

ASME SECTION XI VALVE TEST PROGRAM

2ND TEN YEAR INSPECTION INTERVAL

FOR THE D. C. COOK NUCLEAR POWER STATION UNIT NO. 2

Revision No: 2

Date: 8-31-87

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ASME SECTION XI VALVE TEST PROGRAM
2ND TEN YEAR INSPECTION INTERVAL
FOR THE D. C. COOK NUCLEAR POWER STATION UNIT NO. 2

INTRODUCTION

Revision No: 2

Figure - 1

Date: 8-31-87

1. Valve Testing Program

- A. The valve test program shall be conducted in accordance with Subsection IWV of Section XI of the 1983 edition of the ASME Boiler and Pressure Vessel Code through Summer 1983 Addenda, except for specific relief requests which are identified in the Valve Summary Sheet. | 2
- B. The valve test program is applicable for the second 10 year inspection interval which commences on July 1, 1986.
- C. The valve test program was developed employing the classification guidelines contained in 10 CFR 50.2(v) for Quality Group A and Regulatory Guide 1.26, Revision 3 for Quality Groups B and C. (Quality Group A is the same as ASME Class 1, Group B is 2, and Group C is 3). NRC staff guidance was provided by memorandum dated January 16, 1978.
- D. Figure 2 identifies the systems flow diagrams which were used to develop this valve test program.

Valve Summary Sheets contain the following:

- * System Name: Name of the system (e.g., Main Steam)
- * Flow Diagram: Unit Number - Flow diagram number - Revision Number (e.g., 2-5105B-42) | 2
- * Valve Number: Unique valve number (e.g., 2-DCR-310)
- * Revision Number: Any change of valve description, function or test requirement.

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* Valve Type: Type of valve, one of the following:

REL - Relief and Safety
CK - Check
BF - Butterfly
GA - Gate
GL - Globe
DA - Diaphragm
3W - Three-Way
ND - Needle
AG - Angle
BL - Ball
VB - Vacuum Breaker (Reverse Check Valve)

* Valve Size: Nominal valve size in inches

* Valve Actuator Type: Type of actuator, one of the following:

SA - Self Actuated (e.g., CK or REL)
MO - Motor Operated
A - Air Operated
M - Manual
PO - Pneumatic
SO - Solenoid Operated

* Flow Diagram Coordinates: Alpha/Numeric grid location of valve

* Valve position during normal plant operation or during performance of its safety function, one of the following:

O - Open
C - Closed
O/C - Open/Closed or vice versa

* Code Class: ASME Code class of valve, either 1, 2, or 3

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* Valve Status-A/P: Active or passive

* Category: Section XI, Category of valve, either A, B, C, or D, as defined in IWV-2200

NOTE: Combinations are possible (e.g., AC)

* Primary Test Req'd: Test required per Section XI

* Test Performed: Testing that will be performed

NOTE: Test nomenclature is explained in Figure 3

* Test Mode: One of the following:

P - Power Operation (Every 3 months when unit is at power)

C - Cold Shutdown (Testing will be performed at cold shutdown frequency) See Note "F"

R - Refueling (Testing will be performed at refueling outage frequency)

* Code Relief: Whether or not a code relief is being requested; will be one of the following:

NO - Valve is to be tested per code, no comments

NO, NOTE X - Valve is to be tested per code, but there are comments

YES, NOTE Y - Code relief is requested. Alternate testing is proposed in lieu of that required by code, the note explains why the code relief is requested.

E. Alternative testing is to be performed on a check valve as indicated under relief request notes in lieu of stroke testing required by Section XI, IWV-3521. It is accomplished by disassembly or radiography method as explained below:

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Figure - 1

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- a. Disassembly Method The valve bonnet is removed, the disc is manually full-stroke exercised, and the valve internals are visually inspected. The results of this test are documented.
- b. Radiography Method This method is used as an alternative testing method to determine the disc position under no flow or reverse flow conditions (i.e., valve seated). This, in conjunction with the full forward flow testing of the valve, can provide assurance that the disc was free to move from full-open position with the forward flow to the closed position with no flow or reverse flow conditions. The results of this test are documented.

The valve grouping for sample disassembly or radiography under alternative testing is done based on the following criteria:

1. valve type and design similarities
2. system design, flow, and service conditions
3. frequency of valve operation
4. manufacturer
5. size range (i.e. up to 2", 2-1/2" to 4", 4" and 6", 6" and 8", etc.)

The alternative testing to be performed for a particular valve is indicated on the valve summary sheets and relief request notes. This will be accomplished by selecting one representative valve from each group of valves during refueling outages. If the inspection results are unacceptable, all the valves in that group will be inspected.



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F. Conditions for Valve Testing During Cold Shutdowns

Cold shutdown testing of valves identified in the IST Program is acceptable when the following conditions are met:

1. Valve exercising need not be done more often than once every 3 months in case of frequent cold shutdowns.
2. The testing shall 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.
3. Completion of all valve testing is not a prerequisite to return to power. Any testing not completed during one cold shutdown should be performed during any subsequent cold shutdowns starting from the last test performed at the previous cold shutdown.
4. For planned cold shutdowns, where ample time is available and testing all the valves identified for the cold shutdown test frequency in the IST Program will be accomplished, exceptions to the 48 hours commencement of testing is allowed.

