.2v for Class 1. Fluid system components important to safety are classified in accordance with the ANSI N18.2a-1975, "American National Standard Revision and Addendum to Nuclear Safety Criteria for the Design of Stationary Pressurized Water Reactor Plants" classification. This classification system is compatible with the requirements of 10CFR50.2v and NRC Regulatory Guide 1.26, and was submitted as an alternate acceptable method of meeting the intent of 10CFR50.2v and Regulatory Guide 1.26.

2.0 REFERENCES

2.1 Title 10, Code of Federal Regulations, Part 50.

2.2 ASME Boiler and Pressure Vessel Code, Section XI, 1980 edition, including addenda through Winter 1981.

2.3 Reg. Guide 1.26, Rev. 3, Quality Group Classification and Standards For Water, Steam, and Radioactive Waste Containing Components of Nuclear Power Plants.

2.4 ANSI 18.2a-1975, "American National Standard Revision and Addendum to Nuclear Safety Criteria for the Design of Stationary Pressurized Water Reactor Plants."

3.0 DEFINITIONS

The following is a list of definitions for various terms used in the Inservice Testing Program.

Active Valve: Valves which are required to change position to accomplish a specific function.

Code: Refers to ASME Boiler and Pressure Vessel Code, Section XI, 1980 edition, including addenda through Winter 1981, unless otherwise specified.

Exercising: The demonstration based on direct or indirect visual, or other positive indication, that the moving parts of a valve function satisfactorily.

Inservice Life: The period of time from installation and acceptance until retired from service.

Inservice Test: A special test procedure for obtaining information through measurement or observation to determine the operational readiness of a valve or pump.

Maintenance: (valves) Routine valve servicing or work on a valve undertaken to correct or prevent an abnormal or unsatisfactory condition.

Normal Plant Operation: The conditions of startup, hot standby, or operation within the normal power range, or cooldown and shutdown of the power plant.

Operational Readiness: The capability of a pump or valve to fulfill its function.

Passive Valve: Valves which are not required to change positions to accomplish a specific function.

Pressure Isolation Valve: A valve required to protect a lower pressure system from accidental pressurization from the Reactor Coolant System. To qualify as a pressure isolation valve, the following conditions must be met:

a. The high-pressure system must be connected to the Reactor Coolant System.

b. The valve's function is to perform pressure isolation between high pressure reactor coolant and low pressure systems.

c. The pressure isolation valves are located at a Class 1 to Class 2 boundary.

d. The piping line must have a diameter greater than one inch nominal pipe size.

Pressure isolation valves are classified as ASME XI, Category A valves.

Routine Servicing (Pumps): The performance of planned, preventive maintenance which does not require disassembly of the pump or replacement of pump parts, such as changing oil, flushing the cooling system, adjusting packing, adding packing rings, or mechanical seal maintenance.

System Resistance: The hydraulic resistance to flow in a system.

4.0 DEVELOPMENT OF THE INSERVICE TESTING PROGRAM

4.1 Pump Selection Basis

4.1.1 The pumps selected for inclusion in the IST program include Class 1, 2, and 3 centrifugal, and displacement type pumps that are required to perform a specific function in the shutting down of the reactor or in mitigating the consequences of an accident, and are provided with an emergency power source.

4.1.2 The following Code allowed exclusions apply to pump testing:

a. Drivers are excluded from the requirements of subsection IWP except where the pump and driver form an integral unit, and the pump bearings are in the driver.

b. Class 1, 2, and 3 pumps that are supplied with emergency power solely for operating convenience.

4.2 Required Pump Testing

4.2.1 Inservice tests shall be conducted with the pump operating at nominal motor speed.

A series of reference values are determined for quantities listed below, as observed or measured when the equipment is known to be operating correctly. Where plant conditions or design are impractical a specific request for relief has been included in Section 6.2 of this progam as required by 10CFR50.55a (g) (5) (iii).

Inservice Test Quanitites

Inlet Pressure, Pi

Differential Pressure, ΔP

Flow Rate, Q

Vibration Amplitude, V

Proper Lubricant Level or Pressure (observed)

Speed N - (if Variable Speed)

Bearng Temperature, T

In an Inservice Test, these quanitities are measured and compared with the reference values to determine if corrective action is needed. When a reference value or set of values may have been affected by replacement, repair, or routine servicing of the pump, a new reference value or set of values shall be determined, or the previous value reconfirmed by an Inservice Test run within 96 hours after return of the pump to normal service.

4.2.2 Each inservice Test includes the measurement and observation of applicable test quantites. An inservice test is run on each applicable pump nominally every three months during normal plant operations. This test frequency is maintained during plant shutdown periods, if this can reasonably be accomplished, although this is not mandatory. If the pump is not tested during plant shutdown, it is tested within one week after the plant is returned to normal operation.

Pumps that are operating need not be run or stopped for a special test, provided the plant log shows each such pump was operated at reference conditions, and the quantities specified were measured, observed, recorded and analyzed.

4.2.3 Analysis and Corrective Action

4.2.3.1 Analysis

All test data is analyzed within 96 hours after completion of a test. The test quantities are compared with the allowable range of quantities listed on file. In accordance with the Code, if the ranges cannot be met, reduced range limits allowing the pump to fulfill its function may be used in lieu of those in Table IWP-3100-2. These reduced range limits shall be specified by JHY in the pump testing procedures.

4.2.3.2 Corrective Action

Corrective action is taken by NHY if the periodically acquired operational data falls into the calculated Alert Range or Required Action Range as specified in the Code. The scope of corrective actions specified in the procedures spans a series of alternatives up to and including a required notification of plant management that a pump's operation data has entered the Required Action Range. The NHY plant management or his designee shall disposition the status of any pump which is operating in the Required Action Range.

4.2.4 Records

The following information is maintained by NHY to meet the requirements for inservice testing:

1. A record for each pump, including the name of the manufacturer, the model, and the serial or other identification number.

2. An inservice test plan including:

   a. The hydraulic circuit to be used.

   b. The location and type of measurement for each required test quantity.

   c. The test quantity reference values.

3. Test record giving pertinent information such as test date, instruments used, results, corrective action required, and signatures of persons conducting and analyzing the test.

4. A record of corrective actions and subsequent Inservice Tests verifying operational adequacy.

All Inservice Test plans and records are maintained at NHY and accessible for audit.

4.3 Valve Selection Basis

4.3.1 The valves selected for inclusion in the IST program include certain Class 1, 2, and 3 valves (and their actuating and position indicating systems) which are required to perform a specific function in shutting down the reactor to the cold shutdown condition or in mitigating the consequences of an accident.

4.3.2 The following valves are exempt from testing under the Code.

a. Valves used only for operating convenience (such as manual vent, drain, instrument, and test valves), valves used for system control (such as pressure-regulating valves), and valves used only for maintenance.

b. Valves which are part of external control and protection systems responsible for sensing plant conditions and providing signals for valve operation.

4.3.3 The following special testing requirements apply to containment isolation valves:

a. Containment isolation valves are considered Category A valves.

b. Valves which perform only a containment isolation function and not a pressure isolation* function are exempt from the Code leak rate testing. These valves are leak rate tested under the requirements of 10CFR50, Appendix J.

*For a definition of Pressure Isolation Valves, see Section 3.0.

c. The designation of valves to be tested under the 10CFR50 Appendix J program were determined from Table 6.2 - 83 of the Seabrook Station FSAR. Currently, this table and the Appendix J leak rate testing program have not been approved by the NRC. In the event of future changes to the Appendix J program, this program will also be ammended to reflect the changes.

4.4 Valve Classification

4.4.1 The valves selected for inclusion in the inservice testing program are classified as follows:

a. Category A - Valves for which seat leakage is limited to a specific maximum amount in the closed position for fulfillment of their function.

b. Category B - Valves for which seat leakage in the closed position is inconsequential for fulfillment of their function.

c. Category C - Valves which are self-actuating in response to some system characteristic such as pressure (relief valves) or flow direction (check valves).

4.5 Required Valve Testing

4.5.1 Test Frequency

The tests required and their frequencies for the valves

designated as Category A, B, and C are listed on the test tables in Section 5.0. In certain cases, it is not practical to test individual valves at the listed frequencies, so other frequencies are specified on the tables in Section 5.0. Where a test frequency has been designated at each refueling outage, and cold shutdown a specific request for relief has been included in Section 6.1 of this program.

4.5.2 Systems Inoperable

Valves in systems that have been declared inoperable or are not required to be operable, do not need to be exercised in accor- with the normal schedule. These valves, however, must be exercised within 30 days of returning the system to service.

4.5.3 Valves which operate at a frequency which meets or exceeds the required test frequency need not be additionally exercised to meet the requirements of this program, provided that the required observations are made, analyzed, and the resultant data recorded at the specified intervals.

4.5.4 Cold Shutdown

Cold shutdown testing of valves will be conducted as follows:

a. Testing will commence as soon as the cold shutdown condition is achieved but not later than 48 hours after shutdown and continue until complete or the plant is ready to return to power.

Note

For planned cold shutdowns, where ample time is available for testing all the valves identified for the cold shutdown test frequency in the IST program, exceptions to the 48 hours may be taken.

b. Completion of all valve testing is not a prerequisite to return to power.

c. Any testing not completed during one cold shutdown should be performed during any subsequent cold shutdowns that may occur before refueling to as closely as possible meet the Code-specified testing frequency.

4.5.5 Retest

Valves or their control systems which are replaced, repaired, or have undergone maintenance which could affect their operation shall be tested to the extent necessary to demonstrate that the performance parameters which could have been affected are within acceptable limits.

4.5.6 Valve Position Indicator Verification

Valves with remote position indicators shall be observed at least once every two years to verify that valve operation is accurately indicated.

4.5.7 Power-Operated Valves

Power-operated valves shall be checked for stroke time each time they are full-stroke exercised to meet the requirements of this program.

4.5.8 Fail Safe Actuators

When practical, valves with fail-safe actuators shall be tested for proper actuation upon loss of power each time the valve is exercised to meet the requirements of this program. If the valve can only be part stroked during operation, the fail-safe mechanism shall be tested when the valve is full stroke tested during a cold shutdown.

FIGURE 5.1
VALVE TESTING REQUIREMENTS LEGEND

Function

A - Active; required to change position to accomplish a specific function.
P - Passive; not required to change position to accomplish a specific function.

Category

A - Seat leakage is limited to a specific maximum amount in the closed position of fulfillment of valve function.
B - Seat leakage in the closed position is inconsequential for fulfillment of valve function.
C - Self actuating in response to some system characteristics, such as pressures (relief valves) or flow direction (check valves).

Valve Type

B - Butterfly valve
BA - Ball valve
C - Check valve
G - Gate valve
GL - Globe valve
S - Safety/relief valve
SC - Stop check valve
W - Saunders weir valve

Actuator

-- - Self actuated
A - Air operator
M - Motor operator
MA - Manual
P - Piston operator (hydraulic)
S - Solenoid operator

Normal Position

C - Closed
O - Open
LC - Locked closed
LO - Locked open
T - Throttled
-- - Normal position for safety/ relief valves is closed

Leak Test Requirement

Blank - None required
1 - Leak test at least every 2 years per IWV-3420
2 - Leak test every refueling per 10CFR50 App. J

Leak Test Relief Requested

Blank - No
X - Yes

Leak Test Alternative

1 - Reactor Coolant Pressure Isolalation valves shall be tested in accordance with Tech Spec Section 4.4.6.2.2. Section 4.4.6.2.2.

Exercise Test Requirement

Blank - None required
1 - Exercise every 3 months per IWV-3410.
2 - Safety valve setpoints shall be tested per IWV-3512 in accordance with ASME PTC 25.3-1976.
3 - Exercise every 3 months per IWV-3520 (check vavles)

Exercise Test Relief Requested

Blank - No
X - Yes

Exercise Test Alternative

1 - Exercise on reactor shutdown, partial stroke every 3 months
2 - Exercise each cold shutdown
3 - Exercise each refueling
4 - Exercise when system is shut down

Fail Safe Test Requirement

X - Yes, test according to IWV-3415

Blank - No

Position Indicator Test Requirement

X - Yes, test according to IWV-3300

Blank - No

FIGURE 5.2

PUMP TEST REQUIREMENT TABLE

Pumps within the scope of Section XI

CS-P-2A	Centrifugal Charging Pump
CS-P-2B	Centrigugal Charging Pump
CS-P-3A	Boric Acid Transfer Pump
CS-P-3B	Boric Acid Transfer Pump
SI-P-4A	Boron Injection Recirc Pump
SI-P-4B	Boron Injection Recirc Pump
SI-P-6A	Safety Injection Pump
SI-P-6A	Safety Injection Pump
RH-P-8A	Residual Heat Removal Pump
RH-P-8B	Residual Heat Removal Pump
CBS-P9A	Containment Spray Pump
CBS-P9B	Containment Spray Pump
CC-P-11A	Primary Component Cooling Pump
CC-P-11B	Primary Component Cooling Pump
CC-P-11C	Primary Component Cooling Pump
CC-P-11D	Primary Component Cooling Pump
FW-P-37A	Emergency Feed Pump (Steam Driven)
FW-P-37B	Emergency Feed Pump
DG-P-38A	D.G. Fuel Oil Transfer Pump
DG-P-38D	D.G. Fuel Oil Transfer Pump
SW-P-41A	Service Water Pump
SW-P-41B	Service Water Pump
SW-P-41C	Service Water Pump
SW-P-41D	Service Water Pump
SW-P-110A	S.W. Cooling Tower Pump
SW-P-110B	S.W. Cooling Tower Pump

FIGURE 5.3
VALVE TESTING REQUIREMENTS

SYSTEM - MAIN STEAM P&ID NO. 202074

VALVE	MS-PV3001	MS-PV3002	MS-PV3003	MS-PV3004	MS-V6	MS-V7	MS-V8	MS-V9	MS-V10	MS-V22	MS-V23	MS-V24	MS-V25	MS-V26	MS-V36	MS-V37	MS-V38	MS-V39	MS-V40	MS-V50	MS-V51	MS-V52	MS-V53	MS-V54	MS-V86	MS-V88	MS-V90	MS-V92	MS-V94	MS-V96	MS-V127	MS-V128	MS-V2004	MS-V2005	MS-V2006	MS-V2007		
COORDINATES	C4	B4	A4	D4	C3	C3	C3	C	C2	B3	B3	B3	B2	B2	A3	A3	A3	A2	A2	D3	D3	D3	D2	D2	C2	B2	A2	D2	C3	B3	C3	B3	C2	B2	A2	D4		
FUNCTION	A	A	A	A	A	A	A	A	A	A	A	A	A	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
CODE CLASS	2	2	2	2	2	2	2	2	2	2	2	2	2	C	C	C	C	C	C	C	C	C	C	C	B	B	B	B	C	C	B	B	B	B	B	B		
CATEGORY	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	30	30	30	30	4	4	4	4	-	-	-	-		
(IN.)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	30	30	30	30	C	C	G	G	GL	GL	GL	GL		
TYPE	GL	GL	GL	GL	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	G	G	G	G	C	C	P	P	M	M	M	M		
ACTUATOR	P	P	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P	P	P	P	-	-	P	P	M	M	M	M		
NORMAL POSIT	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	O	O	O	O	C	C	C	C	C	C	C	C		
LEAK TEST REQ																																						
LEAK TEST REL																																						
LEAK TEST ALT																																						
EXER TEST REQ	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	3	3	1	1	1	1	1	1		
EXER TEST REL																																						
EXER TEST ALT																																						
F.S. TEST REQ	X	X	X	X																					X	X	X	X			X	X						
																									X	X	X	X			X	X	X	X	X	X		
POS IND TEST	X	X	X	X																																		
STROKE TIME STROKE TME(sec)																									5	5	5	5			-	-	-	-	-	-		
NOTES:					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	3	3	3						
REMARKS:																																						

VALVE TESTING REQUIREMENTS

SYSTEM - EMERGENCY FEEDWATER P&ID NO. 202076

VALVE	FW-FW4212A	FW-FW4212B	FW-FW4211A	FW-FW4211B	FW-FW4213A	FW-FW4213B	FW-FW4214A	FW-FW4214B	FW-FV6440	FW-FV7040
COORDINATES	C3	C3	C1	C1	C2	C2	C3	C3	B4	B2
FUNCTION	A	A	A	A	A	A	A	A	A	A
CODE CLASS	3	3	3	3	3	3	3	3	3	3
CATEGORY	B	B	B	B	B	B	B	B	C	C
SIZE (IN.)	4	4	4	4	4	4	4	4	6	6
VALVE TYPE	GL	GL	GL	GL	GL	GL	GL	GL	AO	AO
ACTUATOR	M	M	M	M	M	M	M	M	-	-
NORMAL POSIT	O	O	O	O	O	O	O	O	C	C
LEAK TEST REQ									1	1
LEAK TEST REL										
LEAK TEST ALT										
EXER TEST REQ	1	1	1	1	1	1	1	1	3	3
ECER TEST REL	X	X	X	X	X	X	X	X	X	X
EXER TEST ALT	3	3	3	3	3	3	3	3	3	3
F.S. TEST IND										
POS IND TEST	X	X	X	X	X	X	X	X		
STROKE TME(sec)										
NOTES:	6	6	6	6	6	6	6	6	4	4
REMARKS:										

VALVE TESTING REQUIREMENTS

SYSTEM - MAIN TURBINE AND STEAM DRAINS P&ID NO. 202086

VALVE	FW-V303	FW-V309	FW-V408	FW-V457	FW-V576	FW-V582	FW-V588	FW-V594	FW-V630	FW-V631	FW-V632	FW-V633
COORDINATES	C4	C4	B4	D4	C4	C4	B4	D4	C4	C4	B4	D4
FUNCTION	A	A	A	A	A	A	A	A	A	A	A	A
CODE CLASS	2	2	2	2	2	2	2	2	2	2	2	2
CATEGORY	B	B	B	B	C	C	C	C	C	C	C	C
SIZE (IN.)	18	18	18	18	4	4	4	4	18	18	18	18
VALVE TYPE	G	G	G	G	C	C	C	C	C	C	C	C
ACTUATOR	P	P	P	P	-	-	-	-	-	-	-	-
NORM POSIT	O	O	O	O	C	C	C	C	O	O	O	O
LEAK TEST REQ												
LEAK TEST REL												
LEAK TEST ALT												
EXER TEST REQ	1	1	1	1	3	3	3	3	3	3	3	3
EXER TEST REL	X	X	X	X	X	X	X	X	X	X	X	X
EXER TEST ALT	1	1	1	1	3	3	3	3	2	2	2	2
F.S. TEST REQ	X	X	X	X								
POS IND TEST	X	X	X	X								
STROKE TME(sec)	20	20	20	20								
NOTES:	2	2	2	2	4	4	4	4	30	30	30	30
REMARKS:												

VALVE TESTING REQUIREMENTS

SYSTEM - MAIN TURBINE AND STEAM DRAINS P&ID NO. 202086

VALVE	MS-V44	MS-V45	MS-V46	MS-V47
COORDINATES	C4	C3	C4	C4
FUNCTION	A	A	A	A
CODE CLASS	2	2	2	2
CATEGORY	B	B	B	B
SIZE (IN.)	1	1	1	1
VALVE TYPE	GL	GL	GL	GL
ACTUATOR	M	M	M	M
NORM POSIT	O	O	O	O
LEAK TEST REQ				
LEAK TEST REL				
LEAK TEST ALT				
EXER TEST REQ	1	1	1	1
EXER TEST REL				
EXER TEST ALT				
F.S. TEST REQ				
POS IND TEST	X	X	X	X
STROKE TME(sec)				
NOTES:				
REMARKS:				

VALVE TESTING REQUIREMENTS

SYSTEM - AUX BOILER STEAM AND CONDENSATE RETURN P&ID NO. 202100

VALVE	AS-V175	AS-V176
COORDINATES	A2	A2
FUNCTION	A	A
CODE CLASS	3	3
CATEGORY	B	B
SIZE (IN.)	12	12
VALVE TYPE	G	G
ACTUATOR	M	M
NORMAL POSIT	O	O
LEAK TEST REQ		
LEAK TEST REL		
LEAK TEST ALT		
EXER TEST REQ	1	1
EXER TEST REL		
EXER TEST ALT		
F.S. TEST REQ		
POS IND TEST	X	X
STROKE TME(sec)		
NOTES:		
REMARKS:		

VALVE TESTING REQUIREMENTS

SYSTEM - DIESEL GENERATOR FUEL OIL P&ID NO. 202102

VALVE	DG-V115	DG-V121
COORDINATES	A4	A3
FUNCTION	A	A
CODE CLASS	3	3
CATEGORY	C	C
SIZE (IN.)	1.5	1.5
VALVE TYPE	C	C
ACTUATOR	-	-
NORMAL POSIT	C	C
LEAK TEST REQ		
LEAK TEST REL		
LEAK TEST ALT		
EXER TEST REQ	3	3
EXER TEST REL		
EXER TEST ALT		
F.S. TEST REQ		
POS IND TEST		
STROKE TME(sec)		
NOTES:	3	3
REMARKS:		

VALVE TESTING REQUIREMENTS

SYSTEM - DIESEL GENERATOR COOLING WATER P&ID NO. 202103

VALVE	DG-V1A	DG-V1B	DG-V2A	DG-V2B	DG-V4A	DG-V4B	DG-V5A	DG-V5B	DG-V87A	DG-V87B	DG-V94A	DG-V94B
COORDINATES	C3	C1	C3	C1	B3	B1	B3	B1	D4	D2	C3	C2
FUNCTION	A	A	A	A	A	A	A	A	A	A	A	A
CODE CLASS												
CATEGORY	C	C	C	C	C	C	C	C	C	C	C	C
SIZE (IN.)	6	6	6	6	6	6	6	6				
VALVE TYPE	C	C	C	C	C	C	C	C	C	C	C	C
ACTUATOR	-	-	-	-	-	-	-	-	-	-	-	-
NORMAL POSIT	C	C	C	C	C	C	C	C	C	C	C	C
LEAK TEST REQ												
LEAK TEST REL												
LEAK TEST ALT												
EXER TEST REQ	3	3	3	3	3	3	3	3	3	3	3	3
EXER TEST REL												
EXER TEST ALT												
F.S. TEST REQ												
POS IND TEST												
STROKE TME(sec)												
NOTES:	27 33 34 4	27 33 34	27 33 34	27 33 34	27 33 34	27 33 34	27 33 34	27 33 34	27 33 34	27 33 34	27 33 34	27 33 34
REMARKS:												

VALVE TESTING REQUIREMENTS

SYSTEM - LEAK DETECTION P&ID NO. 500037-2

VALVE	LD-V1	LD-V2
COORDINATES	D3	D3
FUNCTION	P	P
CODE CLASS	2	2
CATEGORY	A	A
SIZE (IN.)	.5	.5
VALVE TYPE	GL	GL
ACTUATOR	MA	MA
NORMAL POSIT	LC	LC
LEAK TEST REQ	2	2
LEAK TEST REL		
LEAK TEST ALT		
EXER TEST REQ		
EXER TEST REL		
EXER TEST ALT		
F.S. TEST REQ		
POS IND TEST		
STROKE TME(sec)		
NOTES:		
REMARKS:		

VALVE TESTING REQUIREMENTS

SYSTEM - CONTAINMENT PURGE P&ID NO. 604131

VALVE	CAP-V1	CAP-V2	CAP-V3	CAP-V4	COP-V1	COP-V2	COP-V3	COP-V4
COORDINATES	C2	C1	C2	C2	C2	C2	D2	D2
FUNCTION	A	A	A	A	A	A	A	A
CODE CLASS	2	2	2	2	2	2	2	2
CATEGORY	A	A	A	A	A	A	A	A
SIZE (IN.)	36	36	36	36	8	8	8	8
VALVE TYPE	B	B	B	B	B	B	B	B
ACTUATOR	P	P	P	P	P	P	P	P
NORMAL POSIT	C	C	C	C	C	C	C	C
LEAK TEST REQ	2	2	2	2	2	2	2	2
LEAK TEST REL								
LEAK TEST ALT								
EXER TEST REQ	1	1	1	1	1	1	1	1
EXER TEST REL	X	X	X	X				
EXER TEST ALT	3	3	3	3				
F.S. TEST REQ	X	X	X	X	X	X	X	X
POS IND TEST	X	X	X	X	X	X	X	X
STROKE TME(sec)	5	5	5	5				
NOTES:	8	8	8	8				
REMARKS:								

VALVE TESTING REQUIREMENTS

SYSTEM - FIRE PROTECTION P&ID NO. 604146

VALVE	FPV-3088	FPV-3089
COORDINATES	D4	D4
FUNCTION	A	A
CODE CLASS	2	2
CATEGORY	AC	A
SIZE (IN.)	4	4
VALVE TYPE	G	G
ACTUATOR	-	MA
NORMAL POSIT	C	LC
LEAK TEST REQ	Z	Z
LEAK TEST REL		
LEAK TEST ALT		
EXER TEST REQ		
EXER TEST REL		
EXER TEST ALT		
F.S. TEST REQ		
POS IND TEST		
STROKE TME(sec)		
NOTES:	34	
REMARKS:		

VALVE TESTING REQUIREMENTS

SYSTEM - FLOOR DRAINS P&ID NO. 804958

VALVE	WLD-FV8805
COORDINATES	D8
FUNCTION	A
CODE CLASS	2
CATEGORY	A
SIZE (IN.)	2
VALVE TYPE	GL
ACTUATOR	S
NORMAL POSIT	O
LEAK TEST REQ	Z
LEAK TEST REL	
LEAK TEST ALT	
EXER TEST REQ	1
EXER TEST REL	
EXER TEST ALT	
F.S. TEST REQ	
POD IND TEST	X
STROKE TME(sec)	
NOTES:	25
REMARKS:	

VALVE TESTING REQUIREMENTS

SYSTEM - POST ACCIDENT SAMPLING P&ID NO. 804978

VALVE	SS-RV2805	SS-V273
COORDINATES	D4	D4
FUNCTION	A	A
CODE CLASS	2	2
CATEGORY	A	A
SIZE (IN.)	.5	.5
VALVE TYPE	GL	C
ACTUATOR	S	-
NORMAL POSIT	C	C
LEAK TEST REQ	2	2
LEAK TEST REL		
LEAK TEST ALT		
EXER TEST REQ	1	
EXER TEST REL		
EXER TEST ALT		
F.S. TEST REQ		
POS IND TEST	X	
STROKE TME(sec)		
NOTES:		34
REMARKS:		

VALVE TESTING REQUIREMENTS

SYSTEM - COMPONENT COOLING P&ID NO. 804981

VALVE	CCCV11347	CCCV11436	CCCV13210	CCCV14070	CCCV13035	CCCV11514	CCCV12613	CCCV11403	CCCV14059
COORDINATES	D4	C4	A4	D4	D4	D4	D4	C4	C4
FUNCTION	A	A	A	A	A	A	A	A	A
CODE CLASS	3	3	3	3	3	3	3	3	3
CATEGORY	B	B	B	C	C	C	C	C	C
SIZE (IN.)	14	16	10	1-5/8	3/4	3/4	3/4	3	1-5/8
VALVE TYPE	B	B	B	S	S	S	S	S	S
ACTUATOR	M	M	P	-	-	-	-	-	-
NORMAL POSIT	C	C	O	-	-	-	-	-	-
LEAK TEST REQ									
LEAK TEST REL									
LEAK TEST ALT									
EXER TEST REQ	1	1	1	2	2	2	2	2	2
EXER TEST REL									
EXER TEST ALT									
F.S. TEST REQ			X						
POS IND TEST	X	X	X						
STROKE TME(sec)	30	30	-						

NOTES:

REMARKS:

VALVE TESTING REQUIREMENTS

SYSTEM - COMPONENT COOLING P&ID NO. 804982

VALVE	CCC-V2624	CCC-V2727	CCC-V2745	CCC-V2626	CCC-V2629	CCC-V2701	CCC-V2832	CCC-V2842	CCC-V2826
COORDINATES	D4	C4	A4	D4	C4	C4	C4	B3	D4
FUNCTION	A	A	A	A	A	A	A	A	A
CODE CLASS	3	3	3	3	3	3	3	3	3
CATEGORY	B	B	B	B	B	B	B	B	B
SIZE (IN.)	14	16	10	3/4 4	3/4 4	3	3/4 4	1-5	1-5
VALVE TYPE	B	B	B	S	S	S	S	S	S
ACTUATOR	M	M	P	-	-	-	-	-	-
NORMAL POSIT	C	C	C	C	C	C	C	C	C
LEAK TEST REQ									
LEAK TEST REL									
LEAK TEST ALT									
EXER TEST REQ	1	1	1	2	2	2	2	2	2
EXER TEST REL									
EXER TEST ALT									
F.S. TEST REQ			X						
POS IND TEST									
STROKE TME(sec)	30	30	-						
NOTES:				1	1	1	1	1	1
REMARKS:									

VALVE TESTING REQUIREMENTS

SYSTEM - REFUELING CAVITY CLEANUP P&ID NO. 8049889

VALVE	SFV8686	SFV8687	SFV1001
COORDINATES	C2	C2	C2
FUNCTION	P	P	P
CODE CLASS	2	2	2
CATEGORY	A	A	AC
SIZE (IN.)	2	2	3/4
VALVE TYPE	G	G	S
ACTUATOR	MA	MA	-
NORMAL POSIT	LC	LC	-
LEAK TEST REQ	2	2	2
LEAK TEST REL			
LEAK TEST ALT			
EXER TEST REQ			
EXER TEST REL			
EXER TEST ALT			
F.S. TEST REQ			
POS IND TEST			
STROKE TME(sec)			
NOTES:			
REMARKS:			

VALVE TESTING REQUIREMENTS

SYSTEM - FLOOR DRAIN P&ID NO. 804994

VALVE	WLD-V2000	WLD-FV8331
COORDINATES	C4	C4
FUNCTION	A	P
CODE CLASS	2	2
CATEGORY	A	AC
SIZE (IN.)	2	3/4
VALVE TYPE	GL	S
ACTUATOR	S	-
NORM POSIT	O	C
LEAK TEST REQ	2	2
LEAK TEST REL		
LEAK TEST ALT		
EXER TEST REQ	1	
EXER TEST REL		
EXER TEST ATL		
F.S. TEST REQ		
POS IND TEST	X	
STROKE TME(sec)		
NOTES:	25	
REMARKS:		

VALVE TESTING REQUIREMENTS

SYSTEM - REACTOR COOLANT P&ID NO. 805002

VALVE	KC-FV2881	RC-V323
COORDINATES	D2	D2
FUNCTION	A	A
CODE CLASS	2	2
CATEGORY	B	B
SIZE (IN.)	3/4	3/4
VALVE TYPE	GL	GL
ACTUATOR	S	M
NORM POSIT	C	C
LEAK TEST REQ		
LEAK TEST REL		
LEAK TEST ALT		
EXER TEST REQ	1	1
EXER TEST REL	X	X
EXER TEST ATL	3	3
F.S. TEST REQ		
POS IND TEST	X	X
STROKE TME(sec)		10
NOTES:	9 29	9
REMARKS:		

VALVE TESTING REQUIREMENTS

SYSTEM - REACTOR COOLANT P&ID NO. 805003

VALVE	RC-V22	RC-V23
COORDINATES	B2	B1
FUNCTION	A	A
CODE CLASS	1	1
CATEGORY	A	A
SIZE (IN.)	12	12
VALVE TYPE	G	G
ACTUATOR	M	M
NORM POSIT	C	C
LEAK TEST REQ	1	1
LEAK TEST REL	X	X
LEAK TEST ALT	1	1
EXER TEST REQ	1	1
EXER TEST REL	X	X
EXER TEST ATL	2	2
F.S. TEST REQ		
POS IND TEST	X	X
STRKE TME(sec)	120	120
NOTES:	10	10
	11	11
	12	12
REMARKS:		

VALVE TESTING REQUIREMENTS

SYSTEM - REACTOR COOLANT P&ID NO. 805006

VALVE	RC-V887	RC-V888
COORDINATES	B2	B1
FUNCTION	A	A
CODE CLASS	1	1
CATEGORY	A	A
SIZE (IN.)	12	12
VALVE TYPE	G	G
ACTUATOR	M	M
NORM POSIT	C	C
LEAK TEST REQ	1	1
LEAK TEST REL	X	X
LEAK TEST ALT	1	1
EXER TEST REQ	1	1
EXER TEST REL	X	X
EXER TEST ATL	2	2
F.S. TEST REQ		
POS IND TEST	X	X
STRKE TME(sec)	120	120
NOTES:	10 11 12	10 11 12
REMARKS:		

VALVE TESTING REQUIREMENTS

SYSTEM - REACTOR COOLANT PRESSURIZER P&ID NO. 805007

VALVE	RCP-PCV456A	RCP-PCV456B	RCV-V115	RCV-V116	RCV-V117	RCV-V122	RCV-V124
COORDINATES	C3	C3	D3	D3	D3	C3	C3
FUNCTION	A	A	A	A	A	A	A
CODE CLASS	1	1	1	1	1	1	1
CATEGORY	B	B	C	C	C	B	B
SIZE (IN.)	3	3	6	6	6	3	3
VALVE TYPE	GL	GL	S	S	S	GL	GL
ACTUATOR	S	S	-	-	-	M	M
NORM POSIT	C	C	-	-	-	C	C
LEAK TEST REQ							
LEAK TEST REL							
LEAK TEST ALT							
EXER TEST REQ	1	1	2	2	2	1	1
EXER TEST REL	X	X					
EXER TEST ATL	3	3					
F.S. TEST REQ							
POS IND TEST	X	X				X	X
STROKE TME(sec)						10	10
NOTES:	13 25	13 25	1	1	1	14	14
REMARKS:							

FIGURE 5.3
VALVE TESTING REQUIREMENTS

SYSTEM - RESIDUAL HEAT REMOVAL P&ID NO. 805008

VALVE	CBS-V55	CBS-V56	RH-V4	RH-V14	RH-V15	RH-V21	RH-V22	RH-V26	RH-V29	RH-V30	RH-V31	RH-V32	RH-V35	RH-V36	RH-V40	RH-V70	RH-FCV610	RH-FCV611
COORDINATES	C4	C1	A4	D2	D1	B2	B3	C2	C1	C1	D1	D2	C3	C2	A1	D2	C4	C1
FUNCTION	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
CODE CLASS	2	2	2	2	1	2	2	2	1	1	1	2	2	2	2	2	2	2
CATEGORY	C	C	C	B	AC	B	B	B	AC	AC	AC	B	B	B	C	B	B	B
SIZE (IN.)	12	12	8	8	6	8	8	8	6	6	6	8	8	8	8	8	3	3
VALVE TYPE	C	C	C	G	C	G	G	G	C	C	C	G	G	G	C	G	G	G
ACTUATOR	-	-	-	M	-	M	M	M	-	-	-	M	M	M	-	M	M	M
NORM POSIT	C	C	C	O	C	O	O	O	C	C	C	C	C	C	C	C	O	O
LEAK TEST REQ					1				1	1	1							
LEAK TEST REL					X				X	X	X							
LEAK TEST ALT					1				1	1	1							
EXER TEST REQ	3	3	3	1	3	1	1	1	3	3	3	1	1	1	3	1	1	1
EXER TEST REL				X	X			X	X	X	X	X				X		
EXER TEST ATL				2	3			2	3	3	3	2				2		
F.S. TEST REQ																		
POS IND TEST				X		X	X	X				X	X	X		X	X	X
STROKE TME(sec)				15		15	15	15				40	15	15		40	10	10
NOTES:	3	3	3		10 15				10 15	10 15	10 15	7			3	7		

REMARKS:

VALVE TESTING REQUIREMENTS

SYSTEM - RESIDUAL HEAT REMOVAL P&ID NO. 805008

VALVE	SI-V353	SI-V355	SI-V356	SI-V317	SI-V320	SI-V321	SI-V323	SI-V335	SI-V336	SI-V347	SI-V350	SI-V351	SI-V362	SI-V370	SI-V247
COORDINATES	B4	A4	B4	B3	A3	B3	B2	A2	B2	B1	A2	B1	D4	D4	D4
FUNCTION	A	A	A	A	A	A	A	A	A	A	A	A	P	P	P
CODE CLASS	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2
CATEGORY	B	AC	AC	B	AC	AC	B	AC	AC	B	AC	AC	A	A	AC
SIZE (IN.)	10	10	10	10	10	10	10	10	10	10	10	10	3/4	3/4	3/4
VALVE TYPE	G	C	C	G	C	C	G	C	C	G	C	C	GL	GL	S
ACTUATOR	M	-	-	M	-	-	M	-	-	M	-	-	A	A	-
NORM POSIT	O	C	C	O	C	C	O	C	C	O	C	C	C	C	-
LEAK TEST REQ		1	1		1	1		1	1		1	1	2	2	2
LEAK TEST REL		X	X		X	X		X	X		X	X			
LEAK TEST ALT		1	1		1	1		1	1		1	1			
EXER TEST REQ	1	3	3	1	3	3	1	3	3	1	3	3	1	1	
EXER TEST REL	X	X	X	X	X	X	X	X	X	X	X	X			
EXER TEST ATL	2	3	3	2	3	3	2	3	3	2	3	3			
F.S. TEST REQ													X	X	
POS IND TEST	X			X			X			X			X	X	
STROKE TME(sec)	20			20			20			20			-	-	
NOTES:	18	10 16 17	10 16	18	10 16 17	10 16	18	10 16 17	10 16	18	10 16 17	10 16			
REMARKS:															

VALVE TESTING REQUIREMENTS

SYSTEM - SAFETY INJECTION HIGH HEAD P&ID NO. 805010

VALVE	CBS-V47	CBS-V48	CBS-V51	CBS-V52	CS-V46	CS-V46	CS-V47	RH-V50	RH-V51	RH-V52	RH-V53	SI-V57	SI-V77	SI-V81	SI-V82	SI-V86	SI-V87	SI-V89	SI-V90	SI-V93	SI-V96	SI-V102	SI-V106	SI-V110	SI-V111	SI-V112	SI-V114	SI-V118	CBS-V49	SI-V84	SI-V91	SI-V122	SI-V226	SI-V130	CBS-V53
COORDINATES	B1	B1	B2	B2	B1	B1	B1	C3	B3	C4	C4	B2	B3	B4	B4	B4	B4	B2	C2	B1	C2	C3	C3	C3	B2	C2	B3	A3	B1	B2	B2	A3	A4	A4	B2
FUNCTION	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
CODE CLASS	2	2	2	2	2	2	2	1	1	1	1	2	2	1	1	1	1	2	2	2	2	2	1	1	2	2	2	1	2	2	2	1	1	1	2
CATEGORY	B	C	B	C	B	B	B	AC	AC	AC	AC	C	B	AC	AC	AC	AC	B	B	B	C	B	AC	AC	B	B	B	AC	B	C	C	AC	AC	AC	B
SIZE (IN.)	8	8	8	8	6	6	6	8	8	6	6	4	4	2	6	2	6	1.5	1.5	2	4	4	2	2	4	4	4	2	6	2	2	2	2	2	6
VALVE TYPE	G	C	G	C	G	G	G	C	C	C	C	C	G	C	C	C	C	GL	GL	GL	C	G	C	C	G	G	G	C	G	C	C	C	C	C	G
ACTUATOR	M	-	M	-	M	M	M	-	-	-	-	-	M	-	-	-	-	M	M	M	-	M	-	-	M	M	M	-	M	-	-	-	-	-	M
NORM POSIT	O	C	O	C	C	C	O	C	C	C	C	C	C	C	C	C	C	O	O	O	C	C	C	C	O	O	O	C	O	C	C	C	C	C	O
LEAK TEST REQ								1	1	1	1			1	1	1	1						1	1				1				1	1	1	
LEAK TEST REL								X	X	X	X			X	X	X	X						X	X				X				X	X	X	
LEAK TEST ALT								1	1	1	1			1	1	1	1						1	1				1				1	1	1	
EXER TEST REQ	1	3	1	3	1	1	1	3	3	3	3	3	1	3	3	3	3	1	1	1	3	1	3	3	1	1	1	3	1	3	3	3	3	3	1
EXER TEST REL	X		X					X	X	X	X	X	X	X	X	X	X				X	X	X	X			X	X				X	X	X	
EXER TEST ATL	2		2					3	3	3	3	3	2	3	3	3	3				3	2	3	3			2	3				3	3	3	
F.S. TEST REQ																																			
POS IND TEST	X		X		X	X	X						X					X	X	X		X			X	X	X		X						X
STROKE TME(sec)	15		15		10	10	10						10					10	10	10		10			15	15	10		10						15
NOTES:	18	3	18	3				10 19	10 19	10 19	10 19	19	7	10 19	10 19	10 19	10 19				19	7	10 19	10 19	3	3	18	10 19		3	3	10 19	10 19	10 19	
REMARKS:																																			

VALVE TESTING REQUIREMENTS

SYSTEM - SAFETY INJECTION HIGH HEAD P&ID NO. 805010

VALVE	SI-V1138	SI-V1139	SI-V1140	SI-V1144	SI-V1148	SI-V1152	SI-V1156	SI-V1157	SI-V1297
COORDINATES	C3	D3	C3	D4	D4	D4	C4	C3	C3
FUNCTION	A	A	A	A	A	A	A	A	A
CODE CLASS	2	2	1	1	1	1	1	2	2
CATEGORY	B	B	AC	AC	AC	AC	AC	A	C
SIZE (IN.)	4	4	3	1.5	1.5	1.5	1.5	3/4	4
VALVE TYPE	G	G	C	C	C	C	GL	GL	C
ACTUATOR	M	M	-	-	-	-	-	A	-
NORM POSIT	C	C	C	C	C	C	C	C	C
LEAK TEST REQ			1	1	1	1	1		
LEAK TEST REL			X	X	X	X	X		
LEAK TEST ALT			1	1	1	1	1		
EXER TEST REQ	1	1	3	3	3	3	3	1	3
EXER TEST REL			X	X	X	X	X		X
EXER TEST ATL			3	3	3	3	3		3
F.S. TEST REQ								X	
POS IND TEST	X	X						X	
STROKE TME(sec)									
NOTES:			10 20	10 20	10 20	10 20	10 20		20
REMARKS:									

VALVE TESTING REQUIREMENTS

SYSTEM - CHEMICAL AND VOLUME CONTROL/PURIFICATION P&ID NO. 805011

VALVE	CS-V1442	CS-V1443	CS-V1444	CS-V1449	CS-V1450	CS-V1667	CS-V1668	CS-V1677	CS-V1678	CS-V1679	CS-V1681	CS-V1682	CS-V1685	CS-V1686	CS-V1794	CS-LCV459	CS-LCV460
COORDINATES	C3	B3	B3	B4	B4	B1	B1	A3	A3	A3	A3	A3	A3	A3	B1	A4	A4
FUNCTION	A	A	A	A	A	A	A	A	A	A	A	A	A	A	P	A	A
CODE CLASS	2	2	2	2	2	2	2	2	1	1	1	1	1	1	2	1	1
CATEGORY	B	A	AC	A	A	A	A	B	C	C	C	C	B	C	AC	B	B
SIZE (IN.)	3	3	3	3	3	2	2	2	3	3	3	3	2	2	3/4	3	3
VALVE TYPE	G	G	C	G	GL	GL	GL	GL	C	C	C	C	GL	C	S	GL	GL
ACTUATOR	M	M	-	M	A	M	M	M	-	-	-	-	A	-	-	A	A
NORM POSIT	O	O	O	O	O	O	O	C	O	O	O	O	C	C	-	O	O
LEAK TEST REQ				2	2	2	2								2		
LEAK TEST REL																	
LEAK TEST ALT																	
EXER TEST REQ	1	1	3	1	1	1	1	1	3	3	3	3	1	3		1	1
EXER TEST REL	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X
EXER TEST ATL	3	3	3	3	3	3	3	3	3	3	3	3	2	2		3	3
F.S. TEST REQ					X											X	X
POS IND TEST	X	X		X	X	X	X	X					X			X	X
STROKE TME(sec)	10	10		10	10	10	10	10					10				
NOTES:	21	21	21	21	21	22	22	21	21	21	21	21	23	23		21	21
REMARKS:																	

VALVE TESTING REQUIREMENTS

SYSTEM - CHEMICAL AND VOLUME CONTROL/CHARGING P&ID NO. 805012

VALVE	CBS-V580	CBS-V600	CS-V1902	CS-V2000	CS-V2009	CS-V1961	CS-V1971	CS-V1991	CS-V2111	RMW-V119	CS-LCV112B	CS-LCV112C	CS-V2113
COORDINATES	B3	B2	C3	B3	B2	B1	B2	B3	B2	C3	C3	C3	B4
FUNCTION	A	A	A	A	A	A	A	A	A	A	A	A	A
CODE CLASS	2	2	2	2	2	2	2	2	2	2	2	2	2
CATEGORY	C	C	C	C	C	B	B	C	C	C	B	B	C
SIZE (IN.)	8	8	4	4	4	2	2	2	2	2	4	4	3
VALVE TYPE	C	C	C	C	C	GL	GL	C	C	C	G	G	C
ACTUATOR	-	-	-	-	-	M	M	-	-	-	M	M	-
NORM POSIT	C	C	C	C	C	O	O	C	C	C	O	O	C
LEAK TEST REQ													
LEAK TEST REL													
LEAK TEST ALT													
EXER TEST REQ	3	3	3	3	3	1	1	3	3	3	1	1	3
EXER TEST REL											X	X	X
EXER TEST ATL											2	3	3
F.S. TEST REQ													
POS IND TEST						X	X				X	X	
STROKE TME(sec)						10	10				10	10	
NOTES:	21	21	3	3	3			3	3	24	21	21	
REMARKS:													

VALVE TESTING REQUIREMENTS

SYSTEM - CHEMICAL AND VOLUME CONTROL/BORATION P&ID NO. 805014

VALVE	CS-V4267	CS-V4274	CS-V4493	CS-V4553
COORDINATES	C2	C2	C3	B3
FUNCTION	A	A	A	A
CODE CLASS	2	2	3	3
CATEGORY	B	C	C	C
SIZE (IN.)	2	2	2	2
VALVE TYPE	GL	C	C	C
ACTUATOR	M	-	-	-
NORM POSIT	C	C	C	C
LEAK TEST REQ				
LEAK TEST REL				
LEAK TEST ALT				
EXER TEST REQ	1	3	3	3
EXER TEST REL	X	X		
EXER TEST ATL	2	2		
F.S. TEST REQ				
POS IND TEST	X			
STROKE TME(sec)	10			
NOTES:	24	24	3	3
REMARKS:				

VALVE TESTING REQUIREMENTS

SYSTEM - COMPONENT COOLING P&ID NO. 805016

VALVE	CCTV2277-1	CCTV2298-2	CCV2458	CCV2429	CCV4347	CCV4348	CCV3204	CCV3201
COORDINATES	B4	B4	A4	A3	C2	C2	C3	B3
FUNCTION	A	A	A	A	A	A	A	A
CODE CLASS	3	3	3	3	3	3	3	3
CATEGORY	B	B	C	C	B	B	C	C
SIZE (IN.)	24	24	24	24	24	24	3/4	3/4
VALVE TYPE	B	B	C	C	B	B	S	S
ACTUATOR	P	P	-	-	P	P	-	-
NORM POSIT	O	O	O	O	O	O	C	C
LEAK TEST REQ								
LEAK TEST REL								
LEAK TEST ALT								
EXER TEST REQ	1	1	3	3	1	1	2	2
EXER TEST REL	X	X			X	X		
EXER TEST ATL	4	4			4	4		
F.S. TEST REQ	X	X			X	X		
POS IND TEST	X	X			X	X		
STROKE TME(sec)					-	-		
NOTES:	6 26	6 26	3	3	26	26	1	1
REMARKS:								

VALVE TESTING REQUIREMENTS

SYSTEM - COMPONENT COOLING P&ID NO. 805018

VALVE	CCC-CTV2171-1	CCC-CTV2171-2	CCC-VV1	CCC-VV4	CCC-VV3421	CCC-VV4267	CCC-VV4227	CCC-VV634	CCC-VV423	CCC-VV343
COORDINATES	B4	B4	A4	A3	B3	C2	C2	B2	B3	B3
FUNCTION	A	A	A	A	A	A	A	A	A	A
CODE CLASS	3	3	3	3	3	3	3	3	3	3
CATEGORY	B	B	C	C	B	B	B	C	C	C
SIZE (IN.)	24	24	24	24	6	20	20	3/4	2	3/4
VALVE TYPE	B	B	C	C	B	B	B	S	S	S
ACTUATOR	P	P	-	-	P	P	P	-	-	-
NORM POSIT	O	O	O	O	O	O	O	C	C	C
LEAK TEST REQ										
LEAK TEST REL										
LEAK TEST ALT										
EXER TEST REQ	1	1	3	3	1	1	1	2	2	2
EXER TEST REL	X	X			X	X	X			
EXER TEST ATL	4	4			4	4	4			
F.S. TEST REQ	X	X			X	X	X			
POS IND TEST	X	X			X	X	X			
STROKE TME(sec)										
NOTES:	6 26	6 26	3	3	26	26	26	1	1	1
REMARKS:										

VALVE TESTING REQUIREMENTS

SYSTEM - SERVICE WATER P&ID NO. 805019

VALVE	SW-V44	SW-V45	SW-V115	SW-V116	SW-V117	SW-V118	SW-V119	SW-V120	SW-V123	SW-V124	SW-V125	SW-V134	SW-V153	SW-V154	SW-V226	SW-V227	SW-V255	SW-V256	SW-V1139	SW-V1140	SW-V232	SW-V273	SW-V514A	SW-V514B	SW-V774	SW-V776
COORDINATES	D4	D4	D3	C3	C3	C3	C2	C2	C2	B2	B2	D2	B3	B3	B2	B2	B2	B3	B2	A2	A3	D3	C3	C3	C3	C2
FUNCTION	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
CODE CLASS	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
CATEGORY	B	B	B	B	B	B	B	B	B	C	B	B	C	B	B	B	B	B	B	B	B	C	C	C	B	B
SIZE (IN.)	12	12	24	16	24	16	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	2	3	3/4	3/4	24	24
VALVE TYPE	B	B	B	B	B	B	B	B	B	C	B	B	C	B	B	B	B	B	B	B	B	S	S	S	S	B	B
ACTUATOR	M	M	M	P	M	P	M	M	M	-	M	M	-	M	M	M	M	M	M	M	M	-	-	-	-	M	M
NORM POSIT	O	O	O	C	o	C	O	O	C	C	C	C	C	C	C	C	C	C	C	O	O	C	C	C	C	C	C
LEAK TEST REQ																											
LEAK TEST REL																											
LEAK TEST ALT																											
EXER TEST REQ	1	1	1	1	1	1	1	1	1	3	1	1	3	1	1	1	1	1	1	1	1	2	2	2	2	1	1
EXER TEST REL																											
EXER TEST ATL																											
F.S. TEST REQ				X		X																					
POS IND TEST	X	X	X	X	X	X	X	X	X		X	X		X	X	X	X	X	X	X						X	X
STROKE TME(sec)	56	56	69	40	69	40	69	69	44		44	69		69	69	69	69	69	69	69						69	69
NOTES:				27		27				3			3									1	1	1	1		
REMARKS:																											

VALVE TESTING REQUIREMENTS

SYSTEM - NITROGEN GAS P&ID NO. 805020

VALVE	NG-V13	NG-V14	NG-FV4609	NG-FV4610
COORDINATES	C2	C1	D2	D2
FUNCTION	A	A	A	A
CODE CLASS	2	2	2	2
CATEGORY	A	A	A	A
SIZE (IN.)	1	1	1	1
VALVE TYPE	GL	GL	GL	GL
ACTUATOR	A	A	S	S
NORM POSIT	C	C	C	C
LEAK TEST REQ	2	2	2	2
LEAK TEST REL				
LEAK TEST ALT				
EXER TEST REQ	1	1	1	1
EXER TEST REL				
EXER TEST ATL				
F.S. TEST REQ				
POS IND TEST	X	X	X	X
STROKE TME(sec)				
NOTES:				
REMARKS:				

VALVE TESTING REQUIREMENTS

SYSTEM - REACTOR MAKEUP WATER P&ID NO. 805021

VALVE	RMW-V29	RMW-V30
COORDINATES	D1	D2
FUNCTION	A	A
CODE CLASS	2	2
CATEGORY	AC	A
SIZE (IN.)	3	3
VALVE TYPE	C	G
ACTUATOR	-	P
NORM POSIT	C	C
LEAK TEST REQ	2	2
LEAK TEST REL		
LEAK TEST ALT		
EXER TEST REQ		1
EXER TEST REL		
EXER TEST ATL		
F.S. TEST REQ		1
POS IND TEST		X
STROKE TME(sec)		
NOTES:	32	
REMARKS:		

VALVE TESTING REQUIREMENTS

SYSTEM - COMBUSTIBLE GAS CONTROL P&ID NO. 805022

VALVE	CGC-1104	CGC-1105	CGC-2808	CGC-3606	CGC-4603	CGC-4604	CGC-4605	CGC-4606	CGC-2605	CGC-2604	CGC-4606	CGC-3602	CGC-3610	CGC-1102	CGC-1103	CGC-1104	CGC-3605	CGC-3605
COORDINATES	C3	C3	B3	B3	A3	A3	A3	A3	A3	A3	B3	B3	B3	B3	B3	B2	B3	B2
FUNCTION	A	P	A	P	P	P	P	A	A	A	A	A	A	A	A	A	A	A
CODE CLASS	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
CATEGORY	A	A	A	A	A	A	A	AC	C	B	C	B	B	B	B	B	B	B
SIZE (IN.)	2	2	2	2	2	2	10	10	1	1	1	1	1	1	1	1	1	1
VALVE TYPE	GL	GL	GL	GL	G	G	G	C	C	GL	C	GL	GL	GL	GL	GL	GL	GL
ACTUATOR	M	MA	M	MA	MA	MA	MA	-	-	MA	-	MA	MA	MA	MA	MA	MA	MA
NORM POSIT	C	LC	C	LC	LC	LC	LC	C	C	LC	C	LC	LC	LC	C	C	C	C
LEAK TEST REQ	2	2	2	2	2	2	2	2										
LEAK TEST REL																		
LEAK TEST ALT																		
EXER TEST REQ	1		1					3	3	1	3	1	1	1	1	1	1	1
EXER TEST REL																		
EXER TEST ATL																		
F.S. TEST REQ																		
POS IND TEST	X		X															
STROKE TME(sec)										35		35	35	35	35	35	35	35

NOTES:

REMARKS:

VALVE TESTING REQUIREMENTS

SYSTEM - CONTAINMENT SPRAY P&ID NO. 805023

VALVE	CBS-V2	CBS-V3	CBS-V5	CBS-V6	CBS-V7	CBS-V8	CBS-V11	CBS-V11	CBS-V11	CBS-V11	CBS-V11	CBS-V11	CBS-V25	CBS-V26	CBS-V31	CBS-V32	CBS-V33	CBS-V38	CBS-V43	CS-LCV112D	CS-LCV112E
COORDINATES	B3	B3	B2	B2	B1	B3	D1	D1	B1	A2	C1	C1	A2	C4	D1	D2	D1	D4	D3	D3	D3
FUNCTION	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
CODE CLASS	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
CATEGORY	B	C	B	C	B	C	B	B	B	C	B	C	C	C	B	B	B	B	B	B	B
SIZE (IN.)	12	12	12	12	16	12	8	8	16	12	8	8	16	16	4	4	4	6	6	8	8
VALVE TYPE	G	C	G	C	G	C	G	C	G	C	G	C	C	C	B	B	B	G	G	G	G
ACTUATOR	M	-	M	-	M	-	M	-	M	-	M	-	-	-	P	P	P	M	M	M	M
NORM POSIT	O	C	O	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
LEAK TEST REQ																					
LEAK TEST REL																					
LEAK TEST ALT																					
EXER TEST REQ	1	3	1	3	1	3	1	3	1	3	1	3	3	3	1	1	1	1	1	1	1
EXER TEST REL						X		X		X		X	X	X						X	X
EXER TEST ATL						3		3		3		3	3	3						2	2
F.S. TEST REQ															X	X	X				
POS IND TEST	X		X		X		X		X		X				X	X	X	X	X	X	X
STROKE TME(sec)	20		20		34		13		34		13							15	15		
NOTES:						29		28		29		28	29	29	3	3	3			31	31
REMARKS:																					

VALVE TESTING REQUIREMENTS

SYSTEM - STEAM GENERATOR BLDG P&ID NO. 805024

VALVE	SB-V11	SB-V13	SB-V15	SB-V17	SB-V19	SB-V110	SB-V111	SB-V112
COORDINATES	D4	D4	D4	D4	D3	D3	D3	D3
FUNCTION	A	A	A	A	A	A	A	A
CODE CLASS	2	2	2	2	2	2	2	2
CATEGORY	B	B	B	B	B	B	B	B
SIZE (IN.)	3	3	3	3	3	3	3	3
VALVE TYPE	G	G	G	G	G	G	G	G
ACTUATOR	P	P	P	P	P	P	P	P
NORM POSIT	O	O	O	O	O	O	O	O
LEAK TEST REQ								
LEAK TEST REL								
LEAK TEST ALT								
EXER TEST REQ	1	1	1	1	1	1	1	1
EXER TEST REL								
EXER TEST ATL								
F.S. TEST REQ	X	X	X	X	X	X	X	X
POS IND TEST	X	X	X	X	X	X	X	X
STROKE TME(sec)	10	10	10	10	10	10	10	10
NOTES:								
REMARKS:								

VALVE TESTING REQUIREMENTS

SYSTEM - SAMPLE SERVICE P&ID NO. 805025 REV. 9

VALVE	RCC-FV2883	RCC-FV2831	RCC-FV2832	RCC-FV2833	RCC-FV2836	RCC-FV2837	RCC-FV2840	RCC-FV2747	RCC-FV2776	RCC-FV2749	RCC-FV2796	RCC-V3122	RCC-V3114	RCC-V3137
COORDINATES	D4	D4	C4	C4	A4	A4	D4	C4	C4	C4	B4	D4	C4	C4
FUNCTION	A	A	A	A	A	A	A	A	A	A	A	A	A	A
CODE CLASS	2	2	2	2	2	2	2	2	2	2	2	2	2	2
CATEGORY	A	A	A	A	A	A	A	A	A	A	A	AC	AC	AC
SIZE (IN.)	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	3/4	3/4	3/4
VALVE TYPE	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	S	S	S
ACTUATOR	S	S	S	S	S	S	S	S	S	S	S	-	-	-
NORM POSIT	O	C	C	C		O	O	O	O	C	C	C	C	C
LEAK TEST REQ	2	2	2	2	2	2	2	2	2	2	2	2	2	2
LEAK TEST REL														
LEAK TEST ALT														
EXER TEST REQ	1	1	1	1	1	1	1	1	1	1	1	1		
EXER TEST REL														
EXER TEST ATL														
F.S. TEST REQ	X	X	X	X	X	X	X	X	X	X	X	X		
POS IND TEST	X	X	X	X	X	X	X	X	X	X	X	X		
STROKE TME(sec)														
NOTES:	25	25	25	25	25	25	25	25	25	25	25	25	1	1	1
REMARKS:														

VALVE TESTING REQUIREMENTS

SYSTEM - PRIMARY COMPONENT COOLING P&ID NO. 805028

VALVE	CCV-V175	CCV-V176	CCV-V257	CCV-V256	CCV-V474	CCV-V840
COORDINATES	D4	D4	D4	D4	D4	D4
FUNCTION	A	A	A	A	A	A
CODE CLASS	2	2	2	2	2	2
CATEGORY	A	A	A	A	AC	AC
SIZE (IN.)	12	12	12	12	1.5	1.5
VALVE TYPE	B	B	B	B	S	S
ACTUATOR	P	P	P	P	-	-
NORM POSIT	O	O	O	O	C	C
LEAK TEST REQ	2	2	2	2	2	2
LEAK TEST REL						
LEAK TEST ALT						
EXER TEST REQ	1	1	1	1		
EXER TEST REL	X	X	X	X		
EXER TEST ATL	3	3	3	3		
F.S. TEST REQ	X	X	X	X		
POS IND TEST	X	X	X	X		
STROKE TME(sec)	-	-	-	-		
NOTES:	22	22	22	22		
REMARKS:						

VALVE TESTING REQUIREMENTS

SYSTEM - PRIMARY COMPONENT COOLING P&ID NO. 805029

VALVE	CCP-V168	CCP-V155	CCP-V172	CCP-V121	CCP-V410	CCP-V845
COORDINATES	D4	D3	D4	D3	D3	D3
FUNCTION	A	A	A	A	P	P
CODE CLASS	2	2	2	2	2	2
CATEGORY	A	A	A	A	AC	AC
SIZE (IN.)	12	12	12	12	1.5	1.5
VALVE TYPE	B	B	B	B	S	S
ACTUATOR	P	P	P	P	-	-
NORM POSIT	O	O	O	O		
LEAK TEST REQ	2	2	2	2	2	2
LEAK TEST REL						
LEAK TEST ALT						
EXER TEST REQ	1	1	1	1		
EXER TEST REL	X	X	X	X		
EXER TEST ATL	3	3	3	3		
F.S. TEST REQ						
POS IND TEST	X	X	X	X		
STROKE TME(sec)						
NOTES:	22	22	22	22		
REMARKS:						

VALVE TESTING REQUIREMENTS

SYSTEM - DEMINERALIZER WATER P&ID NO. 805030

VALVE	DM-V4	DM-V5	DM-V18
COORDINATES	B3	B3	B3
FUNCTION	P	P	P
CODE CLASS	2	2	2
CATEGORY	A	A	AC
SIZE (IN.)	1	1	1.5
VALVE TYPE	G	G	S
ACTUATOR	MA	MA	-
NORM POSIT	LC	LC	C
LEAK TEST REQ	2	2	2
LEAK TEST REL			
LEAK TEST ALT			
EXER TEST REQ			
EXER TEST REL			
EXER TEST ATL			
F.S. TEST REQ			
POS IND TEST			
STROKE TME(sec)			
NOTES:			
REMARKS:			

VALVE TESTING REQUIREMENTS

SYSTEM - SERVICE WATER P&ID NO. 805033

VALVE	SW-V1	SW-V2	SW-V3	SW-V2-2	SW-V2-8	SW-V2-9	SW-V3-0	SW-V3-1
COORDINATES	D3	D3	D3	D3	C3	C3	C3	C3
FUNCTION	A	A	A	A	A	A	A	A
CODE CLASS	3	3	3	3	3	3	3	3
CATEGORY	C	B	C	B	C	B	C	B
SIZE (IN.)	24	24	24	24	24	24	24	24
VALVE TYPE	C	B	C	B	C	B	C	B
ACTUATOR	-	M	-	M	-	M	-	M
NORM POSIT	O	O	C	C	O	O	C	C
LEAK TEST REQ								
LEAK TEST REL								
LEAK TEST ALT								
EXER TEST REQ	3	1	3	1	3	1	3	1
EXER TEST REL								
EXER TEST ATL								
F.S. TEST REQ								
POS IND TEST		X		X		X		X
STROKE TME(sec)		44		44		44		44
NOTES:	3		3		3		3	
REMARKS:								

VALVE TESTING REQUIREMENTS

SYSTEM - EQUIPMENT DRAIN P&ID NO. 805040

VALVE	WLD-V81	WLD-V82	WLD-V213
COORDINATES	C2	C1	C1
FUNCTION	A	A	A
CODE CLASS	2	2	2
CATEGORY	A	A	AC
SIZE (IN.)	3	3	1.5
VALVE TYPE	GL	GL	S
ACTUATOR	A	A	-
NORM POSIT	O	O	C
LEAK TEST REQ	2	2	2
LEAK TEST REL			
LEAK TEST ALT			
EXER TEST REQ	1	1	2
EXER TEST REL			
EXER TEST ATL			
F.S. TEST REQ	X	X	
POS IND TEST	X	X	
STROKE TME(sec)	10	10	
NOTES:			1
REMARKS:			

VALVE TESTING REQUIREMENTS

SYSTEM - EQUIPMENT VENTS P&ID NO. 805635

VALVE	VG-FV1661	VG-FV1712
COORDINATES	BZ	BZ
FUNCTION	A	A
CODE CLASS	2	2
CATEGORY	A	A
SIZE (IN.)	2	2
VALVE TYPE	GL	GL
ACTUATOR	S	S
NORM POSIT	O	O
LEAK TEST REQ	2	2
LEAK TEST REL		
LEAK TEST ALT		
EXER TEST REQ	1	1
EXER TEST REL		
EXER TEST ATL		
F.S. TEST REQ	X	X
POS IND TEST	X	X
STROKE TME(sec)		
NOTES:	25	25
REMARKS:		

VALVE TESTING REQUIREMENTS

SYSTEM - CONTAINMENT AIR HANDLING P&ID NO. (later)

VALVE	CAH-FV652	CAH-FV653	CAH-FV654	CAH-V12
COORDINATES				
FUNCTION	A	A	A	A
CODE CLASS	2	2	2	2
CATEGORY	A	A	A	A
SIZE (IN.)	.5	.5	.5	.5
VALVE TYPE	GL	GL	GL	C
ACTUATOR	S	S	S	-
NORM POSIT	O	O	O	O
LEAK TEST REQ	2	2	2	2
LEAK TEST REL				
LEAK TEST ALT				
EXER TEST REQ	1	1	1	3
EXER TEST REL				X
EXER TEST ATL				3
F.S. TEST REQ				
POS IND TEST				
STROKE TME(sec)	X	X	X	
NOTES:	25	25	25	1
REMARKS:				

VALVE TESTING REQUIREMENTS NOTES

1. The frequency and quantity of safety valves subject to test at each refueling outage is in accordance with Section XI, IWV-3500.