G. The following criteria have been used in developing limiting values of full-stroke time for the power operated valves:

- o Review of valve's design specification and/or manufacturer's test stroke times
- o Review of system response time requirements (Technical Specification, FSAR, etc.)
- o Valve's historical stroke time values at various system conditions

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Figure - 1

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Using the above criteria, the limiting stroke time for each valve is derived as follows:

1. Valve Stroke Time \leq 2 Seconds

<u>Historical Stroke Time Range in Seconds</u>	<u>Established Base Line on Curves in Seconds</u>	<u>Recommended Action Time (Limiting Stroke Time Values in Seconds)</u>
		Based Line Time x 2 + 1 Second = Recommended Action Time or Tech. Spec. Limit, whichever is less.
up to .74	0.5	= .5 x 2 + 1 = 2 Seconds
.75 to 1.24	1.0	= 1 x 2 + 1 = 3 Seconds
1.24 to 1.74	1.5	= 1.5 x 2 + 1 = 4 Seconds
1.75 to 2.49	2.0	= 2 x 2 + 1 = 5 Seconds

2. Valve Stroke Time - 2.5 to 10.49 Seconds

2.5 to 10.49	3 to 10	Base Line Time x 1.5 = Action Time
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Figure - 1

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3. Valve Stroke Time - 10.5 Seconds and Up

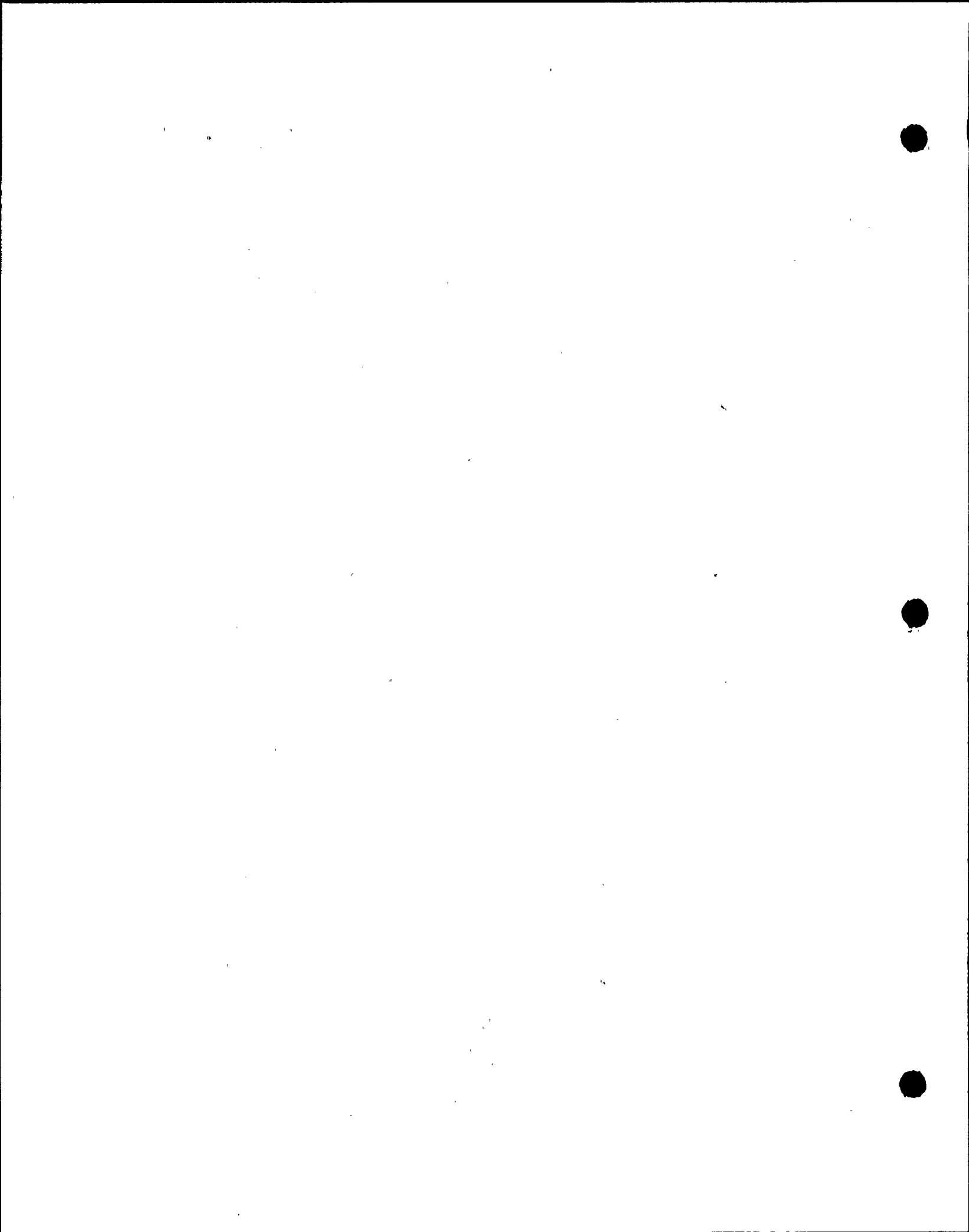
10.5 and Up

11.0 and Up

Base Line Time x 1.25 =
Action Time (or 15 seconds,
whichever is larger)

- H. Code relief is requested for timing tolerance and trending per paragraphs IWV-3413(b) and IWV-3417(a) for fast acting valves (those with the maximum limiting stroke times of five seconds or less, determined from historical stroke time values and/or valve design specification). The major influence in the stroke time testing of fast acting valves is the operator's response. Therefore, timing tolerances are influenced by operator action and trending is not indicative of valve performance. The fast acting valves have been identified as "ETF" and acceptance criteria has been defined in the program.

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 2ND TEN YEAR INSPECTION INTERVAL OF
 VALVE TEST PROGRAM FOR UNIT - 2
LIST OF DRAWINGS

Revision No: 2

Figure 2

Date: 8-31-87

<u>NO.</u>	<u>SYSTEM</u>	<u>FLOW DIAGRAM NO.</u>	<u>REVISION</u>
	Main Steam	2-5105B	42
	Steam Generating System	2-5105D	2
	Feedwater	2-5106	34
	Feedwater (Auxiliary)	2-5106A	41
	Essential Service Water	2-5113	36
	Non-Essential Service Water	2-5114A	27
	Station Drainage Containment	2-5124	20
	Reactor Coolant	2-5128	19
	Reactor Coolant	2-5128A	34
	CVCS-Reactor Letdown & Charging	2-5129	32
		2-5129A	20
	Component Cooling	2-5135	34
	Component Cooling	2-5135A	30
	Component Cooling	2-5135B	14
	Nuclear Sampling	2-5141	27
	Nuclear Sampling	2-5141A	30
	Post Accident Sampling-Containment Hydrogen	2-5141D	8
	Emergency Core Cooling (SIS)	2-5142	28

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 VALVE TEST PROGRAM FOR UNIT - 2

LIST OF DRAWINGS

Revision No: 2

Figure 2

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<u>SYSTEM</u>	<u>FLOW DIAGRAM NO.</u>	<u>REVISION NO.</u>
Emergency Core Cooling (RHR)	2-5143	35
Containment Spray	2-5144	29
Containment Penetration & Weld Channel Pressurization	2-5145	20
Ice Condenser Refrigeration	2-5146B	23
Containment Ventilation	2-5147A	35
Control Room Ventilation	2-5149	23
Emergency Diesel Generator	2-5151A	26
Emergency Diesel Generator	2-5151B	27
Emergency Diesel Generator	2-5151C	26
Emergency Diesel Generator	2-5151D	27
Make-Up Water & Primary Water System	12-5115A	41
Compressed Air System	12-5120B	22
CVCS-Boron Makeup	12-5131	19
Spent Fuel Pit Cooling & Clean-Up	12-5136	25
WDS Vents & Drains	12-5137A	21
Post Accident Liquid & Gas Sampling	12-5141C	8
Post Accident Liquid Sampling Inst. Panels	12-5141F	6

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DONALD C. COOK NUCLEAR PLANT
 NOMENCLATURE FOR TEST METHOD
 USED IN COLUMNS FOR PRIMARY TEST REQUIRED AND
 TEST PERFORMED UNDER ASME SECTION XI

Revision No: 2
 Date: 8-31-87

Figure 3

<u>1) CATEGORY A-B VALVES</u>		<u>ASME CODE SECTION XI PARAGRAPH</u>
EF-1	Exercise valve (full stroke) for operability every 3 months.	(IWV-3411)
EF-2	Exercise valve (full stroke) for operability at a cold shutdown or refueling outage frequency as indicated. Code relief requests are provided in the flow diagram notes.	(Code Relief Requested)
EF-3	Exercise valve (part stroke) for operability during operation; Exercise (full stroke) at a cold shutdown or refueling outage frequency as indicated. Justification for exercising the valve during cold shutdowns is provided in the flow diagram notes. Code relief request is provided if full stroke test is deferred to coincide with refueling outages.	(IWV-3412)
EF-4	Exercise valve (full stroke) for operability prior to return to service	(IWV-3416)
EF-5	Valves with remote position indicator shall be observed at least once every 2 years to verify that valve operation is accurately indicated.	(IWV-3300)
EF-6	This note was intentionally deleted.	
EF-7	Exercise valve (with fail-safe actuators) to observe failure mode every 3 months	(IWV-3415)
EF-8	Exercise valve (with fail-safe actuators) to observe failure mode at a cold shutdown or refueling frequency, as indicated.	(IWV-3415)
ET-XXX	Exercise valve - power operated (full stroke) and measure time. (E.G., ET-015 means recommended action stroke time is 15 seconds)	(IWV-3413 & 3417)
ETF-YYY	Exercise valve - power operated (full stroke) and measure time for fast acting valves. Code relief is requested in Item H. (E.G., ETF-005 means recommended action stroke time is 5 seconds)	(IWV-3413 & 3417)

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 NOMENCLATURE FOR TEST METHOD
 USED IN COLUMNS FOR PRIMARY TEST REQUIRED AND
 TEST PERFORMED UNDER ASME SECTION XI

Revision No: 2

Figure 3

Date: 8-31-87

		<u>ASME CODE SECTION XI PARAGRAPH</u>
<u>2) CATEGORY C VALVES</u>		
CF-1	Exercise valve (full stroke) for operability every 3 months.	(IWV-3521)
CF-2	Exercise valve (full stroke) for operability at a cold shutdown or refueling outage frequency as indicated. Code relief requests are provided in the flow diagram notes.	(Code Relief Requested)
CF-3	Exercise valve partial stroke during plant operation and full stroke for operability at a cold shutdown or refueling outage frequency as indicated. Justification for exercising valves during cold shutdown is provided in the flow diagram notes. Code relief requests are provided if full stroke testing is deferred to coincide with refueling outages.	(IWV-3522)
CF-4	Exercise valve (full stroke) for operability prior to return to service.	(IWV-3416)
TF-1	Safety and relief valve tests (setpoint) to Section XI, Table IWV-3510-1.	(IWV-3510)
<u>3) CATEGORY A or AC VALVES</u>		
SLT-1	Seat leakage test valve in accordance with requirements of paragraph IWV-3420 of ASME Code, Section XI, at refueling outage frequency but not less than once every two years. Permissible leakage values for each category A or AC valve are listed in Attachment - "A".	
SLT-2	Seat leakage test valve in accordance with 10CFR 50, Appendix J, in lieu of ASME Code Section XI except for paragraphs IWV-3426 and IWV-3427 which are applicable. Permissible leakage values for each category A or AC valve are listed in Attachment-"A".	