2. Valve full closure time on any closure actuation signal will be verified while in hot standby during each reactor shutdown except that this verification need not be determined more than once per 3 months for multiple shutdowns. Shutdown will not be required for the sole purpose of performing the full closure test. As an alternative, the valve will be part stroked every 3 months. (Relief Request #1 and #4.)

3. This valve will be exercised in conjunction with associated pump operability testing per Section XI, IWP-3000.

4. This valve will be exercised during refueling outages since operation of this portion of the feed system will introduce cold water into the steam generator feed nozzles. (Relief Request #2 and #5.)

5. N/A

6. This valve modulates on system flow demand. Stroke time is not critical and will not be measured. (Relief Request #3.)

7. The valves are required by technical specifications to be shut and power removed from their operators during Modes 1, 2, 3 and 4. They will be exercised during cold shutdown. (Relief Request #13.)

8. Opening this valve during operational modes other than cold shutdown is prohibited by tech specs. This valve will be exercised during refueling outages and when operated prior to containment entry. (Relief Request #7.)

9. Reactor vessel head vent line valves will be tested during refueling outages due to the possibility of RCS depressurization if one valve was opened and the second valve was already open or had failed. (Relief Request #9.)

10. This valve is a boundary valve between high-pressure RCS piping and adjacent low-pressure systems. As such, it is Category A per IWV-2200. It will be leak tested in accordance with technical specifications. (Relief Request #10.)

11. This valve will be exercised during cold shutdown when the RHR system is placed on line. (Relief Request #11.)

12. A valve position indicator verification will be performed in accordance with IWV-3300 each refueling.

13. Failure of the pressurizer relief valve in the open or partially open position, or failure of the valve to seat properly after exercising, could lead to circumstances where pressurizer safety valve or other pressurizer system valve leakage would be masked and go undetected. This valve will be exercised each refueling outage. (Relief Request #12.)

VALVE TESTING REQUIREMENTS NOTES

14. Pressurizer relief block valves are cycled quarterly per Technical Specification 3/4.4.4.

15. Exercising this normally closed check valve would require that reactor coolant system pressure be below RHR pump discharge pressure and result in injection of borated water from the RHR pumps. This valve will be verified as operable during refueling outages. (Relief Request # 15.)

16. Exercising this normally closed check valve would require simulation of a LOCA (low RCS pressure). The valve will be verified as operable by initiating accumulator injection to the RCS with the vessel head removed during each refueling outage. (Relief Request #16.)

17. Leak testing this valve requires shutting the associated accumulator isolation MOV. The MOV is required, by technical specification, to be open during power operations. This valve will be tested during cold shutdown when the accumulator is isolated. (Relief Request #17.)

18. This normally open valve is in the position required for accident conditions and, per technical specifications, must remain open during power operations. Operability will be verified when the valve is closed during cold shutdown and reopened during plant startup. (Relief #14.)

19. Exercising this valve requires flow to the RCS using the safety injection or residual heat removal pumps. During operation, RCS pressure will be higher than pump discharge pressure. As an alternative, this valve will be exercised at refueling outages. (Relief Request #18 and #19.)

20. Exercising this valve requires initiating flow to the RCS using the charging pumps. If charging flow was directed to the RCS in this manner, it could cause overpressurization during cold shutdown or create a loss of charging flow control during normal operation. As an alternative, this valve will be exercised at refueling outages. (Relief Request #20.)

21. This valve cannot be exercised during power operation or cold shutdown when charging and letdown systems are in operation. It will be exercised at refueling outages when the charging and letdown systems are secured. (Relief Request #21.)

22. To protect reactor coolant pump seals, flow to them is required at all times during power operation, startup, and shutdown. It will be exercised during refueling outages when risk of equipment damage is eliminated by securing the pumps. (Relief Request #22.)

23. Exercising this valve during power operations will impact pressurizer pressure control. This valve will be exercised during plant cooldown when auxiliary spray is initiated. (Relief Request #23.)

VALVE TESTING REQUIREMENTS NOTES

24. Exercising this valve during power operations could cause a sudden increase in RCS boron inventory. It will be exercised at cold shutdown when the RCS is already borated to shutdown conditions. (Relief Request #24.)

25. The stroke time of solenoid operated valves is extremely rapid and subject to considerable variation. Exception is taken to stroke time measurement requirements of IWV-3417(a).

26. Loss of primary component cooling water will jeopardize plant safety in all modes. At refueling outages, loss of cooling water to the RHR heat exchangers or RCP lube oil coolers would put the plant in an abnormal operating condition. Exercising this valve could lead to it failing closed, thereby investigating a loss of cooling system integrity. This valve will be exercised whenever the applicable loop of the primary component cooling water system is shutdown. (Relief Request #25 and #29.)

27. These valves are exercised as they perform their intended functions during monthly testing of the emergency diesel generators.

28. Testing this valve requires containment entry to align the system to preclude inadvertent initiation of containment spray. In this condition, the automatic initiating feature of containment spray system (one train) is blocked. This valve will be exercised during refueling outages. (Relief Request #27.)

29. This valve cannot be exercised by system flow without substantial amounts of water in the containment sumps being pumped by the spray and RHR pumps. This valve will be exercised during refueling outages during leak testing of adjacent valves or by disassembly and mechanical exercise. (Relief Request #28.)

30. This check valve is normally open during plant operation. Its function is to prevent reverse flow, and shall be tested during cold shutdown. It is impractical to shut down at three month intervals to perform a full closure test. (Relief Request #6.)

31. Exercising this valve during power operation would require the charging pump suctions to be aligned with the RWST. This would cause a sudden increase in RCS boron inventory. It shall be exercised during cold shutdown when the RCS is borated to shutdown conditions. (Relief Request #26.)

32. This valve provides a containment isolation function only. Additional exercising of this valve is not practical, and will not improve its leak tightness characteristics. Operability is proven during periodic 10CFR50, App. J, Type C testing. (Relief Request #8.)

33. In addition to the monthly exercising as described in Note 27, these valves will be disassembled to confirm the integrity of valve during each refueling.

FIGURE 5.4

VALVE TESTING REQUIREMENTS NOTES

34. This valve is not designated as an ASME code class valve on the applicable instrument diagram, but is being tested under the ASME XI IST program because its failure could have a significant effect on plant safety.

35. These valves are not provided with power operators, therefore, the measuring of stroke time is not considered essential to the operation of these valves. These valves will be manually stroked. (Relief Request #30.)

6.0 Relief Requests

6.1 Valves

Relief Request:	#1
Valves:	MS-V87, MS-V88, MS-V90, MS-V92
Category:	B
Code Class:	2
Function:	Main Steam Isolation (active)
Test Requirements:	IWV-3410 (3 months)
Basis for Relief:	Full Closure of these valves for the purpose of exercising per IWV-3410 would require plant shutdown.
Alternate Testing:	These valves will be partially stroked in accordance with IWV-3410. Valve full closure time on any closure actuation signal will be verified in hot standby during each reactor shutdown except that this verification need not be determined more than once per 3 months for multiple shutdowns.

Relief Request:	#2
Valves:	FW-V64, FW-V70, V76, V82, V88, V94
Category:	AC
Code Class:	3
Function:	Prevent backflow to the emergency feed pumps (active)
Test Requirements:	IWV-3520 (3 months)
Basis for Relief:	Full flow through these valves would unnecessarily introduce cold water into the steam generator feed nozzles.
Alternate Testing:	These valves will be full flow exercise tested during refueling outage with the associated pump operability testing.

Relief Request:	#3
Valves:	FW-V4214A, FW-V4214B, FW-V4224A, FW-V4224B, FW-V4234A, FW-V4234B, FW-V4244A, FW-V4244B
Category:	B
Code Class:	3
Function:	Control emergency feedwater flow to each steam generator (active)
Test Requirements:	IWV-3410 (3 months)
Basis for Relief:	These valves are normally open and modulate on system flow demand. The measuring of stroke time is not critical to the safety function of there valves.
Alternate Testing:	None

Relief Request: #4

Valves: FW-V30, FW-V39, FW-V48, FW-V57

Category: B

Code Class: 2

Function: (Active) feedwater isolation

Test Requirements: IWV-3410

Basis for Relief: Full closure of these valves to satisfy the requirements of IWV-3410 would require plant shutdown.

Alternate Testing: These valves will be partially stroked in accordance with IWV-3410. Valve full closure time on any closure actuation signal will be verified in hot standby during each reactor shutdown except that this verification need not be determined more than once per 3 months for multiple shutdown.

Relief Request:	#5
Valves:	FW-V76
Category:	C
Code Class:	2
Function:	(Active) prevent feedwater backflow
Test Requirements:	IWV-3520 (3 months)
Basis for Relief:	Full flow through these valves would unnecessarily introduce cold water into the steam generator feed nozzles.
Alternate Testing:	These valves will be full flow exercise tested during refueling outages with the associated pump operability testing.

Relief Request:	#6
Valves:	FW-V330, FW-V331, FW-V332, FW-V333
Category:	C
Code Class:	2
Function:	(Active) prevent feedwater backflow
Test Requirements:	IWV-3520
Basis for Relief:	Exercising these valves for closure would require securing steam generator feed and plant shutdown.
Alternate Testing:	Operation of these valves will be verified when entering and leaving cold shutdown conditions.

Relief Request:	#7
Valves:	COP-V1, COP-V2, COP-V3, COP-V4
Category:	A
Code Class:	2
Function:	(Active) containment isolation for containment purge supply and exhaust
Test Requirements:	IWV-3410 (3 months)
Basis for Relief:	These valves are lock closed containment isolation valves per Technical Specifications Section 3.6.1.7. It is impractical to open these valves at 3 month intervals and possibly void containment integrity.
Alternate Testing:	These valves will be exercised during refueling outages and when operated prior to containment entry.

Relief Request: #8

Valves: FP-V588, SS-V273, RMW-V29, CGC-V46

Category: A

Code Class: 2

Function: (Active) containment isolation

Test Requirements: IWV-3520 (3 months)

Basis for Relief: These valves provide a containment isolation function only. Additional exercising of this valve is not practical, and will not improve the leak tightness characteristics of the valve. Valve operability is proven during periodic 10CFR50 App. J, Type C testing

Alternate Testing: None

Relief Request: #9

Valves: RC-V323, RC-V2881

Category: E

Code Class: 2

Function: (Active) reactor vessel head vent

Test Requirements: IWV-3410

Basis for Relief: Depressurization of the reactor coolant system could result, if while exercising one valve, the other valve failed.

Alternate Testing: These valves will be exercised during refueling outages.

Relief Request: #10

Valves: RC-V22, RC-V23, RC-V87, RC-V88, RH-V15, RH-V29, RH-V30, RH-V31, SI-V6, SI-V21, SI-V36, SI-V51, RH-V50, RH-V51, RH-V52, RH-V53, SI-V81, SI-V82, SI-V86, SI-V87, SI-V106, SI-V110, SI-V118, SI-V122, SI-V126, SI-V130, SI-V140, SI-V144, SI-V148, SI-V152, SI-V156

Category: AC

Code Class: 1

Function: Reactor coolant pressure isolation valve

Test Requirements: IWV-3420 (2 years)

Basis for Relief: These valves are reactor coolant pressure isolation valves, and will be leak tested in accordance with Technical Specifications Section 4.4.6.2.2. These valves are Category A per IWV-2200.

Alternate Testing: Each reactor coolant pressure isolation valve shall be demonstrated operable by verifying leakage to be within its limit:

a. at least once per 18 months;
b. prior to entering Mode 2 whenever the plant has been in cold shutdown for 72 hours or more, and if leakage testing has not been performed in the previous 9 months;
c. prior to returning the valve to service following maintenance, repair or replacement work on the valve; and
d. within 24 hours following valve actuation due to automatic or manual action or flow through the valve.

Relief Request:	#11
Valves:	RC-V22, RC-V23, RC-V87, RC-V88
Category:	A
Code Class:	1
Function:	(Active) reactor coolant pressure isolation valve
Test Requirements:	IWV-3410 (3 months)
Basis for Relief:	It is impractical to operate these valves during operation due to the effects on the reactor coolant system, if while exercising one valve, the other valve failed.
Alternate Testing:	These valves will be exercised during cold shutdown when the RHR system is placed on line for operation.

Relief Request: #12

Valves: RC-PCV456A, RC-PCV456B

Category: B

Code Class: 1

Function: (Active) power operated pressurizer relief valves

Test Requirements: IWV-3410

Basis for Relief: Failure of these valves in the open position, or failure of either valve to seat properly, could lead to conditions where the pressurizer safety valve, and other pressurizer system valve leakage, could be masked and go undetected.

Alternate Testing: These valves will be tested at each refueling outage.

Relief Request:	#13
Valves:	RH-V70, RH-V32, SI-V77, SI-V102
Category:	B
Code Class:	2
Function:	(Active) isolation valves
Test Requirements:	IWV-3410 (3 months)
Basis for Relief:	These valves are required by technical specifications to be shut and poer to be removed from their operators during Modes 1, 2, 3 and 4. (Technical Specifications Section 4.5.2)
Alternate Testing:	These valves will be exercised during cold shutdowns.

Relief Request:	#14
Valves:	RH-V14, RH-V26, SI-V3, SI-V17, SI-V32, SI-V47, CBS-V47, CBS-V51 and SI-V114
Category:	B
Code Class:	2
Function:	(Active) isolation valves
Test Requirements:	IWV-3410 (3 months)
Basis for Relief:	These valves are required by technical specifications to be open and power removed from their operators during Modes 1, 2, 3 and 4. (Technical Specifications Section 4.5.2)
Alternate Testing:	These valves will be exercised during cold shutdowns to the closed position.

Relief Request: #15

Valves: RH-V15, RH-V31, RH-V29,. RH-V30

Category: AC

Code Class: 1

Function: (Active) reactor coolant pressure boudary isolation valves

Test Requirements: IWV-3520 (3 months)

Basis for Relief: To exercise these normally closed check valves to the open position is not practical. It would require the reactor coolant system pressure to be below the RHR pump discharge pressure, and could inject borated water into the RCS.

Alternate Testing: The valves will be verified as operable during refueling out'ges.

Relief Request: #16

Valves: SI-V6, SI-V5, SI-V21, SI-V20, SI-V36, SI-V35, SI-V51, SI-V50

Category: AC

Code Class: 1

Function: (Active) reactor coolant pressure boundary isolation

Test Requirements: IWV-3520 (3 months)

Basis for Relief: To exercise these normally closed check valves to the open position would require simulation of a loss of coolant accident (LOCA) which is not practical during plant operation

Alternate Testing: These valves shall be verified as operable by initiating accumulator injection to the reactor coolant system with the reactor vessel head removed during each refueling outage.

Relief Request:	#17
Valves:	SI-V5, SI-V20, SI-V35, SI-V50
Category:	AC
Code Class:	1
Function:	(Active) safety injection accumulator backup reactor coolant pressure isolation valves
Test Requirements:	IWV-3420 (2 years)
Basis for Relief:	Leak testing these valves requires closing the associated accumulator isolation MOVs (SI-V3, SI-V17, SI-V32 and SI-V47). These MOVs are required by Technical Specification Section 4.5.2 to be open and power removed from their operators during Modes 1, 2, 3 and 4.
Alternate Testing:	These valves will be leak tested during cold shutdown when the accumulators are isolated.

Relief Request: #18

Valves: SI-V96, SI-V118, SI-V122, SI-V126, SI-V130, SI-V71, SI-V106, RH-V53, SI-V110, RH-V52, SI-V81, SI-V82, SI-V86, SI-V87

Category: AC/C

Code Class: 1 and 2

Function: (Active) reactor coolant pressure isolation valves/SI pump discharge valves

Test Requirements: IWV-3520 (3 months)

Basis for Relief: Exercising these valves per the frequency described in IWV-3520 is not practical. Exercising these valves during plant operation would require initiating flow to the reactor coolant system using the safety injection pumps. During plant operation, the reactor coolant pressure will be greater than the safety injection pump discharge pressure.

Alternate Testing: These valves will be exercised during refueling outages.

Relief Request: #19

Valves: RH-V50, RH-V51

Category: AC

Code Class: 1

Function: (Active) reactor coolant pressure boundary isolation valve

Test Requirements: IWV-3520 (3 months)

Basis for Relief: Exercising these valves per the frequency described in IWV-3520 is not practical. Exercising these valves during plant operation would require initiating flow to the reactor coolant system using the residual heat removal pumps. During plant operation, the reactor coolant system pressure will be greater than the safety injection pump discharge pressure.

Alternate Testing: These valves will be exercised during refueling outages.

Relief Request: #20

Valves: SI-V156, SI-V297, SI-V140, SI-V144, SI-V148, SI-V152

Category: AC/C

Code Class: 1 and 2

Function: (Active) reactor coolant pressure boundary isolation/prevent safety injection backflow

Test Requirements: IWV-3520 (3 months)

Basis for Relief: These valves are normally closed check valves. To exercise these check valves charging flow from the charging pumps must be initiated. If charging flow was directed to the reactor coolant system in this manner, it could cause overpressurization during cold shutdown, or provide a loss of charging flow control during plant operation.

Alternate Testing: These check valves will be exercised open during refueling outages.

Relief Request:	#21
Valves:	CBS-V58, CBS-V60, CS-V192, CS-LCV112B, CS-LCV112C, CS-V142, CS-V143, CS-V144, CS-V149, CS-V150, CS-V177, CS-V178, CS-V179, RC-LCV459, RC-LCV460, CS-V181, CS-V182
Category:	A, B, C and AC
Code Class:	1 and 2
Function:	(Active) letdown and charging isolation/prevent backflow/ containment isolation
Test Requirements:	IWV-3410/IWV-3520 (3 months)
Basis for Relief:	These valves cannot be exercised during power opration or cold shutdown when the charging and letdown systems are in operation.
Alternate Testing:	These valves will be exercised at refueling outages when the charging and letdown systems are secured.

Relief Request: #22

Valves: CS-V167, CS-V168

Category: A

Code Class: 2

Function: (Active) containment isolation

Test Requirements: IWV-3410 (3 months)

Basis for Relief: These valves isolate leakoff flow from the reactor coolant pump #1 seals. Isolating these valves during power operation, startup and shutdown could cause damage to the reactor coolant pump seals.

Alternate Testing: Exercising of these valves will be performed during refueling outages when the reactor coolant pumps are secured.

Relief Request:	#23
Valves:	CS-V185, CS-V186
Category:	B/C
Code Class:	1
Function:	(Active) pressurizer spray isolation/prevent backflow
Test Requirements:	IWV-3410/IWV-3520
Basis for Relief:	Exercising these valves during power operation will impact the pressurizer pressure control.
Alternate Testing:	These valves will be exercised during plant cooldown to cold shutdown.

Relief Request: #24

Valves: RMW-V119, CS-V426, CS-V427

Category: C

Code Class: 2

Function: (Active) prevents flow back

Test Requirements: IWV-3520 (3 months)

Basis for Relief: Exercising these normally closed check valves to the open position during power operation could cause a sudden increase in the reactor coolant system boron inventory.

Alternate Testing: These valves will be exercised at cold shutdown.

Relief Request: #25

Valves: CC-V447, CC-V448, CC-V426, CC-V427, CC-V341, CC-TV2271-1, CC-TV2271-2, CC-TV2171-1, CC-TV22171-2

Category: B

Code Class: 3

Function: (Active) primary component cooling water isolation valves

Test Requirements: IWV-3410 (3 months)

Basis for Relief: Exercising these valves could isolate cooling water to many vital components, in the event that a valve were to fail in the closed position. Loss of primary component cooling water will jeopardize plant safety in all modes of operation.

Alternate Testing: These valves will be exercised when the primary component cooling water system if shutdown.

Relief Request: #26

Valves: CBS-LCV112D, CBS-LCV112E

Category: B

Code Class: 2

Function: (Active) charging pump suction isolation from the RWST

Test Requirements: IWV-3410 (3 months)

Basis for Relief: Exercising these valves during power operation would require the charging pump suctions to be aligned with the RWST (refueling water storage tank). This would cause a sudden increase in the reactor coolant system boron inventory.

Alternate Testing: These valves shall be exercised during cold shutdowns when the reactor coolant system is borated to shutdown conditions.

Relief Request: #27

Valves: CBS-V12, CBS-V18

Category: C

Code Class: 2

Function: (Active) containment isolation

Test Requirements: IWV-3520 (3 months)

Basis for Relief: Exercising of these valves during power operations is not practical. Containment entry is necessary to close the manual block valves to prevent inadvertent initiation of containment spray.

Alternate Testing: These valves will be exercised fully open during refueling outages.

Relief Request:	#28
Valves:	CBS-V9, CBS-V26, CBS-V25, CBS-V15
Category:	C
Code Class:	2
Function:	(Active) prevent backflow to the containment recirculation sumps
Test Requirements:	IWV-3520 (3 months)
Basis for Relief:	These valves cannot be exercised by system flow without substantial amounts of water in the containment sumps.
Alternate Testing:	These valves will be exercised during refueling outages by disassembly and mechanical exercise.

Relief Request:	#29
Valves:	CC-V175, CC-V176, CC-V256, CC-V257, CC-V168, CC-V57, CC-V122,CC-V121
Category:	A
Code Class:	2
Function:	(Active) containment isolation
Test Requirements:	IWV-3410 (3 months)
Basis for Relief:	Exercising these valves would isolate cooling water to the reactor coolant pump bearing oil coolers and other components.
Alternate Testing:	Exercising of these valves will be performed during refueling outages when the reactor coolant pumps are secured.

Relief Request:	#30
Valves:	CGC-V10, CGC-V12, CGC-V13, CGC-V32, CGC-V34, CGC-V35, CGC-V3, CGC-V24
Category:	B
Code Class:	2
Function:	(Active) manual isolation valves
Test Requirements:	IWV-3410 (3 months)
Basis for Relief:	These valves are not provided with power operators, therefore, the measuring of stroke time is not considered essential to the operation of these valves.
Alternate Testing:	These valves shall be manually stroked every 3 months to ensure operability.

6.2 Relief Requests Pumps

Relief Request: #31

Pumps: CC-P-11A, CC-P-11B, CC-P-11C, CC-P-11D, CS-P-2A, CS-P-2B, DG-P-38A, DG-P-38B, SW-P-110A, SW-P-110B, SI-P-4A, SI-P-4B, CBS-P-9A, CBS-P-9A, CBS-P-9B, RH-P-8A, RH-P-8B

Code Class: 2 and 3

Function: Pumps required to perform a function in shutting down the reactor, or in mitigating the consequences of an accident, and are provided with an emergency power source.

Test Requirements: IWP-4600 (Accuracy Limits Table IWP-4110-1)

Basis for Relief: New Hampshire Yankee uses flow measuring instrumentation which meets the acceptable instrument accuracies defined in Table IWP-4110-1. However, the total flow element loop accuracy was calculated from the flow device to the computer readout providing hard copy log data. The loop accuracies do not meet the instrument accuracies of Table IWP-4110-1, but the instruments are well within the table limits for flow rate.

Alternate Testing:

Relief Request: #32 Specific relief is being requested from the Subsection IWP-4600 for the requirement of testing flow using a flow meter on the service water pumps

Pumps: 1-SW-P41A, 41B, 41C, 41D

Code Class: 3

Function: The station's service water system transfers the heat loads from various sources in the primary and the secondary parts of the plant to the ultimate heat sink. The ultimate heat sink is comprised of the Atlantic Ocean, the main circulating water intake and discharge tunnels and the service water piping conneting both tunnel shafts with the service water pump house. In the event of a seismic disturbance sufficient to block adequate cooling water flow through the tunnels, heat loads are transferred to the seismic Category I service water cooling tower.

Test Requirements:

Licensee's Basis for Relief:

The flow measuring devices for the service water system are located downstream of the diesel generator jacket water coolers, and are neither designed nor strategically located to provide flow indication within sufficient accuracy to accommodate the test requirement. As a result, SW pump dp must be measured while the pumps are aligned in a fixed resistance flow path in order to satisfy the test requirement.

Alternate Testing: A test parameter of flow (Q) will be measured while the pumps are operating, either normally or in accordance with the alternate testing of the technical specification section on diesel operability testing. The 16" test loop will provide pump degradation information during testing. If deviations fall within the "alert range" of Table IWP-3100-2, the frequency of testing shall be increased per IWP-3230.

7.0 DRAWINGS

9763-F-202074	Main Steam
9763-F-202076	Emergency Feedwater System
9763-F-202079	Feedwater System
9763-F-202086	Main Turbine And Steam Piping
9763-F-202100	Auxilary Boiler Steam And Condensate Return
9763-F-202102	Diesel Generator Fuel and Lube Oil
9763-F-202103	Diesel Generator Cooling Water
9763-F-500037	Leak Detection System
9763-F-604131	Fuel Pool and Purge Exhaust System
9763-F-604146	Fire Protection System
9763-F-804958	Floor and Equipment Drain System
9763-F-804978	Sample System-Nuclear-Post Accident
9763-F-804981	Primary Component Cooling Water Loop "A"
9763-F-804982	Primary Component Cooling Water Loop "B"
9763-F-804988	Refueling Cavity Clean Up System
9763-F-805002	Reactor Coolant System Reactor Vessel
9763-F-805003	Reactor Coolant System Loop Number 1
9763-F-805006	Reactor Coolant System Loop Number 4
9763-F-805007	Reactor Coolant System Pressurizer
9763-F-805008	Residual Heat Removal System
9763-F-805009	Safety Injection System Accumulators
9763-F-805010	Safety Injection System High Head
9763-F-805011	Chemical and Volume Control System Purification
9763-F-805012	Chemical and Volume Control System Charging
9763-F-805014	Chemical and Volume Control System Boric Acid
9763-F-805016	Primary Component Cooling Water Loop "B"
9763-F-805018	Primary Component Cooling Water Loop "A"
9763-F-805019	Service Water System Nuclear
9763-F-805020	Gas Service System Nitrogen Nuclear
9763-F-805021	Reactor Water Make Up
9763-F-805022	Combustible Gas Control System
9763-F-805023	Containment Spray System
9763-F-805024	Steam Generator Blowdown
9763-F-805025	Sample System Nuclear
9763-F-805028	Primary Component Cooling Water Loop "B"
9763-F-805029	Primary Component Cooling Water Loop "A"
9763-F-805030	Demineralized Water System Nuclear
9763-F-805033	Service Water System
9763-F-805040	Reactor Coolant Drain Tank Containment
9763-F-805635	Equipment Vent System Hydrogenated Vent Header

SYSTEMS	LINE NO.'S ALLOTTED	LINE NO.'S USED	SYS. PREFIX	SYSTEM DRAWING NUMBERS AND DESCRIPTIONS
AUXILIARY STEAM & CONDENSATE	2301-2400 (AS) 2401-2500 (ASC)	2374 2491	AS ASC	F-804884 AUX. STM. & COND. PAB. & TK. FARM SHT. 1 F-804985 AUX. STM. & COND. WPB. & TK. FARM SHT. 2 F-805032 AUX. STM. & COND. WPB. SHT. 2
BORON RECOVERY	1844-2050	2050	BRS	F-805614 BORON REC. SYS. FILTRATION & STOR. F-805615 BORON REC. SYS. EVAPORATOR EV-3A F-805616 BORON REC. SYS. EVAPORATOR EV-3B F-805618 BORON REC. SYS. POT. DEGAS. F-805623 BORON REC. SYS. EV. BTMS. F-805624 BORON REC. SYS. TESTING & DEMINERALIZATION F-805626 BORON REC. SYS. P. DR. TKS.
CHEMICAL & VOLUME CONTROL	501-550	550	CS	F-804987 CVCS SEAL WATER HXS. F-805011 CVCS PURIFICATION F-805012 CVCS CHARGING F-805013 CVCS THERMAL REGENERATION F-805014 CVCS BORIC ACID F-805037 CVCS LETDOWN DEGASIFIER
COMBUSTIBLE GAS CONTROL	2801-2850	2808	CGC	F-805022 COMBUSTIBLE GAS CONTROL SYS.
CONTAINMENT SPRAY	1201-1268	1268	CBS	F-805023 CONTAINMENT SPRAY SYS.
DEMINERALIZED WATER	1545-1650	1650	DM	F-804983 DEMINERALIZED WTR. SYS. NUCLEAR SHT. 2 F-805030 DEMINERALIZED WTR. SYS. NUCLEAR SHT. 1
HYDROGEN GAS SERVICE	651-700	662	HG	F-805038 GAS SERVICE SYS. HYDROGEN NUCLEAR
MECHANICAL SEAL	2701-2800	2778	MSS	F-804980 MECHANICAL SEAL SUPPLY SYS. SHT. 2 F-805627 MECHANICAL SEAL SUPPLY SYS. SHT. 1
NITROGEN GAS SERVICE	1651-1700	1677	NG	F-805020 GAS SERVICE SYS. NITROGEN NUCLEAR
PRIMARY COMPONENT COOLING WATER	701-750 751-900	749 900	CC	F-804976 P. CCW. TH. BARRIER LOOP F-804981 P. CCW. LOOP 'A' SHT. 3 F-804982 P. CCW. LOOP 'B' SHT. 3 F-805016 P. CCW. LOOP 'B' SHT. 1 F-805018 P. CCW. LOOP 'A' SHT. 1 F-805028 P. CCW. LOOP 'B' SHT. 2 F-805029 P. CCW. LOOP 'A' SHT. 2
REACTOR COOLANT	1-150	145	RC	F-805002 RCS. REACTOR VESSEL F-805003 RCS. LOOP 1 F-805004 RCS. LOOP 2 F-805005 RCS. LOOP 3 F-805006 RCS. LOOP 4 F-805007 RCS. PRZR.
REACTOR MAKE-UP WATER	1101-1200	1150	RMW	F-805021 RMU. WTR. SYS.
RESIDUAL HEAT REMOVAL	151-200	196	RH	F-805008 RHR. SYS.
RESIN SLUICING	2501-2600	2537	RS	F-805613 SRS. SYS.
SAFETY INJECTION	201-300	300	SI	F-805009 SIS. ACCUM. F-805010 SIS. HIGH HEAD
SAMPLE	1401-1500	1465	SS	F-804977 SMPL. SYS. NUCLEAR SHT. 2 F-804978 SMPL. SYS. NUCLEAR POST ACCIDENT F-805025 SMPL. SYS. NUCLEAR SHT. 1
SERVICE AIR	2901-2950	2935	SA	F-804989 SERVICE AIR
SERVICE WATER	1801-1843	1843	SW	F-805019 SERV. WTR. SYS. NUCLEAR SHT. 2 F-805033 SERV. WTR. SYS. NUCLEAR SHT. 1
SPENT FUEL POOL COOLING & CLEANUP	1701-1800	1761	SF	F-804988 REFUELING CAVITY CLEAN-UP SYS. F-805017 SFPC. & CLEAN-UP SYS.
STEAM GENERATOR BLOWDOWN	1269-1400 2851-2900	1400 2900	SB	F-805024 SGBLDN. SYS. SHT. 1 F-805035 SGBLDN. EV. SYS. SHT. 3 F-805039 SGBLDN. EV. SYS. SHT. 2 F-105637 SGBLDN. REC. SYS. SHT. 4 F-805638 SGBLDN. REC. SYS. SHT. 5
VENT	150-1544	1544	VG	F-805622 EQUIP. V. SYS. AC. V. HDR. F-805635 EQUIP. V. SYS. HYD. V. HDR. F-805636 EQUIP. V. SYS. AERATED V. HDR.
WASTE PROCESS GASEOUS	551-650	601	WG	F-805611 RGWS. SHT. 1 F-805612 RGWS. SHT. 2
WASTE PROCESS LIQUID	501-1050	1005	WL	F-805619 LW. SYS. STOR. & FILTRATION F-805620 LW. SYS. EV. EV-4 F-805621 LW. SYS. DEMINERALIZATION & TESTING
WASTE PROCESS LIQUID DRAINS	2051-2300	2204	WLD	F-804958 FL. & EQUIP. DR. SYS. PHR., FSB SUMPS SHT. 1 F-804959 FL. & EQUIP. DR. SYS. PAB. SHT. 2 F-804962 FL. & EQUIP. DR. SYS. P[illegible]. SHT. 1 [illegible] FL. & EQUIP. DR. SYS. PAB. SHT. 3 F-804994 FL. & EQUIP. DR. SYS. CNTMNT. SHT. 1 F-804995 ACA WALKWAYS, TUNNEL DRS., & SUMPS F-805340 RCDT. CNTMNT. BLDG. F-805617 FL. & EQUIP. DR. SYS. WPB. SHT. 1 F-805632 CHEM. DR. SYS. NUCLEAR F-805633 FL. & EQUIP. DR. SYS. WPB. SHT. 4 F-805634 FL. & EQUIP. DR. SYS. WPB. SHT. 3 F-805644 FL. & EQUIP. DR. SYS. WPB. SHT. 2 F-805645 FL. & EQUIP. DR. SYS. WPB. SHT. 3
SOLID WASTE SYSTEM	2601-2700 3000-3999	2700	WS	F-805630 VOIDED F-805631 SOLID WASTE SYSTEM SPENT RESIN CONC. SHT.1 F-805639 SOLID WASTE SYSTEM WASTE FEED & STM. SHT.2 F-805640 SOLID WASTE SYSTEM ASPHALT & STM. SHT.3 F-805641 SOLID WASTE SYSTEM EXTRUDER SHT.4 F-805642 SOLID WASTE SYSTEM CRYSTALLIZER SHT.5 F-805643 SOLID WASTE SYSTEM CRYST. / SLW. SHT.6 F-805646 SOLID WASTE SYSTEM CAUSTIC & HANDLG. SHT.7 F-805647 PUMP SEALS SHT.8
TABULATION DRAWINGS	NA	NA	NA	F-804951 V. DRS., RV DISCH. & OVERFLOWS SHT. 1 F-804952 V. DRS., RV DISCH. & OVERFLOWS SHT. 2 F-804953 V. DRS., RV DISCH. & OVERFLOWS SHT. 3 F-804954 V. DRS., RV DISCH. & OVERFLOWS SHT. 4 F-804955 V. DRS., RV DISCH. & OVERFLOWS SHT. 5 F-804956 V. DRS., RV DISCH. & OVERFLOWS SHT. 6 F-804957 V. DRS., RV DISCH. & OVERFLOWS SHT. 7 F-804960 V. DRS., RV DISCH. & OVERFLOWS SHT. 8
REFERENCE DRAWINGS	NA	NA	NA	F-804979 ENGINEERED SAFETY FEATURES F-804996 REACTOR REFUELING POOL & TRANSFER CANAL SKIMMER SYS. REF. DWG.
OIL COLLECTION	1051-1100	1074	OC	F-804964 OIL COLLECTION SYSTEM

NOTE:
1. UNLESS A CLASS BREAK IS INDICATED, THE A.S.M.E. SECTION III CODE CLASS BOUNDARY SHOWN ON THE DRAWINGS TERMENATES AT THE INSTRUMENT MANIFOLD VALVE (2 OR 5) OR IT'S ASSOCIATED SEALS WHICH IS EXCLUDED FROM THE CODE BY N.A. 1130, PARAGRAPH 'C'. INSTRUMENT PIPING AND COMPONENT DETAILS BETWEEN THE INSTRUMENT ROOT VALVE (OR FLANGE) AND THE INSTRUMENT ARE SHOWN ON THE INSTRUMENT INSTALLATION DETAIL DRAWINGS 9763-M-505200 THRU 505299.
2. FOR ADDITIONAL REF AND INSTRUMENTATION SYMBOLS, SEE DWG. 9763-M-500006 SHEET 2
3. FOR MATERIAL BALANCE DRAWING LIST SEE 9763 F 804975
4. FOR VENT AND DRAIN OPERATIONS, FIELD TO INSTALL APPROPIATE HOSE CONNECTIONS.

PROCESS LINE CONTINUATION FLAGS

FOR LINES ENTERING/LEAVING FLOW DIAGRAMS

HORIZONTAL

XXXXX
XX-XXX-XX
X-XXXXXX
XXX, X-X

- NAME OF SYS. EQUIP. OR BLDG.
- EQUIP. TAG NO. OR LINE NO. INCLUDING SYS. PREFIX OR SYS. PREFIX SYMBOL ONLY
- REFERENCE DWG. NO.
- LOCATION REFERENCE DWG.

VERTICAL

XXXXX
XX-XXX-XX
X-XXXXXX
XXX, X-X

SAME AS ABOVE

EQUIP. SERVED BY A SYSTEM FLOW DIAGRAM

XXXX
XXXX
XXXX
XXX, X-X

- EQUIP. NAME (ABBREVIATED)
- EQUIP. TAG NO.
- REFERENCE DWG. NO.
- LOCATION REFERENCE NO.

IA-XX — INSTRUMENT RACK NO.

XXX YYY
X-XXXXXX
XXX, X-X

- DRAINAGE SYSTEM
- DRAIN NUMBER
- REFERENCE DWG. NO.
- LOCATION REFERENCE NO.

LINE CONVENTIONS

- PRIMARY PROCESS FLOW
- SECONDARY PROCESS FLOW & EQUIPMENT
- ELECTRICAL TRACED
- CONTROL LINES
- INSTRUMENT CAPILLARY
- OUTLINE OF VENDOR SUPPLIED PACKAGE OR SKID UNIT
- STEAM TRACED
- STEAM JACKETED
- BARRIER

LINE NUMBERING

IDENT. TAG: X-XXX-XXXX-XX | INFO. TAG: XXX-XX-X

- PLANT UNIT NO.
- SYSTEM PREFIX
- UNIQUE NO.
- SUBTENDED NO.
- MATERIAL SPECIFICATION
- NOMINAL SIZE
- TUBING

VALVE NUMBERING

X-X-XX-XXX

- PLANT UNIT NO.
- NOMINAL SIZE
- SYSTEM PREFIX
- VALVE NO.

VALVES

SYMBOL	DESCRIPTION
	ANGLE
	BALL
	BUTTERFLY (OPEN)
	CHECK
	FOOT
	GATE
	TYP. VALVE SIZE FOR INSTR. DRS. VENTS, & VALVE LKOFFS.
	GLOBE
	NEEDLE
	PACKLESS METAL DIAPHRAGM
	PLUG
	QUICK OPENING
	QUICK TEST LEVEL
	SAUNDERS WEIR
	SAFETY OR RELIEF
	STEM LEAK-OFF
	STOP CHECK
3	STRAIGHTWAY DIAPHRAGM
	VACUUM RELIEF

ALL VALVES SHOWN SOLID ARE IN THE CLOSED POSITION

3 WAY

4 WAY

VALVE ACTUATORS

SYMBOL	DESCRIPTION
	DIAPHRAGM OPERATOR
	ELECTRO-HYDRAULIC
	GEAR OPERATOR
LC	LOCKED CLOSED
LO	LOCKED OPEN
M	MOTOR OPERATOR
	PISTON OPERATOR
	REACH ROD OPERATOR
	SPEED CONTROL
S	SOLENOID OPERATOR
	HYDRAULIC ISOLATOR
*	ASTERISK INDICATES VALVE BY WESTINGHOUSE
* *	ASTERISKS INDICATES VALVE BY OTHERS

SYMBOL

NC OR NO

BY PIPING

FLOW DIAGRAM IDENTIFICATIONS

MISCELLANEOUS

DESCRIPTION	SYMBOL	DESCRIPTION
MOSPHERIC VENT		PRESSURE REDUCER
SKET STRAINER DUPLEX		REMOVABLE SCREEN FOR START-UP ONLY, TEMPORARY STRAINER
SKET STRAINER SINGLE		
IND FLANGE		SPRAY NOZZLES (INSIDE VESSEL)
EAM OUT		SPARGER (INSIDE VESSEL)
NE TYPE REMOVABLE RAINER		REDUCER
APHRAGM SEAL		THREADED CAP
PANSION JOINT		TRAP "A" AIR, "D" DRAIN, "L" LIQUID, "S" STEAM
ECTRIC IMMERSION HEATER		
AME ARRESTER		CABINET PANEL OR RACK MOUNTED DEVICE SEE DWG. 9763-M-500006.
URE "B" FLANGE		OPEN DRAIN FUNNEL
EX HOSE		
OOR DRAIN		
SE CONNECTOR		WELDED CAP
TERLOCK		SPOOL PIECE
TR. BELLOWS		WYE STRAINER
TR. PER NOTES: L IN ALPH 10. ONE PER NOTE. AMPLES:		SIGHT FLOW GLASS
) RESAR FIG. 7.2-1 SHT. 5		THERMAL SLEEVE
) F-805041		
) DILUTE CTL. SIGNAL		VACUUM RUPTURE DISC.
HNSON SCREEN		PRESSURE RUPTURE DISC.
CALLY MOUNTED DEVICE		TC TEST CONNECTION LOC.
ERMOWELL		TV TEST VENT LOCATION
STRICTING ORIFICE		SILENCER
OTHERS		TEMPERATURE, FLOW, OR RADIATION ELEMENT SURFACE MOUNTED
PIPING NTURI TYPE FLOW MEASURE VICE		
RIFICE TYPE FLOW EASURING DEVICE		

PIPE SAFETY CLASS FLAGS

SYMBOL	DESCRIPTION
	SAFETY CLASS 1
	SAFETY CLASS 2 ALL SEISMIC CATEGORY I
	SAFETY CLASS 3
	NON NUCLEAR SAFETY CLASS (A)
	BOUNDARY BETWEEN CLASS 1 AND 2
	ADDITIONAL TRIANGLE WITH "N" INDICATES NON-SEISMIC CATEGORY FOR SAFETY CLASS 2 OR 3
	ADDITIONAL TRIANGLE WITH "I" INDICATES SEISMIC CATEGORY I, FOR NNS PIPING
	PIPING AND VALVES NOT IN ABOVE SAFETY CLASSES (NNS NON NUCLEAR SAFETY)

ABBREVIATIONS

A	AIR
ACCUM	ACCUMULATOR
ACDB	AMBIENT CARBON DELAY BED
ADMIN	ADMINISTRATION
AOV	AIR OPERATED VALVE
AS	AIR SUPPLY OR AUX. STM.
ASB	ADMIN. & SERVICES BUILDING
AT	ACCUMULATOR TANK
ATM	ATMOSPHERE
AUX	AUXILIARY
BA	BORIC ACID
BAB	BORIC ACID BLENDER
BAF	BORIC ACID FILTER
BAT	BORIC ACID TANK
BCWS	BORON CONCENTRATE MEASURING SYS.
BESP	BLOWDOWN EVAPORATOR BTM. PUMP
BF	BLIND FLANGE
BIRP	BORON INJECTION RECIRC. PUMPS
BIST	BORON INJECTION SURGE TANK
BIT	BORON INJECTION TANK
BLDG	BUILDING
BLDN	BLOWDOWN
BLND	BLENDER
BT	BATCHING TANK
BTM	BOTTOM
BTRS	BORON THERMAL REGENERATION SYS.
BWST	BORON WASTE STORAGE TANK

ABBREVIATIONS CONT'D

CAT	CATALYST
CB	CATION BED
CCP	CENTRIFUGAL CHARGING PUMPS
CCWS	COMPONENT COOLING WATER SYS.
CDTP	CHEMICAL DRAIN TREATMENT PUMP
CDTT	CHEMICAL DRAIN TREATMENT TANK
CH	CHILLER
CHAR	CHARCOAL
CHEM	CHEMICAL
CIRC. WTR.	CIRCULATING WATER
CL	COLD LEG
CHRGP	CHARGING PUMPS
CLR	COOLER
CMT	CHEMICAL MIX TANK
CNTMNT	CONTAINMENT
CNTMNT. SP.	CONTAINMENT SPRAY
CO	CLEAN OUT
COMP	COMPRESSOR
CONC	CONCENTRATES
COND	CONDENSATE
CONDSR	CONDENSER
CONN	CONNECTION
CPLG	COUPLING
CRIE	CESIUM REMOVAL ION-EXCHANGER
CTY. WTR.	CITY WATER
CVCS	CHEMICAL & VOLUME CONTROL SYS.
CVCT	CHEMICAL & VOLUME CONTROL TANK
CWCT	CHROMATED WATER COLLECTION TANK
CRYST	CRYSTALLIZER
DECON	DECONTAMINATION
DEGAS	DEGASIFIER
DEMIN	DEMINERALIZER
DGEN	DIESEL GENERATOR
DISCH	DISCHARGE
DIST	DISTILLATE
DOP	DIFFERENTIAL OPERATING PRESS
DP	DRAIN FLOOR
DPF	DEMINERALIZER PRE-FILTER
DR	DRAIN
DW	DEMINERALIZED WATER
DWG	DRAWING
E	EXCHANGER
ECC	EMERGENCY CORE COOLING
EDC	EVAPORATOR DISTILLATE CONDENSER
EL	ELEVATION
ENCL	ENCLOSURE
EQUIP	EQUIPMENT
EV	EVAPORATOR
EVS	EQUIPMENT VENT SYSTEM
EXC	EXCESS
EXT	EXTERNAL
EP	EXPANSION JOINT
FAI	FAIL AS IS
FC	FAIL CLOSE
FD	FLOOR DRAIN
FDT	FLOOR DRAIN TANK
FG	FLOW GLASS
FL	FLOOR
FLTR	FILTER
FN	FAN
FO	FAIL OPEN
FP	FUEL POOL
FPPF	FUEL POOL POST FILTER
FS	FUEL STORAGE
FSB	FUEL STORAGE BUILDING
FTBC	FLASH TANK BOTTOM COOLER
FUN'L	FUNNEL
GEN	GENERATOR
GSSNN	GAS SERVICE SYS. NITROGEN NUCLEAR
HDR	HEADER
HL	HOT LEG
HLP	HOLD-UP
HPR	HOPPER
HTR	HEATER
HVAC	HEATING, VENTING, & AIR CONDITIONING
HX	HEAT EXCHANGER
HYD	HYDROGENATED
HYDG	HYDROGEN GAS
ID	INNER DIAMETER
INSTR	INSTRUMENT
IR	INSTRUMENT RACK
JKT	JACKET
LDR	LETDOWN DEGASIFIER RECIRCULATION
LKOFF	LEAKOFF
LOC	LOCATION
LOCA	LOSS OF COOLANT ACCIDENT
LTDN	LETDOWN
LW	LIQUID WASTE
MB	MIX BED
MECH	MECHANICAL
MKUP	MAKE UP
MN	MAIN
MOD	MODERATING
MOV	MOTOR OPERATED VALVE
MS	MAIN STREAM
MX	MIX
MW	MANWAY
NC	NORMALLY CLOSED
NEUT	NEUTRALIZING
NNS	NON-NUCLEAR SAFETY
NO	NORMALLY OPEN
NSP	NITROGEN SUPPLY PACKAGE
NSSS	NUCLEAR STEAM SUPPLY SYSTEM
NUC	NUCLEAR
P	PRIMARY
PAB	PRIMARY AUXILIARY BUILDING
PDT	PRIMARY DRAIN TANK
PDTDRP	PRIMARY DRAIN TANK DEGASIFIER RECIRC PMP
PEN	PENETRATION
PHR	PREHEATER
PKG	PACKAGE
PMP	PUMP
PNL	PANEL

ABBREVIATIONS CONT'D

POT WTR	POTABLE WATER
PRESS	PRESSURE
PRG	PURGE
PRZR	PRESSURIZER
PROC	PROCESS
PRT	PRESSURIZER RELIEF TANK
PSIA	POUNDS PER SQUARE INCH ATMOSPHERE
PSIG	POUNDS PER SQUARE INCH GAUGE
RAD	RADIATION
RB	REBOILER
RCA	RADIATION CONTROLLED AREA
RCDT	REACTOR COOLANT DRAIN TANK
RCF	REACTOR COOLANT FILTER
RCL	REACTOR COOLANT LOOP
RCP	REACTOR COOLANT PUMP
RCS	REACTOR COOLANT SYSTEM
REBC	RECOVERY EVAPORATOR BOTTOMS COOLER
REBF	RECOVERY EVAPORATOR BOTTOMS FILTER
REBP	RECOVERY EVAPORATOR BOTTOMS PUMP
REC	RECOVERY
RECIRC	RECIRCULATING
RED	REDUCER
REDA	RECOVERY EVAPORATOR DISTILLATE ACCUMULATOR
REDC	RECOVERY EVAPORATOR DISTILLATE COOLER
REDP	RECOVERY EVAPORATOR DISTILLATE PUMP
REF	REFERENCE
REFD	RECOVERY EVAPORATOR FEED
REFP	RECOVERY EVAPORATOR FEED PUMP
REG	REGENERATIVE
REH	REHEAT
RERB	RECOVERY EVAPORATOR REBOILER
RES	RESIDUAL
RFT	RESIN FILL TANK
RLWS	RADIOACTIVE GAS WASTE SYSTEM
RHR	RESIDUAL HEAT REMOVAL
RCDTP	REACTOR COOLANT DRAIN TANK PUMP
RM	ROOM
RMU	REACTOR MAKE UP
RMWP	REACTOR MAKE-UP PUMP
RMWST	REACTOR MAKE-UP WATER STORAGE TANK
RPV	REACTOR PRESSURE VESSEL
RSN	RESIN
RTD	RESISTANCE TEMPERATURE DETECTOR
RTT	RECOVERY TEST TANK
RV	RELIEF VALVE
RWST	REFUELING WATER STORAGE TANK
'S'	SAFETY INJECTION SIGNAL
SAT	SPRAY ADDITIVE TANK
SBEDC	STEAM GENERATOR BLOWDOWN EV. CLR.
SC	SAMPLE CONNECTION
SCC	SECONDARY COMPONENT COOLING WATER
SEC	SECONDARY
SERV WTR	SERVICE WATER
SFP	SPENT FUEL POOL
SFPC	SPENT FUEL POOL COOLING
SG	STEAM GENERATOR
SGBLDN	STEAM GENERATOR BLOWDOWN
SRTP	SPENT RESIN TRANSFER PUMP
SGSHX	STEAM GENERATOR SAMPLE HEAT EXCHANGER
SHT	SHEET
SIF	SAFETY INJECTION FILTER
SIP	SAFETY INJECTION PUMP
SIS	SAFETY INJECTION SYSTEM
SIST	SAFETY INJECTION SYSTEM TEST
SIT	SAFETY INJECTION TANK
SKD	SKID
SKIM	SKIMMER
SL	SEAL LEAKOFF
SLBY	SEAL BYPASS
SLSU	SEAL SUPPLY
SLW	SEAL WATER
SMPL	SAMPLE
SP	SPRAY
SRF	SEAL RETURN FILTER
SRS	SPENT RESIN SLUICE
SRSP	SPENT RESIN SLUICE PUMP
SRST	SPENT RESIN SLUICE TANK
SSK	SAMPLE SINK
ST	SURGE TANK
STA	STATION
STM	STEAM
STOR	STORAGE
STPIP	STANDPIPE
STRU	STRUCTURE
SUCT	SUCTION
SUP	SUPPLY
SV	SAMPLE VESSEL
SWRF	SEAL WATER RETURN FILTER
SYS	SYSTEM
TC	TEST CONNECTION
TH	THERMAL
THB	THERMAL BARRIER
TK	TANK
TR	TRENCH
TRM CLR	TRIM COOLER
TV	TEST VENT
TWR	TOWER
TYP	TYPICAL
V	VENT
VCLR	VENT COOLER
VLV	VALVE
WCT	WASTE CONCENTRATES TANK
WCTP	WASTE CONCENTRATES TRANSFER PUMP
WEBC	WASTE EVAPORATOR BOTTOM COOLER
WEBP	WASTE EVAPORATOR BOTTOMS PUMP
WED	WASTE EVAPORATOR DISTILLATE
WEDA	WASTE EVAPORATOR DISTILLATE ACCUMULATOR
WEDC	WASTE EVAPORATOR DISTILLATE CONDENSER
WEDP	WASTE EVAPORATOR DISTILLATE PUMP
WERB	WASTE EVAPORATOR REBOILER
WEV	WASTE EVAPORATOR
WGC & D	WASTE GAS CHILLER AND DRYER
WPB	WASTE PROCESSING BUILDING
WEDCLR	WASTE EVAPORATOR DISTILLATE COOLER
WTT	WASTE TEST TANK
WST	WASTE
WST PROC	WASTE PROCESS
WTR	WATER

10											
9											
8											
7											
NO.	DATE	DESCRIPTION	BY	CHK	APP						

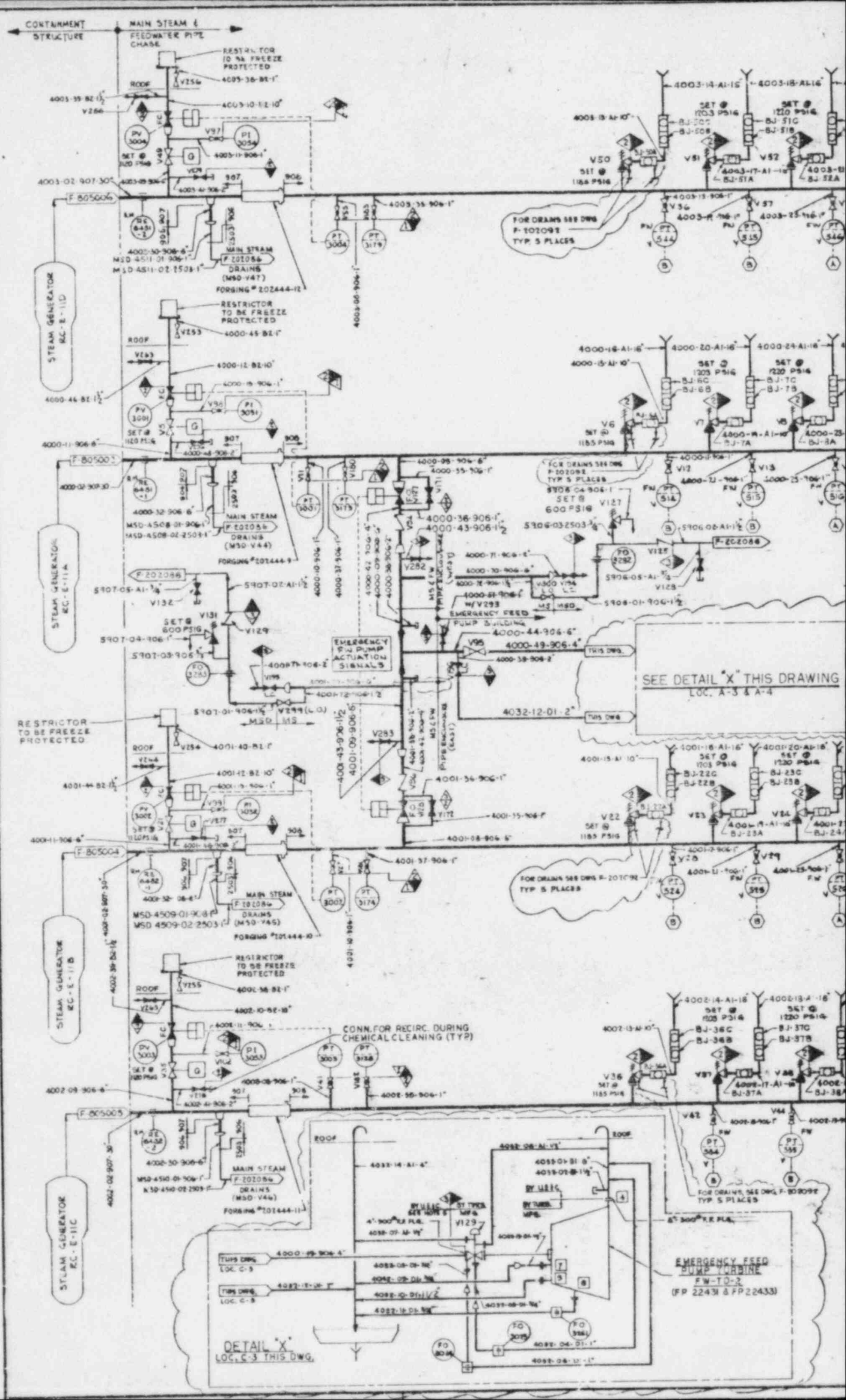
ENGINEER [illegible] STATE REG. [illegible] NO. [illegible]

LEAD SHEET
NUCLEAR
P&I DIAGRAMS

PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
United Engineers

UNITS 1 & 2 9763-F-805001

DISCIPLINE	CHK BY	DATE	DESIGN LEAD	CHK BY	DATE


CONTAINMENT STRUCTURE
MAIN STEAM & FEEDWATER PIPE CHASE
STEAM GENERATOR RC-E-11D
STEAM GENERATOR RC-E-11A
STEAM GENERATOR RC-E-11B
STEAM GENERATOR RC-E-11C
RESTRICTOR TO BE FREEZE PROTECTED
ROOF
MAIN STEAM DRAINS (MSD-V47)
MAIN STEAM DRAINS (MSD-V44)
MAIN STEAM DRAINS (MSD-V45)
MAIN STEAM DRAINS (MSD-V46)
FOR DRAINS SEE DWG P-202092 TYP. 5 PLACES
EMERGENCY F.W. PUMP ACTUATION SIGNALS
EMERGENCY FEED PUMP BUILDING
SEE DETAIL "X" THIS DRAWING LOC. A-3 & A-4
CONN. FOR RECIRC. DURING CHEMICAL CLEANING (TYP.)
FOR DRAINS, SEE DWG. P-202092 TYP. 5 PLACES
EMERGENCY FEED PUMP TURBINE FW-TG-2 (FP 22431 & FP 22433)
DETAIL "X" LOC. C-3 THIS DWG.