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DONALD C. COOK NUCLEAR PLANT
NOMENCLATURE FOR TEST METHOD
USED IN COLUMNS FOR PRIMARY TEST REQUIRED AND
TEST PERFORMED UNDER ASME SECTION XI

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Figure 3

Date: 8-31-87

SLT-2A In lieu of the requirements of ASME Code Section XI, paragraphs IWV-3423 and IWV-3424, valves are seat leakage tested as part of the Appendix "J" containment isolation test by imposing a static head of water on the downstream side of the valve and verifying that the leakage within the specified value of Attachment "A" for each category valve. This testing method demonstrates that the containment spray and RHR Check Valve leakage over 30 days is limited to the water resident in the containment spray headers downstream of the check valves. The leakage specified would not deplete the water inventory so as to expose these valves to a post-LOCA environment for a minimum of 30 days in the event that a spray system must be shut down and drained. This testing method is as stated in Response to Question 22.15(5) of the original FSAR Appendix "Q", Amendment 81, dated August 1978.

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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

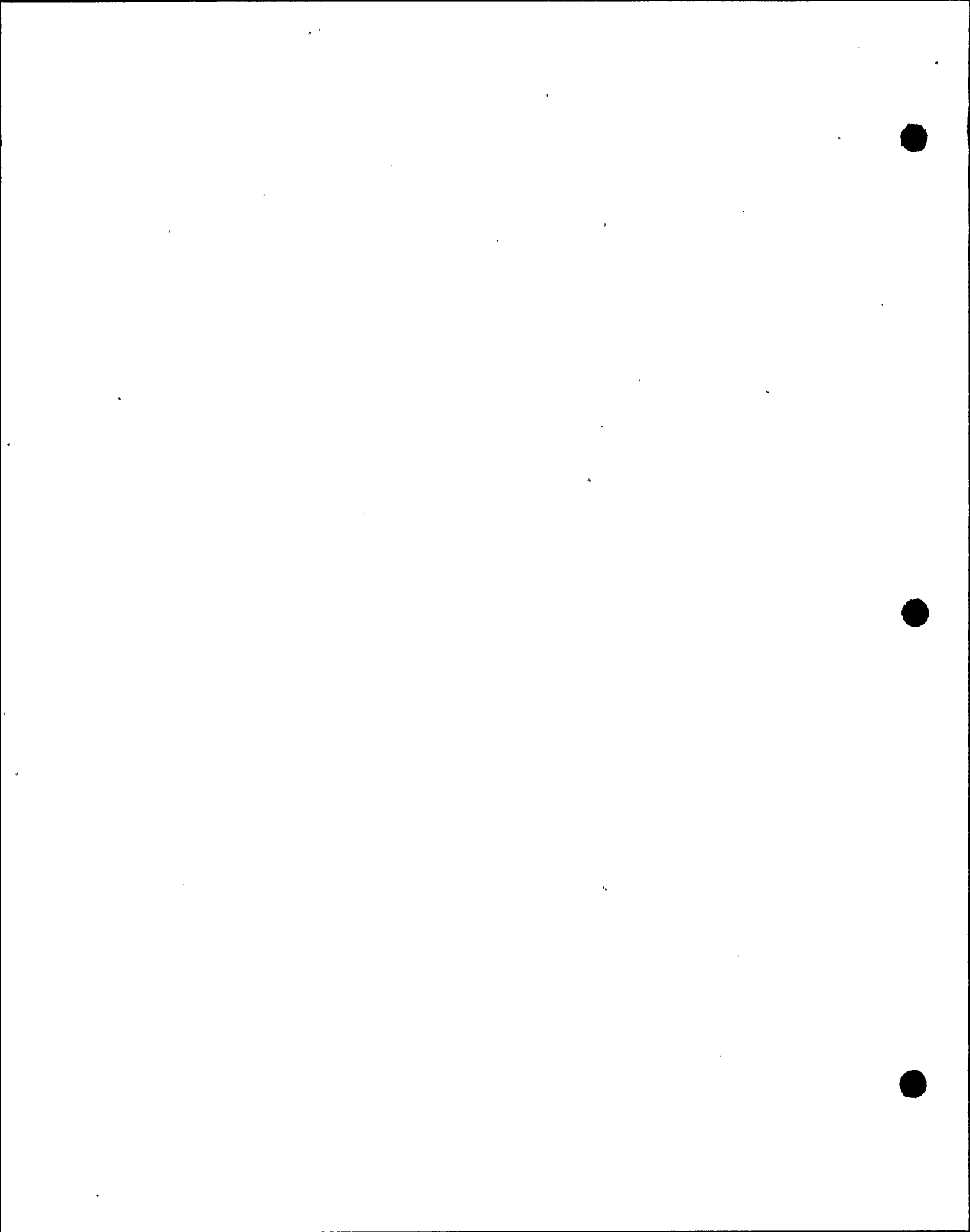
Flow Diagram No: 2-5105D-2

Revision No: 2

Date: 8-31-87

NOTE 1: FW-118-1 thru -4: The function of these valves is to provide feed-water flow from the main feedwater pumps to the steam generators. These valves cannot be exercised during power operation because closing of these valves would require securing feedwater flow to the steam generator and partial stroking may cause instability of steam generator water level which could result in reactor trip. Further three loop operation is not allowed per D. C. Cook Nuclear Plant Technical Specification 3.4.1.1. These valves will be confirmed closed by disassembly on a sampling basis during refueling outages. | 2

NOTE 2: MRV-210, -220, -230 and -240: These steam generator stop valves cannot be full stroke exercised during power operation because this would require securing steam from a steam generator which could result in a reactor trip. Three loop operation is not allowed for D. C. Cook per Technical Specification 3.4.1.1. Valves MRV-211, -221, -231, -241, -212, -222, -232, and -242 which activate MRV-210, -220, -230, and -240 are tested quarterly in accordance with IWV-3410. MRV-210, -220, -230 and -240 are part stroke tested quarterly by use of external hydraulics and full stroke tested during hot standby (Mode 3) at cold shutdown frequency.



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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5105D-2

Revision No: 2

Date: 8-31-87

NOTE 3: MS-108-2 and 108-3: These check valves are located in the steam supply lines to the Auxiliary Feedwater Pump Turbine. These valves operate during normal IST feedwater pump testing. Normal design flow rate for this pump is 900 GPM. However, flow is restricted to a maximum of approximately 700 GPM through the 3" test line used during pump test. The check valves are therefore stroked to the extent that they pass the required steam flow to drive the turbine driven auxiliary feedpump at a flow rate of 700 GPM. Steam flow through these valves to the auxiliary feedwater pump turbine is verified to within 10% (at 900 GPM flow to SG's, 31,000 lbs/hr steam vs. 700 GPM flow through test line, 28,000 lbs/hr steam) of the maximum requirement. This is considered adequate for full stroke testing. In addition, due to the plant design, the only method available to verify the valve closure is disassembly. The valve is not equipped with position indication. The valves will be verified closed by disassembly on a sampling basis at a refueling frequency.

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DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5106-34

Revision No: 2

Date: 8-31-87

NOTE 1: FMO-201, -202, -203, -204 & FRV-210, -220, -230, -240: The function of these valves is to provide feedwater flow from the feedwater pumps to the steam generators. These valves cannot be exercised during power operation because closing these valves would require securing feed flow to the steam generator and partial stroking may cause instability of steam generator water level which could result in reactor trip. Further, three loop operation is not allowed per D. C. Cook Nuclear Plant Technical Specification 3.4.1.1. These valves will be full stroke exercised during unit start-up or shutdown.

DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5106A-41

Revision No: 2

Date: 8-31-87

NOTE 1: FW-132-1, -2, -3, -4: These auxiliary feedwater (AFW) check valves function to supply AFW to the steam generators whenever the AFW System is caused to operate. These check valves cannot be full or partial stroke exercised during power operation without energizing the AFW System and delivering cold water to the steam generators. This would result in thermal shock to the steam generator nozzles. These valves are full stroke exercised during startup. The valves will be verified closed quarterly by monitoring temperature of Auxiliary Feed Line as required by the plant procedure during shift inspection tours.

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NOTE 2: FW-134 & FW-135: These valves are located on the suction and discharge lines of the Turbine Driven Auxiliary Feedpump. The maximum flow rate through the Turbine Driven Auxiliary Feedpump during IST is approximately 700 gpm using the pump test line. The design flow rate is 900 gpm. In order to pass design flow of 900 GPM through, these valves would require delivering cold auxiliary feedwater to the steam generator nozzles. This would result in thermal shock to the steam generator nozzles. We consider that 700 GPM (78% of design flow) is sufficient to demonstrate full stroke operability. In addition, these valves are full stroke tested with flow rate of 900 GPM at a refueling outage frequency.

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DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5106A-41

Revision No: 2

Date: 8-31-87

NOTE 3: FW-138-1, -2, -3, -4: These auxiliary feedwater (AFW) check valves function to supply AFW to the steam generators whenever the AFW System is caused to operate. These check valves cannot be full or partial stroke exercised during power operation without energizing the AFW System and delivering cold water to the steam generators. This would result in thermal shock to the steam generator nozzles. The valves will be verified closed quarterly by monitoring temperature of Auxiliary Feed Line as required by the plant procedure during shift inspection tours. These valves are full stroke exercised when the plant is returned to power after cold shutdown.

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NOTE 4: FW-149 and 150: The required full stroking of these check valves is satisfied when Turbine Driven Auxiliary Feedpump completes its required testing.

NOTE 5: FW-153 and 160: These check valves installed on the Emergency Leak Off (ELO) lines open when the Motor Driven Auxiliary Feedwater Pumps (MDAFP) start. This can be established when the MDAFP pump is operating through the test line. A pressure decrease in the pump discharge line is verified by a local pressure indicator when the parallel path ELO is opened. The pressure decrease indicates that flow is established through the ELO line and that the check valve is opened.

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DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5113-36

Revision No: 2

Date: 8-31-87

NOTE 1: ESW-141, -142, -143, -144: These valves will be disassembled and inspected internally per procedure no. 12MHP-5021.032.00IL during every refueling outage.

NOTE 2: ESW-145, -240, -243: These valves are normally closed and are required to be open when the condensate storage tank is exhausted. Exercising the valves could cause lake water contamination of the steam generators. Lake water chemistry can potentially impact steam generator tube integrity. We believe that testing at a refueling outage frequency is sufficient to demonstrate operability of this long term valve. The valves will be full stroke tested during refueling outages. Since the valves are manual, stroke timing is not required.