THE LOCATION OF THE ASME SECTION III, NA2131 CODE CLASS BOUNDARIES OF PIPING SHOWN ON THIS DRAWING ARE CERTIFIED TO BE COMPLETE AND CORRECT.

DATE 1/13/84

EXAMPLE

PIPING FOR VALVE NO. V37 REF. HDR. 4002
LINE (1) = 4002-54-A1-3/4"
LINE (2) = 4002-59-A1-3/4"
LINE (3) = 4002-64-A1-3/4"
ETC.

MAIN STEAM & FEEDWATER PIPE CHASE

YARD

TURBINE BUILDING

CLASS 2 ASME POWER PIPING CODE SECT III (SEE NOTE 5)

MS 150 VALVE ACTUATOR

MS 150 VALVE CONTROL SYSTEM FP70320

STEAM DUMP CONTROL SYSTEM

CHEM. ANALY. F-507060 (PT 162) & ADD. SYSTEM

MAIN STEAM DRAINS F-202084

MAIN STEAM F-202075

GENERAL NOTES

1. PIPING, VALVES, EQUIPMENT TAG NUMBERS, & INSTRUMENT NUMBERS ARE PREFIXED BY DESIGNATION "1-MS" OR "2-MS" UNLESS OTHERWISE NOTED.
2. (A) STEAM PRESSURE PROTECTION SYSTEM
3. (B) STEAM PRESSURE MISMATCH SYSTEM
4. ☐ CONN IDENTIFICATION ON VENDOR DWGS.
5. THE CLASS 2 LEAK HAS BEEN EXTENDED AS SHOWN TO INCREASE THE INTEGRITY OF THE SYSTEM AND QUALITY OF THE COMPONENTS.

REFERENCE DRAWINGS

PIPING
9763-F-202111 - ZONE KEY PLAN
9763-D-202444 - MS & FW WHIP RESTRAINT FORGINGS

INSTRUMENTATION
9763-M-506550 - LOOP DIAGRAMS
9763-M-505GGO - LOGIC DIAGRAMS

DIAGRAMS
9763-M-500006 - SYMBOLS & NOTES

REFERENCE SPECIFICATIONS

9763-006-2481 SHOP FABRICATION OF PIPE

50-3 SYSTEM DESIGN DESCRIPTION FOR MAIN STEAM

FOR INFORMATION ONLY

8601070257-02

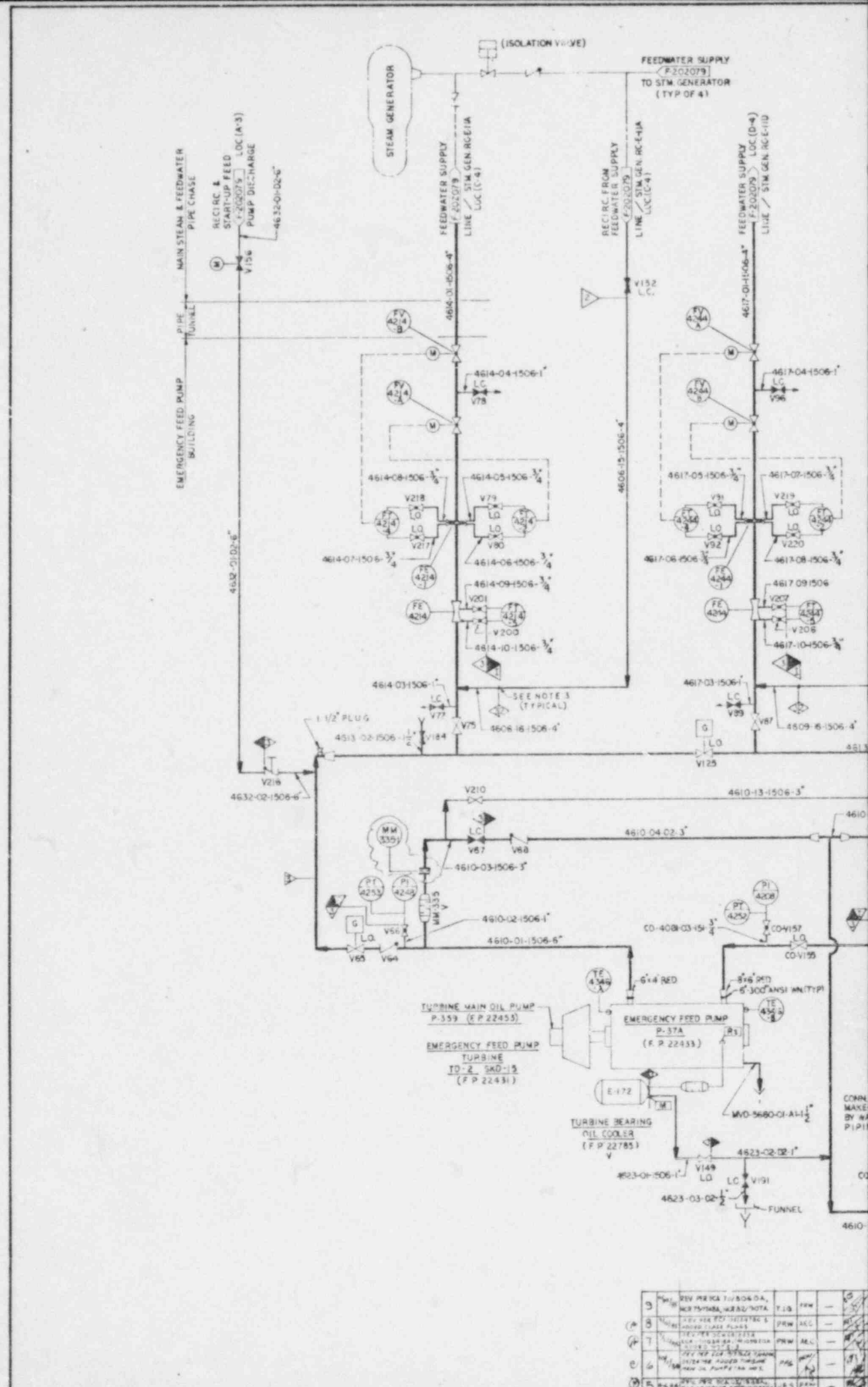
PSAR/FSAR Q FIG 10.3-1

REV	DESCRIPTION
18	REV. PER ECA 0A/S02787A DCN 67/00398 (S&R 546)
17	REV. PER DCN 64/02897 (S&R 546)
16	REV PER ECA 11-0-4918
15	REV. PER ECA 11-0-4918
14	REV PER DCN 81/00076 & DCN 81/00548, ECA 11-0-5491A
13	REV PER ECA 11-0-5491A, DCN 81/00548 & DCN 81/00549
12	REV PER ECA 11-0-5491A, DCN 81/00548 & DCN 81/00549
11	CLARIFIED CLASS BREAK AS SHOWN

PE P.J. Mahoney STATE N.H. NO. 5571

MAIN STEAM
SHEET 1 OF 2
P & I DIAGRAM
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
United Engineers

UNITS NO. 1 AND 2 9763-F-202074


(ISOLATION VALVE)
FEEDWATER SUPPLY
P-202079
TO STM. GENERATOR
(TYP OF 4)
STEAM GENERATOR
MAIN STEAM & FEEDWATER
PIPE CHASE
PIPE TUNNEL
EMERGENCY FEED PUMP BUILDING
RECIRC & START-UP FEED P-202079 LOC (A-3)
PUMP DISCHARGE
4632-01-02-6"
FEEDWATER SUPPLY P-202079 LINE / STM GEN RC-E-1A LOC (C-4)
RECIRC FROM FEEDWATER SUPPLY P-202079 LINE / STM GEN RC-E-1A LOC (C-4)
FEEDWATER SUPPLY P-202079 LINE / STM GEN RC-E-1D LOC (D-4)
4614-01-1506-4"
4606-15-1506-4"
4617-01-1506-4"
V156
V152
V78
V96
V79
V80
V218
V217
V91
V92
V219
V220
V201
V200
V207
V208
V77
V75
V184
V99
V87
V125
V216
4632-02-1506-6"
4614-03-1506-1"
4617-03-1506-1"
SEE NOTE 3 (TYPICAL)
1 1/2" PLUG
4610-13-1506-3"
4610-04-02-3"
4610-03-1506-3"
4610-02-1506-1"
4610-01-1506-6"
V210
V67
V68
V66
V65
V64
MM 335
PT 4253
PI 4249
PI 4208
PT 4250
CO-4081-03-151
CO-V157
CO-V155
TE 4344
6"x4" RED
8"x6" (RT)
6"-300# ANSI WN (TYP)
TURBINE MAIN OIL PUMP
P-359 (F.P. 22455)
EMERGENCY FEED PUMP
TURBINE
TD-2, SKD-13
(F.P. 22431)
EMERGENCY FEED PUMP
P-37A
(F.P. 22433)
E-172
TURBINE BEARING
OIL COOLER
(F.P. 22785)
MVO-5680-01-A 1½"
4623-02-02-1"
4623-01-1506-1"
V149
V191
4623-03-02-1½"
FUNNEL

THE LOCATION OF THE ASME SECTION III, NA2131 CODE CLASS BOUNDARIES OF PIPING SHOWN ON THIS DRAWING ARE CERTIFIED TO BE COMPLETE AND CORRECT.
DATE 2/15/84

GENERAL NOTES

1. PIPING, VALVES, EQUIPMENT & INSTRUMENT TAG NUMBERS ARE PREFIXED BY DESIGNATION OF "1-FW" OR "2-FW" UNLESS OTHERWISE NOTED.
2. CONNECTION IDENTIFICATION ON VENDOR DRAWINGS.
3. REPLACEMENT SPOOL IN FORMER LOCATION OF V152,153,154,155 PROVIDED AS CL 2; EXIST. TEES CONN. RECIRC. LINES FROM F.W. SUPPLY TO EMERGENCY F.W. SUPPLY LINES REMAIN CL.3

REFERENCE DRAWINGS

DIAGRAMS
9763-M-500006 - SYMBOLS & NOTES
9763-F-202077 - CONDENSATE SYSTEM P & I D
9763-F-202079 - FEEDWATER SYSTEM P & I D

PIPING
9763-F-202117 - ZONE KEY PLAN
9763-F-202118 - ZONE KEY PLAN

INSTRUMENTION
9763-M-506479 - LOOP DIAGRAMS
9763-M-505579 - LOGIC DIAGRAMS

REFERENCE SPECIFICATION

9763-006-2481 - SHOP FABRICATION OF PIPE
SD-1 SYSTEM DESIGN DESCRIPTION FOR FEEDWATER

8601070257 -03

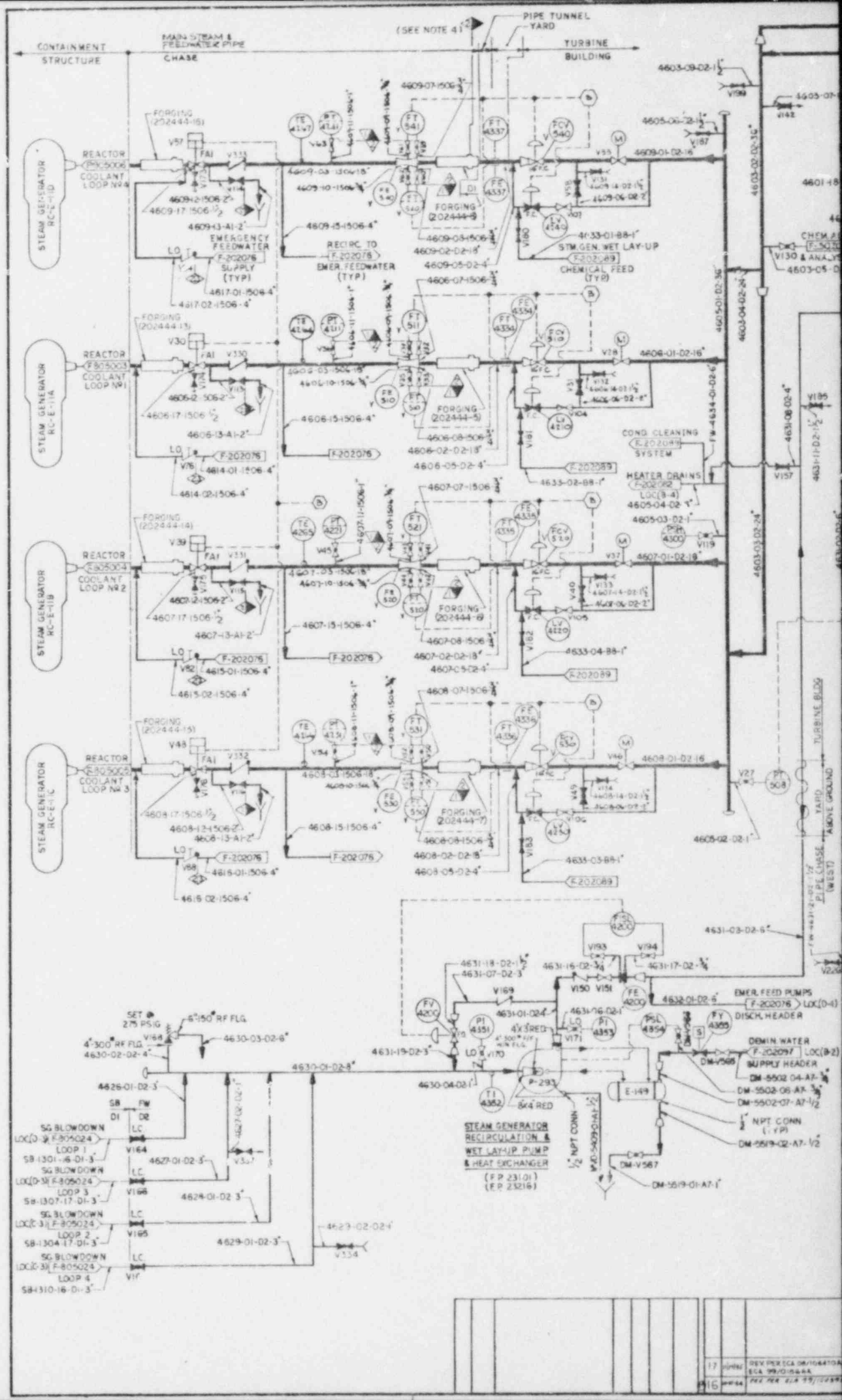
FSAR FIG. NO. 6.8-1

ENGINEER
STATE REG. NO.

EMERGENCY FEEDWATER SYSTEM
P & I DIAGRAM

PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
United Engineers

UNITS 1 AND 2 9763-F-202076

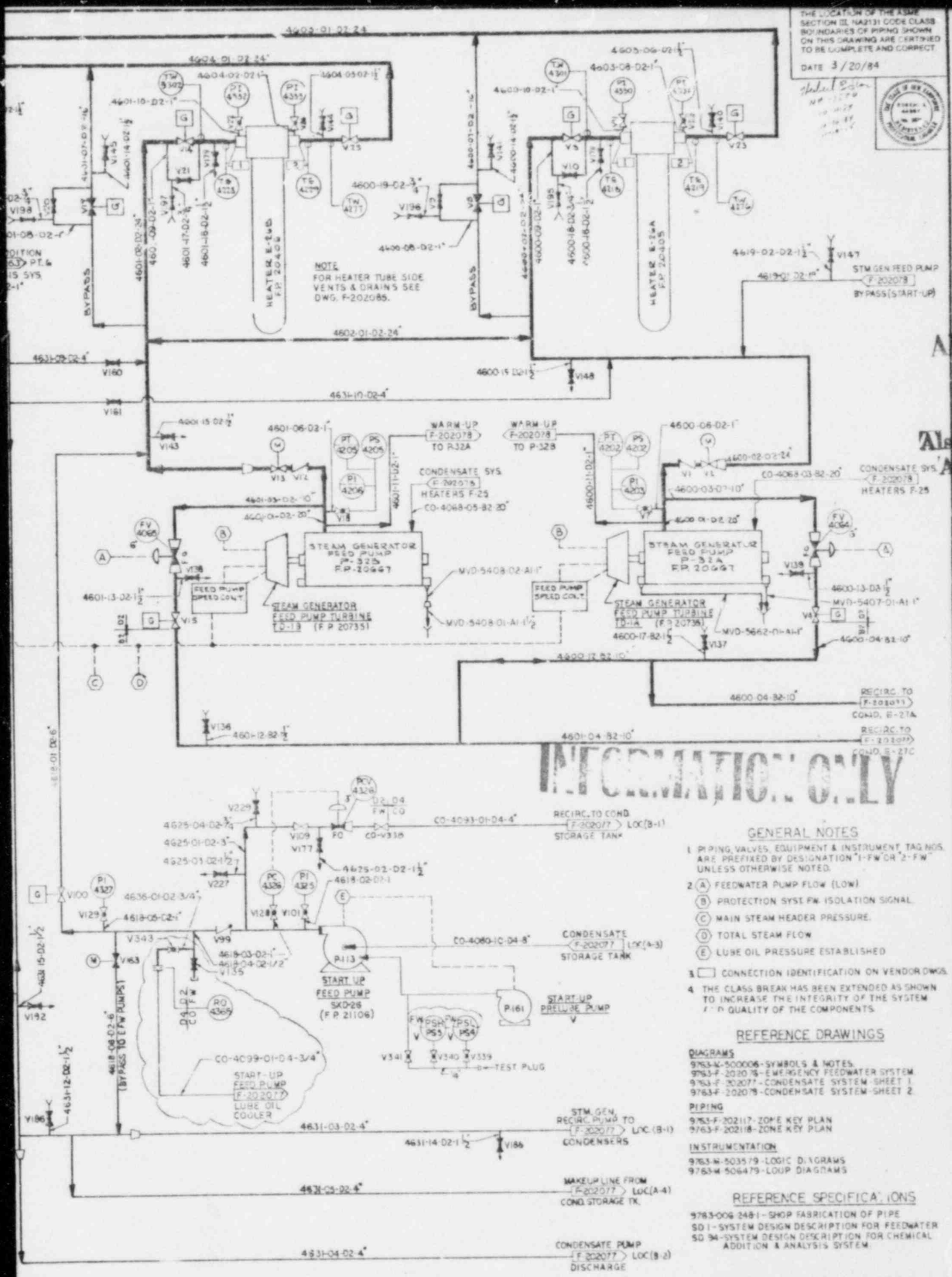

CONTAINMENT STRUCTURE
MAIN STEAM & FEEDWATER PIPE CHASE
(SEE NOTE 4)
PIPE TUNNEL YARD
TURBINE BUILDING
STEAM GENERATOR RC-E-11D
STEAM GENERATOR RC-E-11A
STEAM GENERATOR RC-E-11B
STEAM GENERATOR RC-E-11C
REACTOR COOLANT LOOP NR4
REACTOR COOLANT LOOP NR1
REACTOR COOLANT LOOP NR2
REACTOR COOLANT LOOP NR3
EMERGENCY FEEDWATER SUPPLY (TYP)
RECIRC. TO EMER. FEEDWATER (TYP)
STM. GEN. WET LAY-UP
CHEMICAL FEED (TYP)
FORGING (202444-5)
COND. CLEANING SYSTEM
HEATER DRAINS
EMER. FEED PUMPS
DISCH. HEADER
DEMIN WATER SUPPLY HEADER
SET @ 275 PSIG
SG BLOWDOWN LOOP 1
SG BLOWDOWN LOOP 3
SG BLOWDOWN LOOP 2
SG BLOWDOWN LOOP 4
STEAM GENERATOR RECIRCULATION & WET LAY-UP PUMP & HEAT EXCHANGER
(FP 23101)
(FP 23216)

THE LOCATION OF THE ASME SECTION III, NA2131 CODE CLASS BOUNDARIES OF PIPING SHOWN ON THIS DRAWING ARE CERTIFIED TO BE COMPLETE AND CORRECT

DATE 3/20/84

TI APERTURE CARD

Also Available On Aperture Card



INFORMATION ONLY

GENERAL NOTES

1. PIPING, VALVES, EQUIPMENT & INSTRUMENT TAG NOS. ARE PREFIXED BY DESIGNATION "1-FW" OR "2-FW" UNLESS OTHERWISE NOTED.
2. (A) FEEDWATER PUMP FLOW (LOW)
   (B) PROTECTION SYST. FW. ISOLATION SIGNAL.
   (C) MAIN STEAM HEADER PRESSURE.
   (D) TOTAL STEAM FLOW
   (E) LUBE OIL PRESSURE ESTABLISHED
3. ☐ CONNECTION IDENTIFICATION ON VENDOR DWGS.
4. THE CLASS BREAK HAS BEEN EXTENDED AS SHOWN TO INCREASE THE INTEGRITY OF THE SYSTEM AND QUALITY OF THE COMPONENTS.

REFERENCE DRAWINGS

DIAGRAMS

9763-M-500006-SYMBOLS & NOTES.
9763-F-202076-EMERGENCY FEEDWATER SYSTEM
9763-F-202077-CONDENSATE SYSTEM-SHEET 1
9763-F-202078-CONDENSATE SYSTEM-SHEET 2

PIPING

9763-F-202117-ZONE KEY PLAN
9763-F-202118-ZONE KEY PLAN

INSTRUMENTATION

9763-M-503579-LOGIC DIAGRAMS
9763-M-506479-LOOP DIAGRAMS

REFERENCE SPECIFICATIONS

9763-006-248-1-SHOP FABRICATION OF PIPE
SD 1-SYSTEM DESIGN DESCRIPTION FOR FEEDWATER
SD 94-SYSTEM DESIGN DESCRIPTION FOR CHEMICAL ADDITION & ANALYSIS SYSTEM.

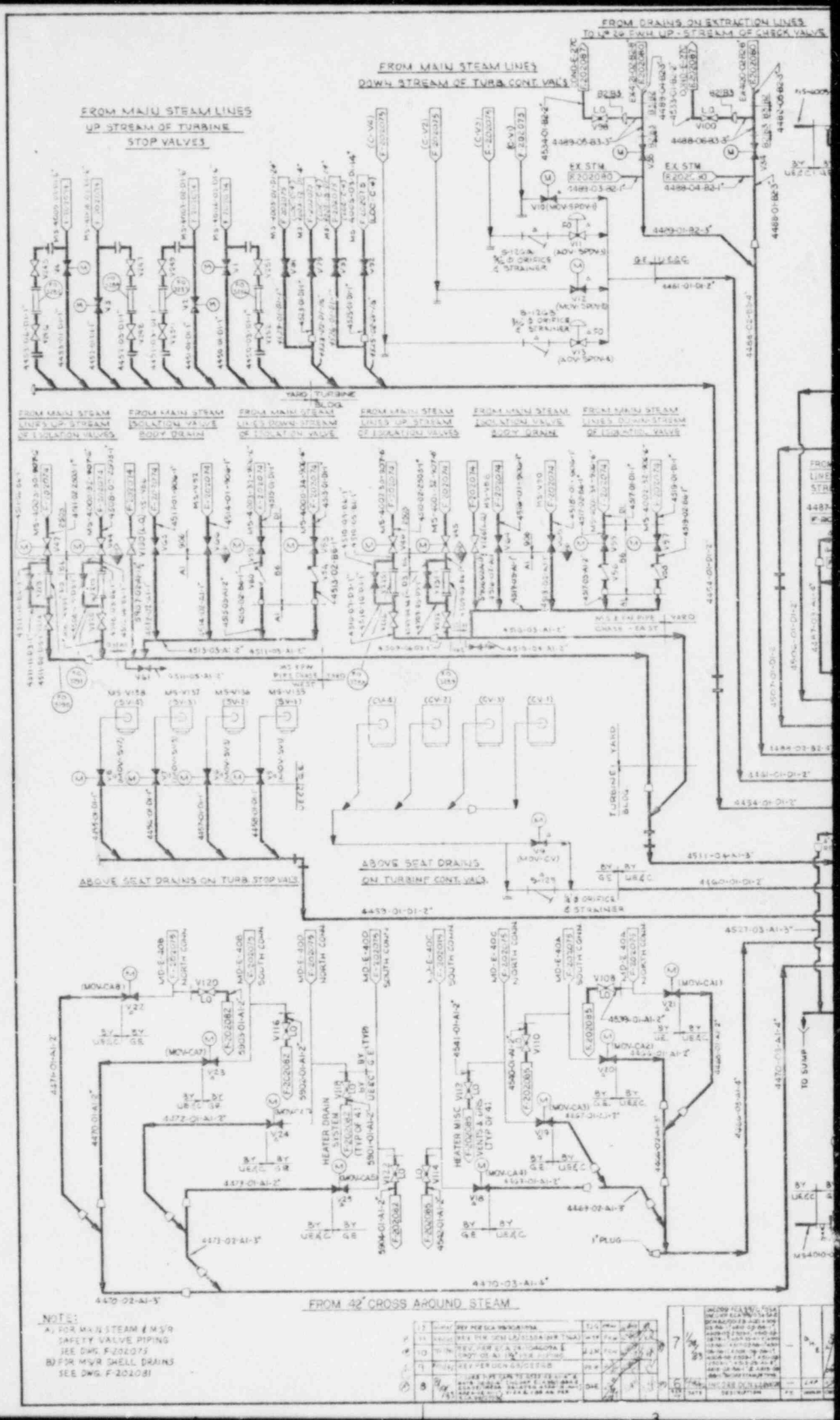
8601070257-04

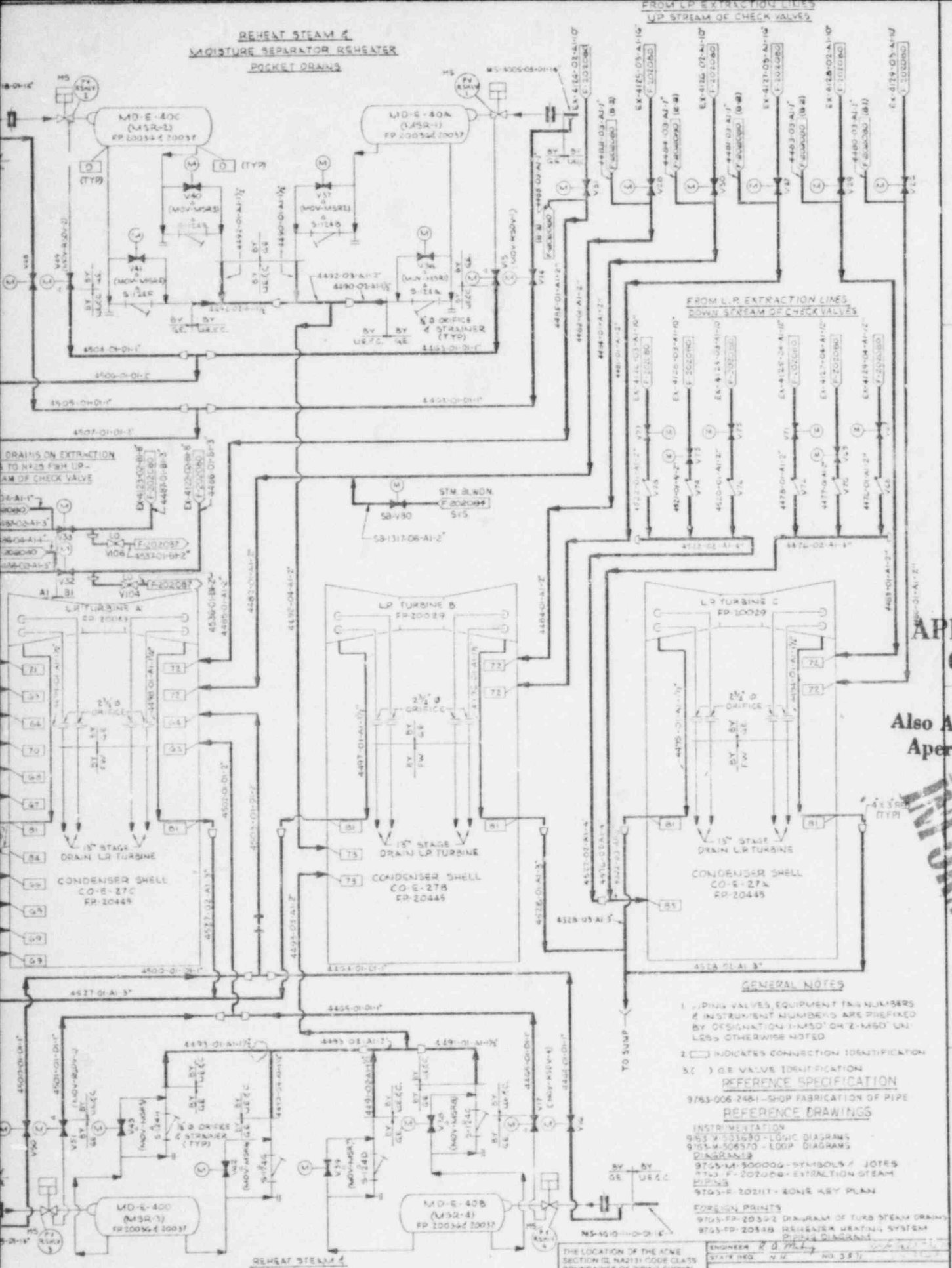
FSAR & PSAR FIG. NO 10.4-5

REV.	DATE	DESCRIPTION	DWN BY	CHK BY	ENGR	SUB. SUPV.
15	[illegible]	[illegible]	PAG	[illegible]	[illegible]	[illegible]
14	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
13	[illegible]	[illegible]	TH	[illegible]	[illegible]	[illegible]
12	[illegible]	CLARIFIED CLASS BREAK AS SHOWN PER ECA [illegible]	TH	[illegible]	[illegible]	[illegible]
11	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10	[illegible]	[illegible]	TH	[illegible]	[illegible]	[illegible]
9	11/1/82	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

ENGINEER R G [illegible]
STATE REG. N.H. NO. 3571

FEEDWATER SYSTEM
P. & I. DIAGRAM
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
United Engineers
UNITS NO. 1 & 2 9763-F-202079

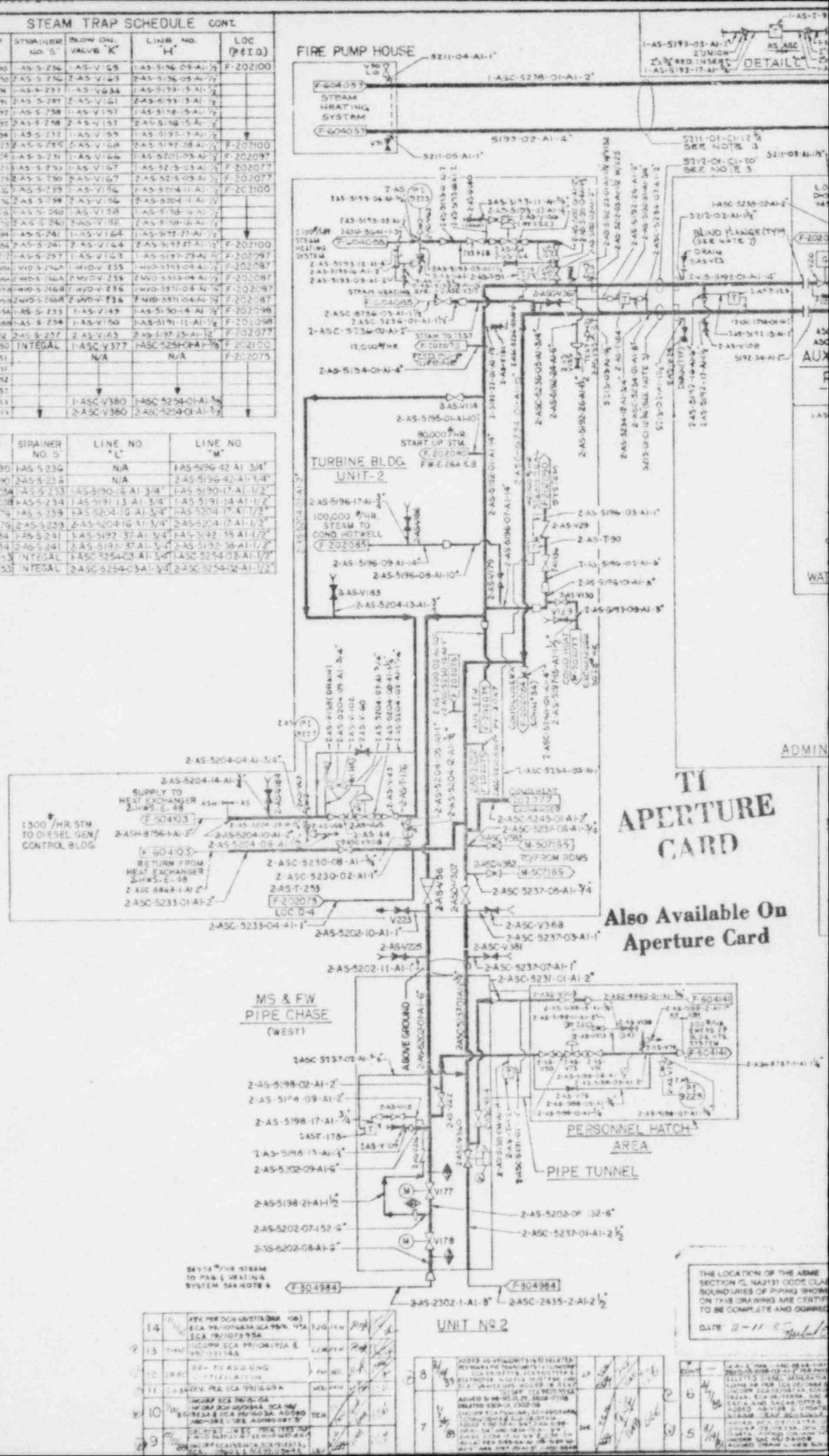

FROM DRAINS ON EXTRACTION LINES TO 14"ø FWH UP-STREAM OF CHECK VALVES
FROM MAIN STEAM LINES DOWN STREAM OF TURB CONT. VALVES
FROM MAIN STEAM LINES UP STREAM OF TURBINE STOP VALVES
FROM MAIN STEAM LINES UP STREAM OF ISOLATION VALVES
FROM MAIN STEAM ISOLATION VALVE BODY DRAIN
FROM MAIN STEAM LINES DOWN STREAM OF ISOLATION VALVE
FROM MAIN STEAM LINES UP STREAM OF ISOLATION VALVES
FROM MAIN STEAM ISOLATION VALVE BODY DRAIN
FROM MAIN STEAM LINES DOWN STREAM OF ISOLATION VALVE
ABOVE SEAT DRAINS ON TURB STOP VALVES
ABOVE SEAT DRAINS ON TURBINE CONT. VALVES
HEATER DRAIN SYSTEM
HEATER MISC VENTS & DRNS
TO SUMP
FROM 42" CROSS AROUND STEAM
NOTE:
A) FOR MAIN STEAM & MSR SAFETY VALVE PIPING SEE DWG. F-202075
B) FOR MSR SHELL DRAINS SEE DWG. F-202081



STEAM TRAP SCHEDULE CONT.

TRAP NO.	STRAINER NO. "S"	BLOW DN. VALVE "K"	LINE NO. "H"	LOC. (P&ID)
1-AS-T-90	1-AS-S-236	1-AS-V165	1-AS-5196-09-A1-½	F-202100
2-AS-T-90	2-AS-S-236	2-AS-V165	2-AS-5196-05-A1-½	
1-AS-T-91	1-AS-S-237	1-AS-V634	1-AS-5193-15-A1-½	
2-AS-T-91	2-AS-S-237	2-AS-V161	2-AS-5193-13-A1-½	
1-AS-T-92	1-AS-S-238	1-AS-V157	1-AS-5198-15-A1-½	
2-AS-T-92	2-AS-S-238	2-AS-V157	2-AS-5198-15-A1-½	
1-AS-T-94	1-AS-S-232	1-AS-V59	1-AS-5197-13-A1-½	
2-AS-T-232	2-AS-S-235	1-AS-V68	2-AS-5197-28-A1-½	F-202100
1-AS-T-94	1-AS-S-231	1-AS-V66	1-AS-5201-03-A1-½	F-202097
1-AS-T-175	1-AS-S-230	1-AS-V167	1-AS-5213-03-A1-½	F-202077
2-AS-T-175	2-AS-S-230	2-AS-V167	2-AS-5213-03-A1-½	F-202077
1-AS-T-176	1-AS-S-239	1-AS-V156	1-AS-5204-11-A1-½	F-202100
2-AS-T-176	2-AS-S-239	2-AS-V156	2-AS-5204-11-A1-½	
1-AS-T-178	1-AS-S-240	1-AS-V158	1-AS-5198-11-A1-½	
2-AS-T-178	2-AS-S-240	2-AS-V158	2-AS-5198-11-A1-½	
1-AS-T-184	1-AS-S-241	1-AS-V164	1-AS-5197-27-A1-½	
2-AS-T-184	2-AS-S-241	2-AS-V164	2-AS-5197-27-A1-½	F-202100
1-AS-T-217	1-AS-S-257	1-AS-V163	1-AS-5197-29-A1-½	F-202097
1-MVD-T-104A	1-MVD-S-216A	1-MVD-V235	1-MVD-5193-04-A1-½	F-202087
2-MVD-T-104A	2-MVD-S-216A	2-MVD-V235	2-MVD-5193-04-A1-½	F-202087
1-MVD-T-104B	1-MVD-S-216B	1-MVD-V236	1-MVD-5511-04-A1-½	F-202087
2-MVD-T-104B	2-MVD-S-216B	2-MVD-V236	2-MVD-5511-04-A1-½	F-202087
1-AS-T-104	1-AS-S-233	1-AS-V149	1-AS-5130-14-A1-¾	F-202098
1-AS-T-188	1-AS-S-234	1-AS-V150	1-AS-5191-11-A1-½	F-202098
2-AS-T-216	2-AS-S-257	2-AS-V163	2-AS-5197-25-A1-½	F-202077
1-AS-T-250	INTEGAL	1-ASC-V377	1-ASC-5254-01-A1-½	F-202100
1-AS-T-251		N/A	N/A	F-202075
2-AS-T-251				
1-AS-T-252				
2-AS-T-252				
1-AS-T-253		1-ASC-V380	1-ASC-5254-01-A1-½	
2-AS-T-253		2-ASC-V380	2-ASC-5254-01-A1-½	

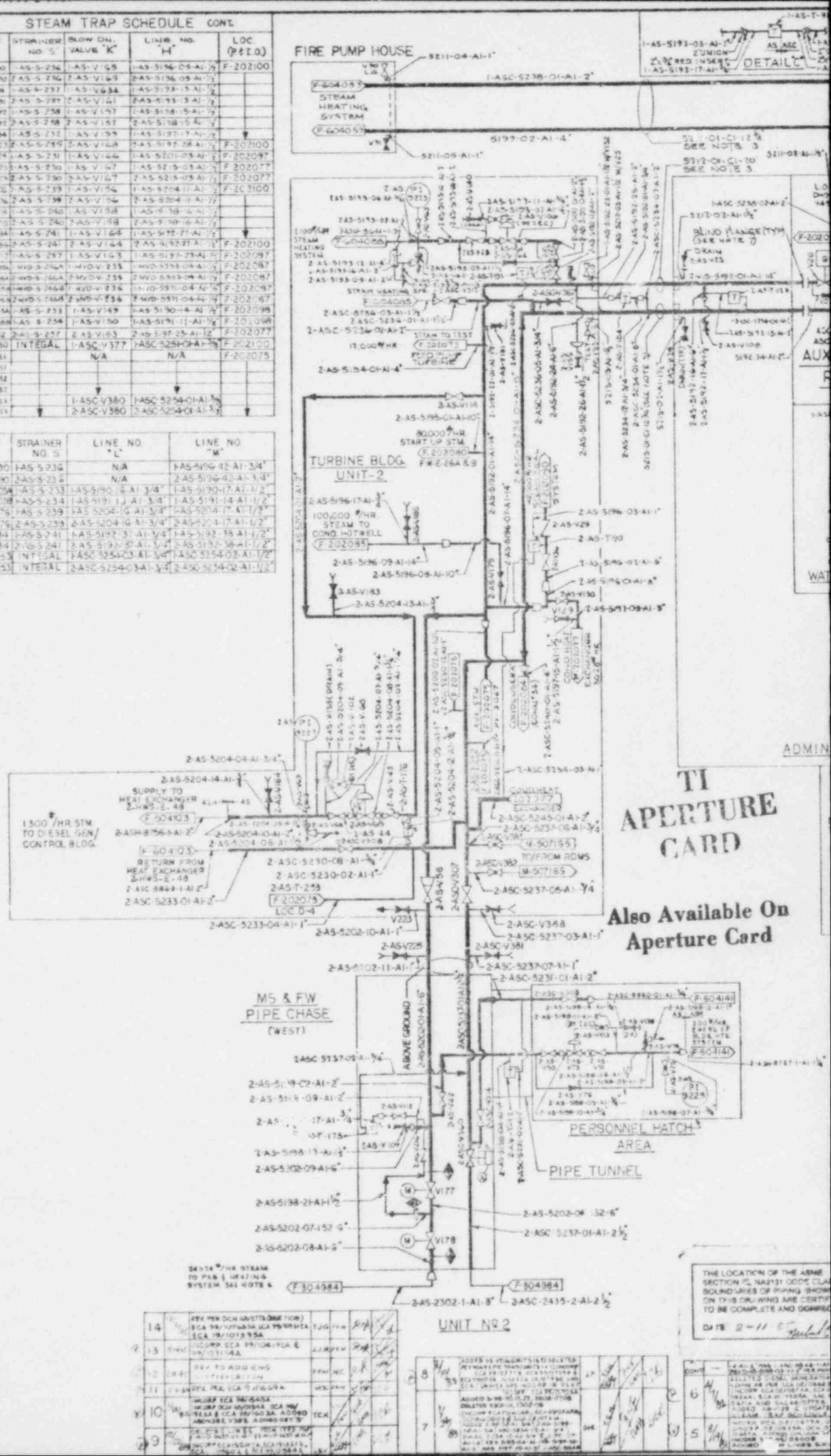
TRAP NO.	STRAINER NO. S	LINE NO. "L"	LINE NO. "M"
1-AS-T-90	1-AS-S-236	N/A	1-AS-5196-42-A1-¾"
2-AS-T-90	2-AS-S-236	N/A	2-AS-5196-42-A1-¾"
1-AS-T-91A	1-AS-S-233	1-AS-5190-16-A1-¾"	1-AS-5190-17-A1-½"
1-AS-T-91B	1-AS-S-234	1-AS-5191-13-A1-¾"	1-AS-5191-14-A1-½"
1-AS-T-176	1-AS-S-239	1-AS-5204-16-A1-¾"	1-AS-5204-17-A1-1½"
2-AS-T-176	2-AS-S-239	2-AS-5204-16-A1-¾"	2-AS-5204-17-A1-1½"
1-AS-T-184	1-AS-S-241	1-AS-5192-37-A1-¾"	1-AS-5192-38-A1-1½"
2-AS-T-184	2-AS-S-241	2-AS-5192-37-A1-¾"	2-AS-5192-38-A1-1½"
1-AS-T-253	INTEGAL	1-ASC-5254-03-A1-¾"	1-ASC-5254-03-A1-1½"
2-AS-T-253	INTEGAL	2-ASC-5254-03-A1-¾"	2-ASC-5254-02-A1-1½"

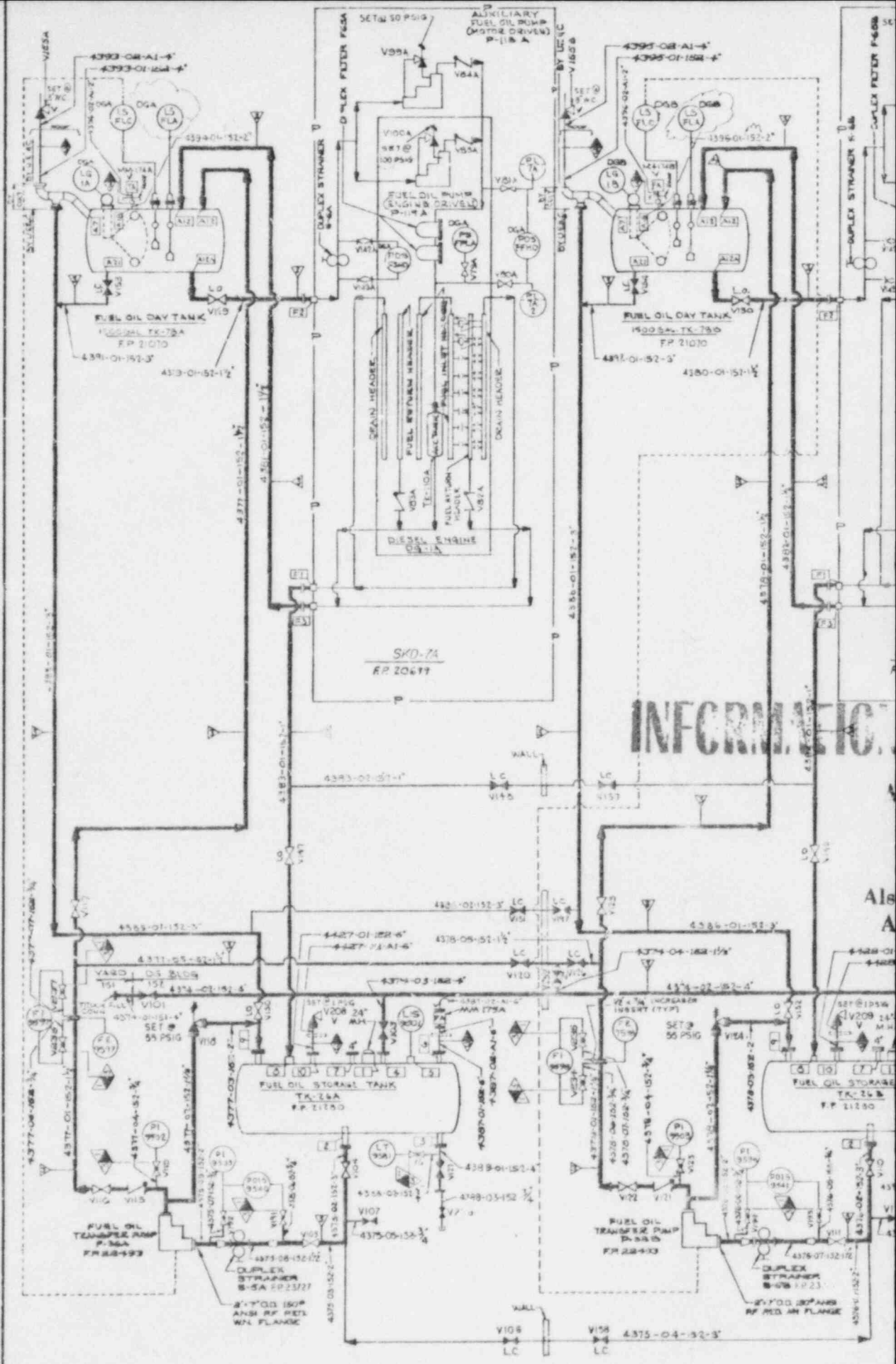


STEAM TRAP SCHEDULE CONT.

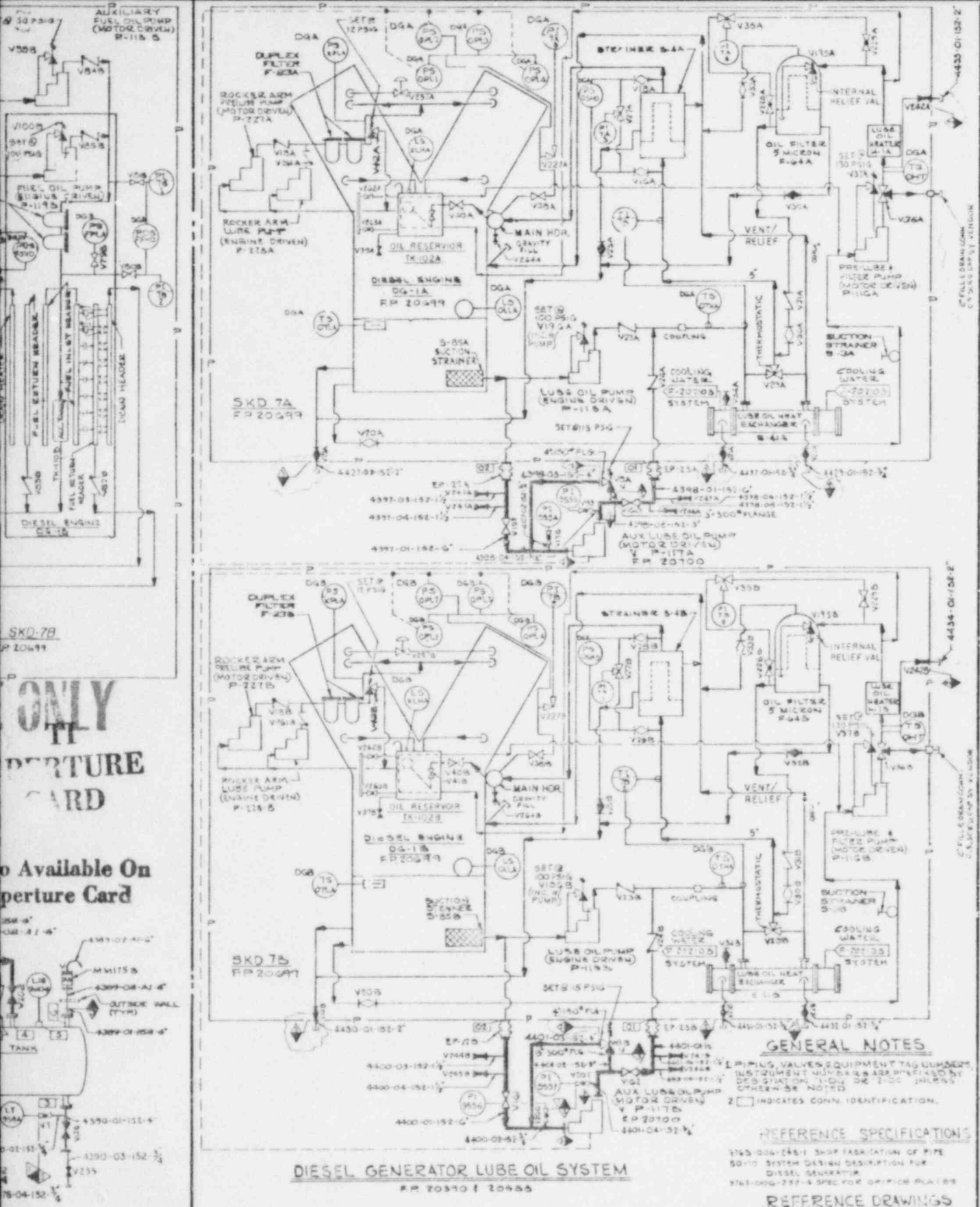
TRAP NO.	STRAINER NO. 'S'	BLOW DN. VALVE 'K'	LINE NO. 'H'	LOC. (P&I.D.)
1-AS-T-90	1-AS-S-236	1-AS-V165	1-AS-5196-05-AI-3/4	F-202100
2-AS-T-90	2-AS-S-236	2-AS-V165	2-AS-5196-05-AI-3/4	
1-AS-T-91	1-AS-S-237	1-AS-V634	1-AS-5193-13-AI-3/4	
2-AS-T-91	2-AS-S-237	2-AS-V161	2-AS-5193-13-AI-3/4	
1-AS-T-92	1-AS-S-238	1-AS-V157	1-AS-5198-15-AI-3/4	
2-AS-T-92	2-AS-S-238	2-AS-V157	2-AS-5198-15-AI-3/4	
1-AS-T-94	1-AS-S-232	1-AS-V159	1-AS-5197-17-AI-3/4	
2-AS-T-232	2-AS-S-785	2-AS-V168	1-AS-5197-28-AI-3/4	F-202100
1-AS-T-174	1-AS-S-231	1-AS-V166	1-AS-5201-03-AI-3/4	F-202097
1-AS-T-175	1-AS-S-230	1-AS-V167	1-AS-5215-03-AI-3/4	F-202077
2-AS-T-174	2-AS-S-230	2-AS-V167	2-AS-5215-03-AI-3/4	F-202077
1-AS-T-176	1-AS-S-239	1-AS-V156	1-AS-5204-11-AI-3/4	F-202100
2-AS-T-176	2-AS-S-239	2-AS-V156	2-AS-5204-11-AI-3/4	
1-AS-T-178	1-AS-S-240	1-AS-V158	1-AS-5198-16-AI-3/4	
2-AS-T-178	2-AS-S-240	2-AS-V158	2-AS-5198-16-AI-3/4	
1-AS-T-244	1-AS-S-241	1-AS-V164	1-AS-5192-27-AI-3/4	
2-AS-T-244	2-AS-S-241	2-AS-V164	2-AS-5192-27-AI-3/4	F-202100
1-AS-T-237	1-AS-S-237	1-AS-V163	1-AS-5197-23-AI-3/4	F-202097
1-MVD-T-086	MVD-S-246A	1-MVD-V-235	1-MVD-5193-09-AI-3/4	F-202087
2-MVD-T-086A	MVD-S-246A	2-MVD-V-235	2-MVD-5193-09-AI-3/4	F-202087
MVD-T-086	MVD-S-246B	MVD-V-236	1-MVD-5211-04-AI-3/4	F-202087
2-MVD-T-086B	2-MVD-S-246B	2-MVD-V-236	2-MVD-5211-04-AI-3/4	F-202087
1-AS-T-93A	1-AS-S-233	1-AS-V149	1-AS-5190-14-AI-3/4	F-202098
1-AS-T-088	AS-S-234	1-AS-V150	1-AS-5191-11-AI-3/4	F-202098
2-AS-T-232	2-AS-S-237	2-AS-V163	2-AS-5197-25-AI-1/2	F-202077
AS-T-250	INTEGAL	1-ASC-V377	1-ASC-5254-01-AI-3/4	F-202100
AS-T-251		N/A	N/A	F-202075
2-AS-T-251				
AS-T-252				
2-AS-T-252				
AS-T-253		1-ASC-V380	1-ASC-5254-01-AI-3/4	
2-AS-T-253		2-ASC-V380	2-ASC-5254-01-AI-3/4	

TRAP NO.	STRAINER NO. 'S'	LINE NO. 'L'	LINE NO. 'M'
1-AS-T-90	1-AS-S-236	N/A	1-AS-5196-02-AI-3/4"
2-AS-T-90	2-AS-S-236	N/A	2-AS-5196-02-AI-3/4"
1-AS-T-93A	1-AS-S-233	1-AS-5190-6-AI-3/4"	1-AS-5190-07-AI-1/2"
1-AS-T-093	1-AS-S-234	1-AS-5191-11-AI-3/4"	1-AS-5191-14-AI-1/2"
1-AS-T-176	1-AS-S-239	1-AS-5204-16-AI-3/4"	1-AS-5204-17-AI-1/2"
2-AS-T-176	2-AS-S-239	2-AS-5204-16-AI-3/4"	2-AS-5204-17-AI-1/2"
1-AS-T-194	1-AS-S-241	1-AS-5192-3-AI-3/4"	1-AS-5192-38-AI-1/2"
2-AS-T-194	2-AS-S-241	2-AS-5192-3-AI-3/4"	2-AS-5192-38-AI-1/2"
1-AS-T-253	INTEGAL	1-ASC-5254-03-AI-3/4"	1-ASC-5254-02-AI-1/2"
2-AS-T-253	INTEGAL	2-ASC-5254-03-AI-3/4"	2-ASC-5254-02-AI-1/2"





DIESEL GENERATOR FUEL OIL SYSTEM



DIESEL GENERATOR LUBE OIL SYSTEM

EP 20390 & 20488

GENERAL NOTES

1. PIPING, VALVES, EQUIPMENT TAG NUMBERS, INSTRUMENT NUMBERS & LINE NUMBERS DESIGNATION IS ONE LETTER UNLESS OTHERWISE NOTED
2. ⬚ INDICATES CONN. IDENTIFICATION.

REFERENCE SPECIFICATIONS

9763-006-248-1 SHOP FABRICATION OF PIPE
50-10 SYSTEM DESIGN DESCRIPTION FOR DIESEL GENERATOR
9763-006-252-4 SPEC FOR ORIFICE PLATES

REFERENCE DRAWINGS

DIAGRAMS:
9763-M-300006 - SYMBOLS & NOTES
9763-E-208195 - DIESEL GENERATOR COOLING WATER SYSTEM
9763-F-202101 - DIESEL GENERATOR AIR SYSTEMS

PIPING
9763-F-202118 - ZONE KEY PLAN

INSTRUMENTATION
9763-M-303950 - LOGIC DIAGRAMS
9763-M-306390 - LOOP DIAGRAMS

FSAR FIG. 9.5B (LO) & 9.5B (FO)

8601070257-07

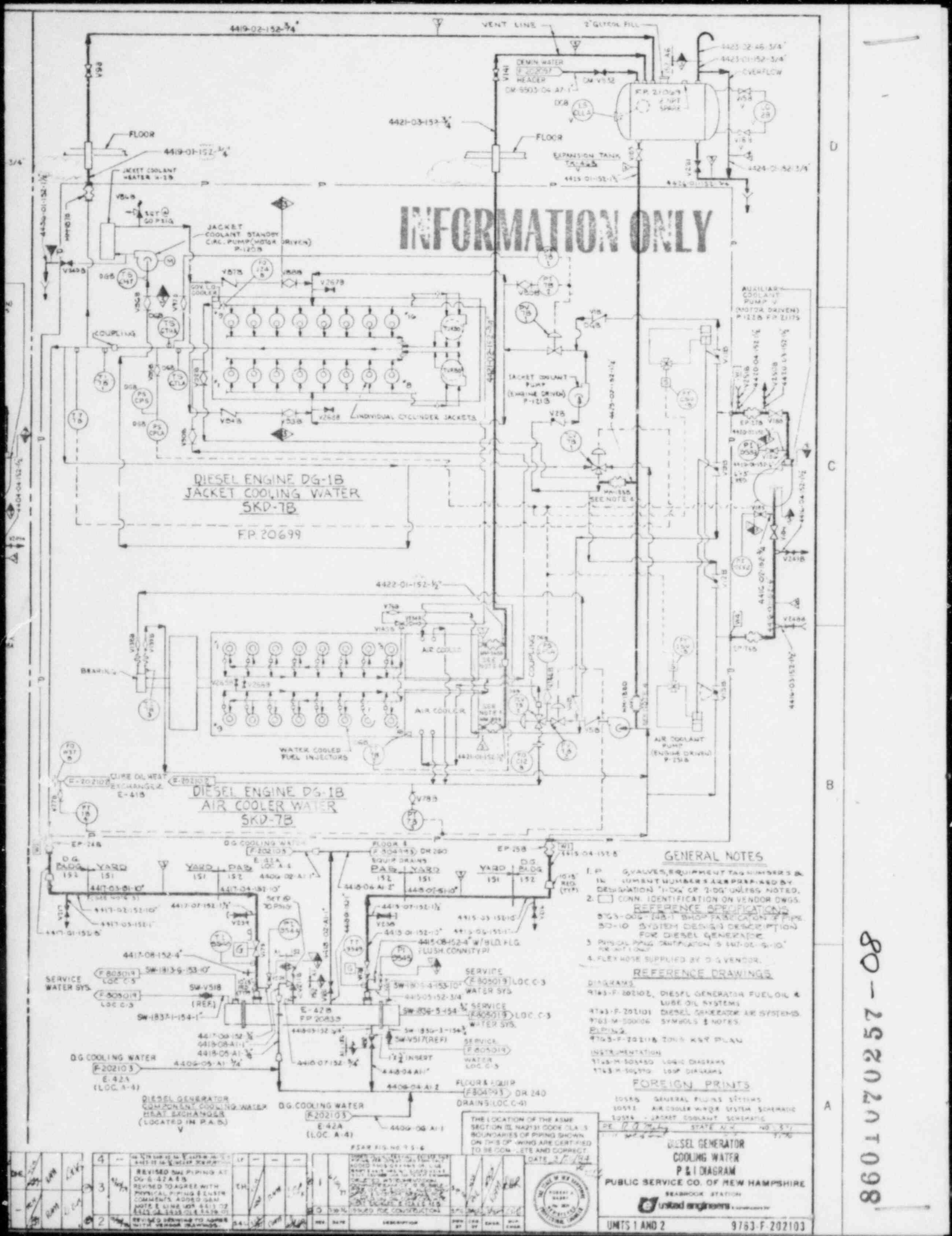
THE LOCATION OF THE ASME SECTION III, NA2131 CODE CLASS BOUNDARIES OF PIPING SHOWN ON THIS DRAWING ARE CERTIFIED TO BE COMPLETE AND CORRECT DATE 1/87

ENGINEER R. O'NEIL
STATE REG. N.H. NO. 5571

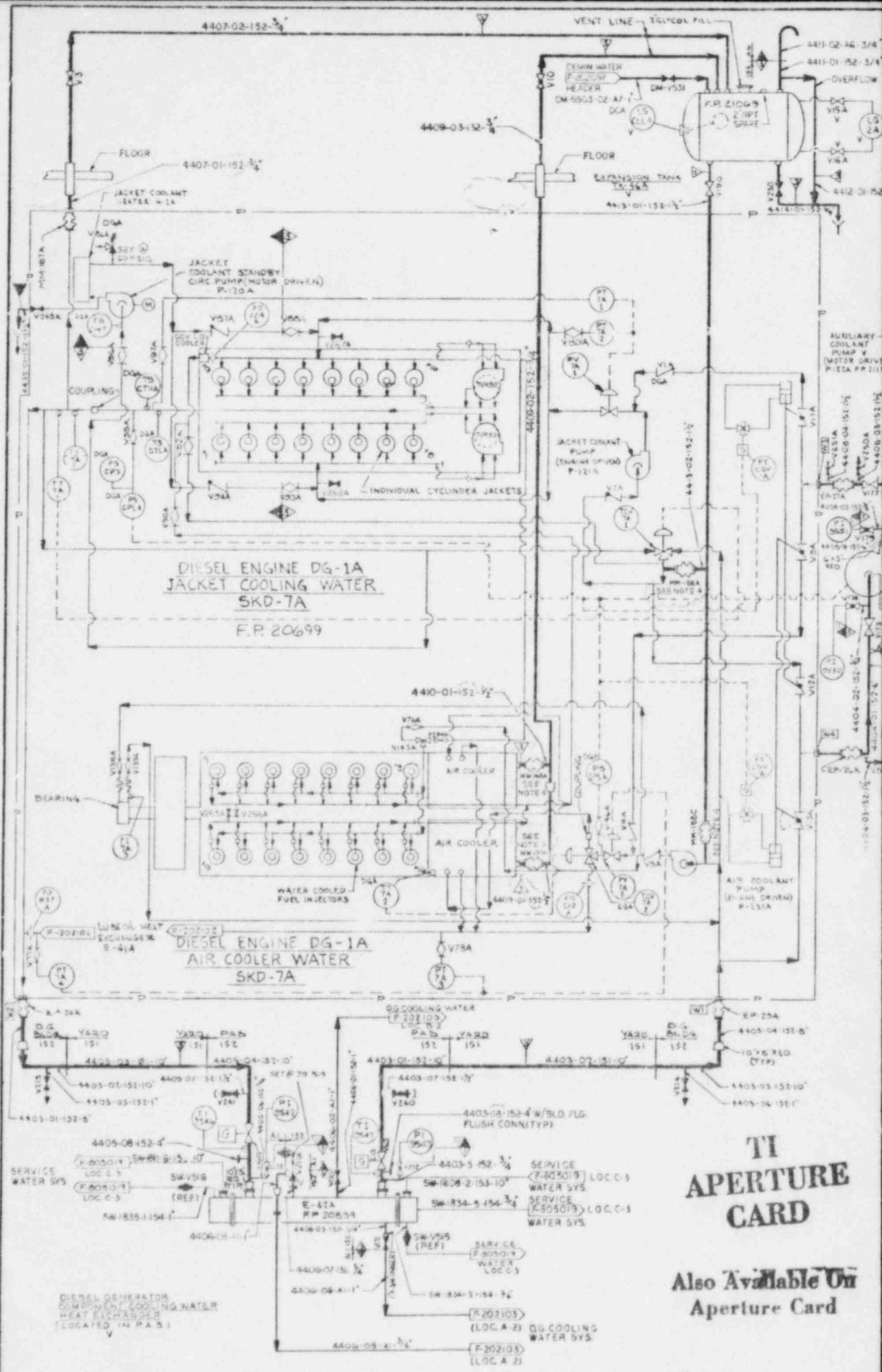
DIESEL GENERATOR
FUEL & LUBE OIL
P & I DIAGRAM
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
united engineers

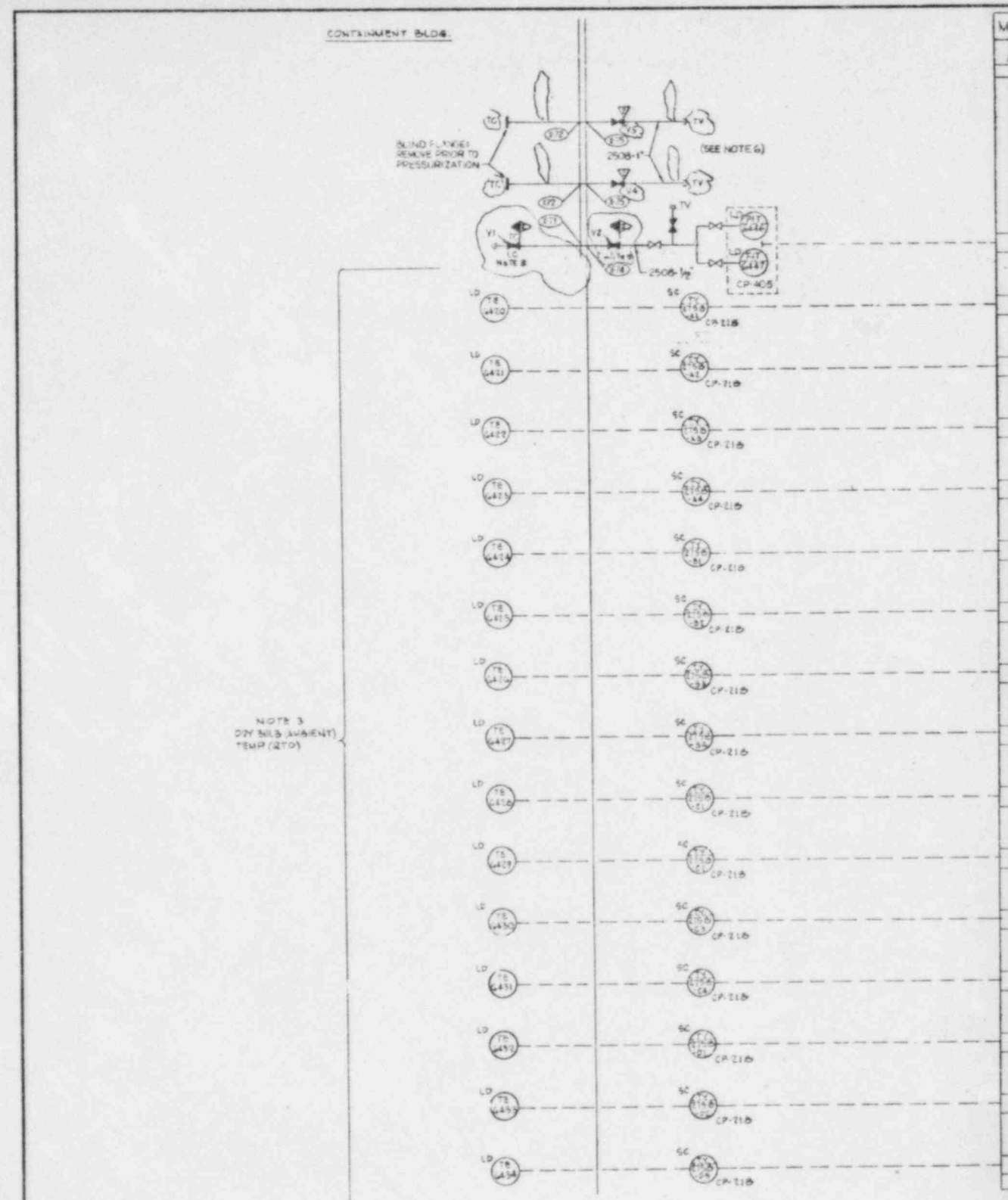
UNITS 1 AND 2 9763-F-202102

NO.	DATE	DESCRIPTION
6	9/87	REVISED AS SHOWN TO AGREE WITH FSAR AMENDMENT 6 & ISO DRAWINGS
5	8/87	REVISED AS SHOWN TO AGREE WITH FSAR AMENDMENT 5 & ISO DRAWINGS
4	7/87	REVISED AS SHOWN TO AGREE WITH FSAR AMENDMENT 4 & ISO DRAWINGS
3	4/87	REVISED AS SHOWN TO AGREE WITH FSAR AMENDMENT 3 & ISO DRAWINGS
2	3/87	REVISED AS SHOWN TO AGREE WITH FSAR AMENDMENT 2 & ISO DRAWINGS
1	1/87	ISSUED FOR CONSTRUCTION


INFORMATION ONLY
DIESEL ENGINE DG-1B
JACKET COOLING WATER
SKD-7B
F.P. 20699
DIESEL ENGINE DG-1B
AIR COOLER WATER
SKD-7B
GENERAL NOTES
REFERENCE SPECIFICATIONS
REFERENCE DRAWINGS
FOREIGN PRINTS
DIESEL GENERATOR
COOLING WATER
P & I DIAGRAM
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
UNITS 1 AND 2
9763-F-202103

8901020098





NOTES:

1. ALL INSTRUMENTS ARE FOR UNITS 1 & 2.
2. LEAK DETECTION INSTRUMENTS PREFIX "LD".
3. CABLE FROM EACH TE OR ME TO THE CORRESPONDING TY OR MT TO BE 16 AWG TWISTED SHIELD TRIAD. BOTH ELEMENTS OF EACH DUAL ELEMENT RTD TO BE WIRED THRU PENETRATIONS.
4. CABLE FROM MOX TO (6) ME'S TO BE (6) 16 AWG TWISTED SHIELDED PAIR.
5. COMPUTER INPUT IS 5½ DIGIT BCD TRANSMITTED FROM EITHER PIT. FIELD WIRING IS TO TERMINAL BLOCK AT CP-405 AND MAY BE MANUALLY SWITCHED BETWEEN PITS BY SWITCHING CABLE PLUGS AT CP-405. CABLE REQUIREMENT IS ONE CABLE W/16 TWISTED PAIRS (16 AWG) W/OVERALL SHIELD. MAXIMUM CABLE LENGTH IS 1000 FT. THE 21 CUSTOM INPUTS (LOGIC LEVEL) ARE DESIGNATED DS708 THRU DS728. CUSTOM INPUT CARDS IN RTU'S MUST PROVIDE A MINIMUM OF 17 BITS OF DATA.
6. FLOW INTEGRATING METER TO BE PROCURED BY START-UP AND INSTALLED IN THE LINE PROVIDED FOR CONTM PRESSURIZATION FLW PERFORMED LEAK RATE VERIFICATION TEST (PUMP BACK METHOD) NO COMPUTER INPUT TO BE PROVIDED. START-UP SHALL ALSO PROCURE METERING VALVE AND AN ADDITIONAL FLOW METER/INTEGRATOR FOR BACK UP VERIFICATION TEST (IMPOSED LEAK).
7. DELETED
8. NORMALLY LOCKED CLOSE ISOLATION VALVES TO BE LOCATED AS CLOSE TO CONTAINMENT AS POSSIBLE, WITHIN 10 FEET.

IN PLANT COMPUTER SYSTEM (MPCS)			
DIGITAL ALARMS	ANALOG	ANALOG	DIGITAL ALARMS
		AIT31 (S)	NONE
		AIT32 (S)	NONE
NONE	SEE NOTE 5	AIT33 (S)	NONE
NONE	AIT16 (S)	AIT34 (S)	NONE
NONE	AIT17 (S)	AIT35 (S)	NONE
NONE	AIT18 (S	AIT36 (S)	NONE
NONE	AIT19 (S)	AIT37 (S)	NONE
NONE	AIT20 (S)	AIT38 (S)	NONE
NONE	AIT21 (S)	AIT39 (S)	NONE
NONE	AIT22 (S)	AIT40 (S)	NONE
NONE	AIT23 (S)	AIT41 (S)	NONE
NONE	AIT24 (S)	AIT42 (S)	NONE
NONE	AIT25 (S)	AIT43 (S)	NONE
NONE	AIT26 (S)	AIT44 (S)	NONE
NONE	AIT27 (S)	AIT45 (S)	NONE
NONE	AIT28 (S)	AIT46 (S)	NONE
NONE	AIT29 (S)	AIT47 (S)	NONE
NONE	AIT30 (S)		

CONTAINMENT BLDG.

DRY WELL (AMBIENT) TEMP. (RTD)

NOTE 5

DEW POINT SENSORS

NOTE 4

TRAIN "A" ELEC. TUNNEL EL. 0'-0"

INFORMATION ONLY

TI APERTURE CARD

Also Available On Aperture Card

REFERENCES:
M-513000 (SH)
M-500006
F-500037-1, 5&6
SD 31
M-510004

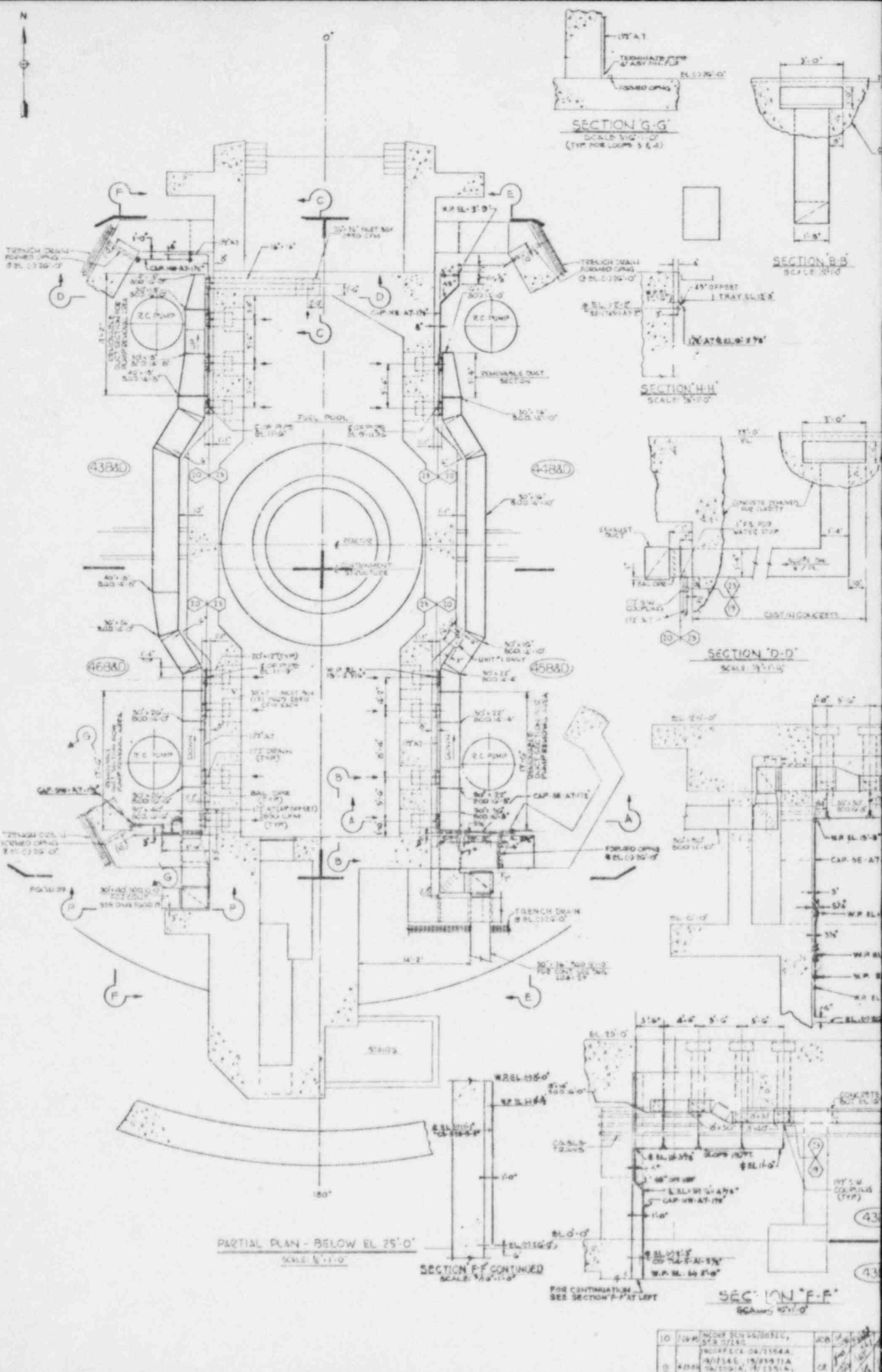
8601070257-09

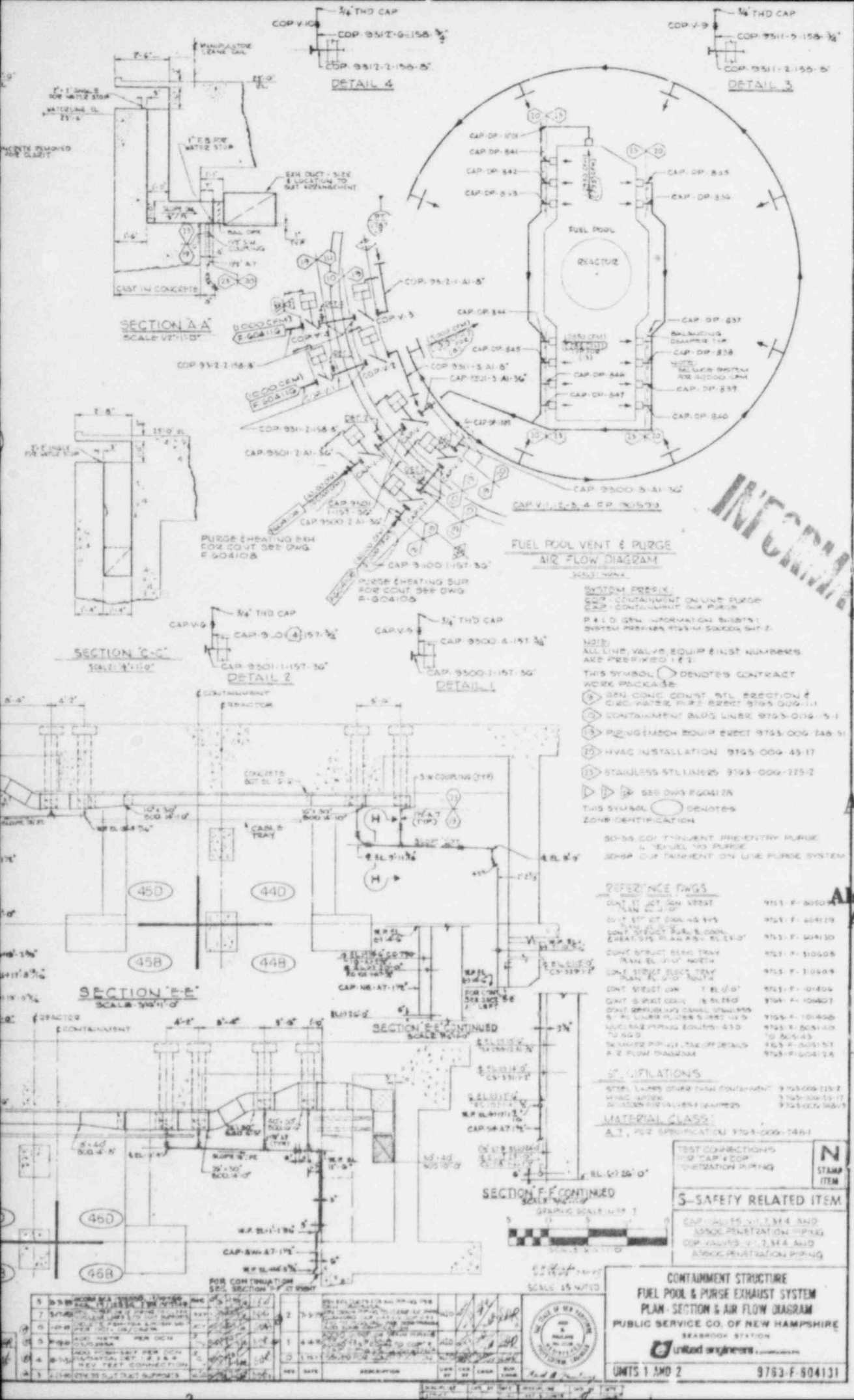
ISSUED FOR CONSTRUCTION

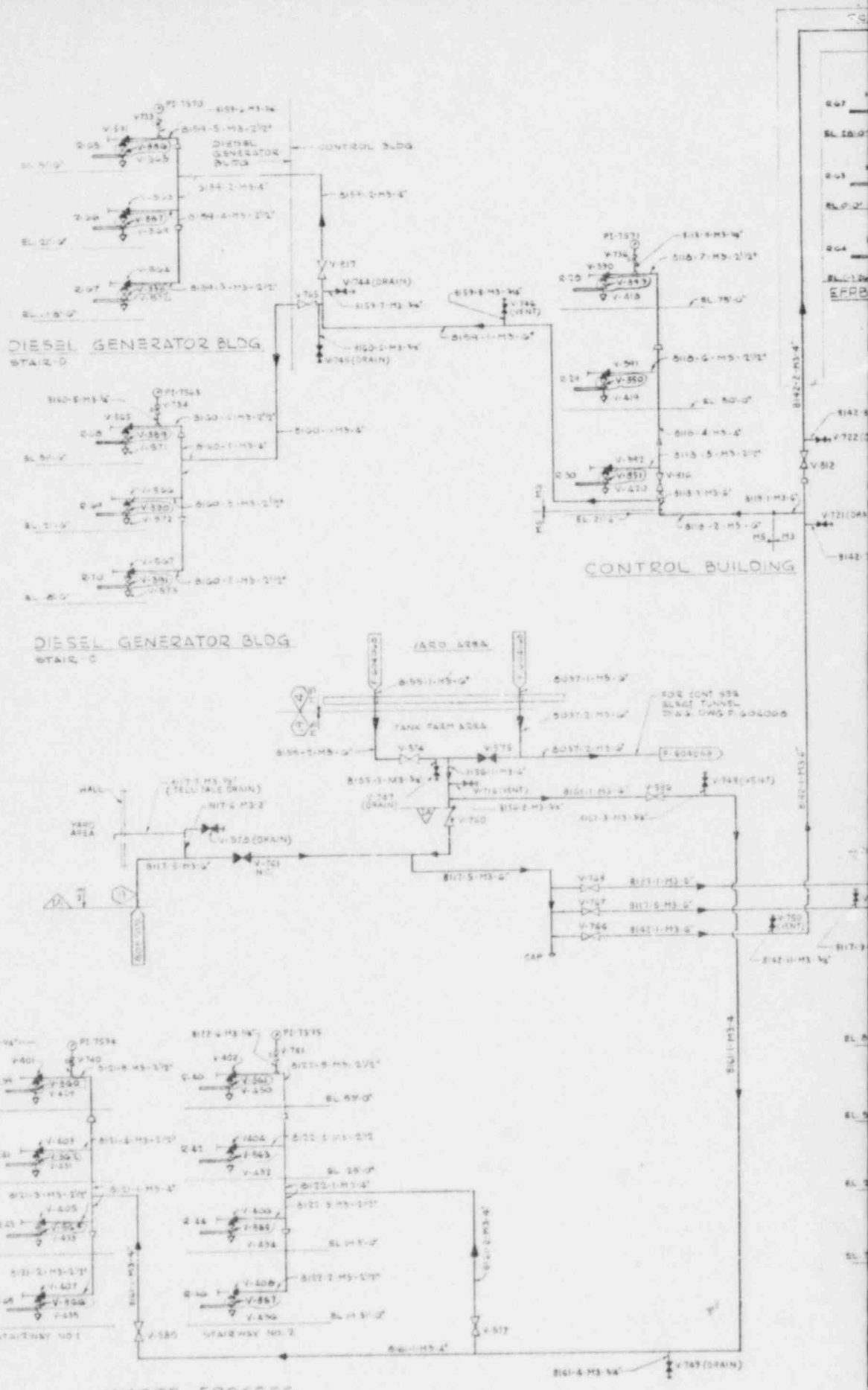
ISSUED-FOR-CONSTRUCTION

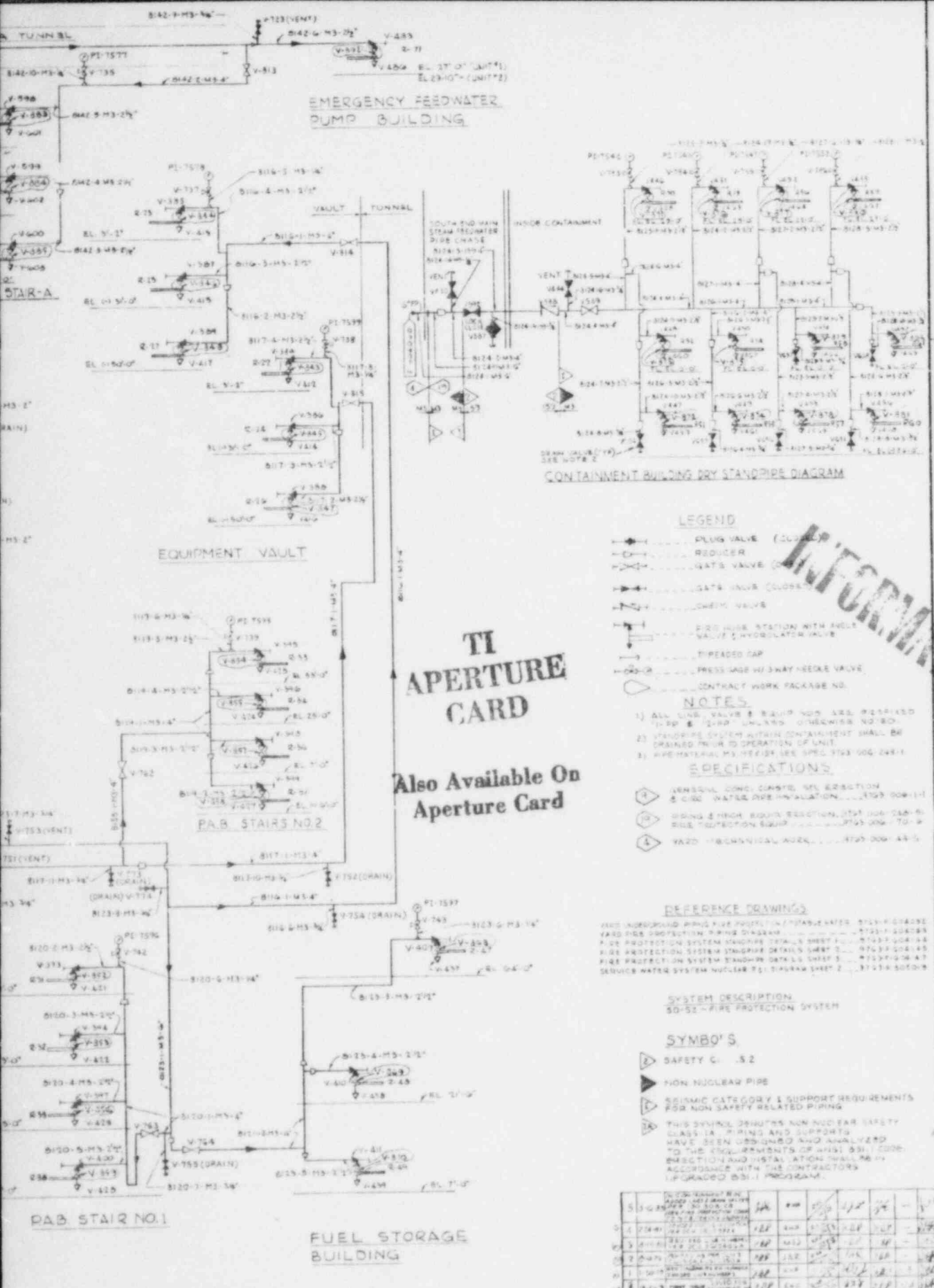
LEAK DETECTION SYSTEM
INSTRUMENTATION ENGINEERING DIAGRAM
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
united engineers

9763-F-500037-2


SECTION 'G-G'
SECTION 'B-B'
SECTION 'H-H'
SECTION 'D-D'
PARTIAL PLAN - BELOW EL 25'-0"
SECTION 'F-F' CONTINUED
SECTION 'F-F'
REACTOR
FUEL POOL
TRENCH DRAIN
STAIRS




DIESEL GENERATOR BLDG
STAIR D
DIESEL GENERATOR BLDG
STAIR C
CONTROL BUILDING
TANK FARM AREA
WASTE PROCESS BUILDING
UNIT 1 ONLY



8601070257 -11

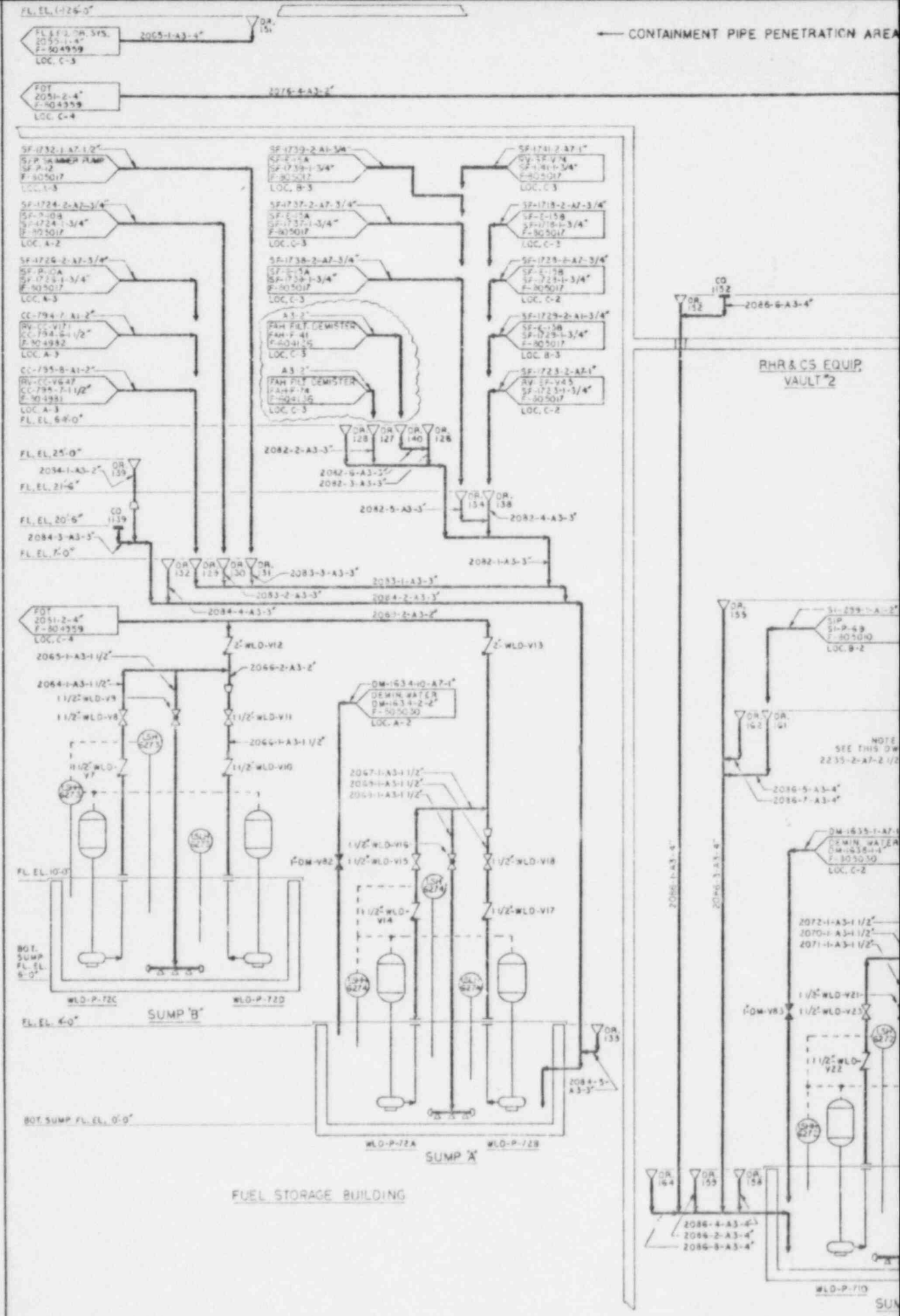
FIRE PROTECTION SYSTEM STANDPIPE DIAGRAMS

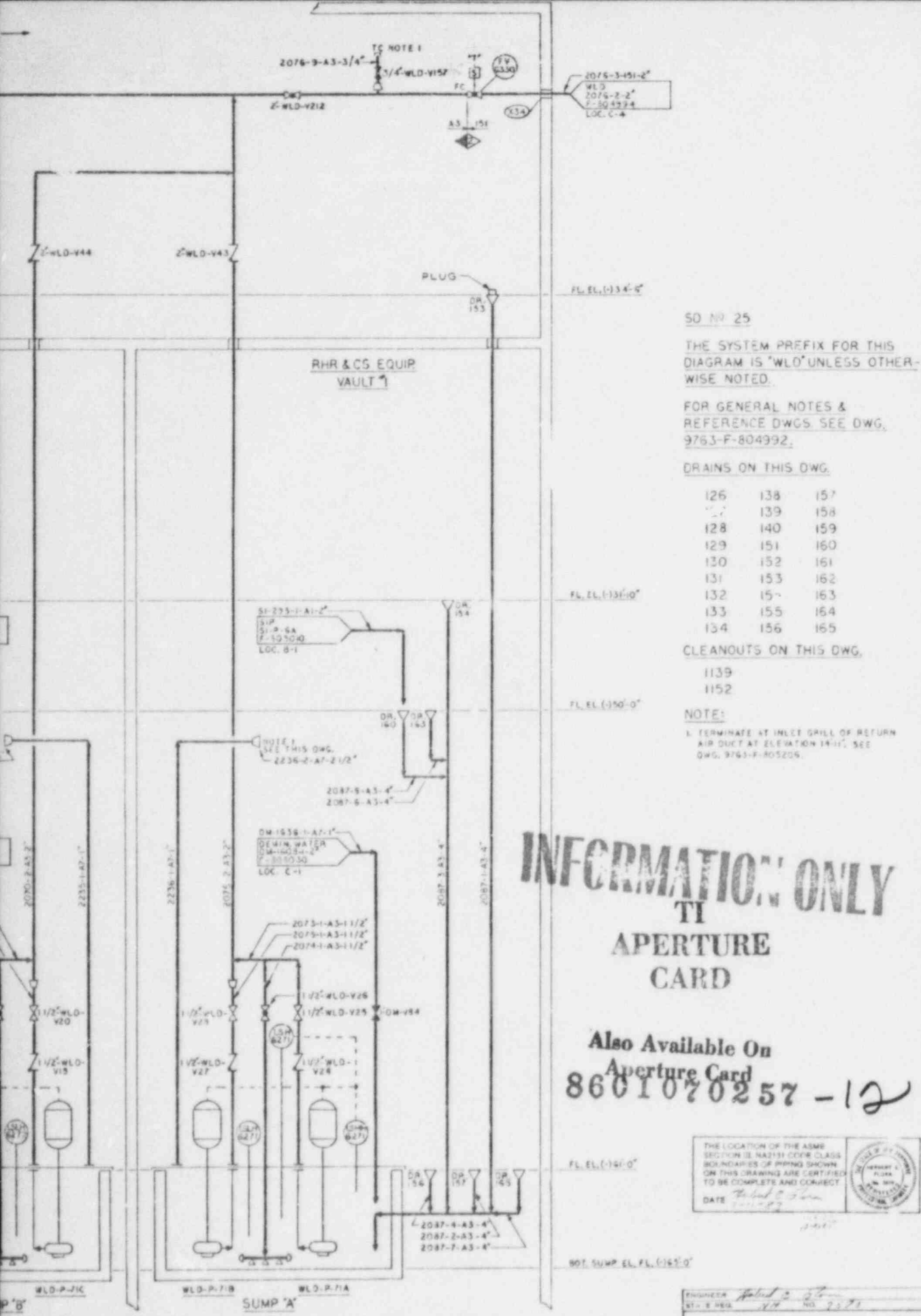
PUBLIC SERVICE CO. OF NEW HAMPSHIRE

SEABROOK STATION

United Engineers

UNITS 1 & 2 9763-F-60146


CONTAINMENT PIPE PENETRATION AREA
RHR & CS EQUIP. VAULT #2
SUMP 'B'
SUMP 'A'
FUEL STORAGE BUILDING



SO № 25

THE SYSTEM PREFIX FOR THIS DIAGRAM IS "WLD" UNLESS OTHERWISE NOTED.

FOR GENERAL NOTES & REFERENCE DWGS. SEE DWG. 9763-F-804992.

DRAINS ON THIS DWG.

126	138	157
127	139	158
128	140	159
129	151	160
130	152	161
131	153	162
132	154	163
133	155	164
134	156	165

CLEANOUTS ON THIS DWG.

1139
1152

NOTE:

1. TERMINATE AT INLET GRILL OF RETURN AIR DUCT AT ELEVATION 14'-11", SEE DWG. 9763-F-805209.

THE LOCATION OF THE ASME SECTION III NA2131 CODE CLASS BOUNDARIES OF PIPING SHOWN ON THIS DRAWING ARE CERTIFIED TO BE COMPLETE AND CORRECT.
DATE

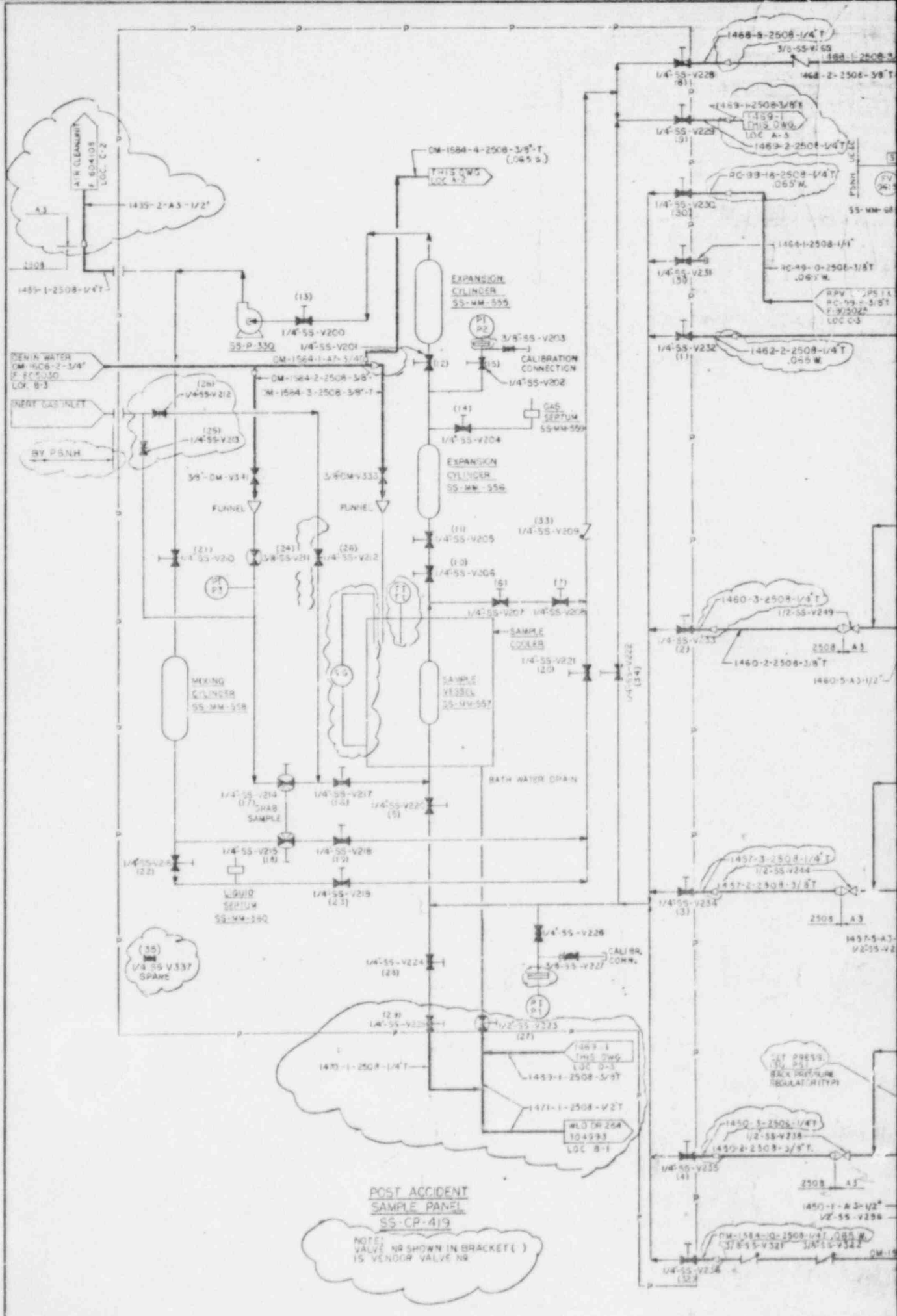
ENGINEER
ST. E REQ. NO.

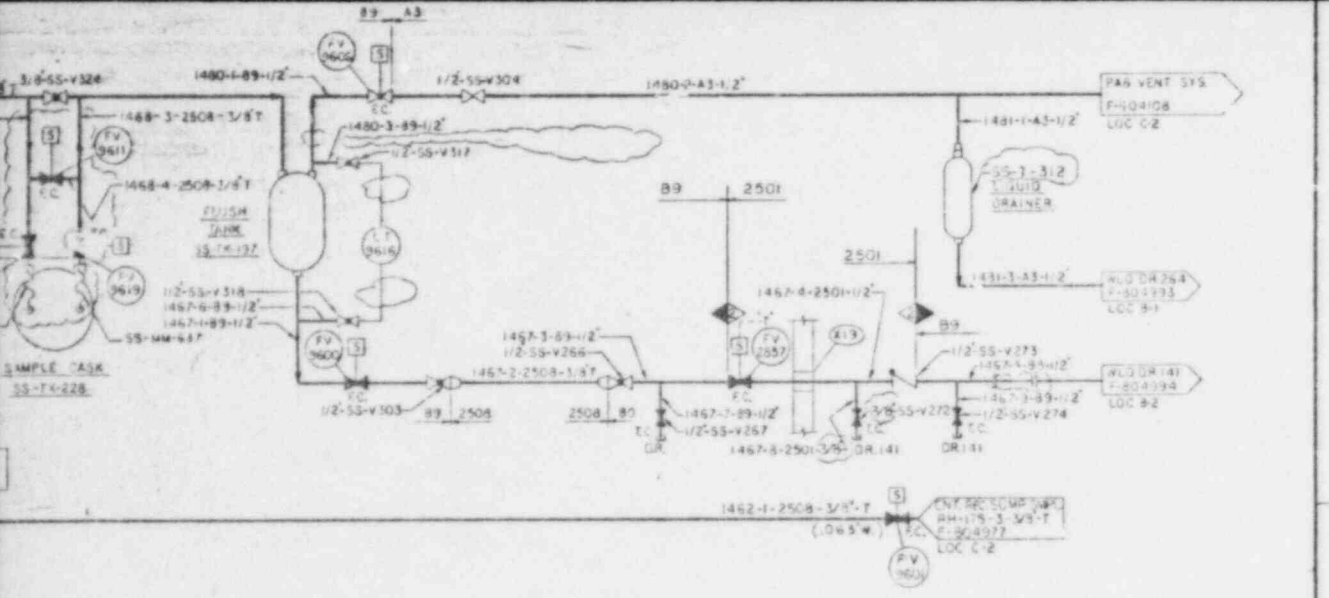
FLOOR & EQUIPMENT DRAIN SYSTEM
RHR & FUEL STORAGE BLDG. SUMPS
P & I DIAGRAM SHEET 1
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
United engineers

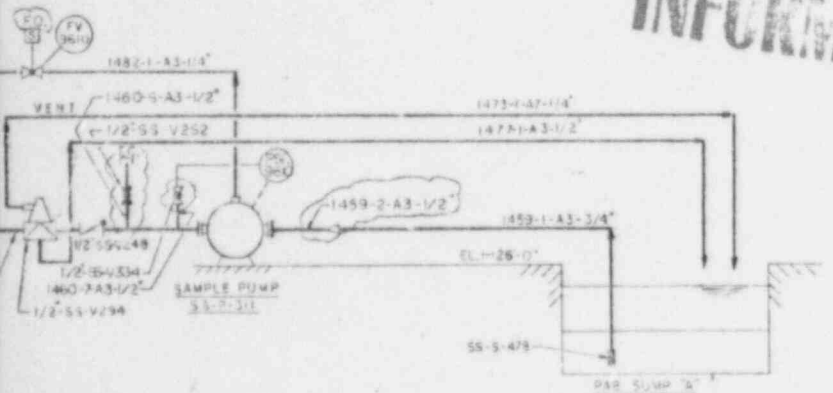
UNITS 1 & 2 9763-F-804958

D C B A

2 1

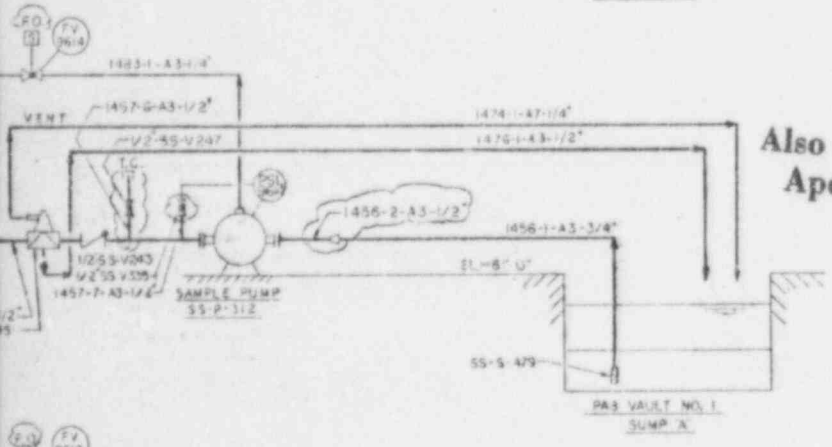

1468-S-2508-1/4"T
3/8-SS-V165
1468-1-2508-3/8"T
1468-2-2508-3/8"T
1/4"SS-V228
(31)
1469-1-2508-3/8"T
1469-1 THIS DWG LOC A-5
1/4"SS-V229
(3)
1469-2-2508-1/4"T
DM-1584-4-2508-3/8"-T (.065 W.)
THIS DWG LOC A-5
RC-99-16-2508-1/4"T .065"W.
1/4"SS-V230
(30)
1464-1-2508-1/4"
1/4"SS-V231
(32)
RC-99-0-2508-3/8"T .065"W.
1/4"SS-V232
(1)
1462-2-2508-1/4"T .065 W.
1435-2-A3-1/2"
1/4"SS-V200
(13)
SS-P-330
1/4"SS-V201
DM-1564-1-A7-3/4"
EXPANSION CYLINDER SS-MM-555
3/8"SS-V203
CALIBRATION CONNECTION
1/4"SS-V202
(12)
(15)
DEMIN WATER DM-1506-2-3/4" F-SCS-30 LOC. B-3
DM-1584-2-2508-3/8"T
DM-1584-3-2508-3/8"-T
INERT GAS INLET
(26) 1/4"SS-V212
(25) 1/4"SS-V213
BV P.S.N.H
GAS SEPTUM SS-MM-559
(14)
1/4"SS-V204
EXPANSION CYLINDER SS-MM-556
3/8"-DM-V341
3/8"DM-V333
FUNNEL
FUNNEL
(11) 1/4"SS-V205
(33) 1/4"SS-V209
(21) 1/4"SS-V210
(24) 3/8"SS-V211
(26) 1/4"SS-V212
(13) 1/4"SS-V206
(6)
(7)
1/4"SS-V207
1/4"SS-V208
SAMPLE COOLER
1460-3-2508-1/4"T
1/2-SS-V249
1/4"SS-V233
(2)
2508 A3
1460-2-2508-3/8"T
1460-5-A3-1/2"
1/4"SS-V231 (20)
1/4"SS-V222 (34)
MIXING CYLINDER SS-MM-558
SAMPLE VESSEL SS-MM-557
BATH WATER DRAIN
1/4"SS-V214 (17) SWAB SAMPLE
1/4"SS-V217 (14)
1/4"SS-V220 (5)
1/4"SS-V215 (18)
1/4"SS-V218 (19)
1/4"SS-V216 (22)
LIQUID SEPTUM SS-MM-560
1/4"SS-V219 (23)
1457-3-2508-1/4"T
1/2-SS-V244
1457-2-2508-3/8"T
1/4"SS-V234
(3)
2508 A3
1457-5-A3-
1/2"SS-V2
1/4"SS-V226
(35) 1/4"SS-V337 SPARE
1/4"SS-V224 (28)
CALIBR. CONN.
3/8"SS-V227
(29) 1/4"SS-V225
1/2"SS-V223 (27)
1469-1 THIS DWG LOC D-5
1470-1-2508-1/4"T
1453-1-2508-3/8"T
1471-1-2508-1/2"T
WLO DR 264 104993 LOC B-1
1450-3-2508-1/4"T
1/2-SS-V238
1450-2-2508-3/8"T
1/4"SS-V235
(4)
2508 A3
1450-1-A3-1/2"
1/2"SS-V236
DM-1584-0-2508-1/4"T .065 W.
3/8"SS-V321
3/8"SS-V322
1/4"SS-V236
(32)
POST ACCIDENT SAMPLE PANEL SS-CP-419
NOTE: VALVE NR SHOWN IN BRACKET( ) IS VENDOR VALVE NR



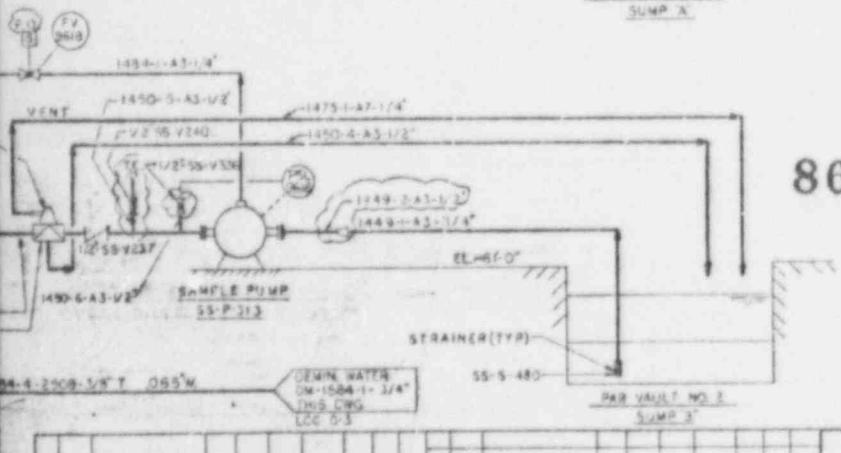


FOR GENERAL NOTES SEE DWG. F-805025

ALL TUBING PER SPEC 2508 TO BE .049" WALL EXCEPT AS NOTED.



S.D. NO. 30
THE SYSTEM PREFIX FOR THIS DIAGRAM IS 'SS' UNLESS OTHERWISE NOTED



-6-2508-3/8"T .065"W
DEMIN WATER DM-1584-1-3/4" THIS DRG. LOC D-3

THE LOCATION OF THE ASME SECTION III, NA2131 CODE CLASS BOUNDARIES OF PIPING SHOWN ON THIS DRAWING ARE CERTIFIED TO BE COMPLETE AND CORRECT.

DATE 4-2-87

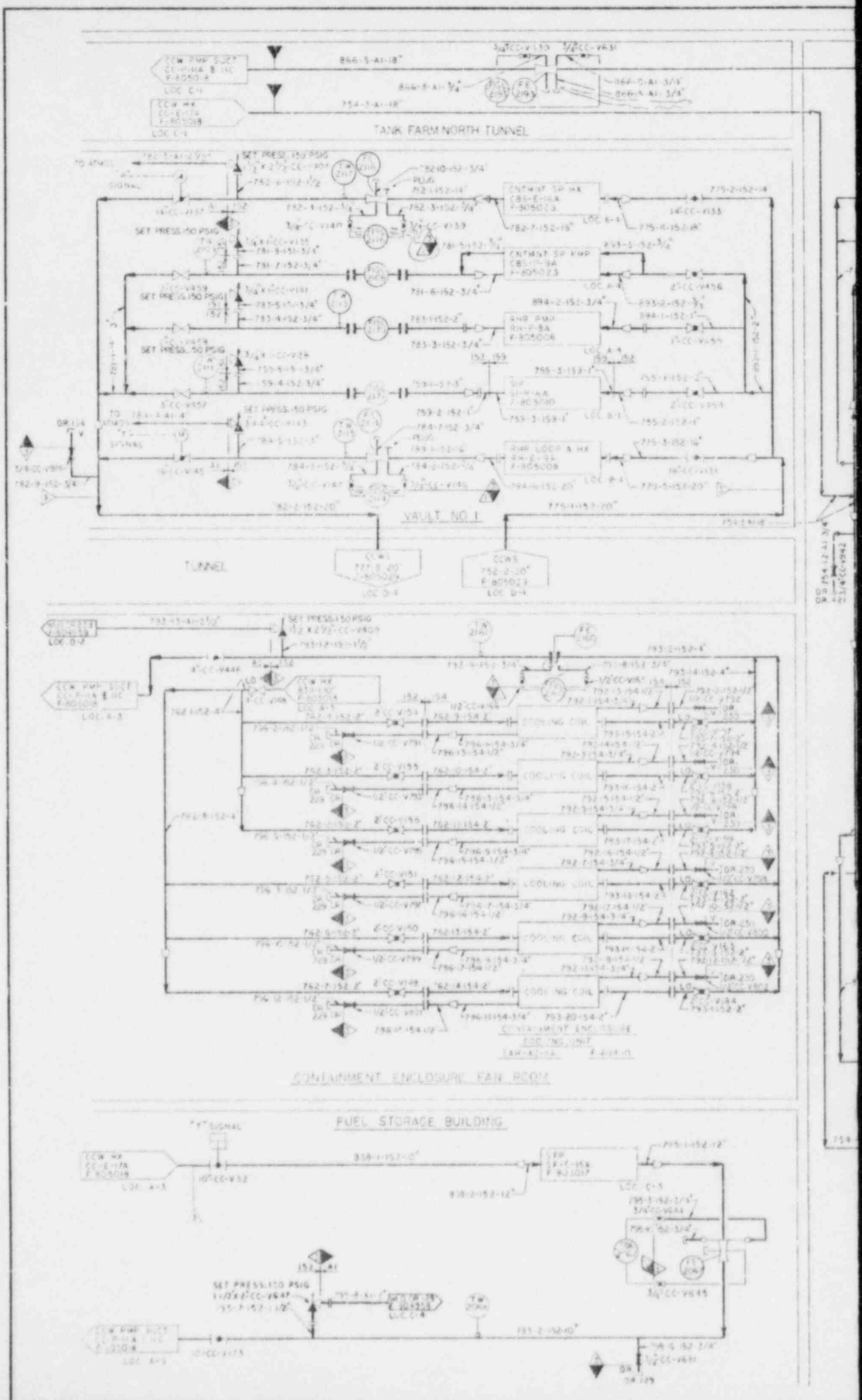
ENGINEER

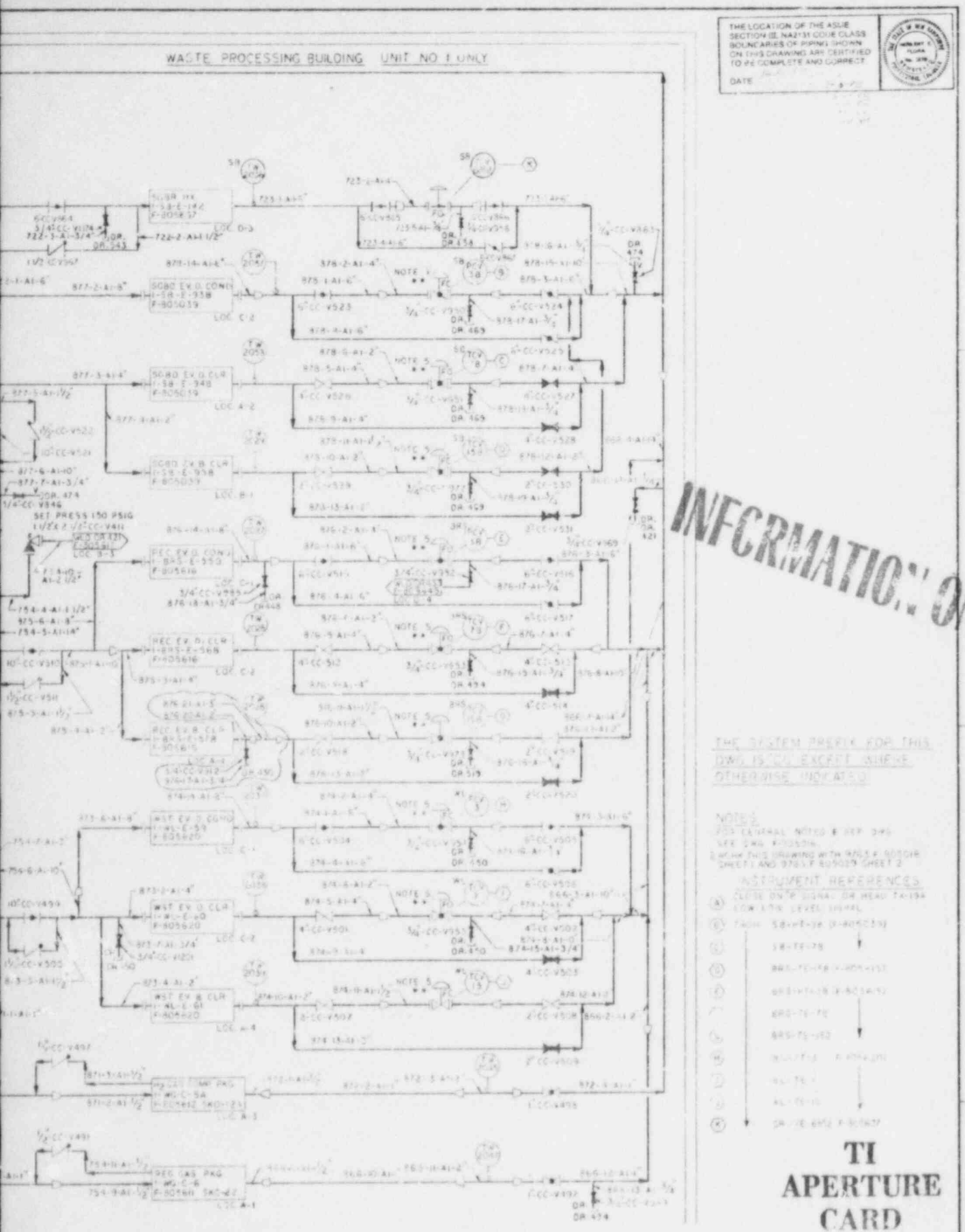
STATE REG. NO.