NOTE 3: WRV-722, -724, -726, -728: These valves are located in the essential service water supply lines to the emergency diesel generators air after coolers. These three-way valves regulate water flow to maintain the temperature at which the after cooler air discharge thermostatic controller has been set. Water flow is regulated by passing a portion of the flow through the air coolers and bypassing the excess flow around the air after coolers. We are requesting code relief from the testing requirements since (1), these valves function only as regulating valves and not open/closed valves (2), these valves are demonstrated operable during diesel generator testing. Diesel generators are tested on a staggered basis, every 31 days per Technical Specification 4.8.1.1.2; and (3), these valves are demonstrated operable during diesel generator 24 hour runs performed each refueling outage. The valves will be "fail-safe" tested during refueling outages. The valves cannot be stroke timed because they are thermostatic valves whose position is controlled by process fluid temperature. There is no external control available.

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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5114A-27

Revision No: 2

Date: 8-31-87

NOTE 1: See "Attachment-A" for permissible seat leakage values.

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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5124-20

Revision No: 2

Date: 8-31-87

NOTE 1: See "Attachment-A" for permissible seat leakage values.

NOTE-2: NS-357: This check valve is located on the return line of the post accident sampling system inside the containment. Since the line is open-ended inside the containment and the check valve is not equipped with the position indication, the valve will be full stroke exercised in the open position by performing a flow test quarterly and will be confirmed closed during refueling outages.

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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5128-19

Revision No: 2

Date: 8-31-87

NOTE 1: NSO-021, -022, -023, & -024: These four one-inch solenoid operated isolation valves are installed (two in each leg in series) in the reactor head vent. These valves cannot be tested during power operation, hot standby, or hot shutdown because the valve design is such that testing of either valve can cause "burping" (momentary opening) of the second valve, resulting in the release of radioactive fluid and create an airborne situation in containment. The valves also cannot be tested during cold shutdown unless RCS is operating at half loop, because testing of these valves can create a similar situation as that described above. Since half loop operation of the RCS is not a normal evolution during cold shutdowns, full stroke test for these valves will be scheduled at refueling frequency.

Exercising the solenoid operated valves for verification of valve position (valve stem movement) will be performed during each refueling outage by performing a flow test through each valve because the valve stem is completely enclosed and cannot be observed. The reactor coolant discharged during the flow testing of the valves is collected in a container to minimize liquid contamination spill, radiation, and potential airborne situation in deference of ALARA consideration and personnel protection. The above tests are consistent with Technical Specification requirements.

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DONALD C. COOK NUCLEAR PLANT
VALVE TEST PROGRAM
RELIEF REQUEST NOTES

Flow Diagram No: 2-5128A-34
Revision No: 2
Date: 8-31-87

- NOTE 1: CS-442-1 thru 4: These containment isolation check valves are on the seal water supply line to the RC pumps. These valves cannot be part or full stroke exercised to the closed position during power operation because cooling flow is required to the RCP seals. During cold shutdown, seal water must be maintained to prevent backflow through the seals with possible damage from dirt. The valves will be full stroke exercised at refueling outage frequency.
- NOTE 2: See Attachment-"A" for permissible seat leakage values.
- NOTE 3: NRV-151, -152, -153: These pressurizer power operated relief valves are normally closed during power operation (passive valves). The system is considered out of service (as defined per IWV-3416) during power operation. The valves will be full stroke exercised prior to placing them into service for RCS cold overpressurization protection.
- NOTE 4: PW-275: This containment isolation check valve is located in the primary water supply line to the pressurizer relief tank. The valve is not equipped with position indication. The valve cannot be full stroke tested to closed position during power operation or at a cold shutdown frequency due to lack of sufficient differential pressure to back seat the valve. The valve and necessary test connections are located inside the containment. Due to the plant design, the only method available to verify the valve closure is leak testing. The valve will be verified closed during seat leakage testing per Appendix "J" program at refueling frequency.
- NOTE 5: N-159: This containment isolation check valve is located in the nitrogen supply line to the pressurizer relief tank. The valve is not equipped with position indication. The valve cannot be full stroke tested to closed position during power operation or at a cold shutdown frequency due to lack of sufficient differential pressure to back seat the valve. The valve and necessary test connections are located inside the containment. Due to the plant design, the only method available to verify the valve closure is leak testing. The valve will be verified closed during seat leakage testing per Appendix "J" program at refueling frequency.

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DONALD C. COOK NUCLEAR PLANT
VALVE TEST PROGRAM
RELIEF REQUEST NOTES

Flow Diagram No: 2-5128A-34

Revision No: 2

Date: 8-31-87

NOTE 6: NSO-061, -062, -063, -064: These four one-inch operated isolation valves are installed (two in each leg in series) in the pressurizer vent. These valves cannot be tested during power operation, hot standby, or hot shutdown because the valve design is such that testing of either valve can cause "burping" (momentary opening) of the second valve resulting in the release of radioactive fluid and create an airborne situation in containment. The valves also cannot be tested during cold shutdown unless RCS is operating at half loop, because testing of these valves can create a similar situation as that described above. Since half loop operation of the RCS is not a normal evolution during cold shutdowns, full stroke test for these valves will be scheduled at refueling frequency.

Exercising the solenoid operated valves for verification of valve position (valve stem movement) will be performed during each refueling outage by performing a flow test through each valve because the valve stem is completely enclosed and cannot be observed. The reactor coolant discharged during flow testing of the valves is collected in a container to minimize contaminated liquid spill, radiation, and potential airborne situation in deference of ALARA consideration and personnel protection. The above tests are consistent with Technical Specification requirements.