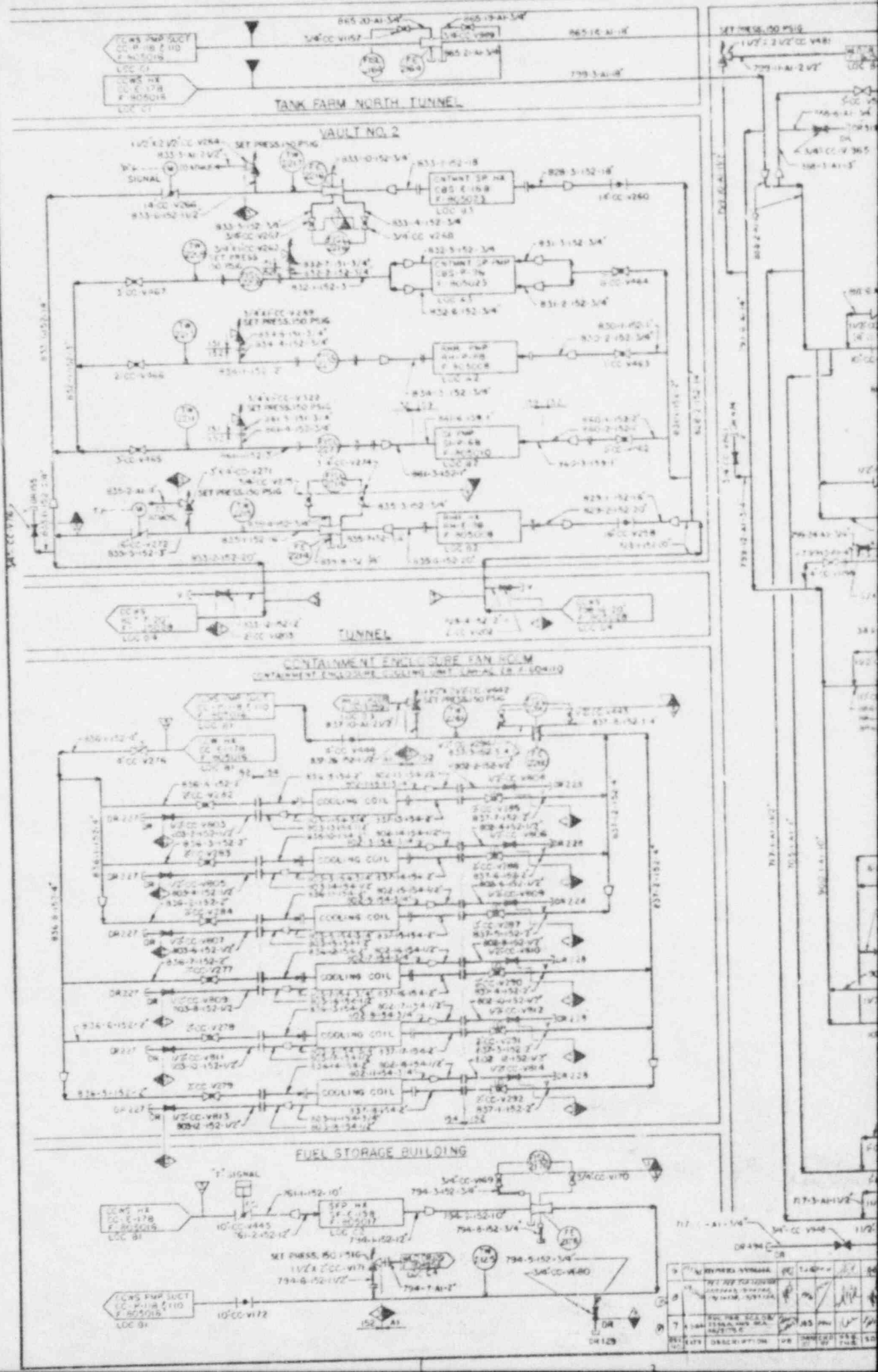
SAMPLE SYSTEM
NUCLEAR POST ACCIDENT
P & I DIAGRAM
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
United engineers

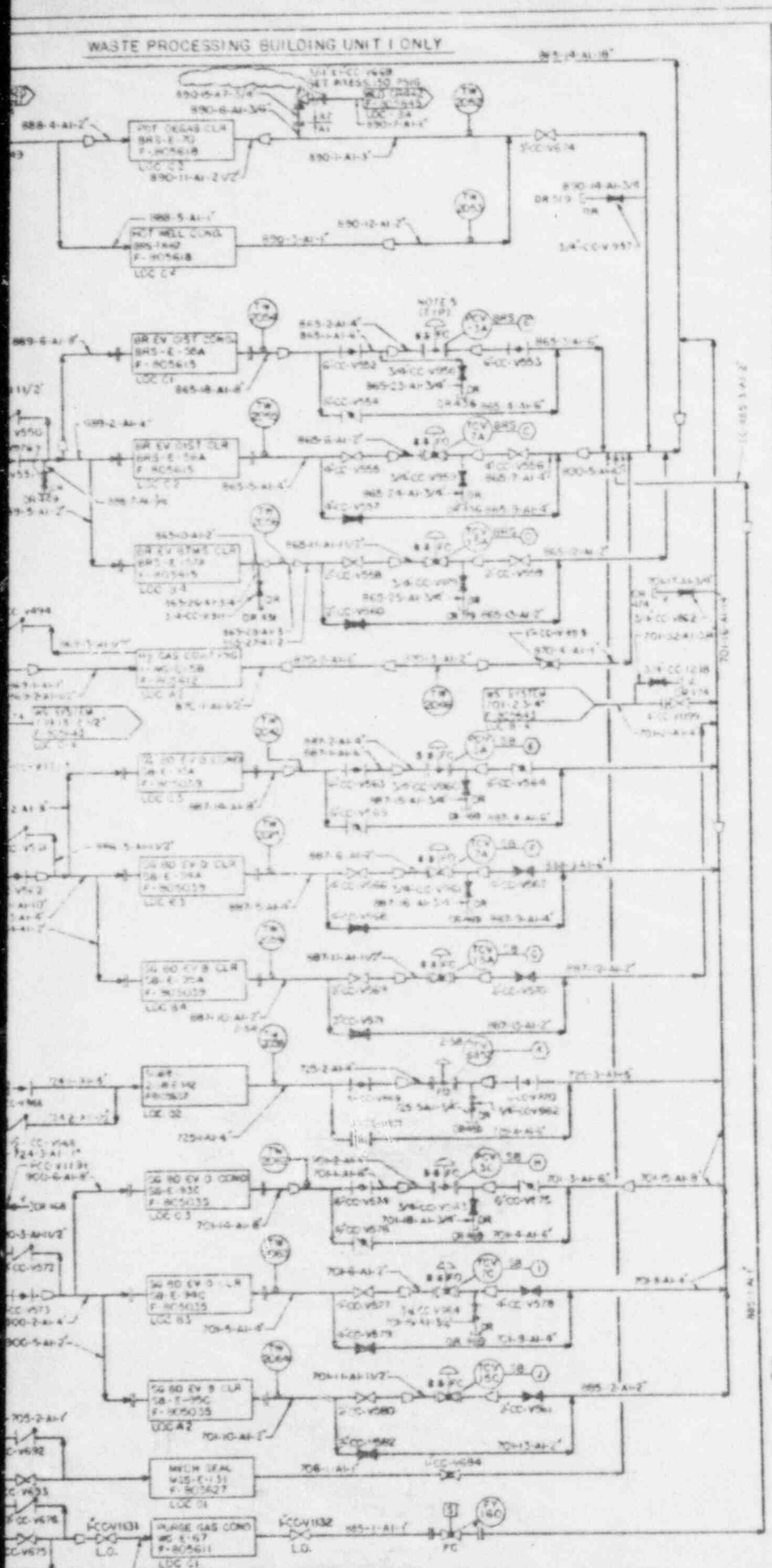
UNITS 1 AND 2 9763-F-804978

NO.	REVISION	DATE	BY	CHK'D	APP'D
3	ADD PAS SYS LEAK RATE TEST SYS. ADD NEW SAMPLE PUMP SS-P-313	4-2-87			
2	ADD SAMPLE PUMP SS-P-312	3-27-87			
1	FIRST ISSUE FOR CONSTRUCTION	12-19-86			


TANK FARM NORTH TUNNEL
VAULT NO. 1
TUNNEL
CONTAINMENT ENCLOSURE FAN ROOM
FUEL STORAGE BUILDING
SET PRESS. 150 PSIG
SET PRESS. 50 PSIG
SET PRESS. 100 PSIG
CCW PUMP SUCT
CCW HX
CNTMNT SP HX
CNTMNT SP PUMP
SHP
SHP LOOP A HX
CCWS
COOLING COIL
CONTAINMENT ENCLOSURE FAN UNIT
"F" SIGNAL
TO ATMOS.
DR 154
DR 129


WASTE PROCESSING BUILDING UNIT NO 1 ONLY
THE LOCATION OF THE ASME SECTION III, NA2131 CODE CLASS BOUNDARIES OF PIPING SHOWN ON THIS DRAWING ARE CERTIFIED TO BE COMPLETE AND CORRECT.
DATE
INFORMATION ONLY
THE SYSTEM PREFIX FOR THIS DWG IS CC EXCEPT WHERE OTHERWISE INDICATED
NOTES:
INSTRUMENT REFERENCES
TI
APERTURE
CARD
8601070257-14
Also Available On
Aperture Card
PRIMARY COMPONENT COOLING WATER
LOOP A SHEET 3
P & I DIAGRAM
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
united engineers


TANK FARM NORTH TUNNEL
VAULT NO. 2
TUNNEL
CONTAINMENT ENCLOSURE FAN ROOM
FUEL STORAGE BUILDING
SET PRESS 150 PSIG
SIGNAL
COOLING COIL



INFORMATION ONLY

THE SYSTEM PREFIX FOR THIS DWG. IS CC EXCEPT WHERE OTHERWISE NOTED.

SQ.NY.23

FOR INSTRUMENT REFERENCES SEE DWG. F-805028 SHT. 2

FOR GENERAL NOTES SEE DWG. F-805016 SHT. 1

WORK THIS DRAWING WITH 9763 F-805016 SHEET 1 AND 9763 F-805028 SHEET 2

8601070257-15

THE LOCATION OF THE ASME SECTION III, NUCLEAR CLASS BOUNDARIES (P PIPING) SHOWN ON THIS DRAWING ARE CERTIFIED TO BE COMPLETE AND CORRECT.

DATE

ENGINEER

STATE REG. NO.

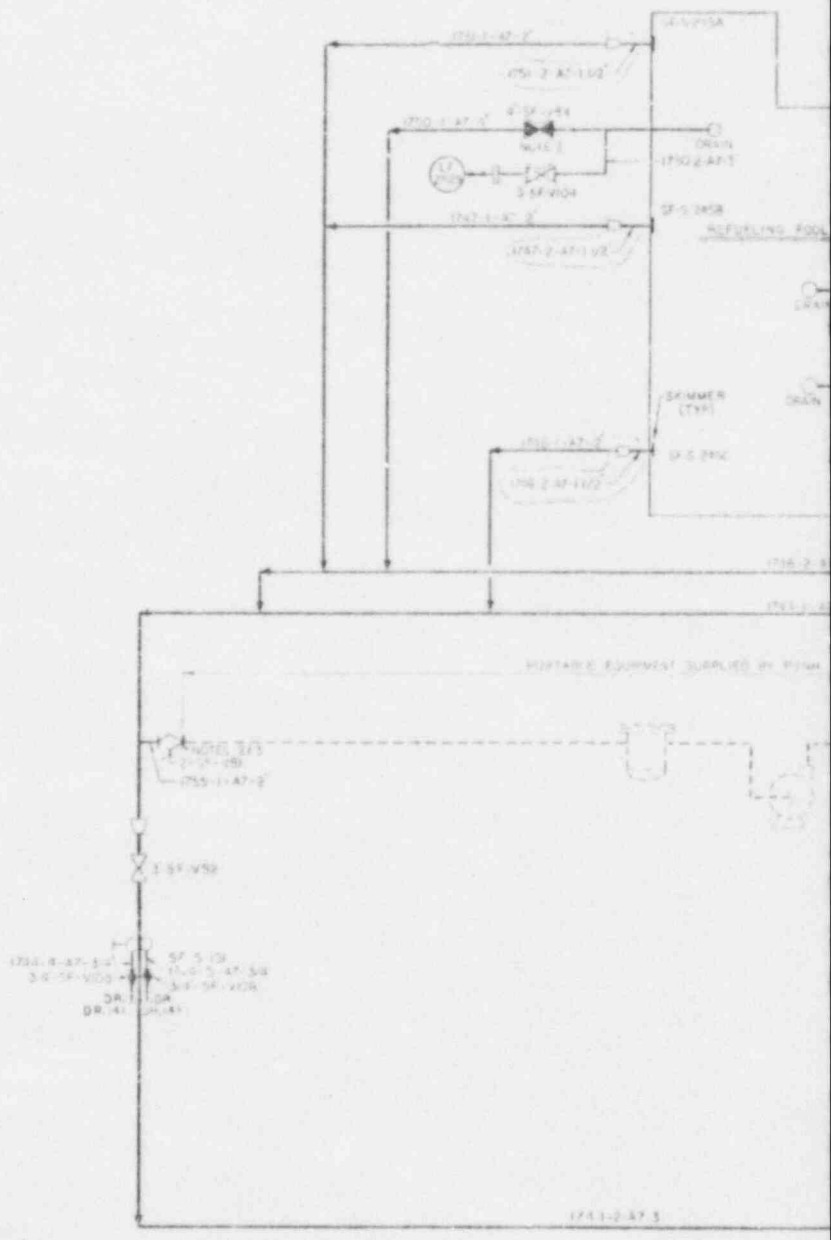
PRIMARY COMPONENT COOLING WATER
LOOP "B" SHEET 3
P&I DIAGRAM
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
united engineers

UNITS 1 & 2 9763 F-805043

NO.	DESCRIPTION	DR	CHK	APP'D	DATE
6					
5					
4					
3					
2					
1					

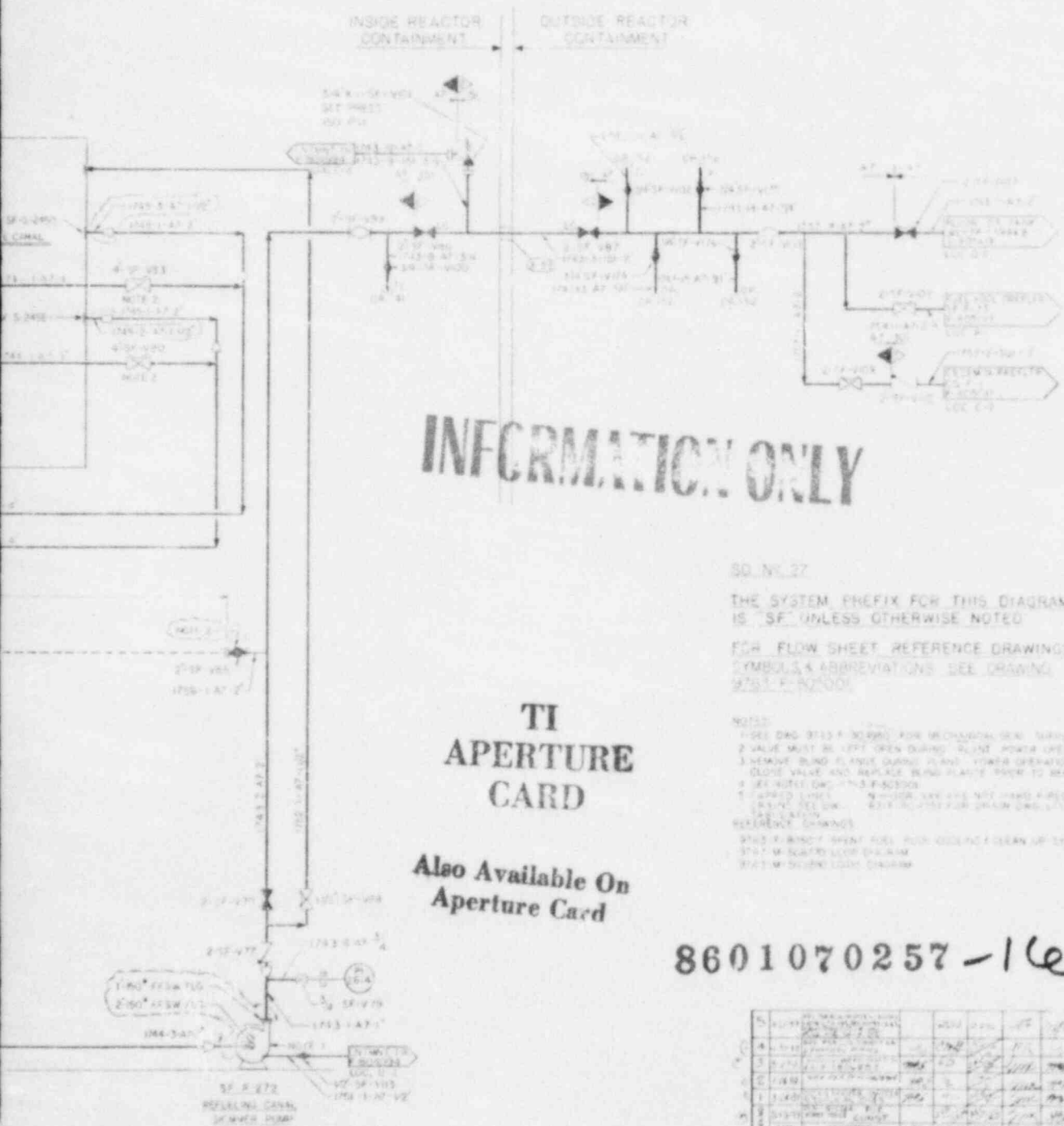
DISCIPLINE	INIT.	DATE
DETAIL		
MECH.		
CIVIL		
ELEC.		
INSTR. CHK.		

2 1


SKIMMER
(TYP)
DRAIN
MOVABLE EQUIPMENT SUPPLIED BY OTHERS

THE LOCATION OF THE ASME SECTION III, NA2131 CODE CLASS BOUNDARIES OF PIPING SHOWN ON THIS DRAWING ARE CERTIFIED TO BE COMPLETE AND CORRECT.

DATE 5-14-79



SD. NO. 27

THE SYSTEM PREFIX FOR THIS DIAGRAM IS SF UNLESS OTHERWISE NOTED

FOR FLOW SHEET REFERENCE DRAWINGS, SYMBOLS & ABBREVIATIONS SEE DRAWING 9763.1-K-20001

NOTES:
1. SEE DWG 9763.1-30(M) FOR MECHANICAL SEAL SUPPLY.
2. VALVE MUST BE LEFT OPEN DURING PLANT POWER OPERATION.
3. REMOVE BLIND FLANGE DURING PLANT POWER OPERATION. CLOSE VALVE AND REPLACE BLIND FLANGE PRIOR TO REFUELING.
4. SEE NOTES ON DWG 9763.1-30(M).
5. [illegible]

REFERENCE DRAWINGS:
9763.1-K-20007 SPENT FUEL POOL COOLING & CLEAN UP SYS. P&I
9763.1-M-30(M) LOOP DIAGRAM
9763.1-M-30(M) LOOP DIAGRAM

NO.	DATE	DESCRIPTION	BY	CHK'D	APP'D	DES. ENG.	PROJ. ENG.	CONST.	QA
4	5-11-79	AS BUILT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]
3	4-13-79	AS BUILT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]
2	3-30-79	AS BUILT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]
1	3-9-79	AS BUILT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]
0	12-15-78	ISSUED FOR CONSTRUCTION	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	[illegible]

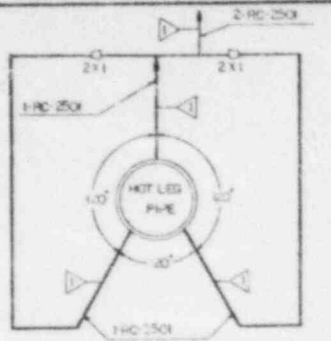
ENGINEER [illegible]
DATE APP. 5-11-79 NO. 21[illegible]

REFUELING CAVITY
CLEAN UP SYSTEM
P&I DIAGRAM

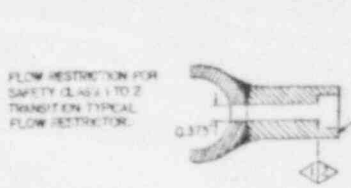
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION

United engineers

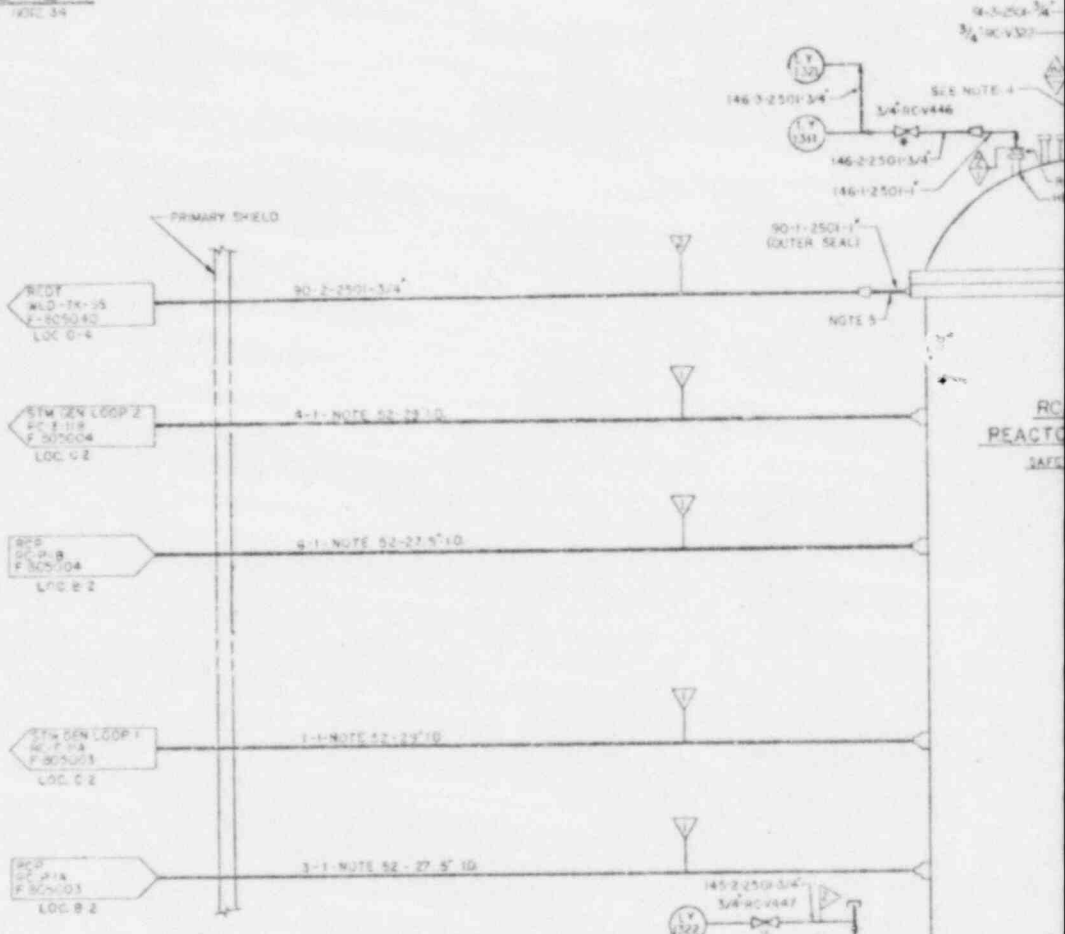
UNITS 1&2 9763.1-K-20008



DETAIL "A"
NOZ. 3-4



DETAIL "B"
(SEE NOTE 61)



GENERAL NOTES

1 - DELETED

2 - SPRAY LINE NOZZLE.
3 - ELBOW FLOW METER.
4 - VENT PIPE FURNISHED WITH REACTOR VESSEL HEAD.
5 - HEAD GASKET MONITORING CONNECTIONS FURNISHED WITH REACTOR VESSEL.
6 - RTD INSTALLED IN WELL.
7 - LOCATE CONNECTION IN BOTTOM HALF OF REACTOR COOLANT PIPING ON 45° ANGLE TO VERTICAL.
8 - DELETED
9 - PLACE AS CLOSE AS POSSIBLE TO REACTOR VESSEL NOZZLE.
10 - LOCATE BELOW LEVEL OF REACTOR VESSEL FLANGE.
11 - VENT HOLE PROVIDED.
12 - SLOPE SPRAY PIPE DOWNWARD TO PROVIDE WATER SEAL BETWEEN PRESSURIZER AND SPRAY VALVES.
13 - DELETED
14 - PLACE DETECTORS AT BOTTOM OF PIPE - SURFACE MOUNT.
15 - SLOPE PIPE DOWNWARD TO PROVIDE WATER SEAL BETWEEN PRESSURIZER AND RELIEF VALVES.
16 - LOCATE APPROXIMATELY MIDWAY BETWEEN LOOP AND PRESSURIZER
17 - A/E TO FURNISH 600 LB ASA FLANGES, FLANGE END ON A7 PIPE TO BE MACHINED TO FIT.
18 - LOCATE AS CLOSE AS POSSIBLE TO PRESSURIZER RELIEF TANK
19 - DELETED
20 - DRAIN LINES TO BE SLOPED DOWN FROM LOOP SEALS TO CONNECT WITH FRT HEADER LINE.
21 - SEE DETAIL "B" THIS DWG.
3/8" FLOW RESTRICTOR REQUIRED AS NOTED.
(MAX. ORIFICE DIA. 0.434"
MIN. ORIFICE DIA. 0.234")
22 - DELETED
23 - HOT LEG, RV LOOP LINE, SCOOPS WHERE APPLICABLE, ROTATE CONNECTIONS 30° TO PREVENT ALIGNMENT WITH SURGE LINE CONNECTION.
24 - RTD MANIFOLDS, PIPE AND RTD'S SUPPLIED AS A PACKAGE. MANIFOLD APPROX 20" LONG.
25 - LOCATE RTD MANIFOLD ISOLATION VALVES AS CLOSE AS PRACTICABLE TO THE MANIFOLD.
26 - LOCATE CONNECTION ON UPPER 180° OF PIPE CIRCUMFERENCE.
27 - ALL BYPASS LOOP PIPING AND THE RTD MANIFOLD SHALL HAVE REMOVEABLE INSULATION.
28 - LOCATE ROOT VALVE ABOVE ELEVATION OF REACTOR VESSEL NOZZLE.
29 - LENGTH OF HOT LEG 2" PIPE UPSTREAM OF RTD MANIFOLD (A) TO (B) TO BE AS SHORT AS POSSIBLE.
30 - LENGTH OF COLD LEG 2" PIPE UPSTREAM OF RTD MANIFOLD (C)(D)(E) TO BE AS SHORT AS POSSIBLE.

51 - (V) SUPPLIES TWO LIMIT SWITCHES WITH VALVES RC-V22 AND RC-V88.
52 - ALL 27.5", 29" & 31" I.D. PIPING PLUS THE PRESSURIZER SURGE LINE SHALL BE FABRICATED IN ACCORDANCE WITH (S) SPECS. G-679843, UE&C FP NO. 50277, G-678365 UE&C FP NO. 50275, AND G-678566 UE&C FP NO. 50276.
53 - TO BE USED WITH TYGON STANDPIPE FOR LEVEL SWITCH CALIBRATION
54 - DIGITAL PRESSURE INDICATOR TO BE CONNECTED ON THIS LINE DOWNSTREAM OF THE SAMPLE HEAT EXCHANGER
55 - 3/8" I.D. FLOW RESTRICTOR SUPPLIED WITH STEAM GENERATOR FOR CLASS 1-CLASS 2 TRANSITION
56 - PRESSURE CLASS OF LEAKOFF TUBING, FITTINGS AND FIRST DOWNSTREAM VALVE TO BE CONSISTANT WITH PRESSURE CLASS OF PARENT VALVE. VALVE, LEAKOFF PIPING, TUBING AND LEAKOFF VALVES ARE SAFETY CLASS ONE.
57 - SEE NOTE 1 DWG 9763-F-805001
58 - SEE DETAIL 1 DWG 9763-F-800[illegible]
59 - DURING NORMAL PLANT OPERATION, VENT CONNECTION IS SEALED BY BLIND FLANGE (SAFETY CLASS 1, 9[illegible]
60 - SEE DETAIL 2 DWG 9763 F 800[illegible]
61 - FOR INSTALLATION DETAILS SEE (V) DWG. 2650C[illegible]
62 - SEE DETAIL 1, DWG 9763-D-800[illegible]

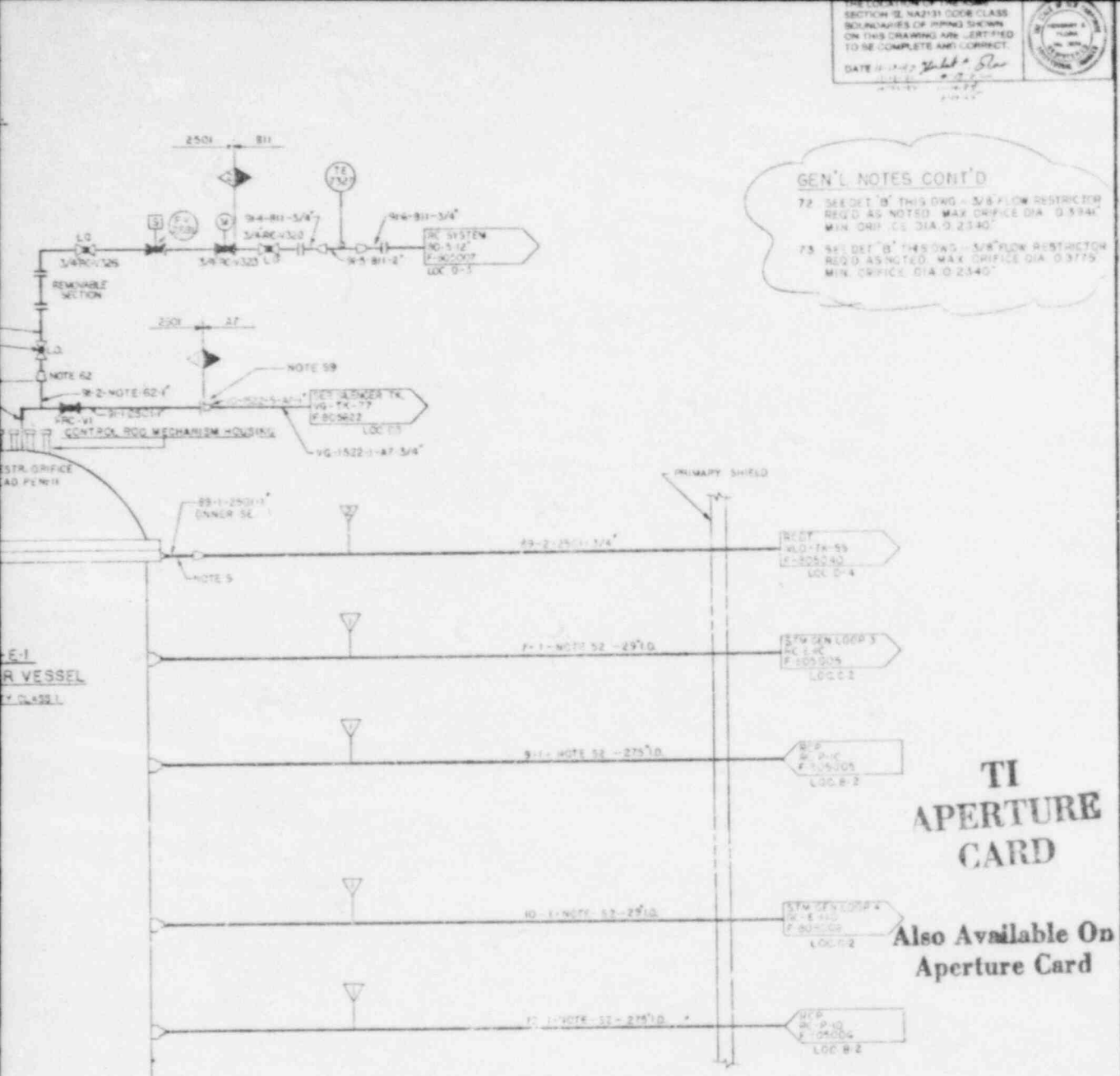
REFERENCE DRAWINGS

9763-F-	805003 -	RC SYS -	LOOP 1		
	805004 -	- -	-	-	2
	805005 -	- -	-	-	3
	805006 -	- -	-	-	4
↓	805007 -	- -	-	-	PRESSURIZER

FP 50305	(N)	RC SYS	DIAG
FP 50306	"	"	"
FP 50307	"	"	"

9763-M-506620	THRU	9763-M-506640	INSTR
503740	THRU	503748	"
504001	THRU	504009	"
503101	THRU	503105	"

FP 52009 INSTR.
FP 70001 "



FOR FLOW DIAGRAM REF. DWGS. SYMBOLS & ABBREVIATIONS SEE DWG. 9763-F-805001

THE SYSTEM PREFIX FOR THIS DIAGRAM IS RC UNLESS OTHERWISE NOTED.

SO NO. NAH/NOH 281
32009 UE & C

31 - FLANGE IS PICTURED FOR INSERTION OF FLOW LIMITING ORIFICE. WE WILL FURNISH BLANK ORIFICE.
32 - RTD MANIFOLD LOOP PIPING SHOULD HAVE ENOUGH FLEXIBILITY TO COOL DOWN TO 70°F WITH THE REACTOR COOLANT PIPING AT 650°F.
33 - TEMPORARY READOUT FOR SELECTED PUMP MONITORING. CONNECT TO VIB. TRANS. AS REQUIRED.
34 - PARALLEL PIPE PATHS SHOULD BE OF APPROXIMATE EQUIVALENT LENGTHS WITH FLOW PATHS NOT EXCEEDING 6'-0" PENETRATIONS SHOULD BE IN THE SAME VERTICAL PLANE.
35 - VALVE INTERLOCKED WITH REACTOR COOLANT PRESSURE SIGNAL.
36 - CONDENSATE TEE AND BELLOWS CHAMBER SEE (2) I & C STD SECT. 30 PAGES 22 & 23.

40 - W INDICATES VALVE SUPPLIED BY WESTINGHOUSE.
41 - BRANCH CONNS. TO THE COMMON RELIEF HEADER ARE TO BE IN ACCORDANCE WITH (2) STD 1.21

42 - LOCATE CHECK VALVES CLOSE TO RC PUMP.
43 - LOCATE CHECK VALVE CLOSE TO CONTAINMENT.
44 - LOCK OPEN AT MOTOR CONTROL CENTER.
45 - SPOOL PIECE WITH BLIND FLANGE EXCEPT DURING DRAINING OF CROSSOVER LEG.
46 - BOTTOM OF STANDPIPE TO BE 22'0.5 FT ABOVE CONN TO "3" SEAL.
47 - FOR CCW LINE NOS. TO AND FROM RC PUMPS SEE DWG. P-RCW-C29 FOR LOOP B & F 805029 FOR LOOP X.
48 - TOP OF LOOP TO RISE 6" ABOVE "3" SEAL LEAKOFF CONN. SLOPE PIPING DOWNWARD THRU RUN TO RCDT. LOCATE CHECK VALVE AT LEVEL OF RCDT.
49 - FOR TC'S & TV'S PROVIDE 3/8" SWAGELOK FITTING. LOCATE TC'S OR TV'S ON BOTTOM OF PIPE TO FACILITATE DRAINING (TYP FOR LOOPS 1, 2, 3 & 4.)
50 - SPOOL PIECE TO BE INSTALLED ONLY DURING DRAINING OF STEAM GEN. CHANNEL HEAD.

63 - PROVIDE SPEC'AL 3/8" FLANGE DRILLED TO MATCH 150# FLANGE ON RC-124 & RC-V89.
64 - CAPILLARY TUBE 100 FT. OF 1/4" O.D. X .065 WALL (0.028" I.D.) TUBING & MATERIALS IN ACCORDANCE WITH SPECIFICATION 2508-T.
65 - CAPILLARY TUBE 150 FT. OF 1/4" O.D. X .065" WALL (0.120" I.D.) TUBING & MATERIALS IN ACCORDANCE WITH SPECIFICATION 2508-T.
66 - 1" THD'D. 3000# COUPLING FOR VENTING AND DRAINING DURING HYDRO. TEST TO BE PLUGGED AND WELDED AFTER TEST.
67 - COILS TO BE LOCATED TO ALLOW VALVE OPERATION WHILE AT FULL POWER.

68 - VALVE STEM LEAKOFFS DRAIN, VIA HEADER CONNECTION ◯ EITHER TO THE RCDT AS SHOWN ON DWG. 9763-F-805040 OR TO THE RCDT PUMP SUCTION AS SHOWN ON DWG. 9763-F-805008. SEE DWG. 9763-F-805131 FOR TABULATION OF VALVES, LEAKOFFS, INSTALLATION DETAILS, AND HEADER CONNECTIONS.
69 - CAPPED LINES SHOWN ——](XXX ARE NOT HARD PIPED TO DRAINS. SEE DWG. 9763-F-804351 FOR DRAIN DWG. LISTING AND TABULATION.
70 - CAP, VALVE STEM LEAKOFFS, NOT SHOWN AS COLLECTED.
71 - ORIFICE PLATE IS NON A.S.M.E.

NO	DATE	DESCRIPTION	DRAWN BY	CHK'D BY	APP'D
9					
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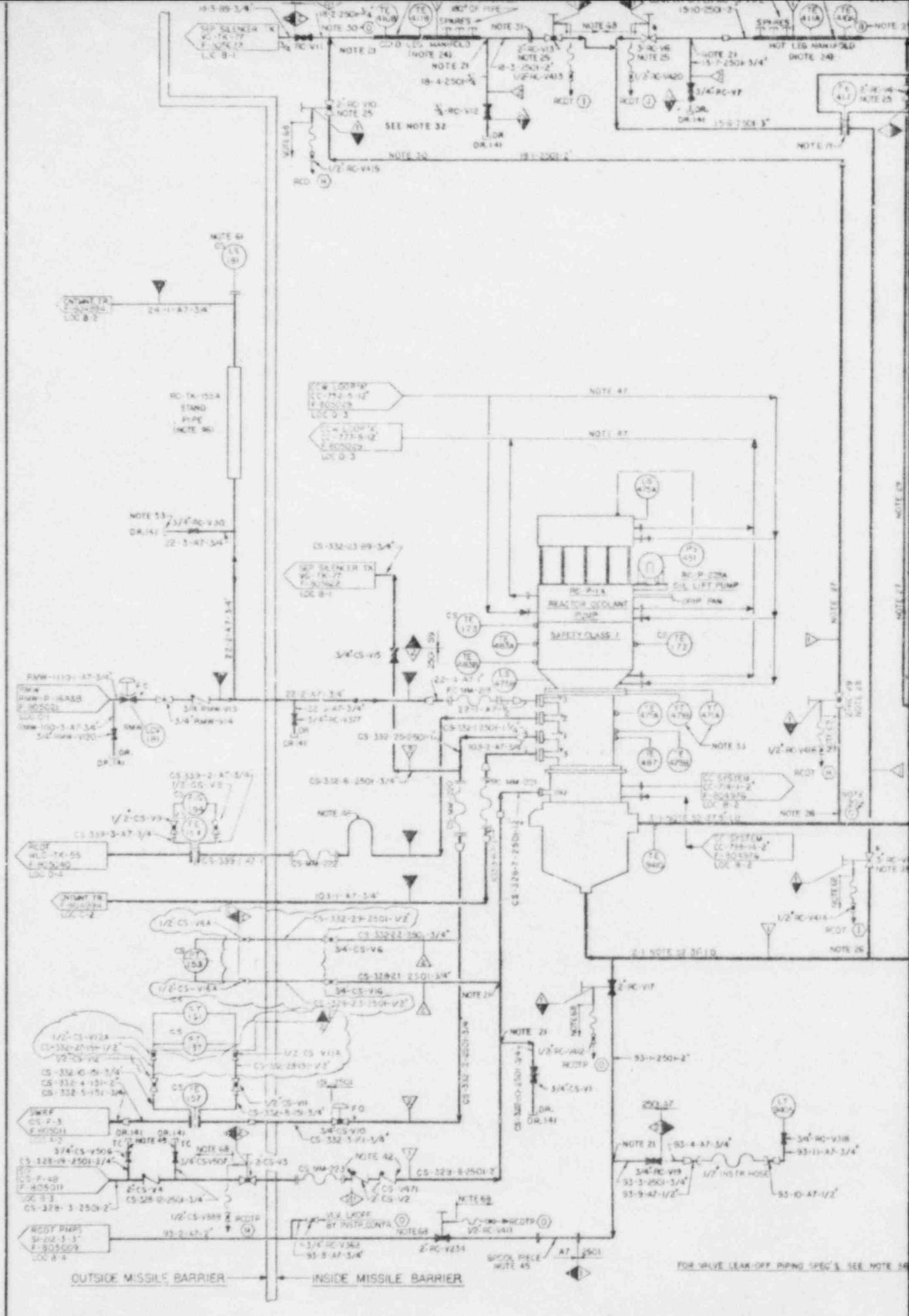
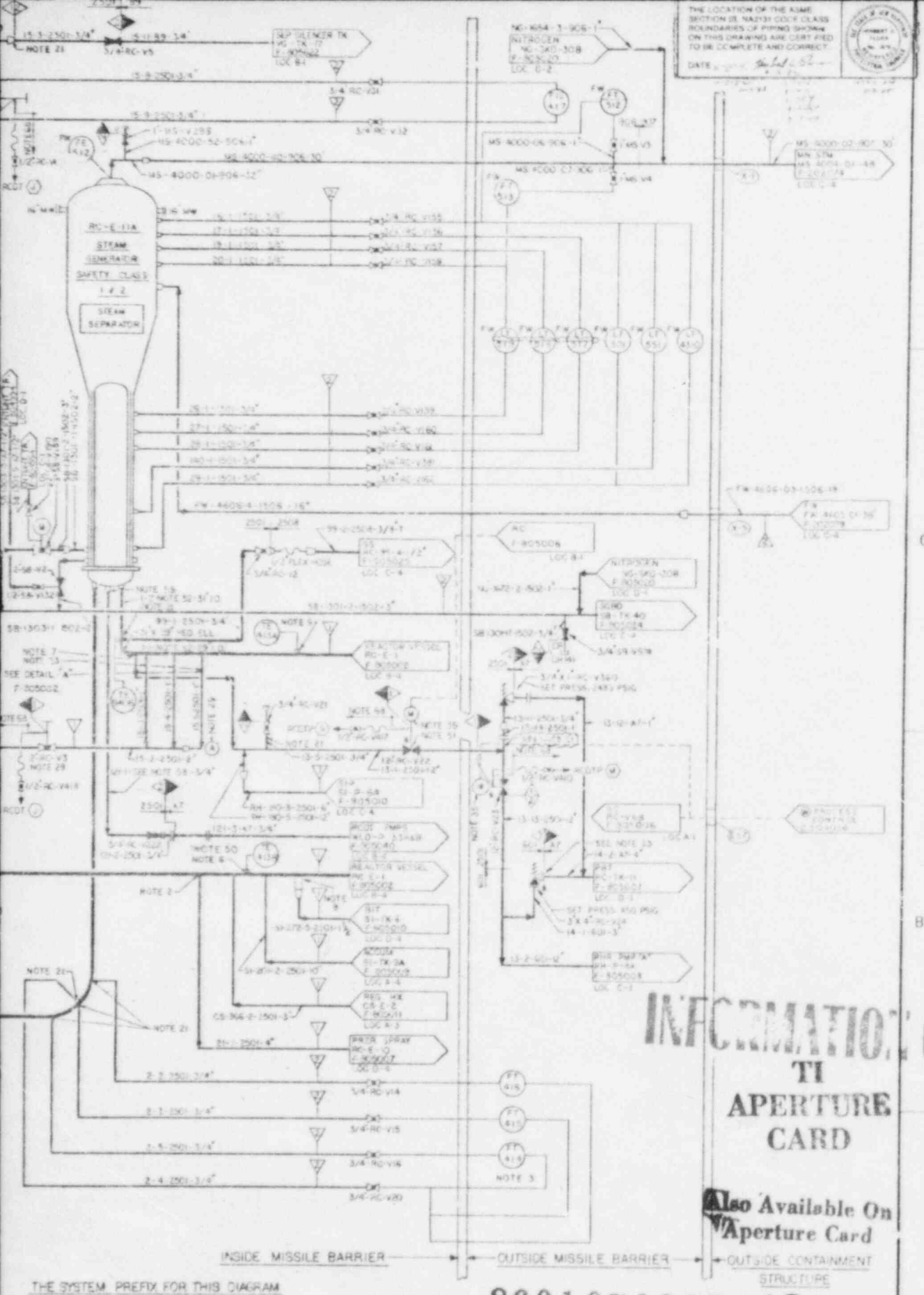
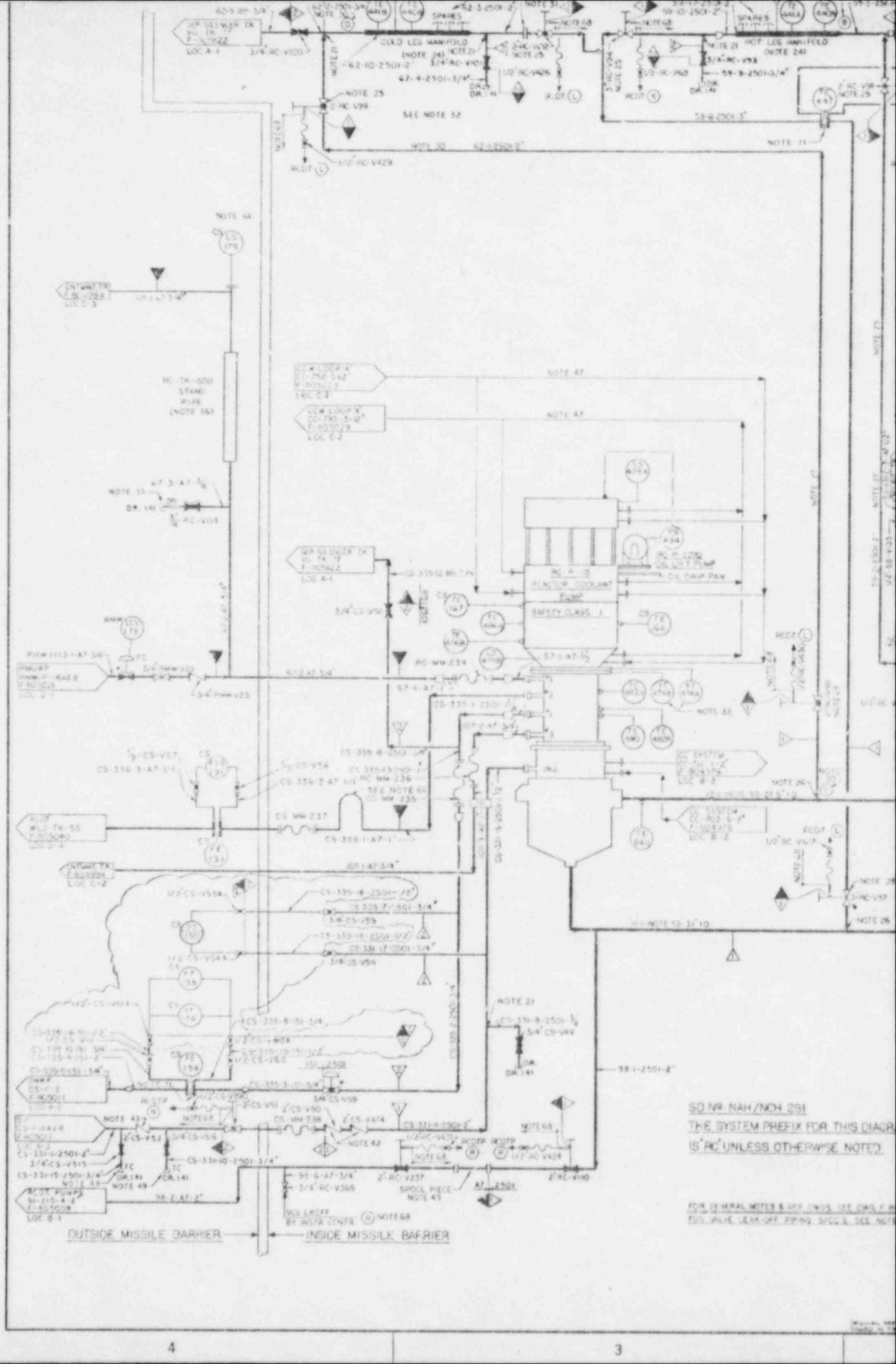
REACTOR COOLANT SYSTEM
REACTOR VESSEL
P & I DIAGRAM
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
united engineers

UNITS 1 AND 2 9763-F-805002


REACTOR COOLANT PUMP
SAFETY CLASS 1
RC-P-1A
RC-P-229A
OIL LIFT PUMP
CRDM FAN
RCDT
RCDTP
SEE NOTE 32
NOTE 30
NOTE 31
NOTE 68
NOTE 21
NOTE 24
NOTE 25
NOTE 26
NOTE 45
NOTE 47
HOT LEG MANIFOLD
NOTE 24
STAND PIPE
(NOTE 86)
OUTSIDE MISSILE BARRIER
INSIDE MISSILE BARRIER
FOR VALVE LEAK-OFF PIPING SPEC'S, SEE NOTE 34





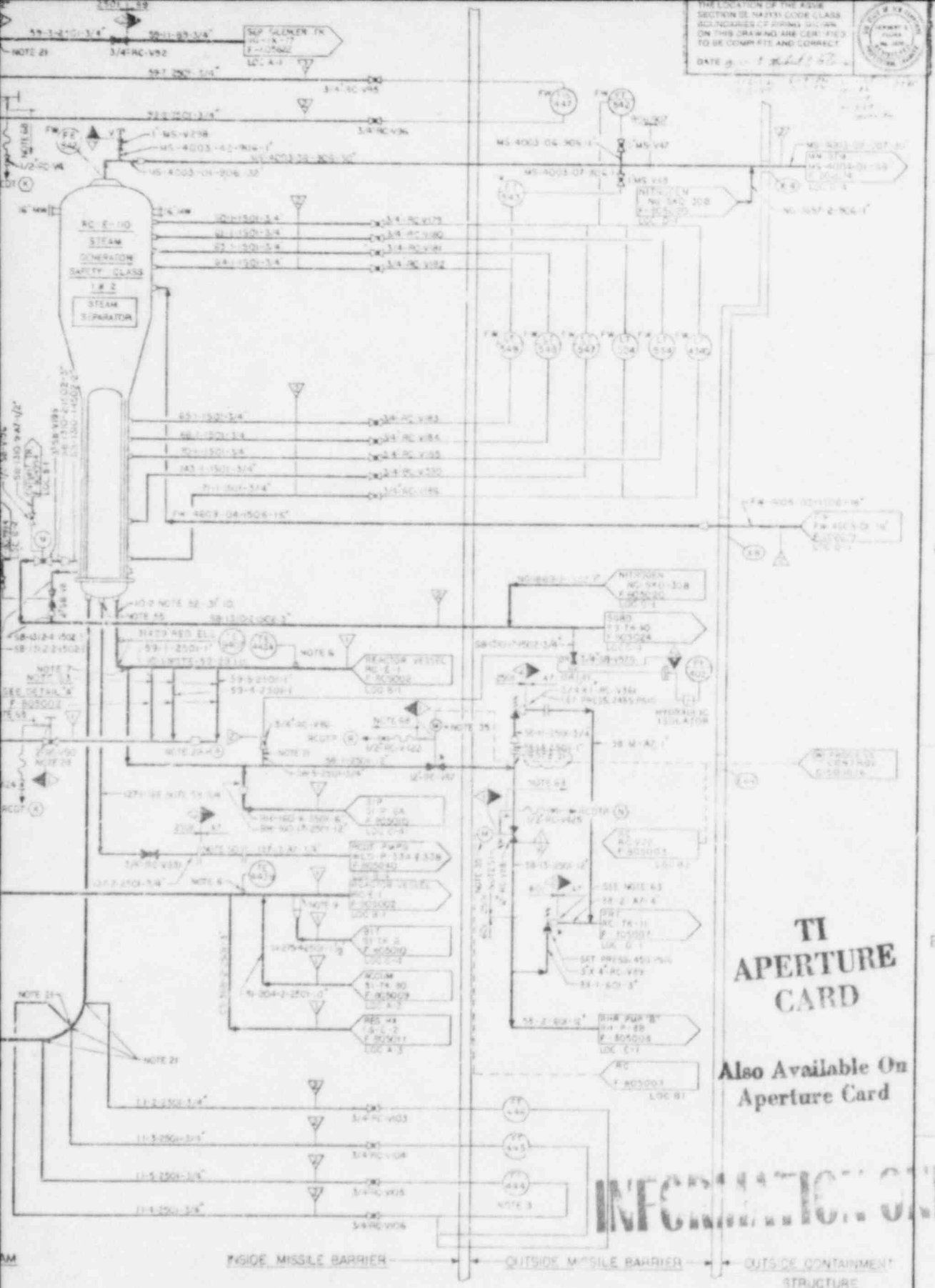
SO Nº. NAH/NCH 251

THE SYSTEM PREFIX FOR THIS DIAGR

IS "RC" UNLESS OTHERWISE NOTED

FOR GENERAL NOTES & KEY LINES SEE DWG. F-M

EQUIPMENT DRAIN PIPING SYSTEM, SEE NOTE


RC E-110
STEAM GENERATOR
SAFETY CLASS 1 & 2
STEAM SEPARATOR
NOTE 21
3/4-RC-V92
3/4 RC V85
3/4 RC V86
3/4 RC V179
3/4 RC V180
3/4 RC V181
3/4 RC V182
3/4 RC V183
3/4 RC V184
3/4 RC V185
3/4 RC V186
3/4 RC V195
NOTE 25
NOTE 23
NOTE 28
NOTE 35
NOTE 43
NOTE 3
NOTE 6
NOTE 9
NOTE 21
NOTE 22
NOTE 24
NOTE 26
NOTE 27
NOTE 29
NOTE 30
NOTE 31
NOTE 32
NOTE 33
NOTE 34
NOTE 36
NOTE 37
NOTE 38
NOTE 39
NOTE 40
NOTE 41
NOTE 42
NOTE 44
NOTE 45
NOTE 46
NOTE 47
NOTE 48
NOTE 49
NOTE 50
NOTE 51
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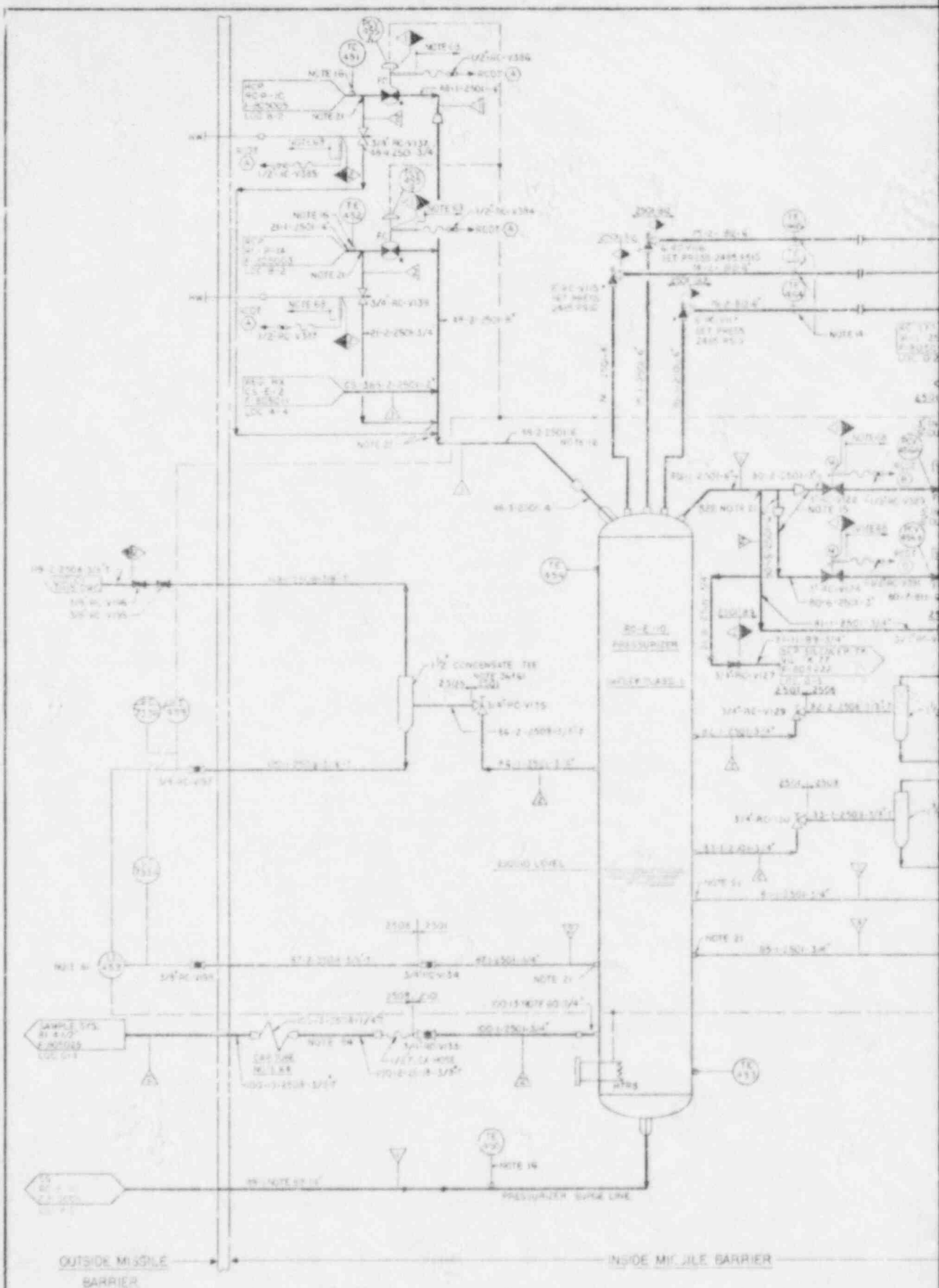
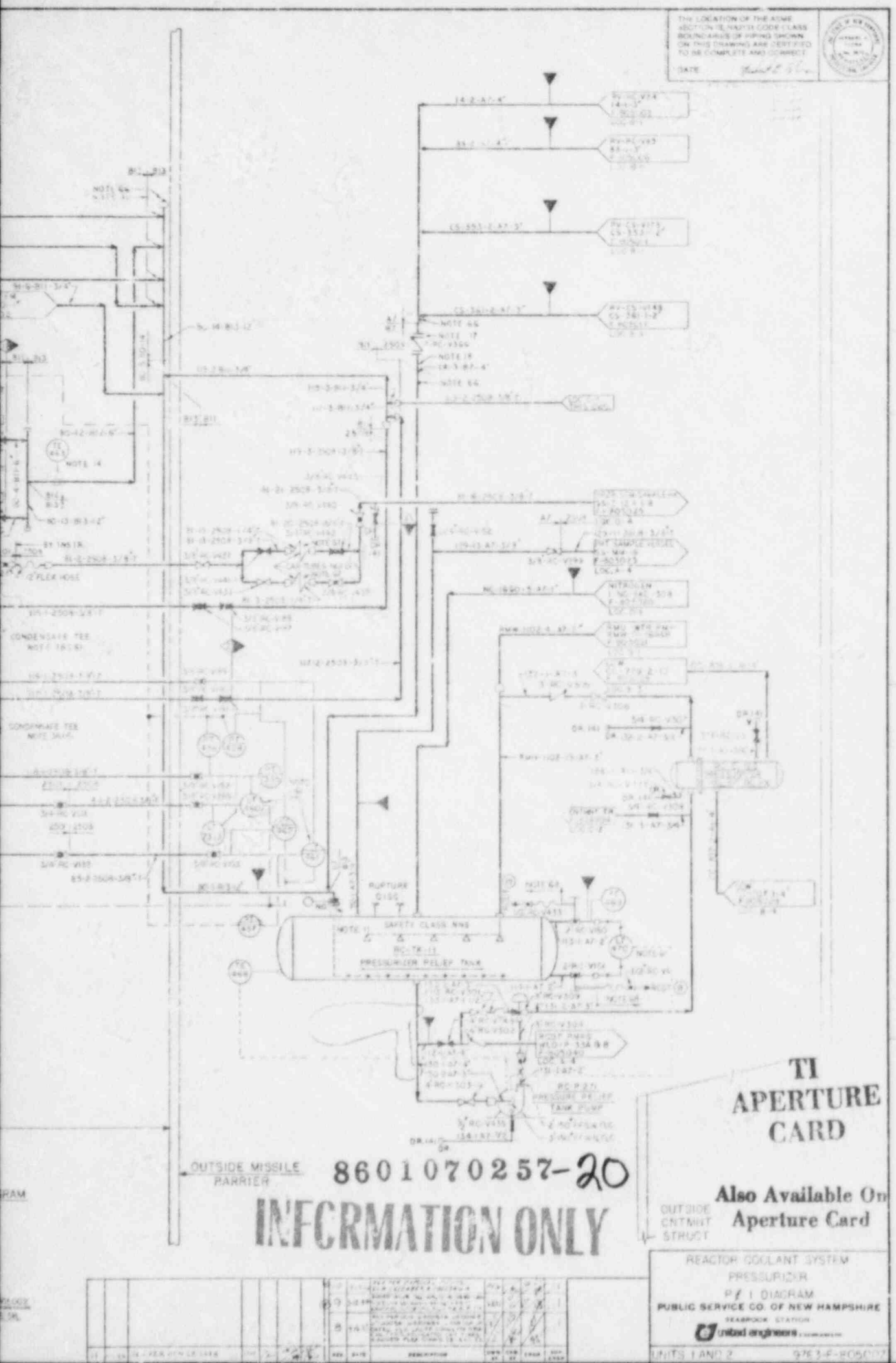
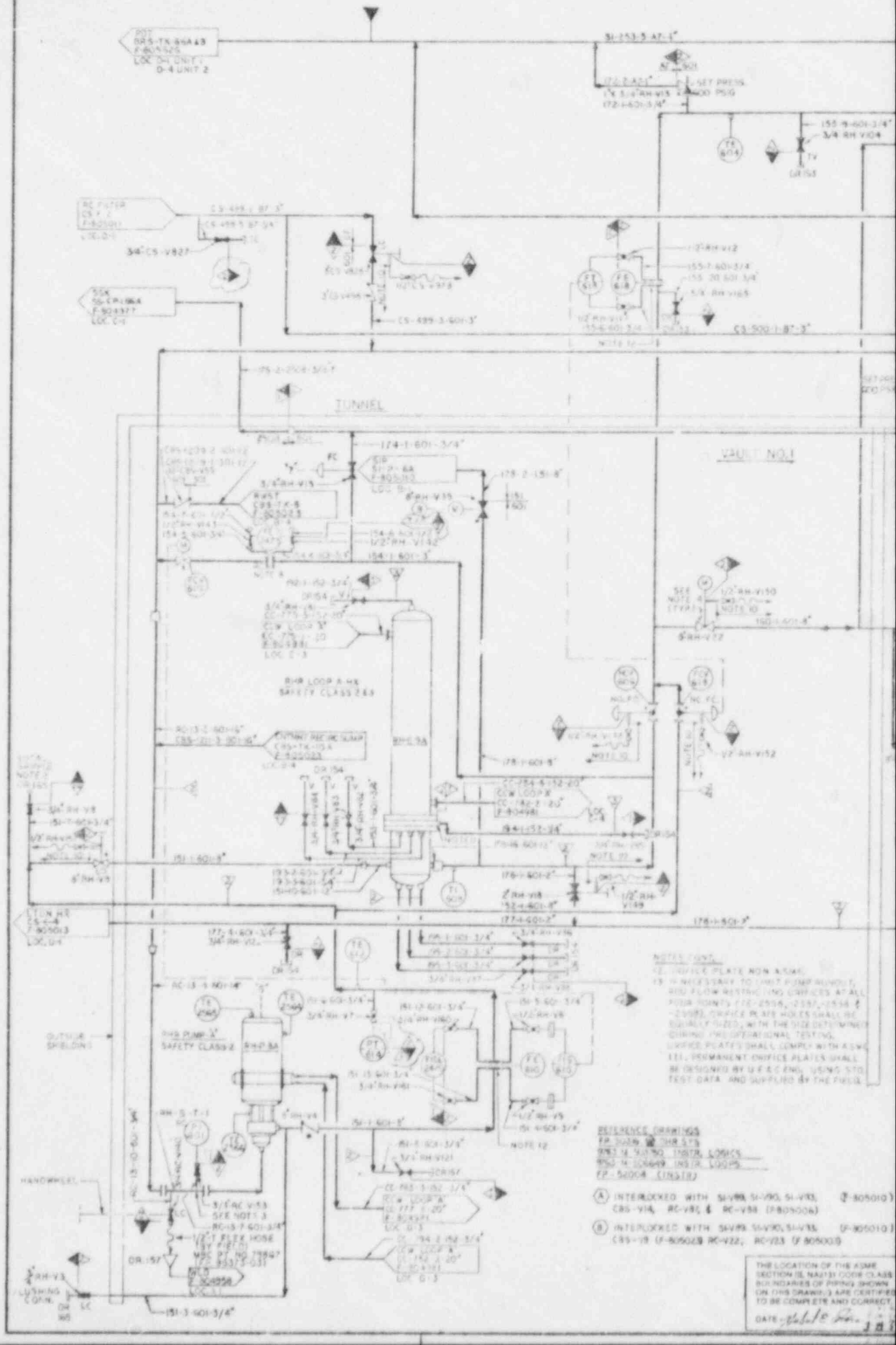
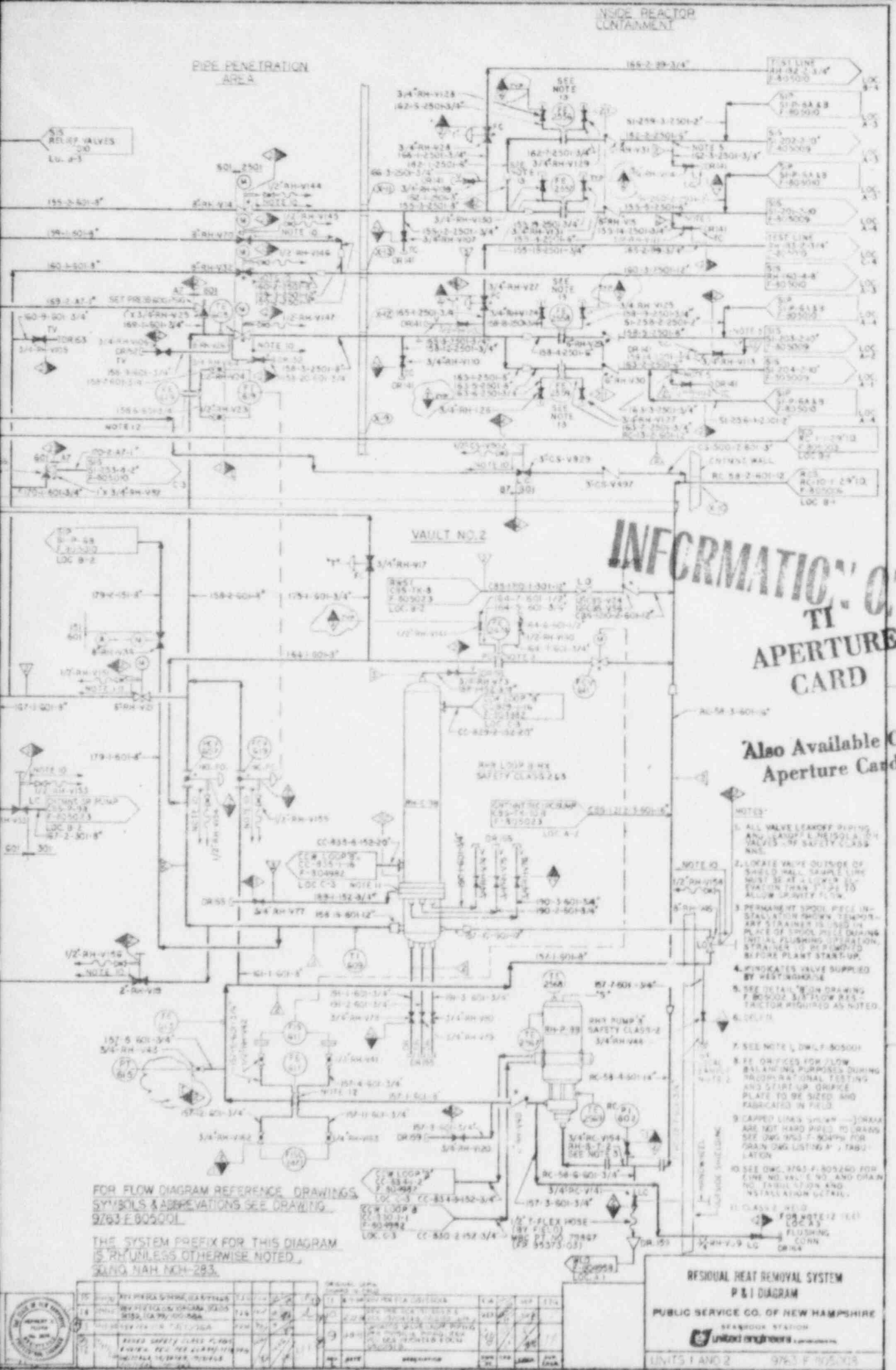
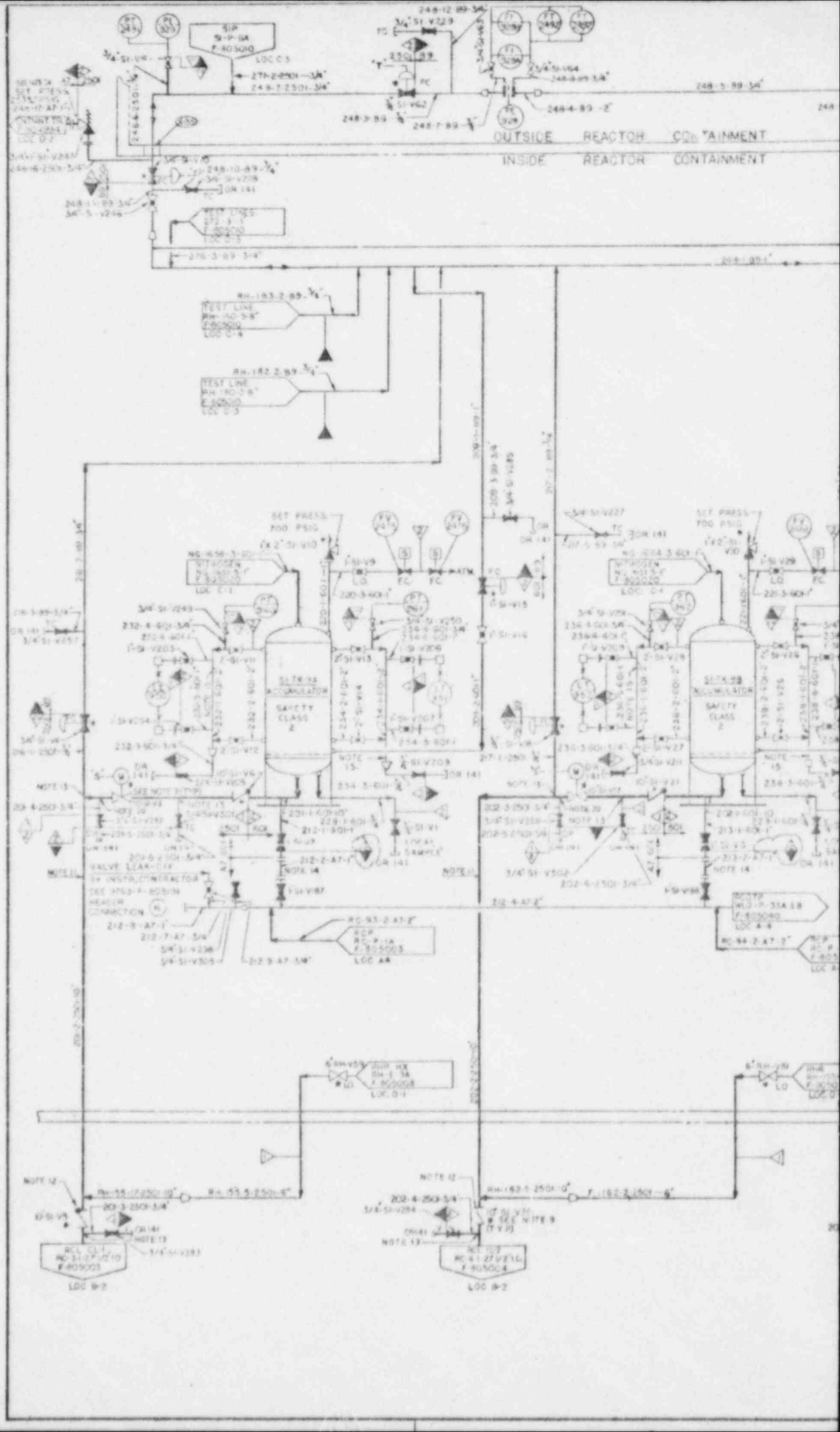
NOTE 53
NOTE 54
NOTE 55
NOTE 56
NOTE 57
NOTE 58
NOTE 59
NOTE 60
NOTE 61
NOTE 62
NOTE 63
NOTE

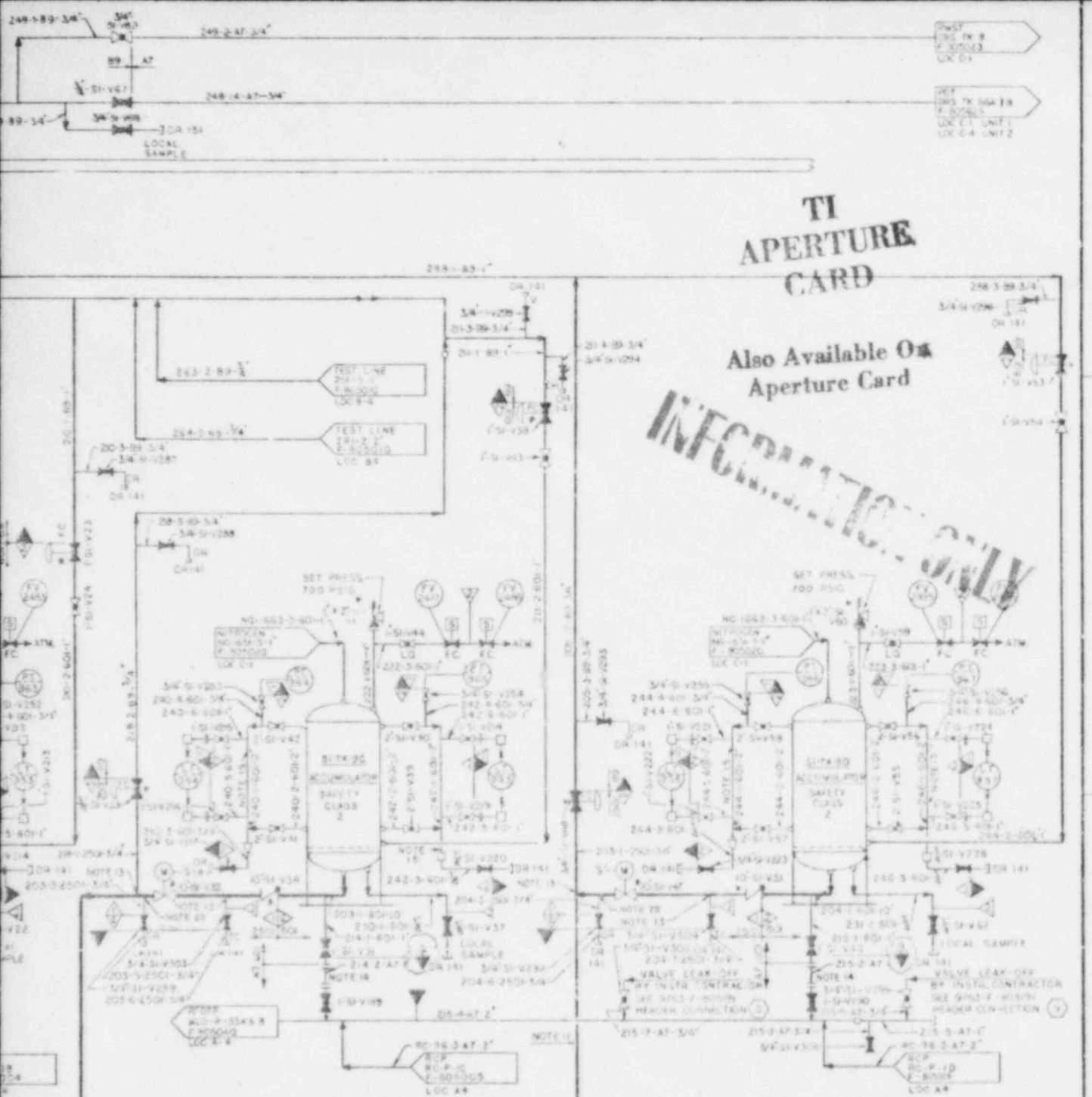

OUTSIDE MISSILE BARRIER
INSIDE MISSILE BARRIER
PRESSURIZER SURGE LINE
THE SYSTEM PREFIX FOR THIS DIA
IS RC UNLESS OTHERWISE NOTED
SO NW NAH/NCH 281




TUNNEL
VAULT NO.1
RHR LOOP A HX
SAFETY CLASS 2&3
RHR PUMP 'A'
SAFETY CLASS 2
OUTSIDE SHIELDING
HANDWHEEL
FLUSHING CONN.
SET PRESS 600 PSIG
NOTES (SIX):
12. ORIFICE PLATE NON ASME.
13. IT IS NECESSARY TO LIMIT PUMP RUNOUT FLOW RESTRICTING ORIFICES AT ALL FOUR POINTS (FE-2556, 2557, 2558 & -2559). ORIFICE PLATE HOLES SHALL BE EQUALLY SIZED, WITH THE SIZE DETERMINED DURING PRE-OPERATIONAL TESTING. ORIFICE PLATES SHALL COMPLY WITH ASME III. PERMANENT ORIFICE PLATES SHALL BE DESIGNED BY U.E.&C. ENG. USING STO TEST DATA AND SUPPLIED BY THE FIELD.
REFERENCE DRAWINGS
FP-5028 (P&ID S-7)
9763-M-50150 (INSTR. LOGICS
9763-M-50669 (INSTR. LOGICS
FP-5005A (P&ID S-8)
(A) INTERLOCKED WITH SI-V89, SI-V90, SI-V93, (F-805010) CBS-V14, RC-V81, & RC-V88 (F-805006)
(B) INTERLOCKED WITH SI-V89, SI-V90, SI-V93, (F-805010) CBS-V9 (F-805023) RC-V22, RC-V23 (F-805003)
THE LOCATION OF THE ASME SECTION III, NA(13) CODE CLASS BOUNDARIES OF PIPING SHOWN ON THIS DRAWING ARE CERTIFIED TO BE COMPLETE AND CORRECT.
DATE




OUTSIDE REACTOR CONTAINMENT
INSIDE REACTOR CONTAINMENT
SI-P-1A
SI-P-1B
SI TK 1A ACCUMULATOR
SI TK 1B ACCUMULATOR
SAFETY CLASS 2
RCP 1A
RCP 1B
SDC HX RH-E-1A
SDC HX RH-E-1B
SET PRESS 700 PSIG
NOTE 15
NOTE 13
NOTE 14
NOTE 12
LOC C-3
LOC C-1
LOC C-4
LOC C-2
LOC A-4
LOC B-2
LOC D-1
LOC D-2



8601070257 -22

SD NO. NAH/NOH 284

THE SYSTEM PREFIX FOR THIS DIAGRAM IS 'SI' UNLESS OTHERWISE NOTED.

FOR GENERAL NOTES & REFERENCE DRAWINGS SEE DRAWING 1761 F 805002

THE LOCATION OF THE ASME SECTION III, NB-1130 CODE CLASS BOUNDARIES OF PIPING SHOWN ON THIS DRAWING ARE CERTIFIED TO BE COMPLETE AND CORRECT.

DATE 5-5-82

NO.	DESCRIPTION	DRN	CHK
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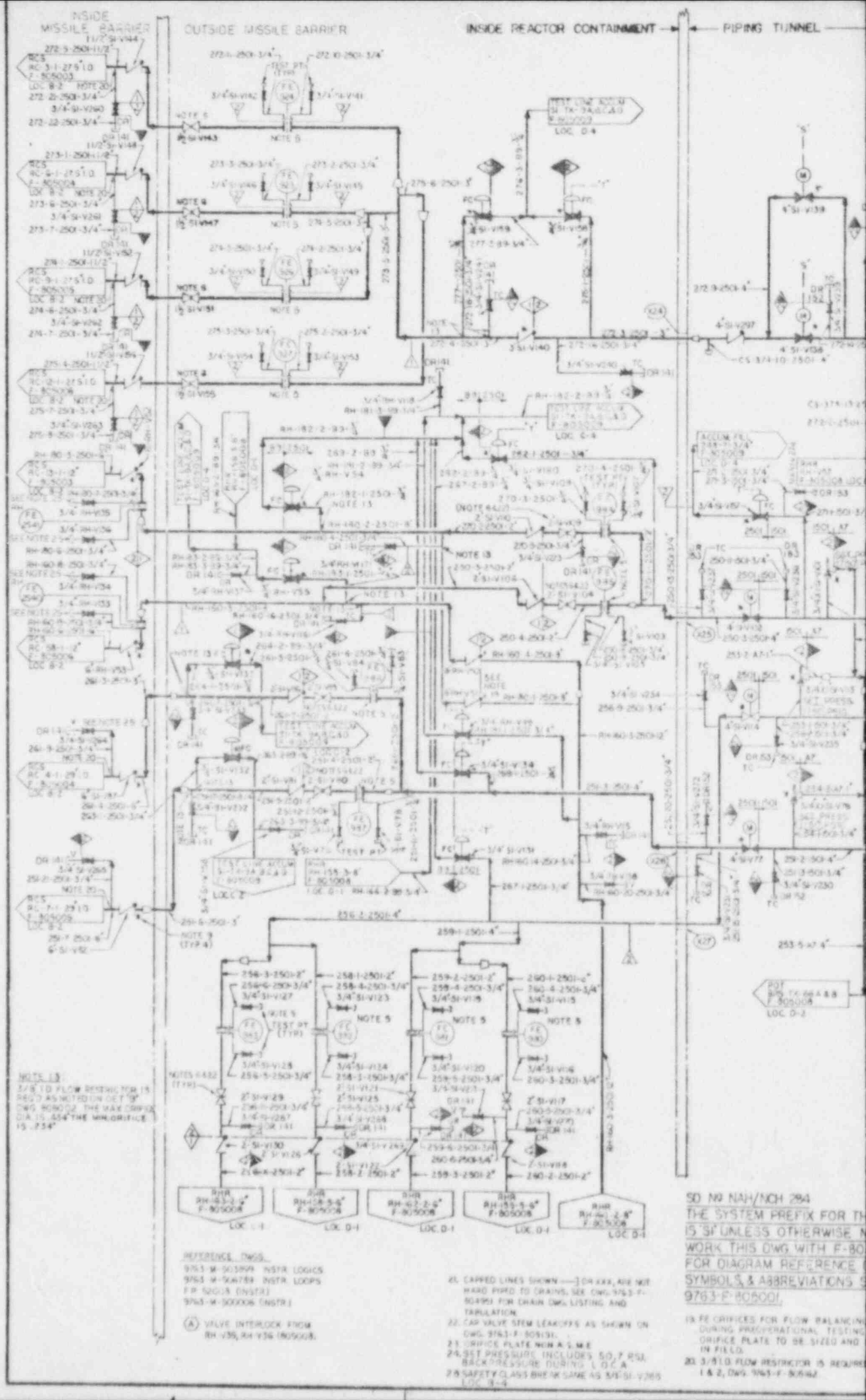
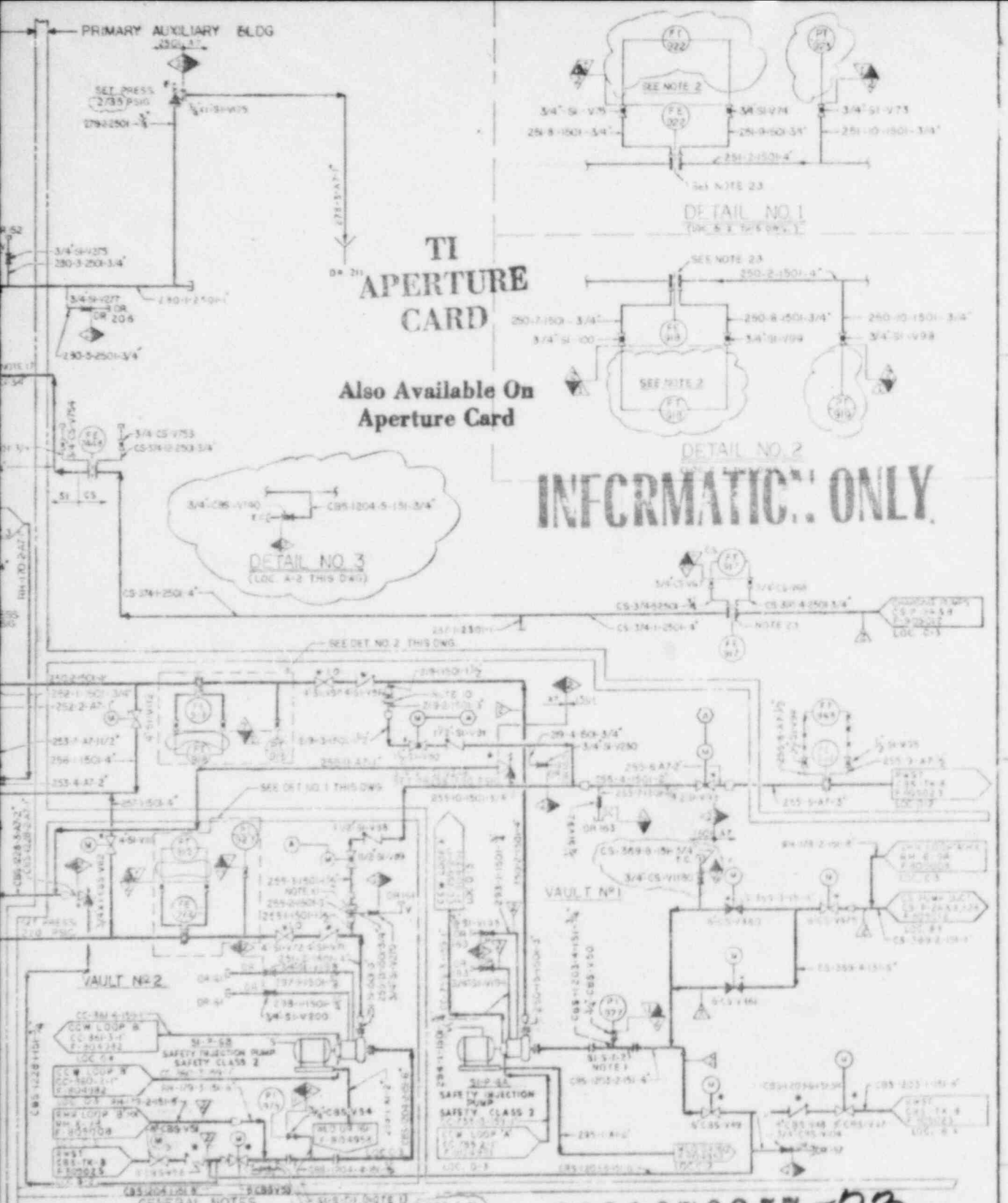
0	ISSUED FOR CONSTRUCTION		

SAFETY INJECTION SYSTEM
ACCUMULATORS
P & I DIAGRAM
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
United Engineers

UNITS 1 AND 2 | 9763 F 805009


INSIDE MISSILE BARRIER
OUTSIDE MISSILE BARRIER
INSIDE REACTOR CONTAINMENT
PIPING TUNNEL
NOTES 13:
3/8" I.D. FLOW RESTRICTOR IS REQ'D AS NOTED ON DET "B" DWG. 9080D2. THE MAX ORIFICE DIA IS .554" THE MIN ORIFICE IS .234"
REFERENCE DWGS.
9763-M-503859 INSTR. LOGICS
9763-M-504759 INSTR. LOOPS
F.P. 52G/A (INSTR.)
9763-M-500006 (INSTR.)
(A) VALVE INTERLOCK FROM RH-V35, RH-V36 (805008).
21. CAPPED LINES SHOWN —3 OR XXX, ARE NOT HARD PIPED TO DRAINS, SEE DWG 9763-F-804951 FOR DRAIN DWG LISTING AND TABULATION.
22. CAP VALVE STEM LEAKOFFS AS SHOWN ON DWG. 9763-F-805151.
23. ORIFICE PLATE NON A.S.M.E.
24. SET PRESSURE INCLUDES 50.7 PSI BACK PRESSURE DURING L.O.C.A.
25. SAFETY CLASS BNE IX SAME AS 3/8"SI-V265 LOC. B-4
SD NO NAH/NCH 294
THE SYSTEM PREFIX FOR TH
IS SI UNLESS OTHERWISE N
WORK THIS DWG WITH F-80
FOR DIAGRAM REFERENCE
SYMBOLS & ABBREVIATIONS
9763-F-805001
19. FE ORIFICES FOR FLOW BALANCIN
DURING PREOPERATIONAL TESTING
ORIFICE PLATE TO BE SIZED AND
IN FIELD.
20. 3/8" I.D. FLOW RESTRICTOR IS REQUIRE
1 & 2, DWG. 9763-F-805162



TI APERTURE CARD

Also Available On Aperture Card

INFORMATION ONLY

8601070257-23

GENERAL NOTES

1. PERMANENT SPOOL PIECE INSTALLATION SHOWN. TEMPORARY STRAINER IS USED IN PLACE OF SPOOL PIECE DURING INITIAL FLUSHING OPERATION. STRAINER TO BE REMOVED BEFORE PLANT START UP.
2. LOCATE FLOW INDICATOR OUTSIDE OF SAFETY INJECTION PUMP ROOMS
3. FLUSH ORIFICE
4. LOCATE CONNECTION CLOSE TO 4"CS-V65 & 4"CS-V64
5. FLOWMETER ORIFICE TO VERIFY FLOW DURING PREOPERATIONAL TEST
6. ADJUST VALVES IN FIELD TO LIMIT PUMP RUN OUT THEN LOCK
7. DELETED
8. DELETED
9. * INDICATES VALVE SUPPLIED BY WESTINGHOUSE
10. MINIMUM FLOW ORIFICE SUPPLIED WITH PUMP
11. PIPING SCHEDULE (40) MUST BE ADHERED TO DUE TO SAFETY ANALYSIS FLOW REQUIREMENTS.
12. CHECK VALVES SHOULD BE LOCATED AS CLOSE TO THE REACTOR COOLANT PIPE AS POSSIBLE
13. FOR NOTE (5), SEE LOC. A-4 THIS DWG.
14. ACCUMULATOR DRAIN TO BE PROVIDED WITH BLIND FLANGE SPOOL PIECE TO BE INSTALLED ONLY WHEN ACCUMULATOR IS TO BE DRAINED.
15. 66" MINIMUM STANDPIPE TO BE PROVIDED BY A/E WITH MARK INDICATING NORMAL WATER LEVEL AS DEFINED IN THE PLANT SETPOINT DOCUMENT. LEVEL TRANSMITTER TAPS ARE LOCATED 9 INCHES ABOVE & BELOW THE SCRIBE MARK.
16. INSTRUMENT BELLOWS MUST BE INSTALLED INSIDE TANK
17. LOCATE CONNECTION CLOSE TO VALVES 4"SI-V138 & 4"SI-V139
18. SEE NOTE 1 DWG. F-805001.

S DIAGRAM
OTED.
3009
RAWINGS.
EE DRAWING

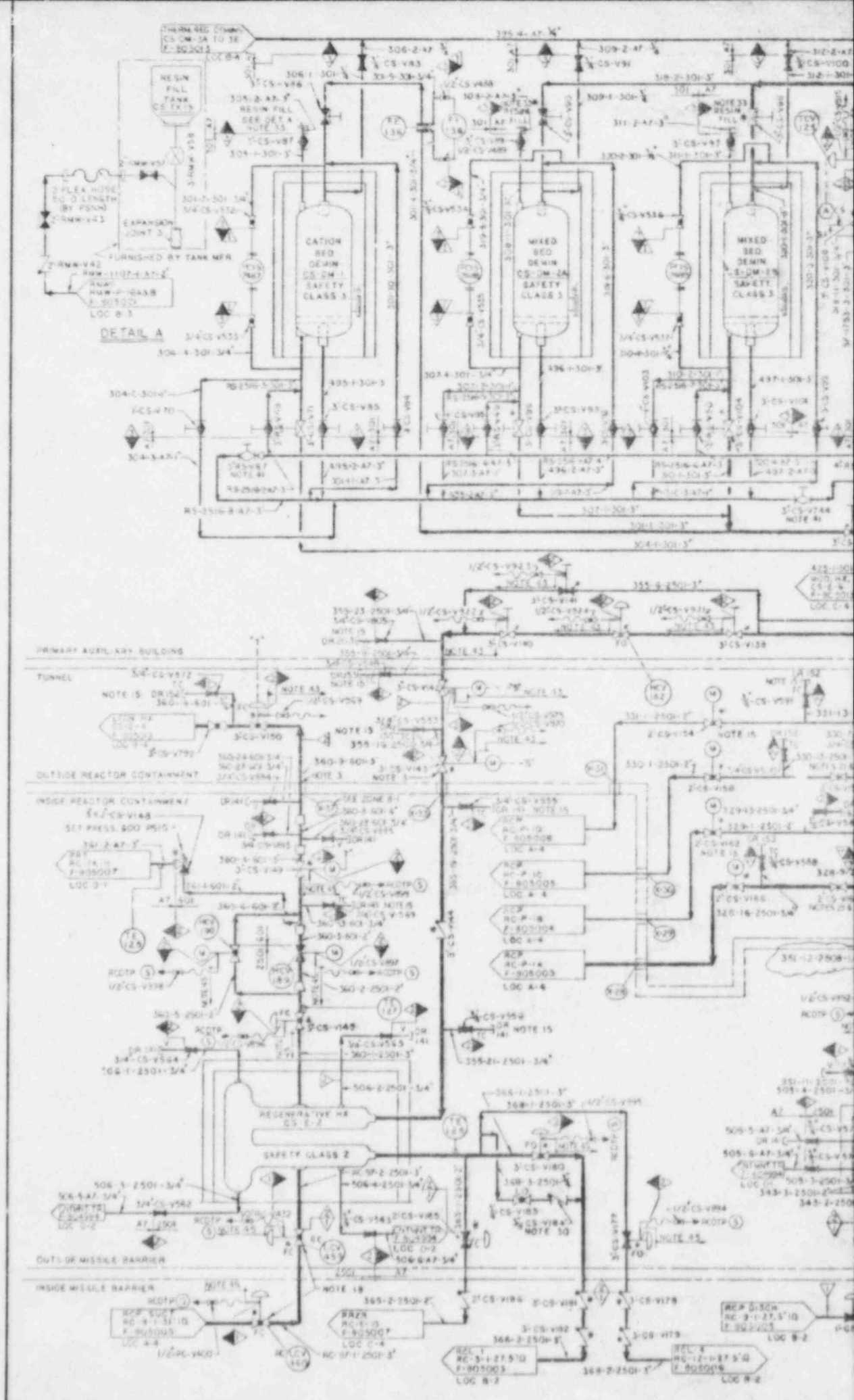
PURPOSES
AND START-UP.
FABRICATED.
SEE DETAIL

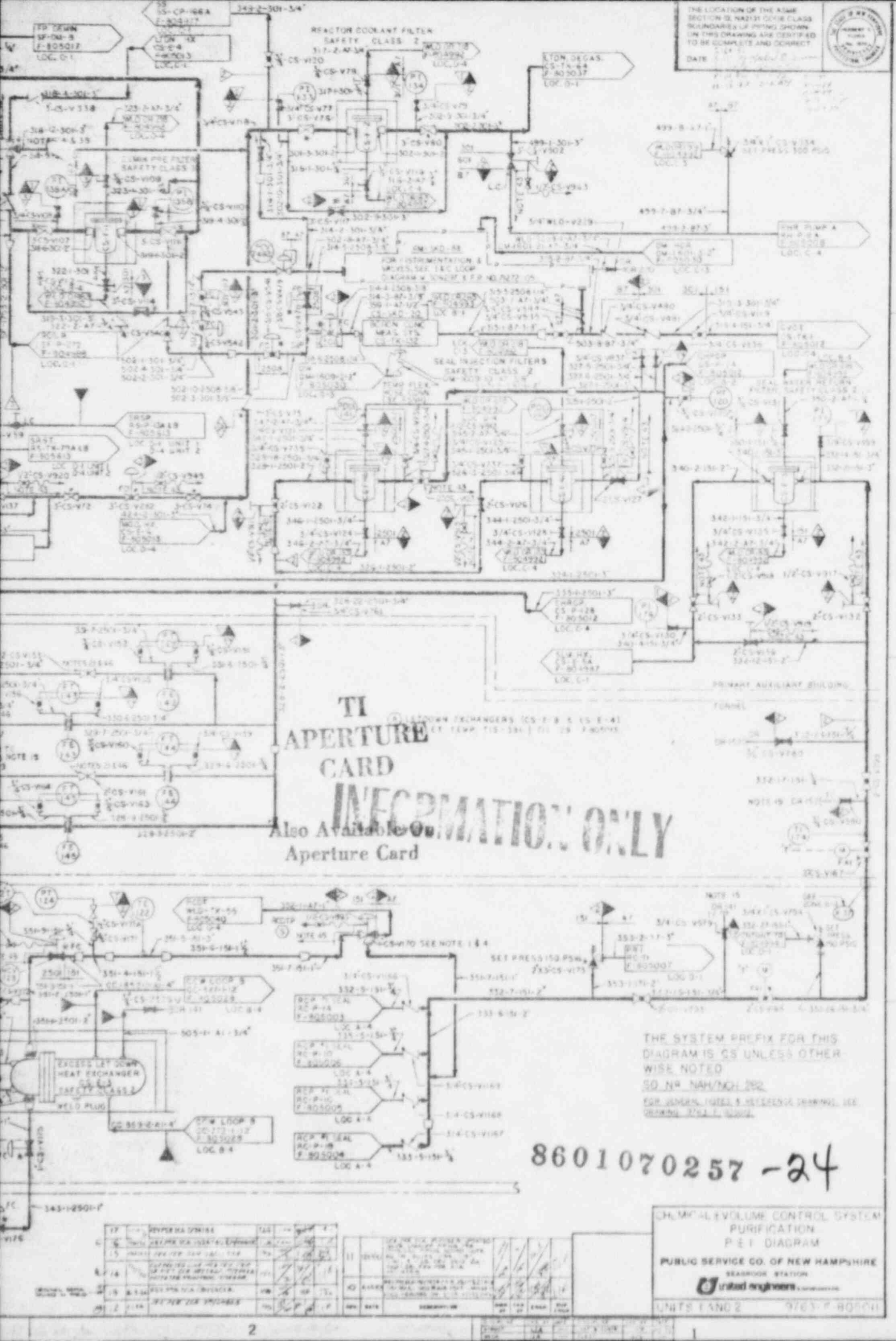
THE LOCATION OF THE ASME SECTION III, NAFTP CODE CLASS BOUNDARIES OF PIPING SHOWN ON THIS DRAWING ARE CERTIFIED TO BE COMPLETE AND CORRECT.

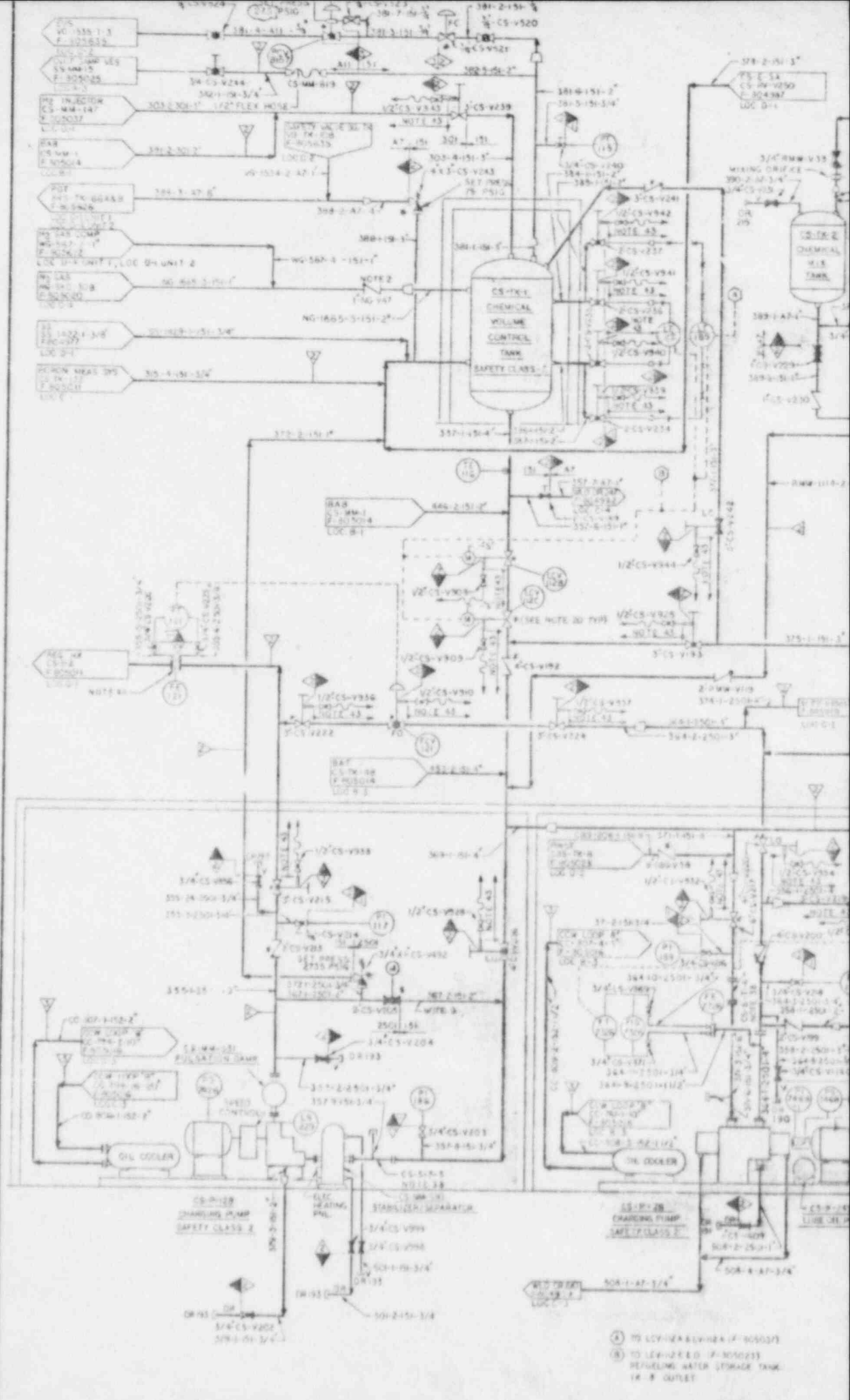
DATE

SAFETY INJECTION SYSTEM
HIGH HEAD
P & I DIAGRAM
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
united engineers

UNITS 1 AND 2 9763 F-805019


RESIN FILL TANK CS-TK-15
CATION BED DEMIN CS-DM-1 SAFETY CLASS 3
MIXED BED DEMIN CS-DM-2A SAFETY CLASS 3
MIXED BED DEMIN CS-DM-2B SAFETY CLASS 3
DETAIL A
FURNISHED BY TANK MFR
EXPANSION JOINT 3
PRIMARY AUXILIARY BUILDING
TUNNEL
OUTSIDE REACTOR CONTAINMENT
INSIDE REACTOR CONTAINMENT
OUTSIDE MISSILE BARRIER
INSIDE MISSILE BARRIER
SAFETY CLASS 2
REGENERATIVE HX CS-E-2
SET PRESS. 600 PSIG
RCDTP
RCP
NOTE 15
NOTE 33
NOTE 50




CS-TK-1
CHEMICAL VOLUME CONTROL TANK
SAFETY CLASS 3
CS-TK-2
CHEMICAL MIX TANK
OIL COOLER
OIL COOLER
CS-P-1B
CHARGING PUMP
SAFETY CLASS 3
CS-P-1A
CHARGING PUMP
SAFETY CLASS 3
ELEC HEATING PNL
STABILIZER/SEPARATOR
PULSATION DAMP
PULSATION DAMP
SAFETY CONTROL
MIXING ORIFICE
(A) TO LCV-112A & LCV-112A (F-90503?)
(B) TO LCV-112B & D (F-90503?)
REFUELING WATER STORAGE TANK
(A & B OUTLET

GENERAL NOTES

1. VALVE FAILS WITH FLOW TO SEAL WATER RETURN FILTER.
2. LOCATE VALVES OR COMPONENTS REFERRING TO THIS NOTE ADJACENT TO CVCT TURBLE.
3. DELAY TIME RCS TO HDRS MUST BE 45 SECONDS MIN.
4. THREE WAY VALVES SHOULD BE ORIENTED IN PIPING AS SHOWN ON FLOW DIAGRAM.
5. ALL VALVE LEAKOFF LINES & LEAKOFF LINE ISOLATION VALVES ARE SAFETY CLASS (NS).
6. TO BE INSTALLED IN HORIZONTAL RUN WITH 10 DIA UP STREAM & 5 DIA DOWN STREAM.
7. DELETED (SEE NOTE 38)
8. LOCATE AS CLOSE TO CONTAINMENT AS POSSIBLE.
9. CONNECT BYPASS RETURN LINE A MINIMUM OF 8 FEET FROM PUMP SUCTION.
10. ALL VALVES ALIGNED FOR BORON REMOVAL (DILUTION).
11. CHILLER SURGE TANK MUST BE HIGH POINT IN THE CHILLER CIRCUIT.
12. FAILS TO BORON RELEASE (BORATION) POSITION.
13. DELETED
14. ALL BORIC ACID & BATCHING TANK EQUIPMENT & PIPING SHOWN TO BE LOCATED IN AREA MAINTAINED AT A CONTROLLED TEMPERATURE.
15. DELETED
16. DELETED
17. DELETED
18. PRESSURIZER LOW LEVEL SIGNAL CLOSES VALVES
19. PROVIDE MINIMUM OF 5 FEET OF STRAIGHT RUN AFTER MINIMUM FLOW ORIFICE. ORIFICE SUPPLIED BY PUMP MANUFACTURER.
20. A INDICATES VALVE SUPPLIED BY WESTINGHOUSE
21. NEEDLE VALVES WITH FLOW DEVICE
22. ALL EQUIPMENT AND PIPING SHOWN TO BE MAINTAINED AT LEAST 65°F
23. PROVIDE 6 FT OF 8" PIPE BETWEEN DEMINERALIZER AND REHEATER.
24. DELETED (SEE NOTE 15)
25. LOCATE THERMOWELL AT LEAST 10 PIPE DIAMETERS DOWNSTREAM OF TEE.
26. VALVE FAILS WITH FLOW TO CVCT.
27. VALVE IS LOCKED INTO POSITION DURING OPERATIONAL TESTING TO LIMIT PUMP RUNOUT TO 75 GPM WHEN TRANSFERRING BATCHING TANK CONTENTS TO BORIC ACID TANK.
28. PROVIDE A MIN OF 16 DIA FT OF PIPE RUN BETWEEN STATIC MIXER & CVCT.
29. DELETED (SEE NOTE 15)
30. SPRING LOADED CHK VALVE
31. THESE ITEMS SUPPLIED BY SENTRY BUT NOT MOUNTED ON DEGAS SKID

32. DELETED
33. INSTALL BLIND FLANGES WITHOUT GASKET.
34. VALVES FAILS WITH FLOW TO LCV 112 A
35. VALVE FAILS WITH FLOW BY PASSING THE DEMINERALIZERS AND GOING TO CS-E-2
36. DELETED
37. DELETED
38. PERMANENT SPOOL PIECE INSTALLATION SHOWN. TEMPORARY SPOOL PIECE WITH STRAINER FOR FLUSH INSTRUMENTS, VALVES AND PIPING INSTALLED ONLY DURING FLUSHING OPERATIONS AND IS REMOVED BEFORE START UP.
39. SEE DWG 9763-F-405637 FOR WATER SUPPLY TO PUMP COOLER MECHANICAL SEALS.
40. SEE NOTE 5 DWG 9763-F-305001
41. THESE VALVES TO BE CLOSED PRIOR TO ANY RESIN SLUICING OPERATIONS.
42. VALVE NO 9119 TO BE INSTALLED WITH DIAPHRAM LIQUID UNDER THE VALVE SEAT.
43. SEE DWG 9763-F-805250 FOR LINE NO, VALVE NO, DRAIN NO, TABULATION & INSTALLATION DETAIL.
44. CAPPED LINES SHOWN ---- THUS XXX ARE NOT HARD PIPED FLOR DRAINS. SEE DWG 9763-F-804951 FOR DRAIN DISCUSTING AND TABULATION.
45. SEE DWG 9763-F-805951 FOR LINE NO, VALVE NO, DRAIN NO, TABULATION & INSTALLATION DETAIL FOR DRAINS TO RCDT PUMP SUCTION VIA HEADER CONNECTION ○.
46. CAP VALVE STEM LEAKOFFS AS SHOWN ON DWG 9763-F-805240.
47. CLASS 2 WELD
48. ORIFICE PLATE NON ASME.

REFERENCE DRAWING

805037	SEAL WATER (NS)
805051	PURIFICATION
805053	THERMAL REGENERATION
805054	BORIC ACID
805057	LETDOWN DEGASIFIER
FX-5004N	INST LOOPS
M-503529 & 503539	INST LOOPS
M-5X-059	UNIT
FP-503M	CVCS WESTINGHOUSE
FP-503M	
FP-503M	
FP-503M	
FP-503M	

SF "19 NAH/NOH-262

TH SYSTEM PREFIX FOR THIS DIAGRAM IS "CS" UNLESS OTHERWISE NOTED

FOR FLOW SHEET SYMBOLS, ABBREVIATIONS & REFERENCE DRAWINGS SEE DRAWING 9763-F-805002

CS-P-2A
CHARGING PUMP
SAFETY CLASS 2

CS-P-2A
LUBE OIL PUMP

OIL COOLER

CHARGING PUMP BYPASS ORIFICE (NOTE 19)

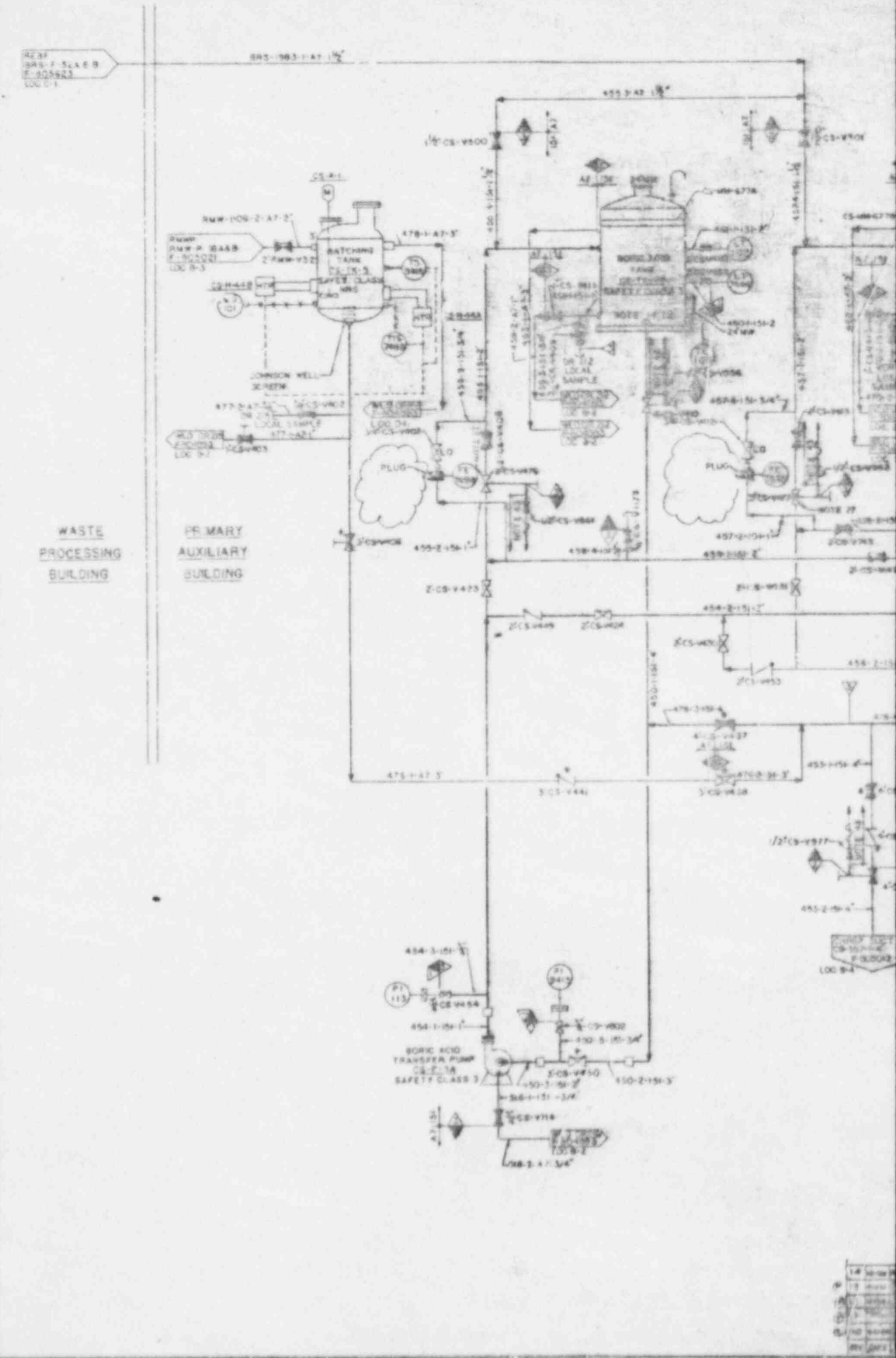
CHARGING PUMP BYPASS ORIFICE (NOTE 43)

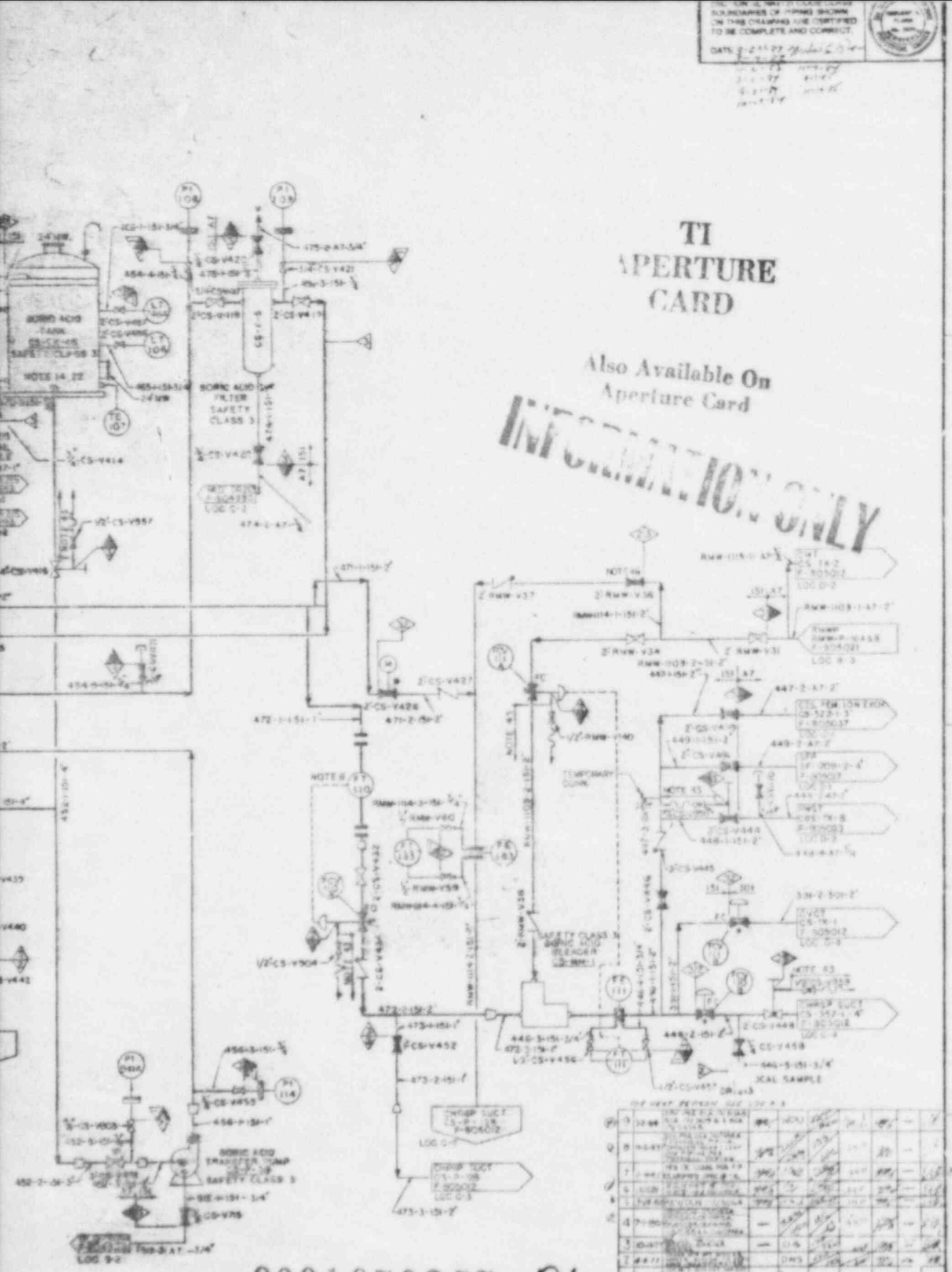
NO	DATE	REVISION	BY	CHK	APP
15	1-22	ADDED NOTE 43			

CHEMICAL & VOLUME CONTROL SYSTEM
CHARGING
P&I DIAGRAM
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
UNITS 1 AND 2
9763-F-805253

THE LOCATION OF THE ASME SECTION III, NUCLEAR CODE CLASS BOUNDARIES OF PIPING SHOWN ON THIS DRAWING ARE CERTIFIED TO BE COMPLETE AND CORRECT.
DATE 3-4-86

8601070257-25


WASTE PROCESSING BUILDING
PRIMARY AUXILIARY BUILDING
BATCHING TANK
BORIC ACID TRANSFER PUMP
SAFETY CLASS 3
JOHNSON WELL
PLUG
PLUG
LOCAL SAMPLE
LOCAL SAMPLE



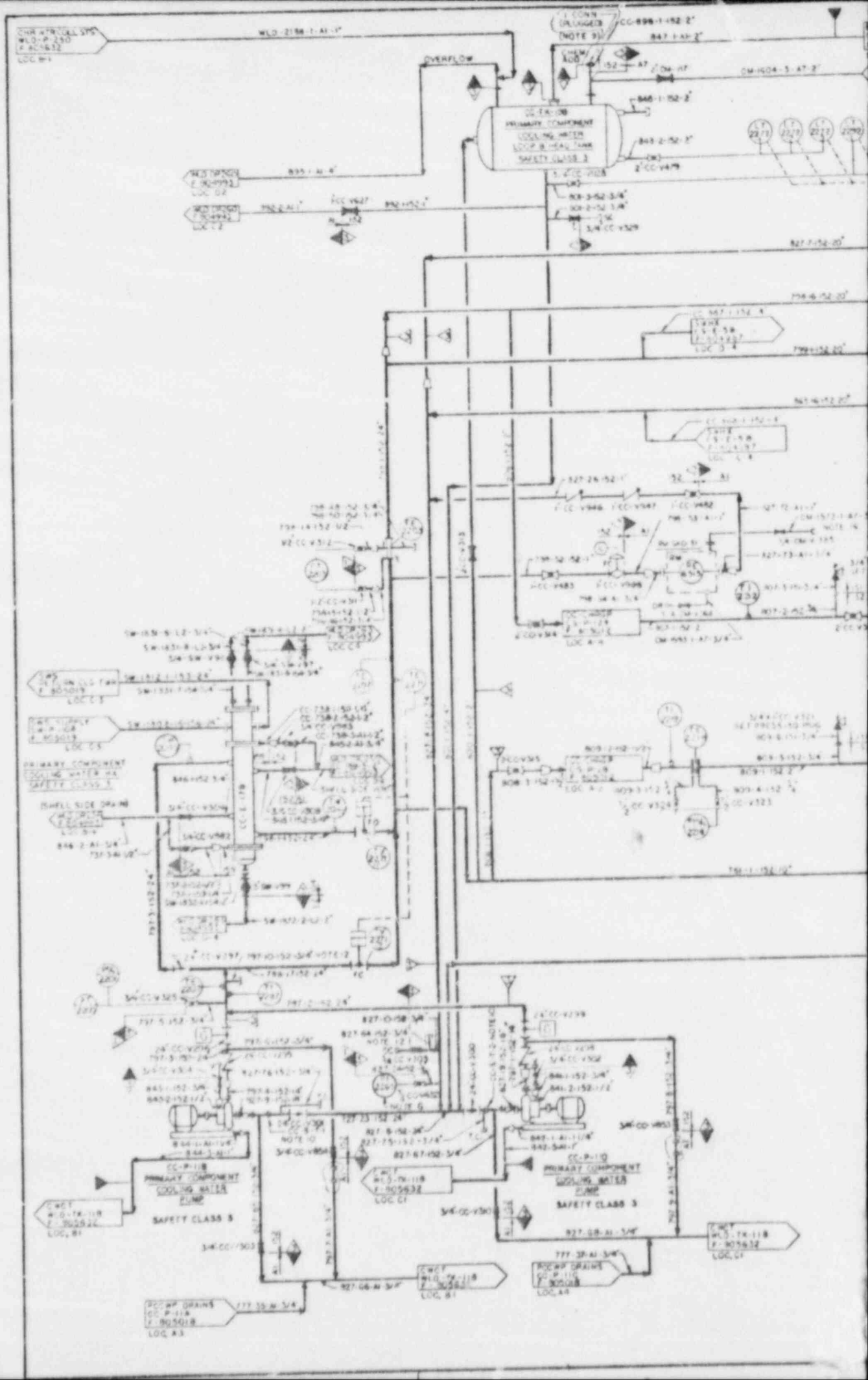
8601070257-26

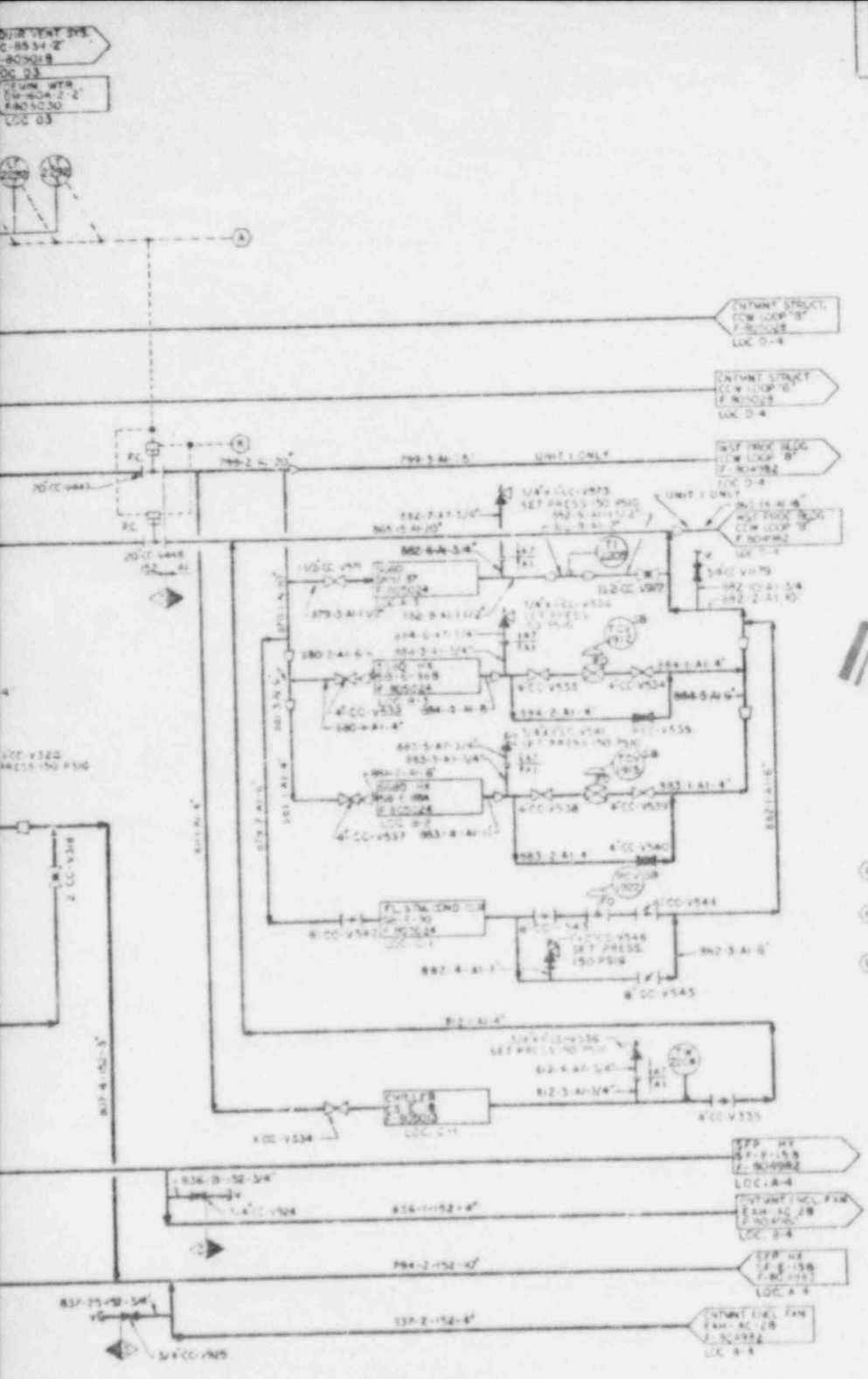
SD NP: NAH/NCH-282

THE SYSTEM PREFIX FOR THIS DIAGRAM IS CS UNLESS OTHERWISE NOTED.

CHEMICAL & VOLUME CONTROL SYSTEM
BORIC ACID
P&I DIAGRAM
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION

UNITS 1&2 9763-F-805014


CHR HTR COLL SYS
WLD-P-250
F 405632
LOC B-1
WLD-2198-1-A1-1"
1 CONN (PLUGGED) (NOTE 9)
CC-898-1-152-2"
CHEM ADD
OVERFLOW
CC-TK-10B
PRIMARY COMPONENT
COOLING WATER
LOOP B HEAD TANK
SAFETY CLASS 3
F 904992
LOC D2
895-1-A1-4"
2"CC-V627
3/4"CC-V329
DM-1604-3-A7-2"
2"CC-V479
CC-E-17B
PRIMARY COMPONENT
COOLING WATER HX
SAFETY CLASS 3
SHELL SIDE DRAIN
CC-P-11B
PRIMARY COMPONENT
COOLING WATER
PUMP
SAFETY CLASS 3
CWCT
WLD-TK-118
F 905632
LOC B1
LOC C1
CC-P-11D
PRIMARY COMPONENT
COOLING WATER
PUMP
SAFETY CLASS 3
PCCWP DRAINS
CC-P-11A
F 905018
LOC A3
PCCWP DRAINS
CC-P-11C
F 905018
LOC A4
NOTE 10
NOTE 12
NOTE 6
24"CC-V239
797-2-152-24"
727-23-152-24"
751-1-152-12"



(A) TO VALVES CC-V-317, CC-V-175
(DWG 9763-F-805029)

(K) CLOSE ON "K" SIGNAL OF HEAD TK-13B
LOW-LOW LEVEL SIGNAL

(L) CLOSE ON HEAD TK-19B
LOW-LOW LEVEL SIGNAL

REFERENCE DRAWINGS

9763-F-805016 RCCW THR LOOP P & I D
9763-F-804981 RCCW LOOP A SHT 3 P & I D
9763-F-804982 RCCW LOOP B SHT 3 P & I D
9763-F-805029 RCCW LOOP A SHT 2 P & I D
9763-F-805030 RCCW LOOP B SHT 2 P & I D
9763-M-805243 INSTRUMENTATION
9763-M-805244 INSTRUMENTATION

SO N-23

WORK THIS DRAWING WITH 9763-F-805029 SHEET 2 AND 9763-F-804982 SHEET 3

FOR FLOW SHEET SYMBOLS & ABBREVIATIONS SEE DWG. 9763-F-805001.

PRIMARY AUXILIARY BLDG.

1. COOLING WATER FOR RADIATION MONITOR RE-1519 ON SKID SK-87.
2. LINES FOR POSSIBLE FUTURE CHEMICAL ADDITION TANK.
3. DELETED
4. SEE NOTE 1, DWG. 9763-F-805001.
5. CAPPED LINES —| OR XXX ARE NOT HARD PIPED TO DRAINS, SEE DWG. 9763-F-804951 FOR DRAIN DWG. LISTING AND TABULATION.
6. FOR FLUSHING, CONNECT HOSE TO DW LINE DW-1607-5-A1-3/4", DWG. 9763-F-805030, LOC. C-4.
7. FOR FLUSHING, CONNECT HOSE TO DW LINE DW-1603-1-A1-3/4", DWG. 9763-F-805030, LOC. C-4.
8. FOR DETAILS OF TRANSITION PIPING, SEE PHYSICAL PIPING DRAWINGS.

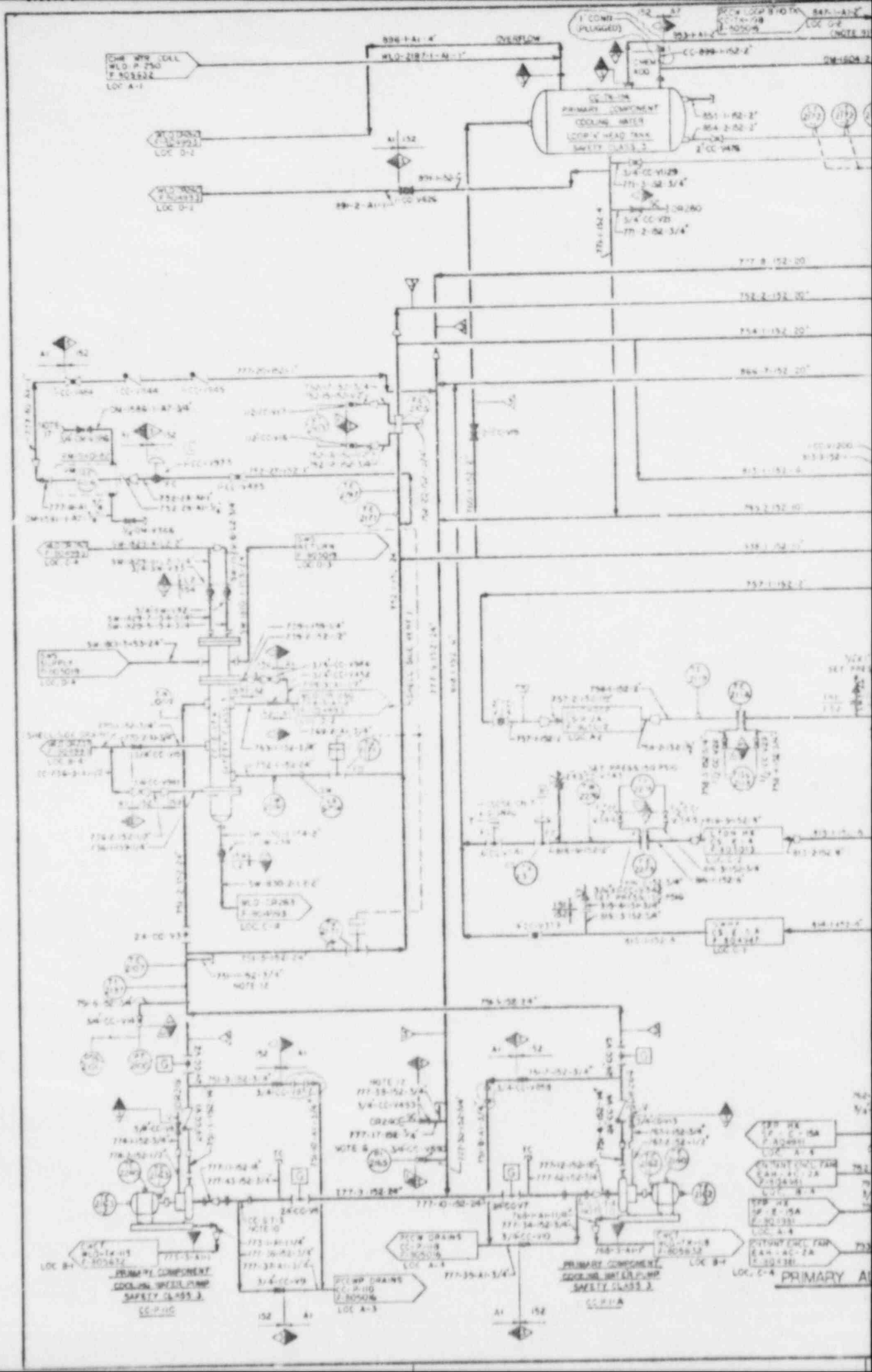
GENERAL NOTES:

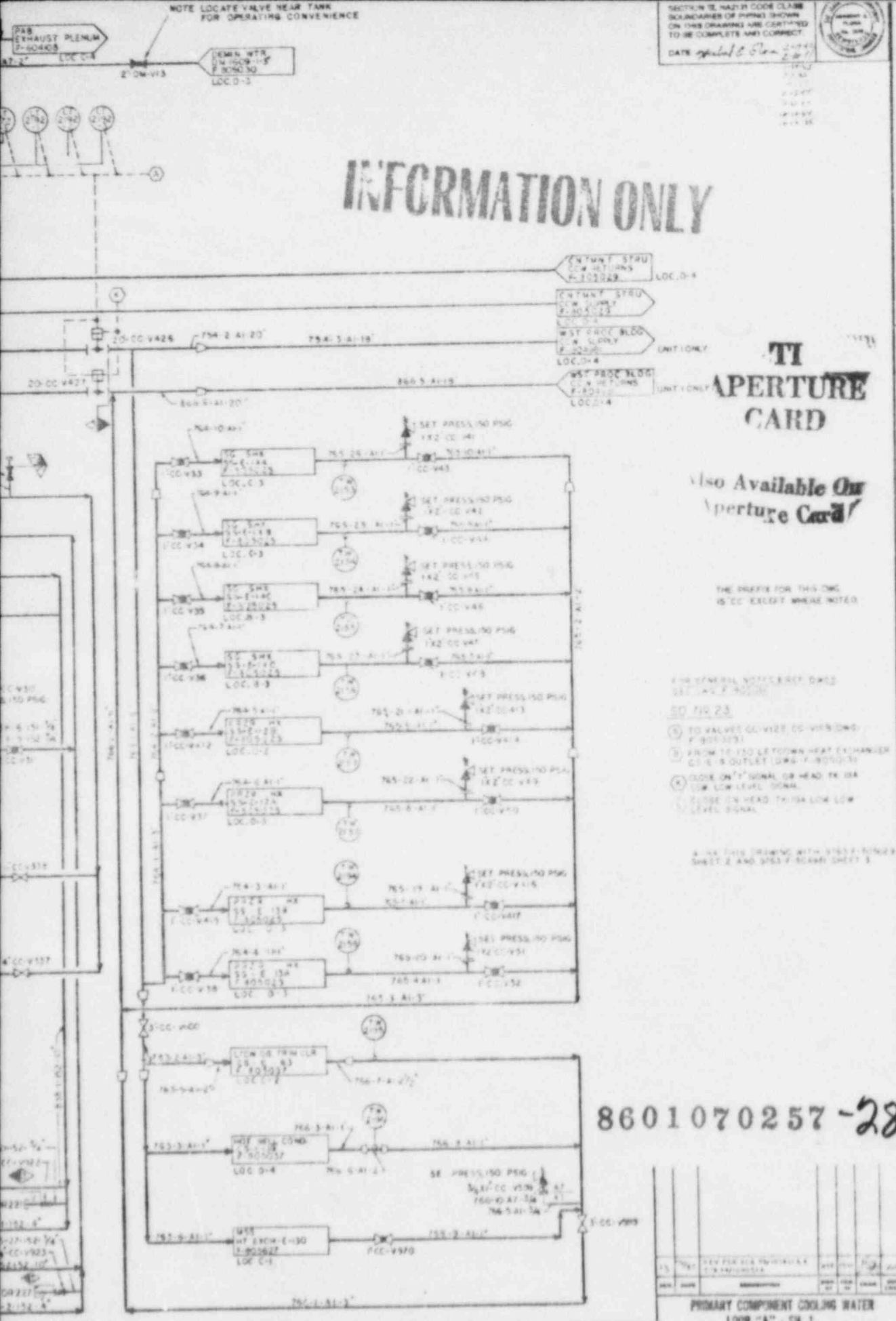
1. THE SYSTEM PREFIX FOR THIS DIAGRAM IS CC EXCEPT WHERE OTHERWISE NOTED.
2. EQUIPMENT ISOLATION VALVES INSIDE CONTAINMENT TO BE OPERABLE FROM THE CONTAINMENT ANNULUS.
3. PRIMARY COMPONENT COOLING WATER TO WASTE PROCESSING EQUIPMENT APPLICABLE TO UNIT 1.
4. PUMP INSTRUMENTS ARE DESIGNED TO ALARM WHEN BOTH CCW PUMP IN A LOOP ARE OPERATING FOR MORE THAN 10 SECONDS.
5. ## INDICATES EQUIPMENT, PIPING, VALVES & INSTRUMENTS FURNISHED WITH EVAPORATOR PACKAGE BY VENDOR & INSTALLED BY UE&C.
6. PRESSURE INDICATOR TO BE LOCATED IN COMMON RETURN LINE AS CLOSE TO PUMPS AS POSSIBLE.
7. DELETED
8. DELETED
9. HIGH POINT OF VENT CC-TK-19A & CC-TK-19B, LOCATED (MINIMUM) 3 FT. ABOVE HIGH POINT.
10. PERMANENT SPOOL PIECE INSTALLED SHOWN. TEMPORARY STRAINER IS USED IN PLACE OF SPOOL PIECE DURING INITIAL FLUSHING OPERATION. STRAINER TO BE REMOVED BEFORE PLANT START UP.

8601070257 -27

PRIMARY COMPONENT COOLING WATER
LOOP "B" - SH. 1
P & I DIAGRAM
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
United Engineers

UNITS 1 AND 2 — 9763-F-805016


PRIMARY COMPONENT COOLING WATER SURGE TANK
LOOP 'A' HEAD TANK
SAFETY CLASS 3
PRIMARY COMPONENT COOLING WATER PUMP
SAFETY CLASS 3
PRIMARY COMPONENT COOLING WATER PUMP
SAFETY CLASS 3
PRIMARY



OVERSIZE DOCUMENT PAGE PULLED

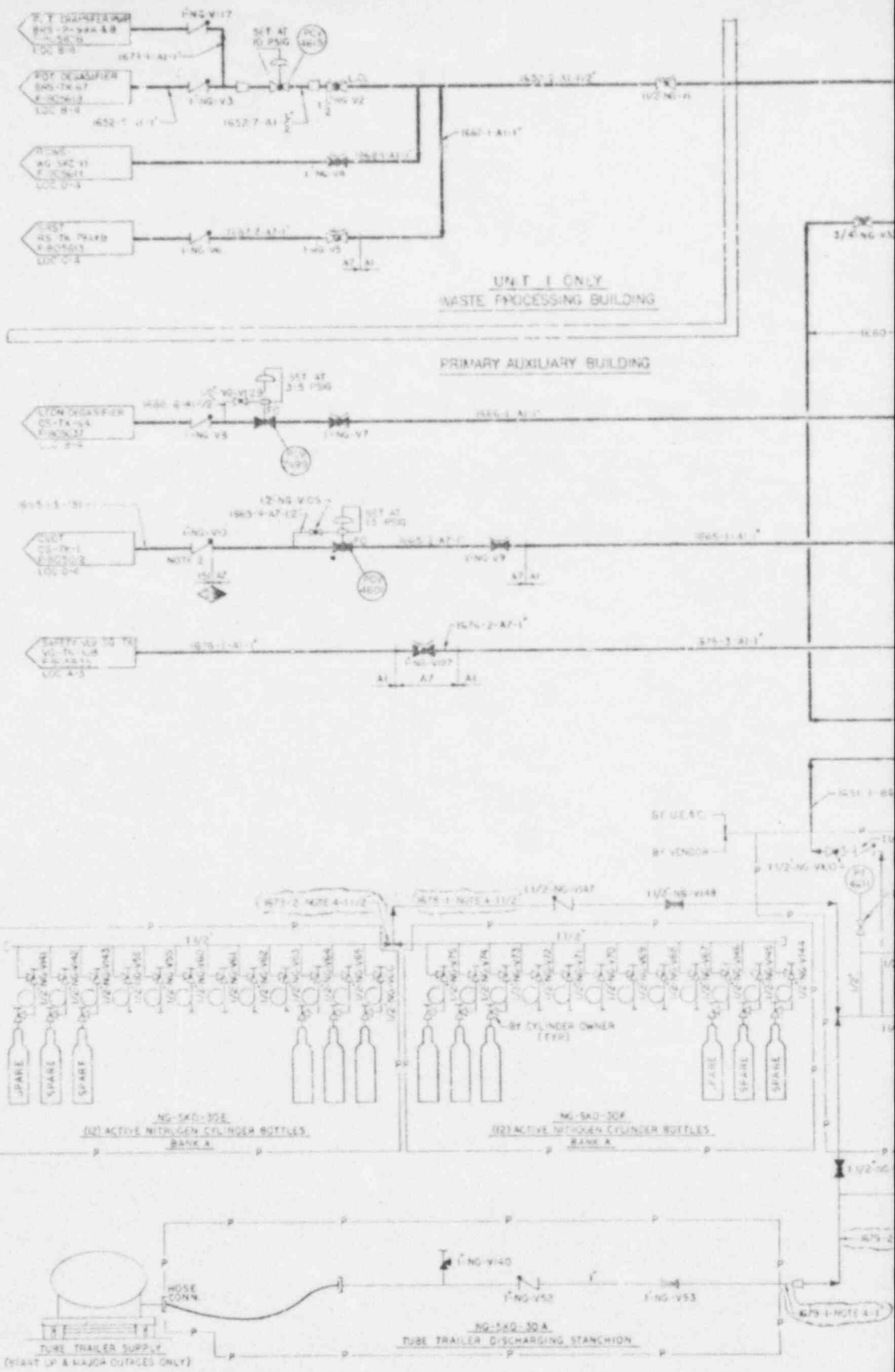
SEE APERTURE CARDS

NUMBER OF PAGES: 1

ACCESSION NUMBER(S):

Dupe of 8510300166

APERTURE CARD/HARD COPY AVAILABLE FROM RECORD SERVICES BRANCH, TIDC
FTS 492-8989



NOTES:

1- DELETED

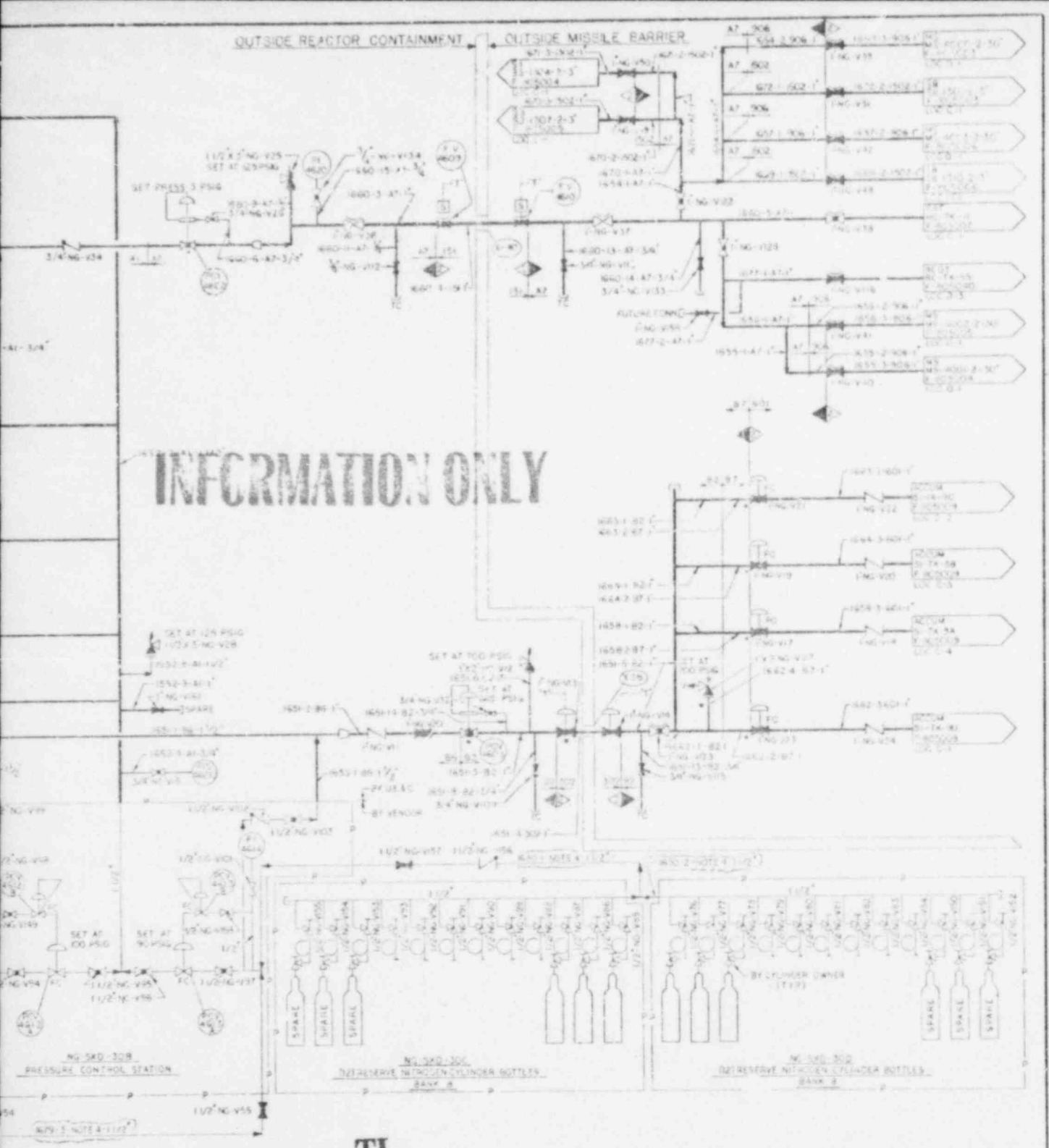
2-LOCATE VALVE ADJACENT TO CVCF CUBICLE.

3-SEE NOTE 1, DWG. 9763-F-80500E.

4-PIPING MATL- B&S A-106 GR B, SCH XXS, SEAMLESS
FITTING MATL- B&S A-105, 3000 LBS, SOCKET WELD

THE LOCATION OF
SECTION 22, N12
BOUNDARIES OF
ON THIS DRAWING
TO BE COMPLETE

DATE



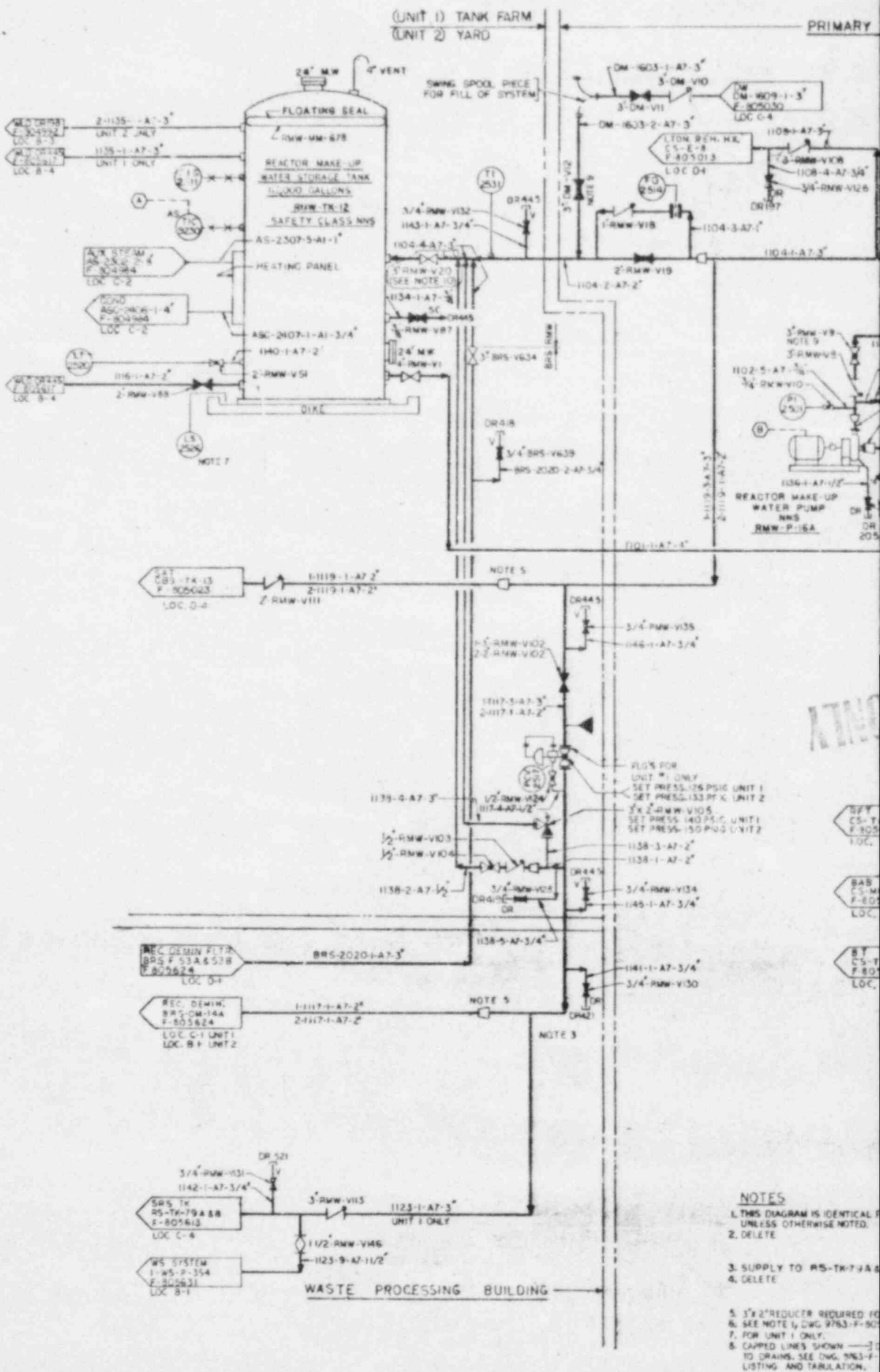
SO Nº 38
THE SYSTEM PREFIX FOR THIS DIAGRAM
IS 'NG' UNLESS OTHERWISE NOTED.

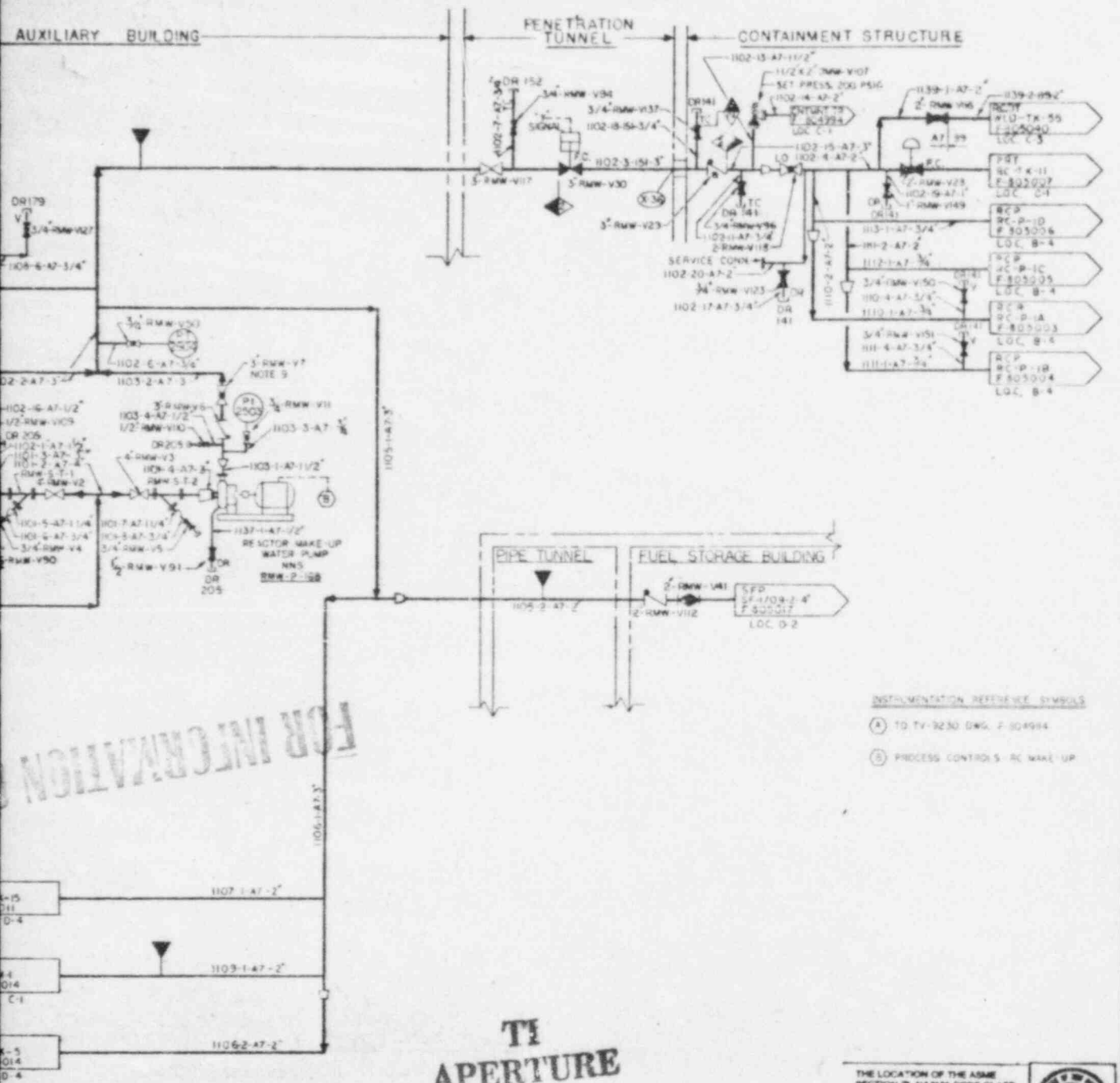
FOR FLOW SHEET REFERENCE DRAWINGS,
SYMBOLS, & ABBREVIATIONS SEE DWG.
9763-F-R05001

REV.	DATE	DESCRIPTION	DRAWN BY	TECH. CHK.	ENGR.	QUAL. ENGR.
3	7-85	ADDED INFORMATION ONLY NOTE				
2	5-81	REVISED OPERATING MODES, ADDED NOTE 4, ADDED 12 RESERVE NITROGEN CYLINDER BOTTLES				
1	3-81	AS PER ECN 81-0048				
0	4/80	ISSUED FOR CONSTRUCTION	DWN			

GAS SERVICE SYSTEM
NITROGEN NUCLEAR
P & I DIAGRAM
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
United engineers

UNITS 1&2 9763-F-R05020


(UNIT 1) TANK FARM
(UNIT 2) YARD
PRIMARY
24" MW
4" VENT
FLOATING SEAL
2" RMW-MM-678
REACTOR MAKE-UP WATER STORAGE TANK
RMW-TK-12
SAFETY CLASS NNS
AS-2307-5-A1-1"
HEATING PANEL
ASC-2407-1-A1-3/4"
1140-1-A7-2"
2" RMW-V51
2" RMW-V88
DIKE
NOTE 7
2-1135-1-A7-3"
UNIT 2 ONLY
1135-1-A7-3"
UNIT 1 ONLY
SWING SPOOL PIECE FOR FILL OF SYSTEM
DM-1603-1-A7-3"
3" DM-V10
3" DM-V11
DM-1609-1-3"
F-805030
LOC G-4
DM-1603-2-A7-3"
1108-1-A7-3"
3" RMW-V108
1108-4-A7-3/4"
3/4" RMW-V126
1104-3-A7-1"
1" RMW-V18
1104-1-A7-3"
2" RMW-V19
1104-2-A7-2"
1104-4-A7-3"
3" RMW-V20
(SEE NOTE 10)
1134-1-A7-3"
3" RMW-V87
24" MW
4" RMW-V1
3" BRS-V634
3/4" RMW-V132
1143-1-A7-3/4"
3" RMW-V12
NOTE 9
3" RMW-V9
NOTE 9
3" RMW-V9
1102-5-A7-3"
3/4" RMW-V10
1136-1-A7-1/2"
REACTOR MAKE-UP WATER PUMP
NNS
RMW-P-16A
1101-1-A7-4"
DR418
3/4" BRS-V639
BRS-2020-2-A7-3/4"
1-1119-1-A7-2"
2-1119-1-A7-2"
NOTE 5
2" RMW-V111
DR445
3/4" RMW-V135
1146-1-A7-3/4"
1-1" RMW-V102
2-2" RMW-V102
1117-5-A7-3"
2-1117-1-A7-2"
FLG'S FOR UNIT "1" ONLY
SET PRESS. 126 PSIG UNIT 1
SET PRESS. 133 PSIG UNIT 2
1139-4-A7-3"
1/2" RMW-V104
1117-4-A7-1/2"
3" x 2" RMW-V105
SET PRESS. 140 PSIG UNIT 1
SET PRESS. 150 PSIG UNIT 2
1/2" RMW-V103
1/2" RMW-V104
1138-3-A7-2"
1138-1-A7-2"
1138-2-A7-1/2"
3/4" RMW-V106
DR446
3/4" RMW-V134
1145-1-A7-3/4"
1138-5-A7-3/4"
REC. DEMIN. FLTR. BRS F 53 A & 53B F-805624
LOC. D-1
BRS-2020-1-A7-3"
1141-1-A7-3/4"
3/4" RMW-V130
REC. DEMIN. BRS-DM-14A F-805624
LOC. C-1 UNIT 1
LOC. B-1 UNIT 2
1-1117-1-A7-2"
2-1117-1-A7-2"
NOTE 5
NOTE 3
DR421
DR521
3/4" RMW-V131
1142-1-A7-3/4"
SRS TK RS-TK-79A & B F-805613
LOC C-4
3" RMW-V113
1123-1-A7-3"
UNIT 1 ONLY
1 1/2" RMW-V146
WS SYSTEM 1-WS-P-354 F-805631
LOC B-1
1123-9-A7-1 1/2"
WASTE PROCESSING BUILDING
NOTES
1. THIS DIAGRAM IS IDENTICAL
UNLESS OTHERWISE NOTED.
2. DELETE
3. SUPPLY TO RS-TK-7
4. DELETE
5. 3" x 2" REDUCER REQUIRED
6. SEE NOTE 1, DWG. 9763-F-
7. FOR UNIT 1 ONLY.
8. CAPPED LINES SHOWN
TO DRAINS. SEE DWG. 9763-F-
LISTING AND TABULATION.



INSTRUMENTATION REFERENCE SYMBOLS

(A) TO TV-3230 DWG. F-804984

(5) PROCESS CONTROLS - RC MAKE-UP

THE LOCATION OF THE ASME SECTION III, NA2131 CODE CLASS BOUNDARY(S) OF PIPING SHOWN ON THIS DRAWING ARE CERTIFIED TO BE COMPLETE AND CORRECT.

DATE 3-4-81

SD NO 26
THE SYSTEM PREFIX FOR THIS DIAGRAM IS "RMW" UNLESS OTHERWISE NOTED.
FOR FLOW SHEET REFERENCE DWG SEE DRAWING 9763-F-805001

9. CAP VALVE STEM LEAKOFFS AS SHOWN ON DWG. 9763-F-805260.
NO. V20 INTERNALS HAVE BEEN REMOVED SO THAT V105 CANNOT BE ISOLATED.

DR UNITS 1 & 2

B FROM UNIT ONE ONLY.

P UNIT 1.
1003.

XXX ARE NOT HARD PIPED
0495I FOR DRAIN DWG.

NO.	DATE	DESCRIPTION	DRAWN BY	CHK BY	APPR	ENGR APPR
10						
9						
8						

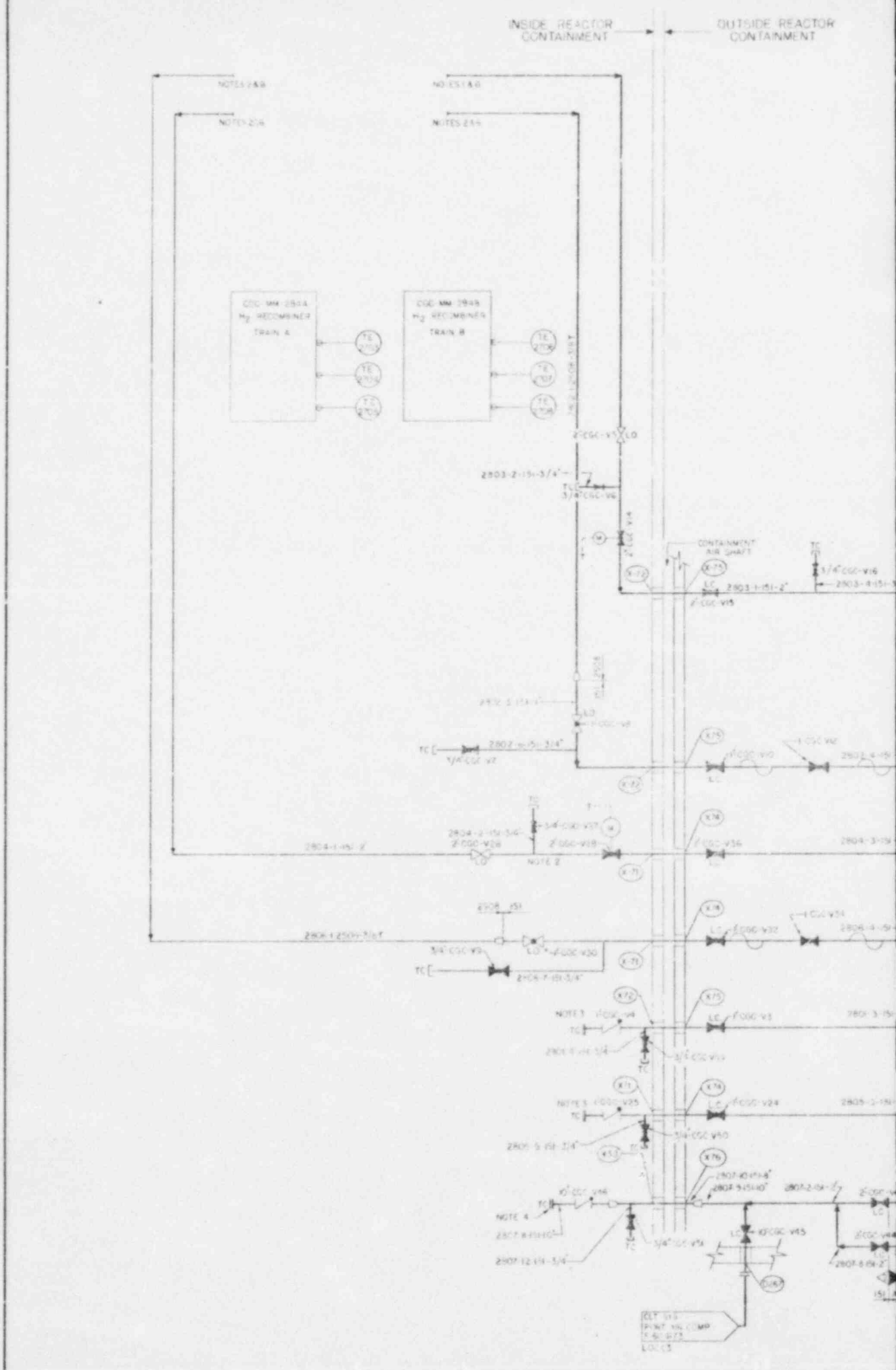
REACTOR MAKE-UP WATER SYSTEM
P & I DIAGRAM
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
United Engineers & Constructors

UNITS 1 AND 2 — 9763-F-805021

8601070257 30

DESIGNED	LEAD BY DATE	DRAWING	LEAD BY DATE
DETAIL		NOZ & LOOP	
MECH	HA	ELECT	HA

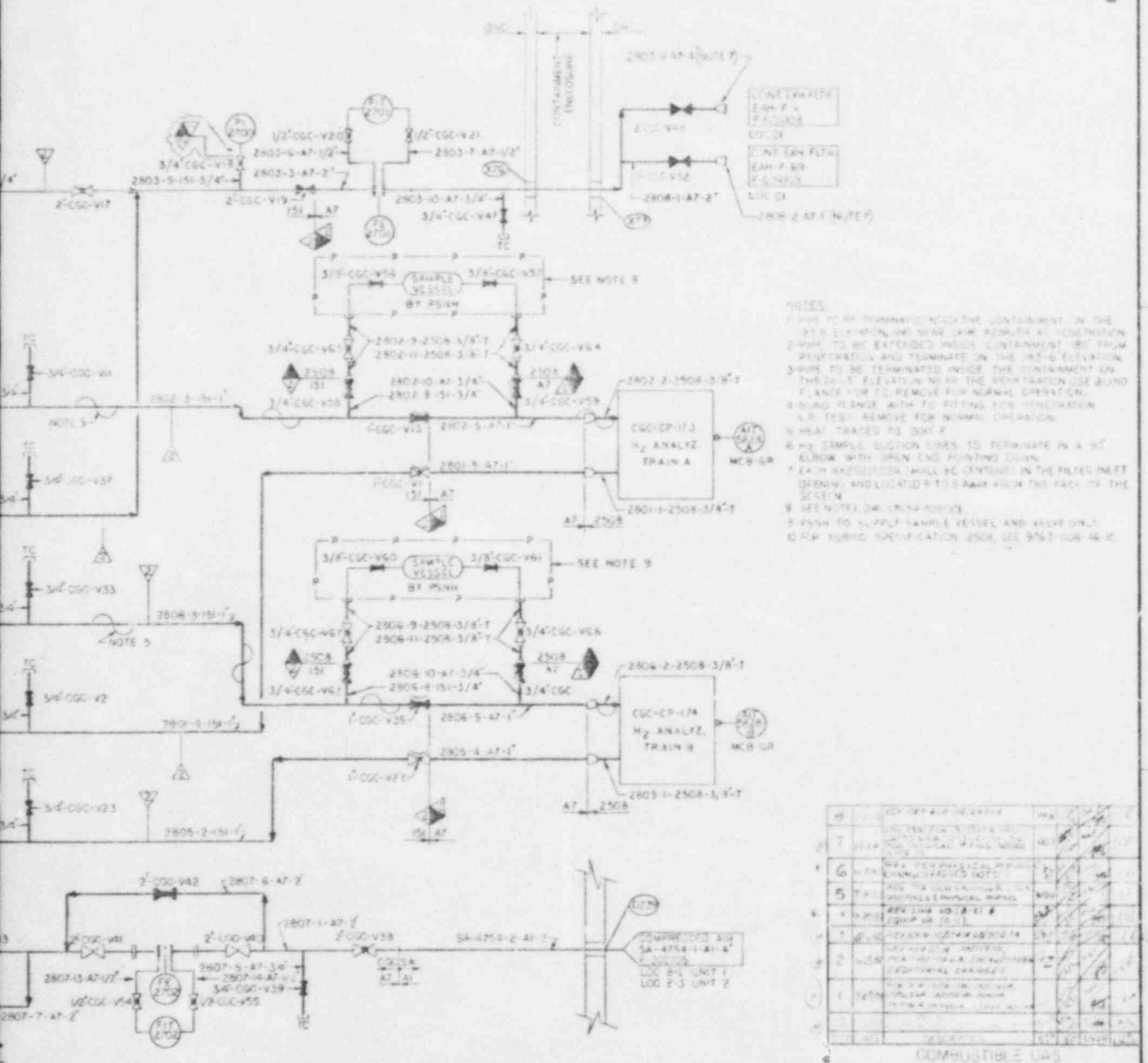
2 1


INSIDE REACTOR CONTAINMENT
OUTSIDE REACTOR CONTAINMENT
CGC-MM-2904A H2 RECOMBINER TRAIN A
CGC-MM-2904B H2 RECOMBINER TRAIN B
CONTAINMENT AIR SHAFT
NOTE 2
NOTE 3
NOTE 4

SO No. 29

THE SYSTEM PREFIX FOR THIS DIAGRAM IS "CGC" UNLESS OTHERWISE NOTED.

FOR FLOW DIAGRAM REFERENCE DRAWINGS, SYMBOLS & ABBREVIATIONS SEE DRAWING 9763-F-8C5001



NOTES:

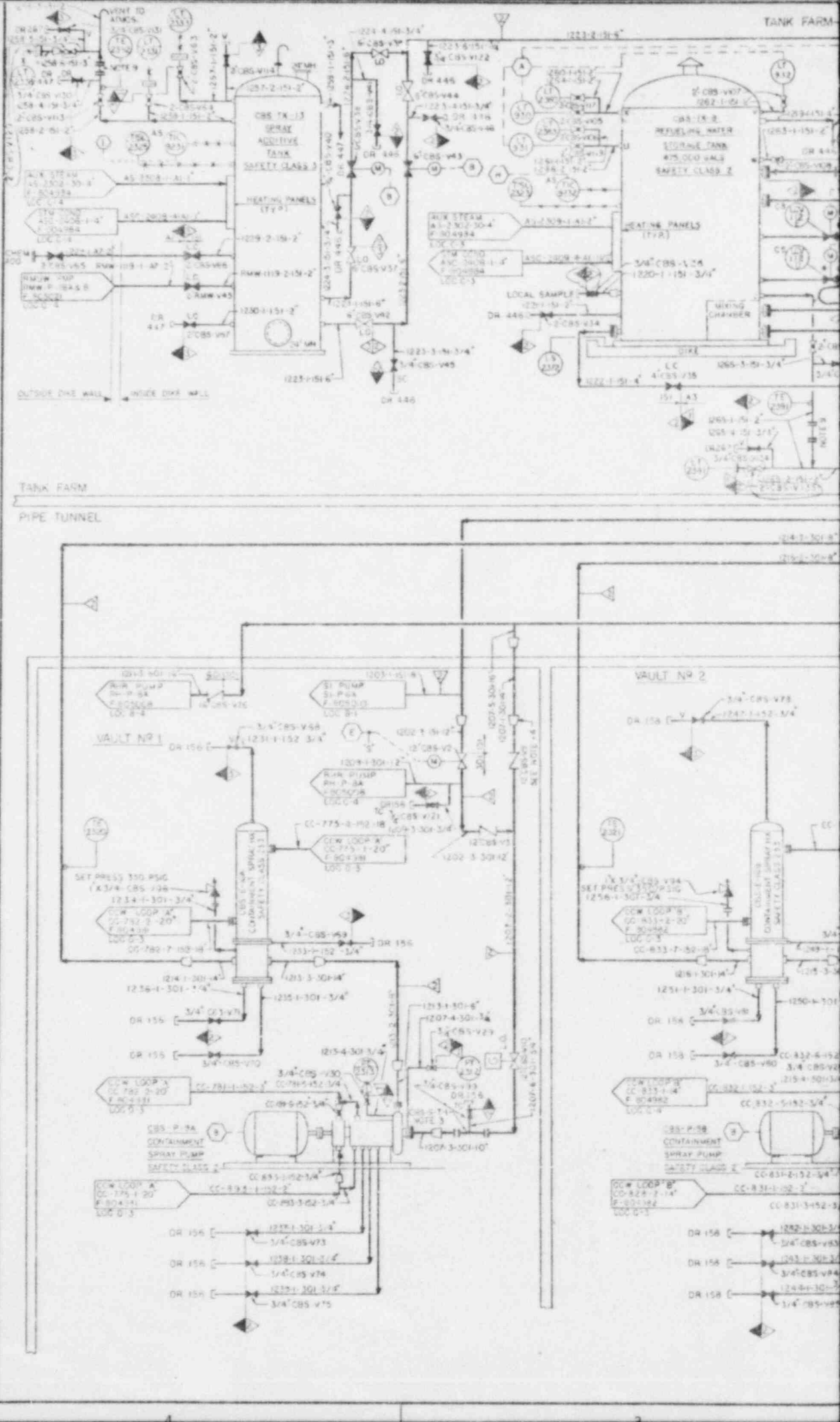
1. PIPE TO BE TERMINATED OUTSIDE THE CONTAINMENT IN THE 21'-6" ELEVATION ONE NEAR EACH AZIMUTH AT HOUSTON.
2. PIPE TO BE EXTENDED INSIDE CONTAINMENT 180° FROM PENETRATION AND TERMINATE ON THE 19'-6" ELEVATION.
3. PIPE TO BE TERMINATED INSIDE THE CONTAINMENT ON THE 19'-6" ELEVATION NEAR THE PENETRATION USE BLIND FLANGE FOR TC. REMOVE FOR NORMAL OPERATION.
4. BLIND FLANGE WITH TC FITTING FOR PENETRATION L.O. TEST. REMOVE FOR NORMAL OPERATION.
5. HEAT TRACED TO 300°F.
6. PSS SAMPLE SUCTION LINES TO TERMINATE IN A 90° ELBOW WITH OPEN END POINTING DOWN.
7. EACH ORIFICE (WHILE BE CENTERED IN THE FILTER INLET OPENING AND LOCATED 9.0 ± 0.5 MM FROM THE FACE OF THE SCREEN.
8. SEE NOTES ON DRAWING 9763-F-8C5001.
9. PSWH TO SUPPLY SAMPLE VESSEL AND VALVE ONLY.
10. FOR PIPING SPECIFICATION 2508, SEE 9763-005-46-IC.

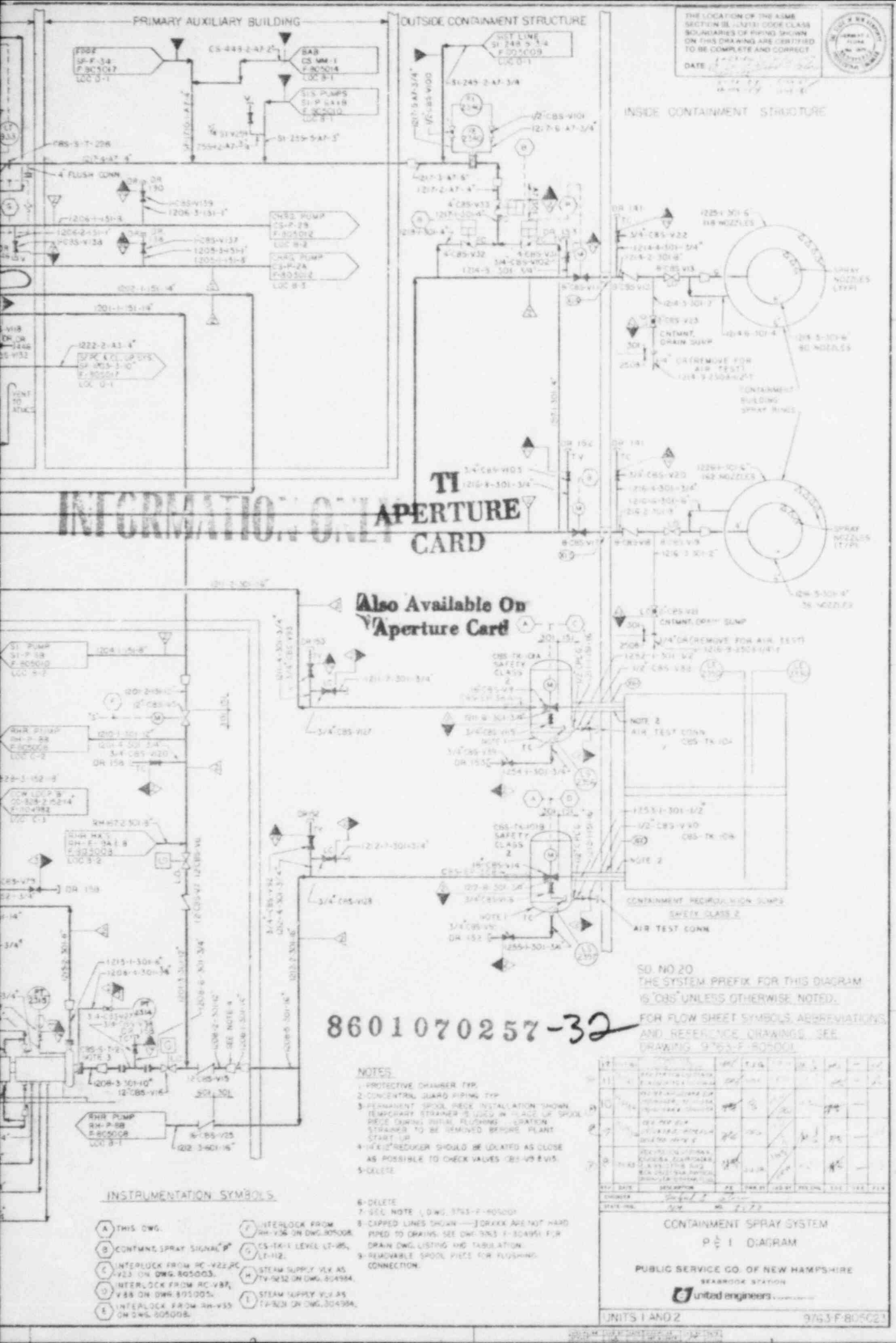
COMBUSTIBLE GAS CONTROL SYSTEM P&I DIAGRAM

PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
United Engineers

UNITS 1&2 9763-F-8C5022

THE LOCATION OF THE ASME SECTION III, NA2131 CODE CLASS BOUNDARIES OF PIPING SHOWN ON THIS DRAWING ARE CERTIFIED TO BE COMPLETE AND CORRECT.
DATE 8-11-79


TANK FARM
CBS TK-13
SPRAY
ADDITIVE
TANK
SAFETY CLASS 3
HEATING PANELS
(TYP)
CBS-TK-8
REFUELING WATER
STORAGE TANK
875,000 GALS
SAFETY CLASS 2
HEATING PANELS
(TYP)
LOCAL SAMPLE
MIXING
CHAMBER
DIKE
OUTSIDE DIKE WALL
INSIDE DIKE WALL
TANK FARM
PIPE TUNNEL
VAULT NO 1
VAULT NO 2
CCW LOOP A
CCW LOOP B
CBS-P-9A
CONTAINMENT
SPRAY PUMP
SAFETY CLASS 2
CBS-P-9B
CONTAINMENT
SPRAY PUMP
SAFETY CLASS 2
SET PRESS 350 PSIG



8601070257-32

SD. NO 20
THE SYSTEM PREFIX FOR THIS DIAGRAM IS "CBS" UNLESS OTHERWISE NOTED.

FOR FLOW SHEET SYMBOLS, ABBREVIATIONS AND REFERENCE DRAWINGS, SEE DRAWING 9763-F-805001.

NOTES:
1. PROTECTIVE CHAMBER TYP.
2. CONCENTRIC GUARD PIPING TYP.
3. PERMANENT SPOOL PIECE INSTALLATION SHOWN. TEMPORARY STRAINER IS USED IN LIEU OF SPOOL PIECE DURING INITIAL FLUSHING. LOCATION STRAINER TO BE REMOVED BEFORE PLANT START UP.
4. 14"x12" REDUCER SHOULD BE LOCATED AS CLOSE AS POSSIBLE TO CHECK VALVES CBS-V9 & V15.
5. DELETE.
6. DELETE.
7. SEE NOTE 1, DWG. 9763-F-805001.
8. CAPPED LINES SHOWN ——||OR XXX ARE NOT HARD PIPED TO DRAWG. SEE DWG 9763-F-804951 FOR DRAIN DWG. LISTING AND TABULATION.
9. REMOVABLE SPOOL PIECE FOR FLUSHING CONNECTION.

INSTRUMENTATION SYMBOLS

(A) THIS DWG.
(B) CONTMNT. SPRAY SIGNAL "B"
(C) INTERLOCK FROM RC-V22,RC-V23 ON DWG. 805003.
(D) INTERLOCK FROM RC-V87, V88 ON DWG. 805005.
(E) INTERLOCK FROM RH-V35 ON DWG. 805008.
(F) INTERLOCK FROM RH-V36 ON DWG. 805008.
(G) CS-TK-1 LEVEL LT-185, LT-112.
(H) STEAM SUPPLY VLV. AS TV-9232 ON DWG. 804984.
(I) STEAM SUPPLY VLV. AS TV-9231 ON DWG. 804984.

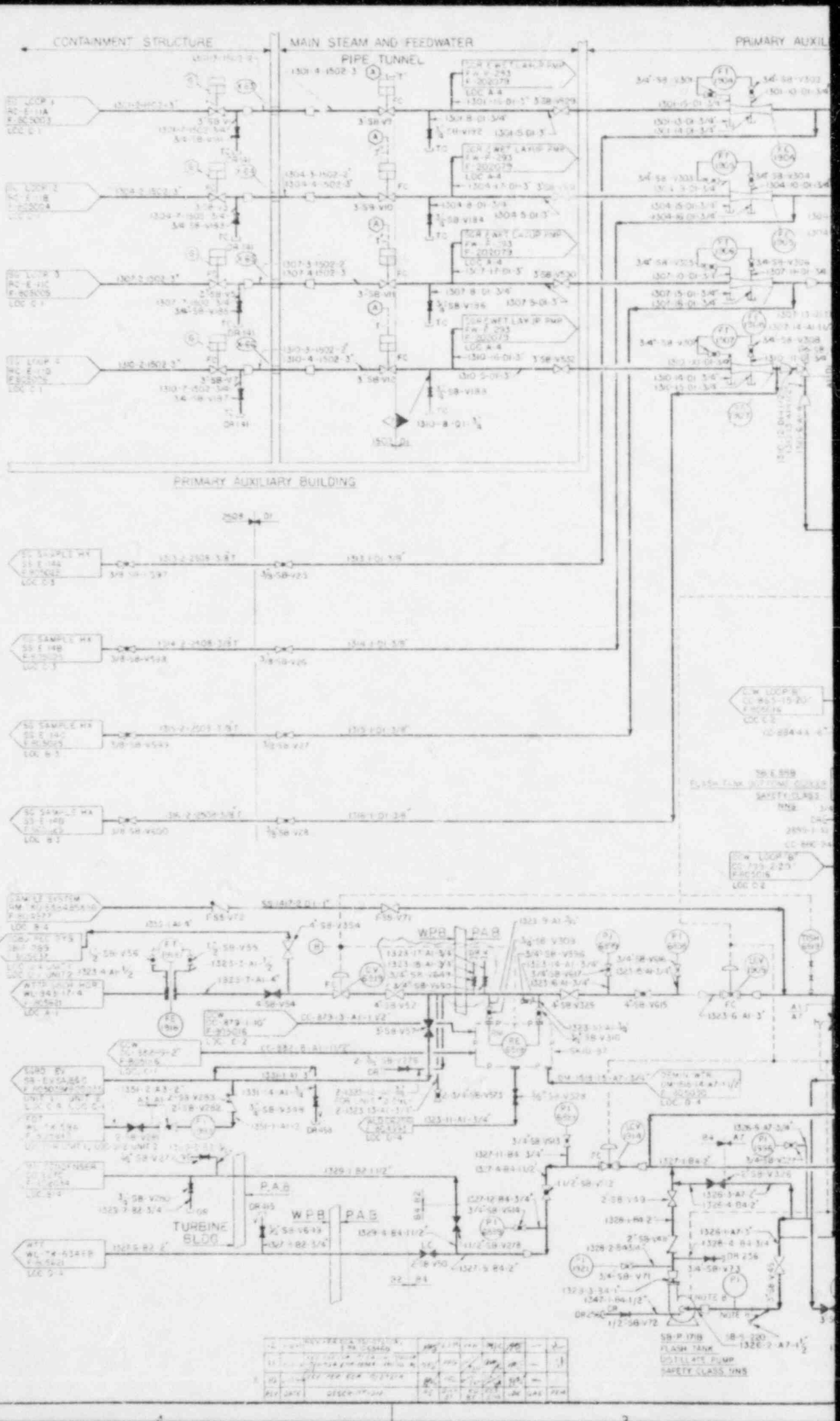
REV	DATE	DESCRIPTION	BY	CHK BY	APP BY	PROJ ENG	QAE	QAE	PLN

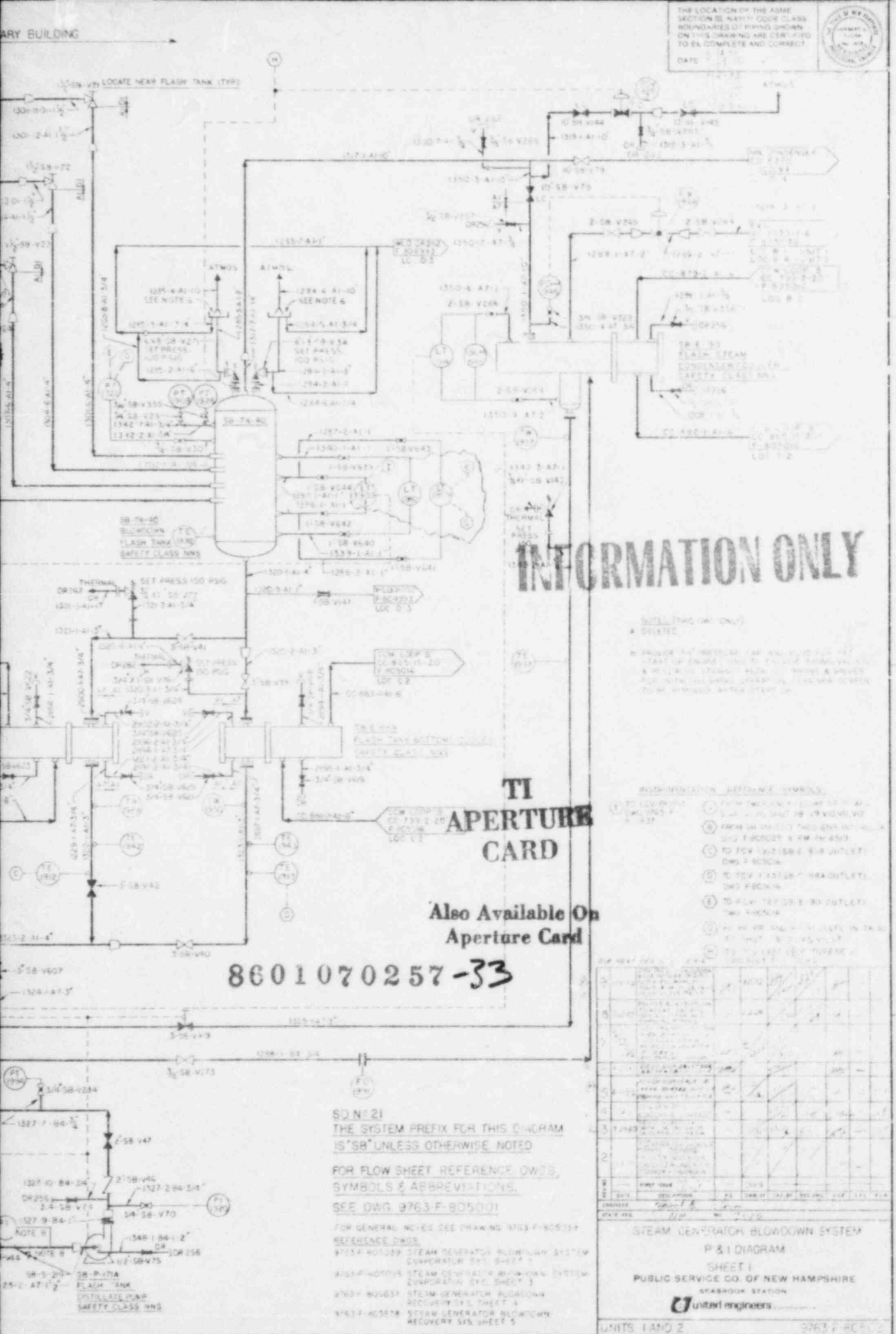
ENGINEER — STATE REG. — SCALE — NO. 2172

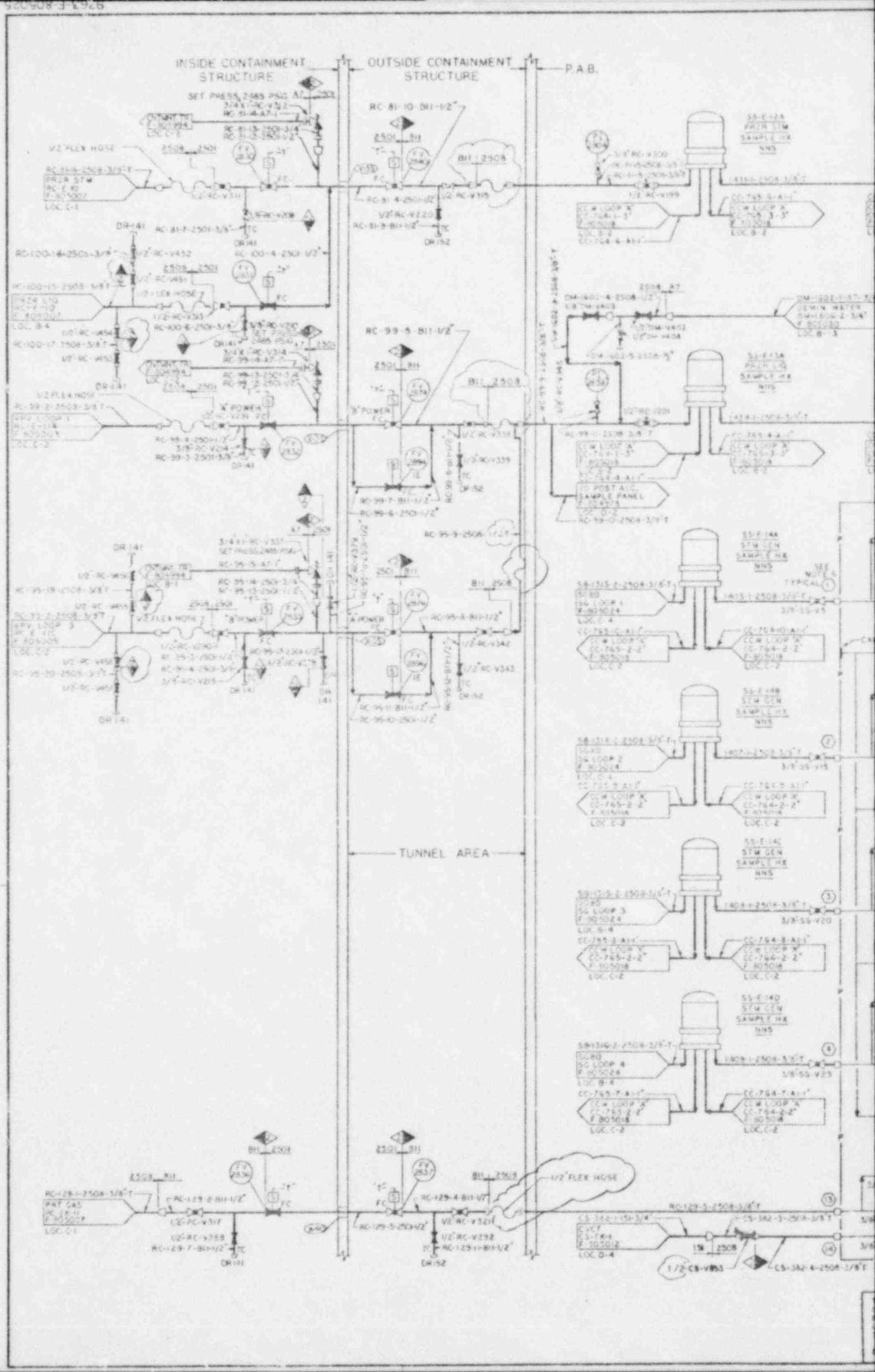
CONTAINMENT SPRAY SYSTEM
P & I DIAGRAM

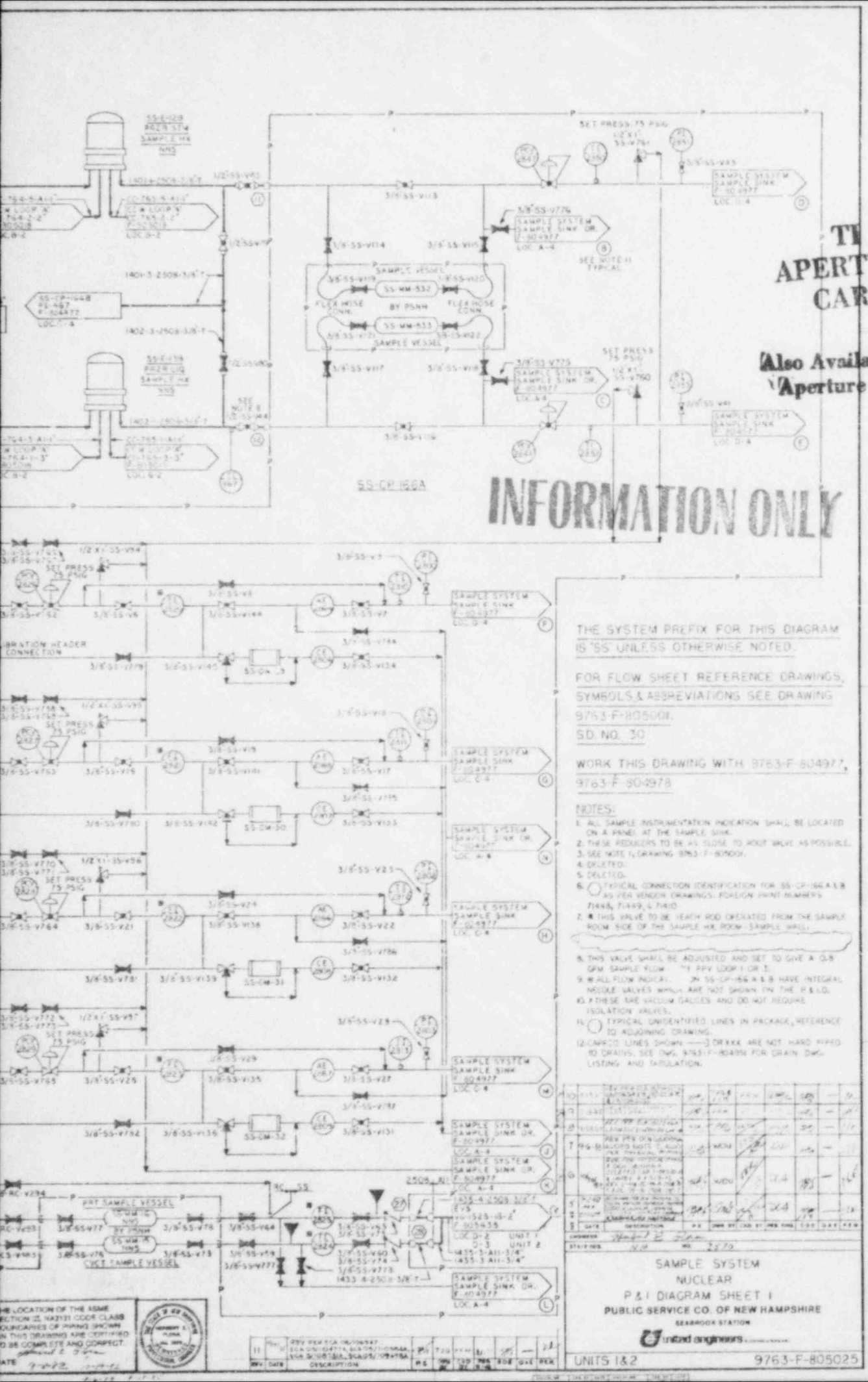
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
united engineers

UNITS 1 AND 2 — 9763-F-805023


CONTAINMENT STRUCTURE
MAIN STEAM AND FEEDWATER
PIPE TUNNEL
PRIMARY AUXIL
PRIMARY AUXILIARY BUILDING
WPB
PAB
TURBINE BLDG
SB-P 17B
FLASH TANK
DISTILATE PUMP
SAFETY CLASS 3NS


ARY BUILDING
LOCATE NEAR FLASH TANK (TYP)
SEE NOTE 6
SET PRESS 100 PSIG
SET PRESS 150 PSIG
SB-TK-90
BLOWDOWN FLASH TANK
SAFETY CLASS NNS
SB-P-1A
BLOWDOWN FLASH TANK BOTTOM DRAIN
SAFETY CLASS NNS
SB-P-1A
BLOWDOWN FLASH TANK DISTILLATE PUMP
SAFETY CLASS NNS
SB-E-30
FLASH STEAM CONDENSER
SAFETY CLASS NNS
ATMOS
THE LOCATION OF THE ASME SECTION III, NAVY CODE CLASS BOUNDARIES OF PIPING SHOWN ON THIS DRAWING ARE CERTIFIED TO BE COMPLETE AND CORRECT
DATE
INFORMATION ONLY
TI APERTURE CARD
Also Available On Aperture Card
8601070257-33
SQN: 21
THE SYSTEM PREFIX FOR THIS DIAGRAM IS "SB" UNLESS OTHERWISE NOTED
FOR FLOW SHEET REFERENCE DWGS, SYMBOLS & ABBREVIATIONS, SEE DWG 9763-F-805001
FOR GENERAL NOTES SEE DRAWING 9763-F-805359
REFERENCE DWGS
9763-F-805339 STEAM GENERATOR BLOWDOWN SYSTEM EVAPORATOR SYS SHEET 1
9763-F-805340 STEAM GENERATOR BLOWDOWN SYSTEM EVAPORATOR SYS SHEET 3
9763-F-805657 STEAM GENERATOR BLOWDOWN RECOVERY SYS SHEET 4
9763-F-805658 STEAM GENERATOR BLOWDOWN RECOVERY SYS SHEET 5
STEAM GENERATOR BLOWDOWN SYSTEM
P & I DIAGRAM
SHEET 1
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
United Engineers
UNITS 1 AND 2
9763-F-805001


INSIDE CONTAINMENT STRUCTURE
OUTSIDE CONTAINMENT STRUCTURE
P.A.B.
TUNNEL AREA
SET PRESS 2485 PSIG
A7
2503
2501
2508
2504
DR 141
DR 152
DR 151
A POWER
B POWER
1/2" FLEX HOSE
PRZR STM SAMPLE HX
STM GEN SAMPLE HX
POST ACC SAMPLE PANEL
SEE NOTE 5 TYPICAL
CCW LOOP A
CCW LOOP B
CCW LOOP X
CCW LOOP Y
LOC. C-2
LOC. C-1
LOC. B-4
LOC. D-4



THE SYSTEM PREFIX FOR THIS DIAGRAM IS "SS" UNLESS OTHERWISE NOTED.

FOR FLOW SHEET REFERENCE DRAWINGS, SYMBOLS & ABBREVIATIONS SEE DRAWING 9763-F-805001.
S.D. NO. 30

WORK THIS DRAWING WITH 9763-F-804977, 9763-F-804978

NOTES:

1. ALL SAMPLE INSTRUMENTATION INDICATION SHALL BE LOCATED ON A PANEL AT THE SAMPLE SINK.
2. THESE REDUCERS TO BE AS CLOSE TO ROOT VALVE AS POSSIBLE.
3. SEE NOTE 1, DRAWING 9763-F-805001.
4. DELETED.
5. DELETED.
6. ◯ TYPICAL CONNECTION IDENTIFICATION FOR SS-CP-166 A & B AS PER VENDOR DRAWINGS. POSITION PAINT NUMBERS 71448, 71449, & 71410.
7. ⊗ THIS VALVE TO BE LEACH ROD OPERATED FROM THE SAMPLE ROOM SIDE OF THE SAMPLE HX ROOM - SAMPLE SHALL
8. THIS VALVE SHALL BE ADJUSTED AND SET TO GIVE A 0.8 GPM SAMPLE FLOW ⊗1 PPV LOOP 1 OR 2.
9. ⊗ ALL FLOW INDICAT... ON SS-CP-166 A & B HAVE INTEGRAL NEEDLE VALVES WHICH ARE NOT SHOWN ON THE P & I.D.
10. ⊗ THESE ARE VACUUM GAUGES AND DO NOT REQUIRE ISOLATION VALVES.
11. ◯ TYPICAL UNIDENTIFIED LINES IN PACKAGE, REFERENCE TO ADJOINING DRAWING.
12. CAPPED LINES SHOWN ——○ OR XXX ARE NOT HARD PIPED TO DRAINS. SEE DWG. 9763-F-804994 FOR DRAIN DWG. LISTING AND TABULATION.

NO	DATE	DESCRIPTION	P.E.	DRWN BY	CHK BY	PROJ ENG	CUST	QAE	P.E.N.
11		PPV PER ECA 06/06/84							
10									
9									
8									
7	7-6-84	PPV PER ECN 06/06/84 ADDED NOTE 8 ADDED SS-MM-534		MDN				—	
6				MDN				—	
5									
4									
3									
2									
1									

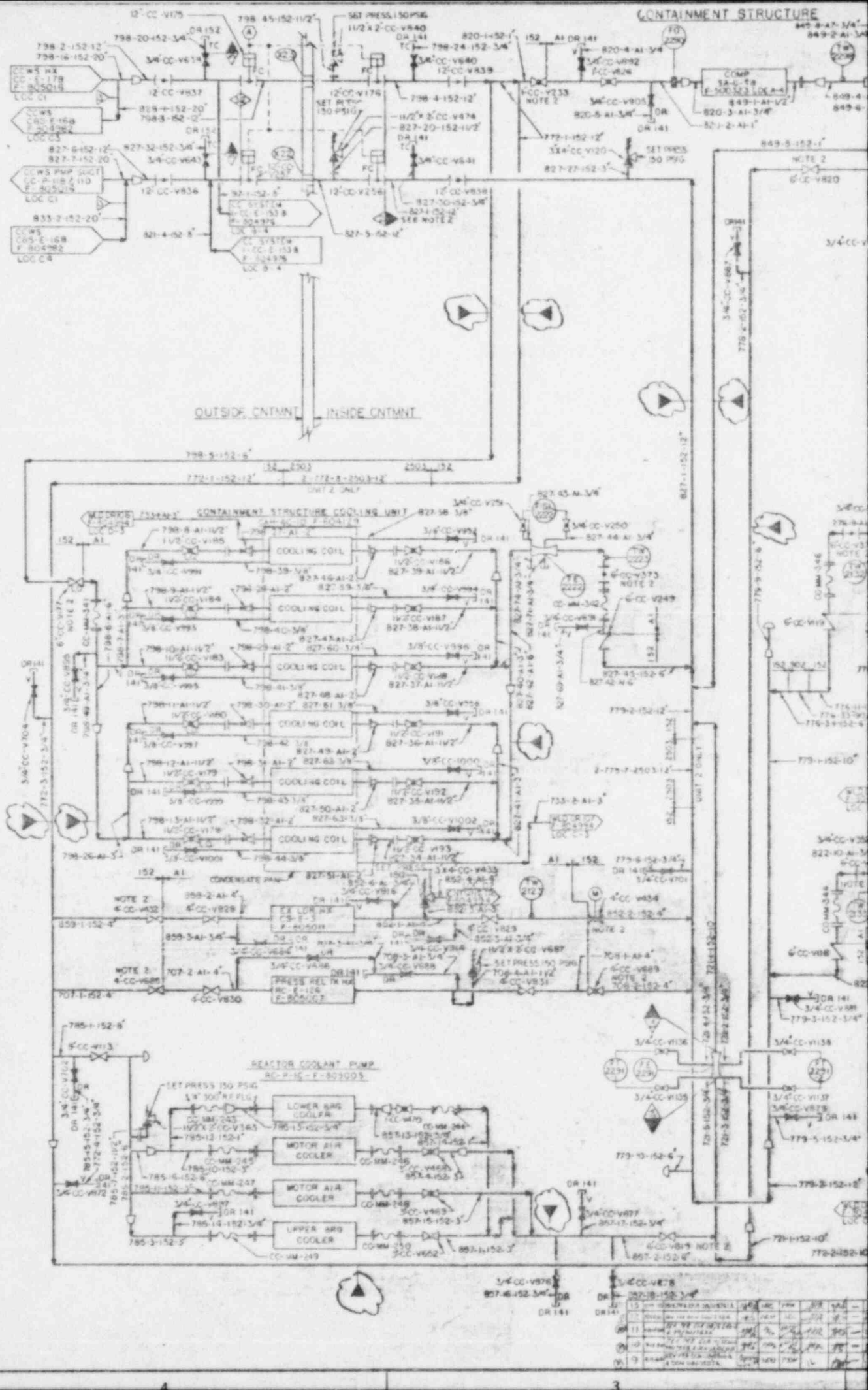
CUSTOMER
STATIONS NH NO. 2270

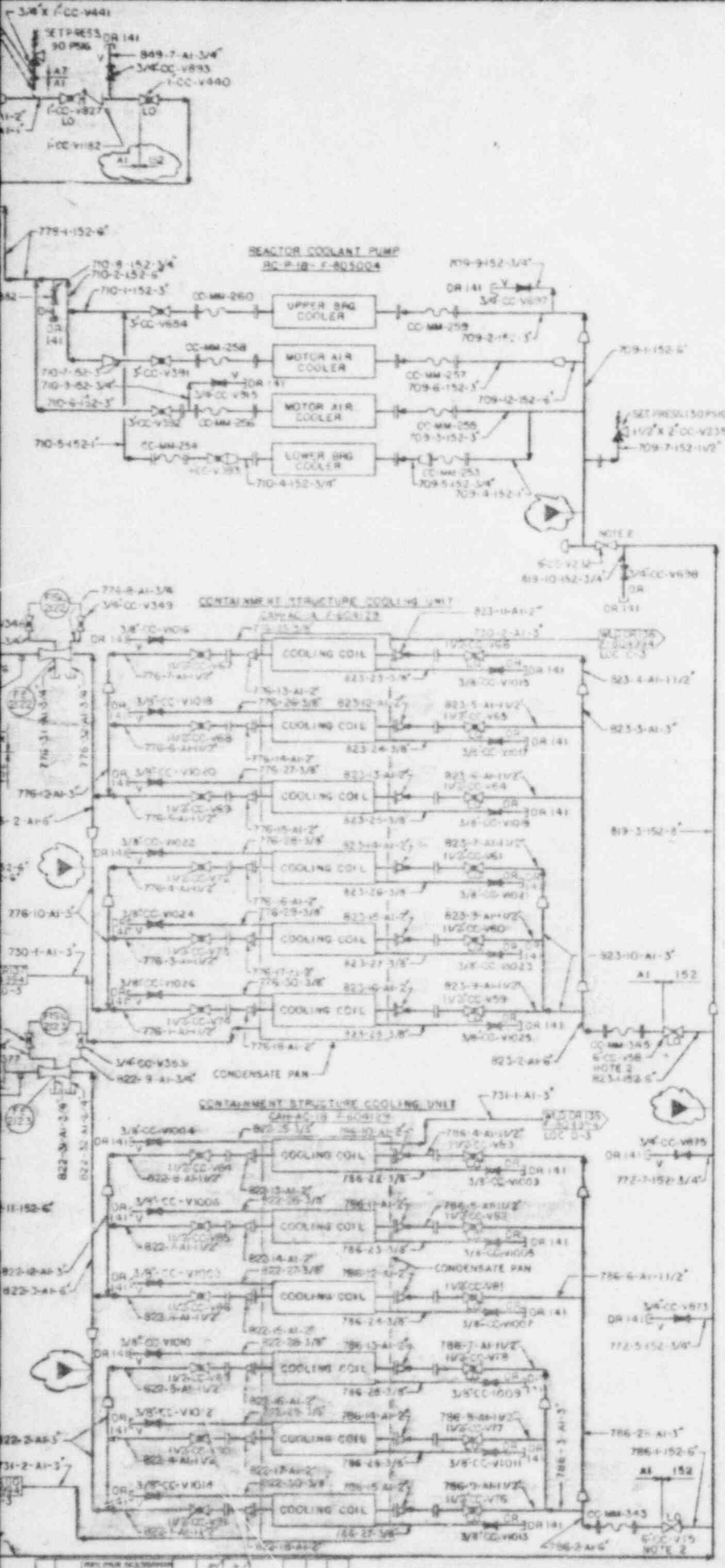
SAMPLE SYSTEM
NUCLEAR
P & I DIAGRAM SHEET 1
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
United engineers

UNITS 1&2 9763-F-805025

THE LOCATION OF THE ASME SECTION III, NA2131 CODE CLASS BOUNDARIES OF PIPING SHOWN IN THIS DRAWING ARE CERTIFIED TO BE COMPLETE AND CORRECT.
DATE 7-6-84

8607020257-3


CONTAINMENT STRUCTURE
OUTSIDE CNTMNT
INSIDE CNTMNT
CONTAINMENT STRUCTURE COOLING UNIT
COOLING COIL
COOLING COIL
COOLING COIL
COOLING COIL
COOLING COIL
COOLING COIL
CONDENSATE PAN
REACTOR COOLANT PUMP
RC-P-1C - F-803005
LOWER BRG COOLER
MOTOR AIR COOLER
MOTOR AIR COOLER
UPPER BRG COOLER
SET PRESS 150 PSIG
SET PRESS 150 PSIG
SET PRESS 150 PSIG
SET PRESS 150 PSIG
SEE NOTE 2
NOTE 2
UNIT 2 ONLY



INFORMATION ONLY

TI APERTURE CARD

Also Available On Aperture Card

THE SYSTEM PREFIX FOR THIS DWG IS "CC" EXCEPT WHERE OTHERWISE NOTED.

SD № 23

FOR GENERAL NOTES SEE DWG F-805016

INSTRUMENT REFERENCES

- (A) CLOSE ON "P" SIGNAL OR HEAD TK-13B LOW LOW LEVEL SIGNAL
- (B) FROM BRS-PT-3A (F-805615)
- (C) BRS-TE-7A
- (D) BRS-TE-15A
- (E) SB-PT-3A (F-805039)
- (F) SB-TE-7A
- (G) SB-TE-15A
- (H) SB-PT-3C (F-805035)
- (I) SB-TE-7C
- (J) SB-TE-15C

WORK THIS DRAWING WITH 9763 F-805016 SHEET 1 AND 9763 F-805042 SHEET 3

NOTE:

1. MATERIAL FOR CAN-AC-1A 1B AND 1D COOLING COIL VENTS AND DRAINS TO BE AS DETERMINED ON PHYSICAL PIPING DRAWINGS.
2. PORTION SYSTEM HAS BEEN DOWNGRADED, HOWEVER PIPING SPECIFICATION HAS BEEN MAINTAINED TO SAFETY CLASS NOMENCLATURE. SOME COMPONENTS WITHIN THE NEW BOUNDRY HAVE BEEN PROCURED TO SAFETY CLASS 3 REQUIREMENTS, BUT USED IN NNS SERVICE.

8601070257-35

THE LOCATION OF THE ASME SECTION III, NA-3131 CODE CLASS BOUNDARIES OF PIPING SHOWN ON THIS DRAWING ARE CERTIFIED TO BE COMPLETE AND CORRECT.

DATE 1-23-81

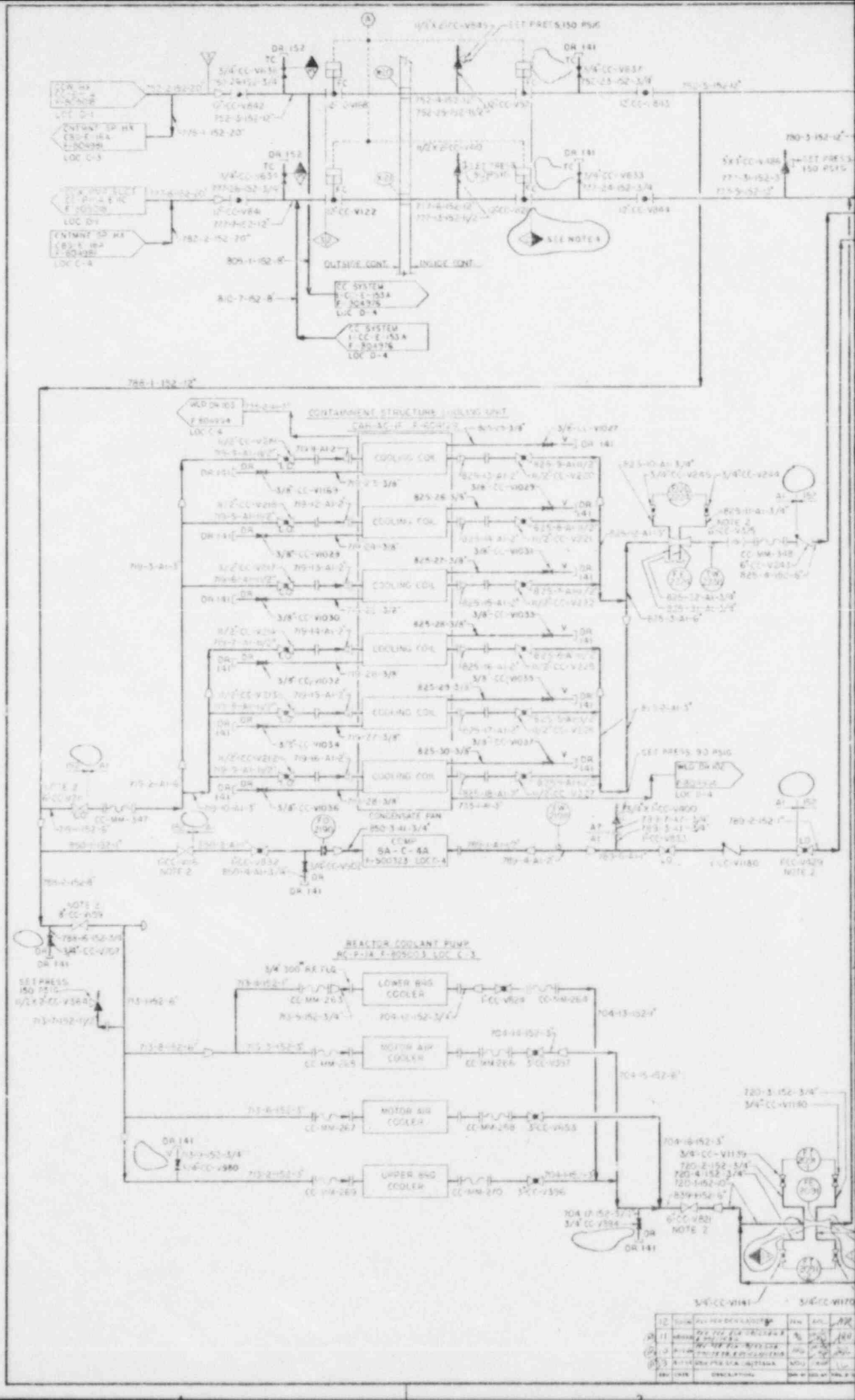
ENGINEER

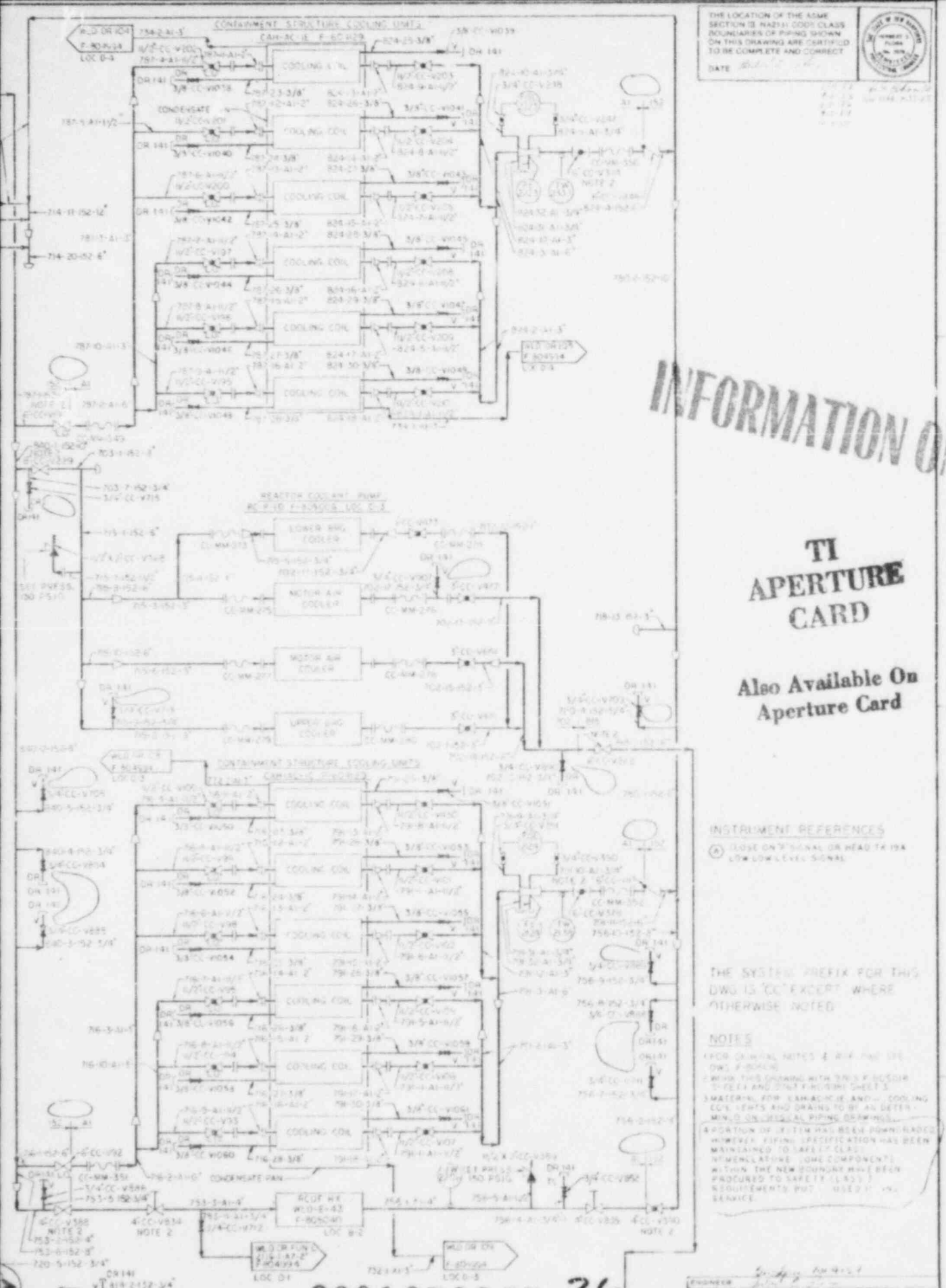
STATE REG. NO.

PRIMARY COMPONENT COOLING WATER
LOOP 'B' SHEET 2
P&I DIAGRAM

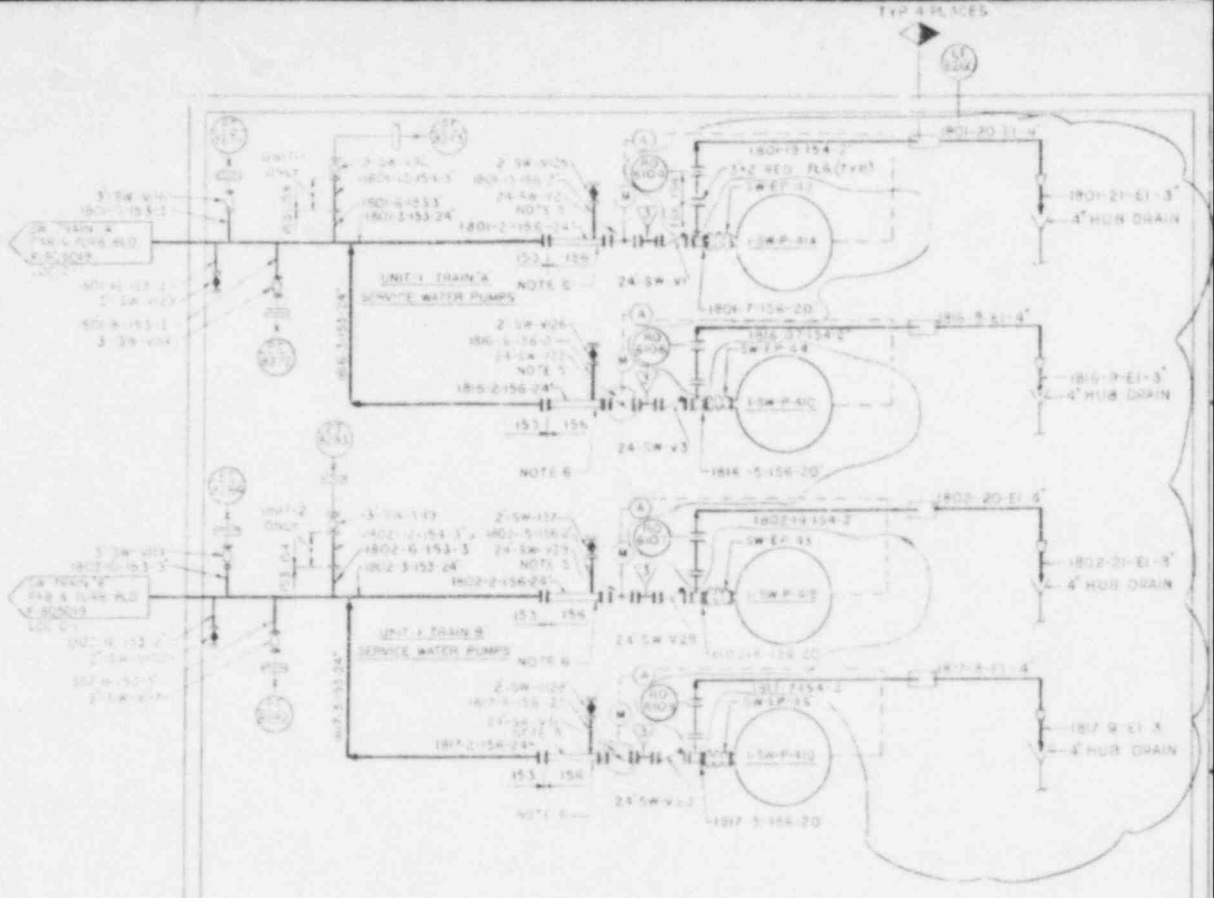
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
United engineers

UNITS 1 AND 2 9763-F-805028


CONTAINMENT STRUCTURE COOLING UNIT
COOLING COIL
COOLING COIL
COOLING COIL
COOLING COIL
COOLING COIL
COOLING COIL
CONDENSATE FAN
COMP SA-C-4A
REACTOR COOLANT PUMP
LOWER BAG COOLER
MOTOR AIR COOLER
MOTOR AIR COOLER
UPPER BAG COOLER
SEE NOTE 4
OUTSIDE CONT.
INSIDE CONT.
SET PRESS 150 PSIG
SET PRESS 90 PSIG

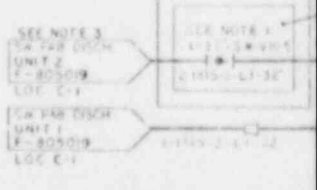


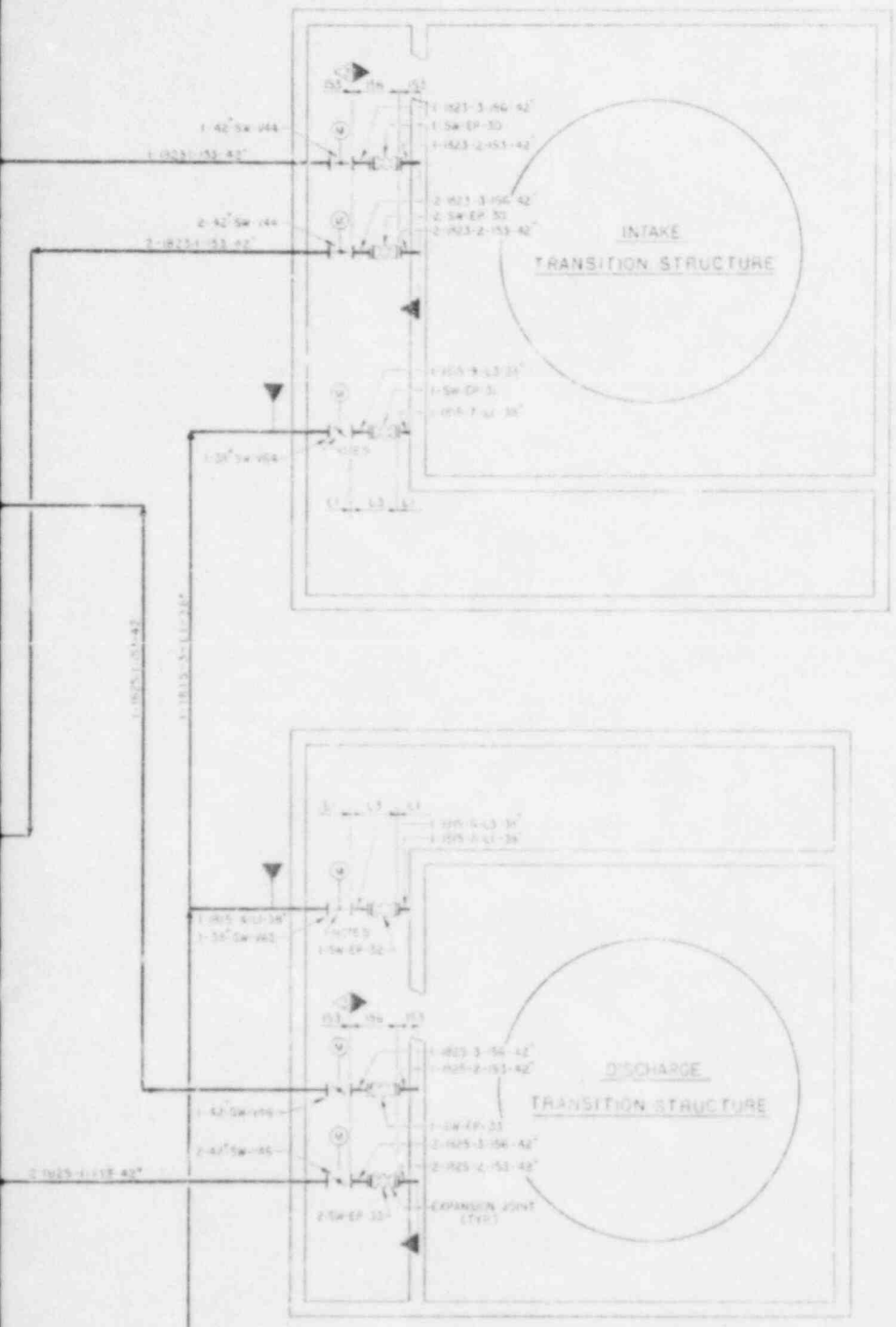
8601070257-36



SAME AS UNIT 1

SERVICE WATER PUMP HOUSE UNIT-2





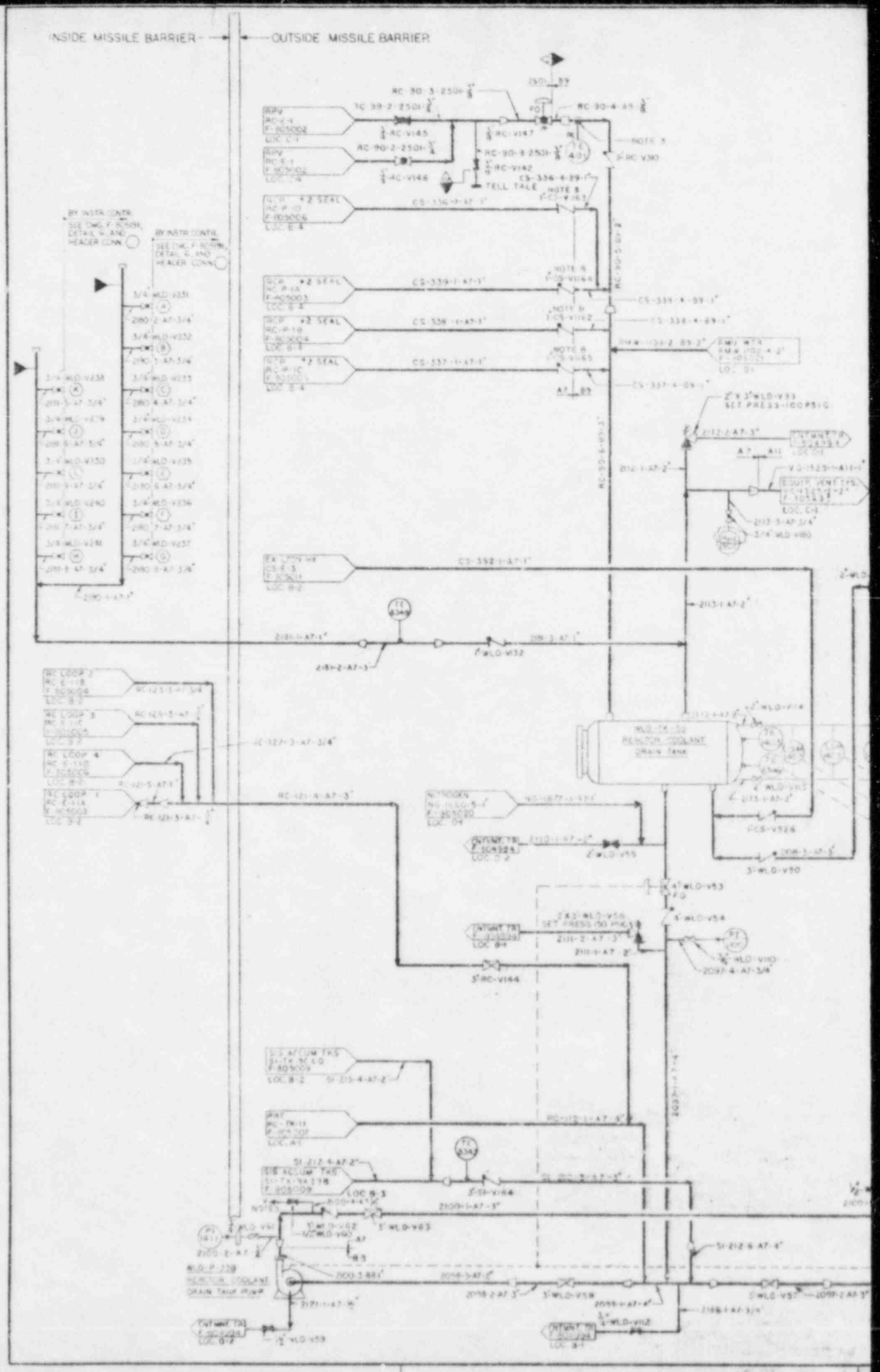
SD Nº 24

THE SYSTEM PREFIX FOR THIS DIAGRAM IS "SW" UNLESS OTHERWISE NOTED

FOR GENERAL NOTES & REFERENCE DRAWINGS SEE DWG. 9763.7-SD-1A

SERVICE WATER SYSTEM
NUCLEAR
P&I DIAGRAM SHEET 1
PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
United Engineers

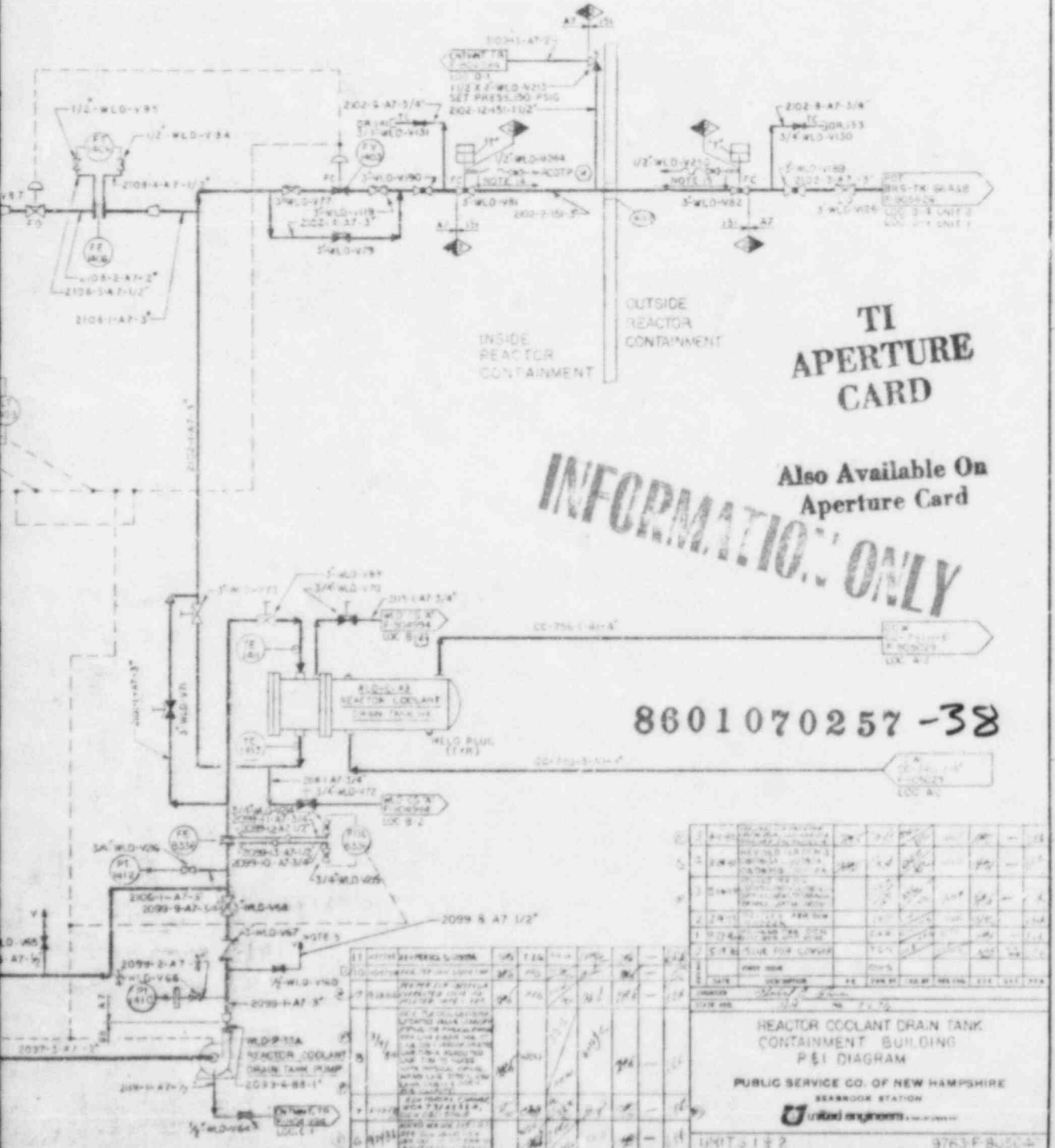
UNITS 1 AND 2


INSIDE MISSILE BARRIER
OUTSIDE MISSILE BARRIER
REACTOR COOLANT DRAIN TANK
REACTOR COOLANT DRAIN TANK PUMP
NOTE 5
NOTE 6
TELL TALE

THE LOCATION OF THE ASME SECTION III, NA2131 CODE CLASS BOUNDARIES OF PIPING SHOWN ON THIS DRAWING ARE CERTIFIED TO BE COMPLETE AND CORRECT.

DATE 5-11-79

CO NO 25
THE SYSTEM PREFIX FOR THIS DIAGRAM IS "WLD" UNLESS OTHERWISE NOTED.
FOR REFERENCE DRAWINGS & NOTES SEE DWG. 9763-F-804992

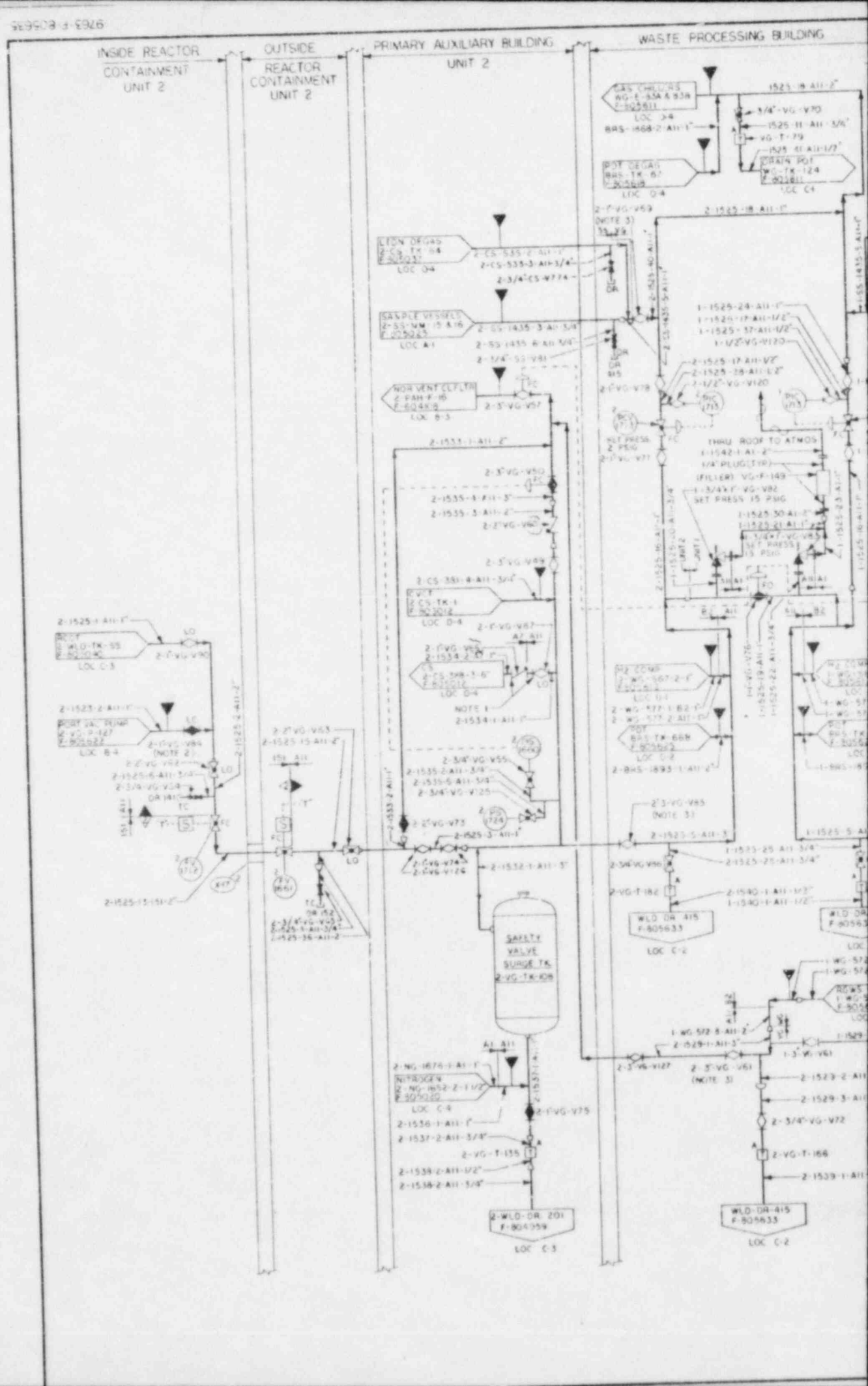


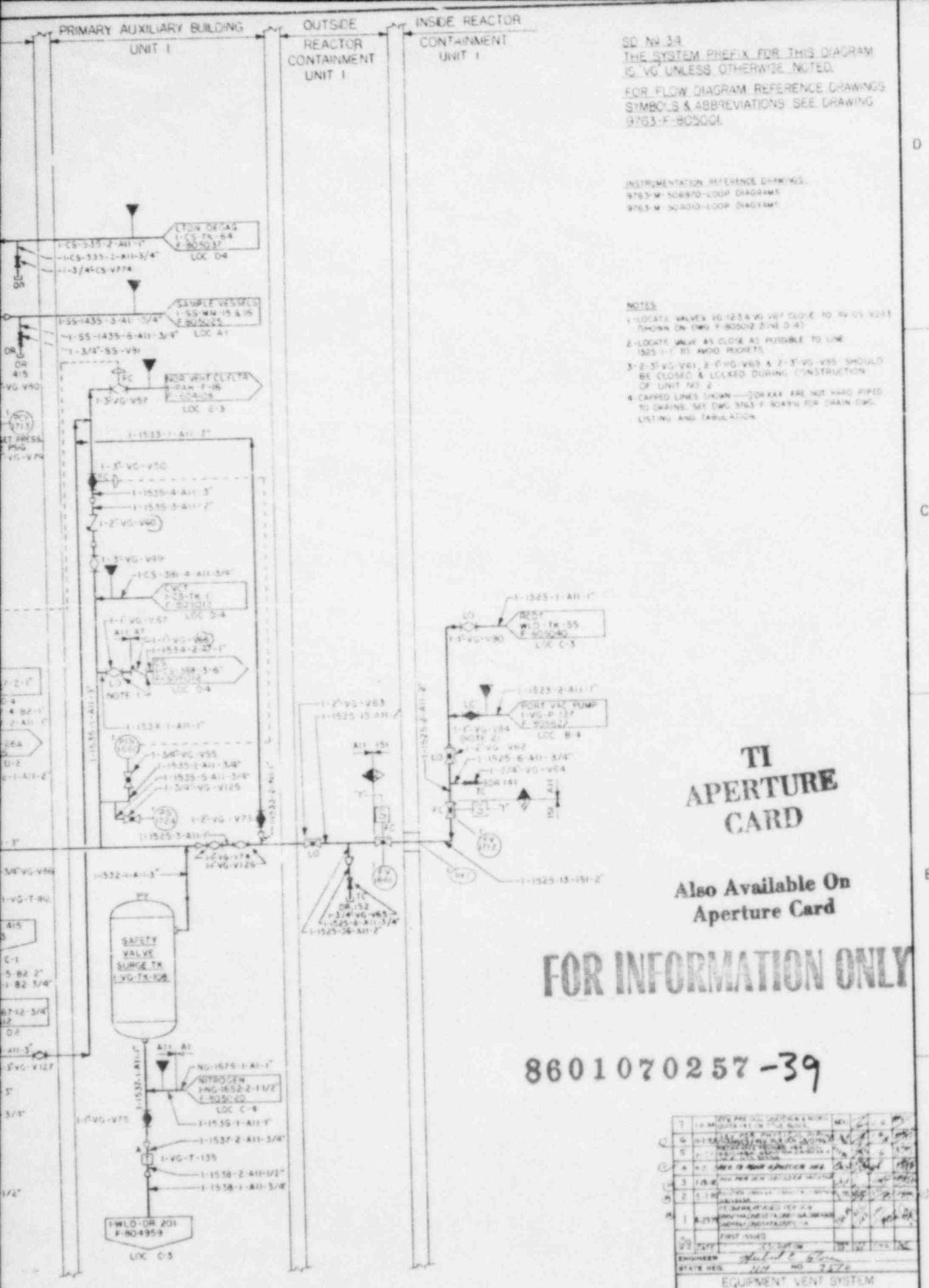
REACTOR COOLANT DRAIN TANK
CONTAINMENT BUILDING
P&I DIAGRAM

PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
United engineers

UNIT 1 OF 2

9763-F-804994


INSIDE REACTOR CONTAINMENT UNIT 2
OUTSIDE REACTOR CONTAINMENT UNIT 2
PRIMARY AUXILIARY BUILDING UNIT 2
WASTE PROCESSING BUILDING
SAFETY VALVE SURGE TK 2-VG-TK-109
2-WLD-DR-201 F-804359
WLD-DR-415 F-805633
NITROGEN 2-NG-1652-2-1 1/2" F-805260
LOC C-4
LOC C-3
LOC C-2
LOC C-1
LOC D-4
LOC D-3
LOC B-4
LOC B-3
LOC A-1



EQUIPMENT VENT SYSTEM
HYDROGENATED VENT HEADER
P&I DIAGRAM

PUBLIC SERVICE CO. OF NEW HAMPSHIRE
SEABROOK STATION
United engineers

(UNITS 1 & 2) 9763-F-805835

THE LOCATION OF THE ASME SECTION III, NA&131 CODE CLASS BOUNDARIES OF PIPING SHOWN ON THIS DRAWING ARE CERTIFIED TO BE COMPLETE AND CORRECT.
DATE 4-27-79

OVERSIZE DOCUMENT PAGE PULLED

SEE APERTURE CARDS

NUMBER OF PAGES: 1

ACCESSION NUMBER(S):

8601070261

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