NOTE 7: SI-189: This check valve is located in the safety valves discharge (Emergency Core Cooling SVs, RHR, SVs, centrifugal charging pump SVs, etc.) collection header leading to the pressurizer relief tank. Isolating this valve for testing would result in dead heading all safety valves in the above systems. This would result in loss of overpressurization protection and could put the plant in an unsafe condition. Test will be run at a refueling frequency when there is not potential for overpressurization.



VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5129-32

Revision No: 2

Date: 8-31-87

NOTE 1: CS-292: This valve is in the emergency boration path from the boric acid system to the charging pump suction header. Flow through this path is normally not provided at power because of the resultant large negative reactivity insertion. The valve will be full stroke exercised in the open position at a cold shutdown frequency. The check valve is not equipped with position indication. Due to the plant design, the only methods available to verify the valve closure is either radiography or disassembly which can only be performed during the refueling outage when the system is not required to be operable. The radiography method is an acceptable method to verify the valve closure (disc against the seat) under no flow condition because it provides visual observation of the valve in the closed position. The flow testing of the valve verifies that it is open. This provides assurance that the disc is free to move from the open position with flow to the closed position with no flow or reverse flow.

NOTE 2: CS-299E, -299W: These check valves located on the discharge lines of the 'E' and 'W' charging pumps function as pressure isolation valves to protect the low pressure charging pump suction lines. These valves cannot be full-stroke exercised during: (1) power operation because the charging pumps cannot achieve maximum flow rate with the reactor at full pressure, and (2) cold shutdown because the flow required could cause a low temperature overpressure condition. The valves will be part-stroke exercised quarterly and full stroke exercised during refueling outages.

NOTE 3: See Attachment-"A" for permissible seat leakage values.

DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5129-32

Revision No: 2

Date: 8-31-87

- NOTE 4: CS-321: This containment isolation check valve's function is to supply borated water from the volume control tank to the regenerative heat exchanger through the charging pumps for chemical shim control and reactor coolant system makeup. Isolation of this system would result in loss of control of pressurizer level which could result in reactor trip. This valve is tested in the open direction quarterly and confirmed closed during refueling outages in deference to ALARA consideration.
- NOTE 5: CS-328L1, -329L1, -328L4, -329L4: These check valve's function is to provide the interface point between the RCS and the CVCS. Since the discharge piping of the CVCS is designed to a pressure rating higher than the RCS, these valves do not perform a pressure isolation function. The higher pressure (RCS) to low pressure (CVCS Suction) isolation is accomplished by other valves which are tested to category "A" requirement. The valves will be full stroke exercised to open position quarterly.
- NOTE 6: QCR-300, -301: These air operated containment isolation valves are located on the letdown return line. Exercising these valves during power operation would result in letdown isolation which could result in loss of pressurizer level control which could result in a plant shutdown. The valves will be full stroke exercised and fail safe tested at a cold shutdown frequency and seat leakage tested during refueling outages.
- NOTE 7: QMO-200, -201: These motor operated gate valves are installed on the CVCS charging line to provide borated water for RCS chemical shim control and reactor coolant system makeup. Isolation of this system would result in loss of control of pressurizer level which could result in reactor trip. The valves will be tested at a cold shutdown frequency.

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DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5129-32

Revision No: 2

Date: 8-31-87

NOTE 8: QRV-200: This control valve is required for emergency boration in Modes 5 and 6. The valve is normally open to permit charging. The valve cannot be full stroke tested during power operation because it would interrupt charging flow which could effect pressurizer level. The valve will be part stroke exercised during power operation and will be full stroke exercised at cold shutdown frequency. The valve cannot be "fail safe" tested nor stroke timed since position indication is not provided.

NOTE 9: QRV-251: This control valve is required for emergency boration in Modes 5 and 6. The valve is normally open to permit charging flow when the centrifugal charging pumps are running. The valve cannot be full stroke tested during power operation because it would interrupt both charging and seal water flow which could effect the pressurizer level and damage the reactor coolant pump seals. The valve will be part stroke exercised during power operation and full stroke exercised at cold shutdown frequency. This valve cannot be "fail safe" tested nor stroke timed since no position indication is provided.

NOTE 10: SI-185: This normally closed valve functions to transfer the suction source of the charging pumps to the refueling water storage tanks. This valve cannot be full stroke exercised during: (1) power operation without introducing a high concentration of boric acid in the RCS, and (2) cold shutdown because the only full flow path available is into the reactor coolant system and the system does not have sufficient volume to accommodate that flow without a possible low temperature overpressure condition. The valve will be full stroke exercised during refueling outages.

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DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5129A-20

Revision No: 2

Date: 8-31-87

NOTE 1: QCM-250, -350: These motor-operated reactor coolant pump seal water return isolation valves cannot be exercised during power operation because it would interrupt reactor coolant pump seal water flow and could cause damage to the seals. Therefore, the valves are full stroke exercised at cold shutdown frequency.

NOTE 2: See "Attachment-A" for permissible seat leakage values.

NOTE 3: QMO-451, -452: These motor-operated gate valves function as volume control tank isolation valves. Exercising these valves during power operation could result in a loss of pressurizer level control which could cause a reactor trip. These valves are full stroke exercised at cold shutdown frequency.

DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5135-34

Revision No: 2

Date: 8-31-87

- NOTE 1: CCM-451, -452, -453, -454, -458 and -459: These valves cannot be tested during power operation without securing cooling water to the RC pump. Isolation of these valves could cause failure of the RCP. Valves to be tested at cold shutdown frequency.
- NOTE 2: See "Attachment-A" for permissible seat leakage values.
- NOTE 3: CCR-455, -456, and -457: These valves cannot be tested during power operation without securing cooling water to reactor the support coolers. These valves must remain open to prevent overheating of the concrete around the reactor supports during the normal operation. Valves to be tested at a cold shutdown frequency.
- NOTE 4: CCW-135: This check valve cannot be tested during power operation without securing cooling water to the reactor support coolers. The valve must remain open to prevent overheating of the concrete around the reactor supports during the normal operation. The valve will be verified closed by seat leakage testing during refueling outages.
- NOTE 5: CRV-470: This air-operated valve is located in the Component Cooling Water (CCW) return from the letdown heat exchanger and controls the temperature of the letdown flow leaving the heat exchanger. The position of this valve is set by QTC-302. The valve cannot be "fail-safe" tested nor stroke timed since no control switches are installed to perform those tests. The valve will be full stroke exercised quarterly.

DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5135A-30

Revision No: 2

Date: 8-31-87

NOTE 1: CMO-411, -412, -413, -414, -415 & -416: These valves remain open during initial safety injection, but may be closed during recirculation phase or passive failure. Therefore, the valve time will be recorded from open to close position.

DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5135B-14

Revision No: 2

Date: 8-31-87

NOTE 1: See "Attachment-A" for permissible seat leakage values.

NOTE 2: CCW-243-25, CCW-243-72, CCW-244-25 and CCW-244-72: These check valves are located in the penetration cooling supply headers of the CCW System inside the containment. The valves are open during power operation and cold shutdown to provide cooling water to the main steam penetrations. These valves are not equipped with position indication. The valves are confirmed closed by seat leakage testing in accordance with Appendix "J" during refueling outage.

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DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5141-27

Revision No: 2

Date: 8-31-87

NOTE 1: See "Attachment-A" for permissible seat leakage values.

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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5141D-8

Revision No: 2

Date: 8-31-87

NOTE 1: See "Attachment-A" for permissible seat leakage values.

NOTE 2: NS-283: This containment isolation check valve is located in the sample return line of the Post-Accident Containment Hydrogen Monitoring System. The valve cannot be full stroke exercised to closed position quarterly or at a cold shutdown frequency because: 1) due to the plant design (line is open ended in the containment), the only method available to verify the valve closure is leak testing, and 2) check valve is not equipped with position indication. The valve will be full stroke exercised in the open position by performing a flow test quarterly and will be confirmed closed during the seat leakage testing per Appendix "J" program at a refueling frequency.

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DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5142-28

Revision No: 2

Date: 8-31-87

- NOTE 1: ICM-250 and ICM-251: These normally closed valves cannot be operated during normal plant operation without introducing Boron into a nonheat traced line. Boron could crystallize and plug the line. Valves will be tested at cold shutdown frequency.
- NOTE 2: See "Attachment-A" for permissible seat leakage values.
- NOTE 3: IMO-261: This valve cannot be tested when SI pumps are required to be operable. Testing would result in isolation of both pumps. This valve will be tested at cold shutdown frequency.
- NOTE 4: IMO-262 and -263: These motor operated valves are located in series in the re-circulation line of the Safety Injection pumps. Exercising any of these valves will make the SI pumps inoperable. These valves will be full-stroke exercised at cold shutdown frequency.
- NOTE 5: SI-110N, SI-110S and SI-101: Safety Injection (SI) pump discharge valves, SI-110N and -110S, cannot be exercised during power operation because SI pumps cannot overcome reactor pressure. Therefore, no flow path exists and, because minimum flow lines branch off upstream of these valves, they cannot be part-stroke tested during pump testing. The common (SI pumps) suction check valve, SI-101 is part-stroke exercised at power operation during pump testing. These valves cannot be exercised during cold shutdowns because SI pumps are required to be inoperable by Technical Specification 3.5.3 to protect against low temperature over-pressurization of the Reactor Coolant System. These valves will be full-stroke exercised at refueling frequency in conjunction with the full flow test.

DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5142-28

Revision No: 2

Date: 8-31-87

NOTE 6: SI-142 L1, L2, L3, and L4: These check valves are located in the supply lines from the Boron Injection Tank to the reactor coolant cold legs (loop 1 through 4). These valves cannot be tested during power operation because this would require injecting highly concentrated boric acid solution from the Boron Injection Tank into the Reactor Coolant System resulting in probable plant shutdown.

These valves cannot be partially-stroke exercised using the BIT bypass line because this could result in bypassing the BIT, thereby not achieving design flow through the BIT if an accident occurred.

These valves cannot be full-stroked exercised during cold shutdown because this would require injecting the BIT into the RCS which could significantly delay startup from cold shutdown condition (the BIT would have to be brought to the proper Boron concentration and the RCS would have to be diluted sufficiently to allow startup). These valves will be full stroke exercised during refueling outages.

DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5143-35

Revision No: 2

Date: 8-31-87

NOTE 1: See "Attachment-A" for permissible seat leakage values.

NOTE 2: IMO-128 and ICM-129: These valves function as the normal return from the RCS to the RHR for heatup and cooldown. These valves are normally closed and cannot be operated during normal plant operation because they are interlocked to remain closed at RCS pressure above 450 psig. The valves will be full stroke exercised prior to placing them into service at a cold shutdown frequency.

NOTE 3: IMO-310, -320, -314, -324: These valves remain open during injection phase of a safety injection, but will be closed during recirculation phase. Therefore, stroke timing will be from open to close position.

NOTE 4: IMO-315, -316, -325, -326: Valves IMO-315 and -325 are normally closed valves, located in the RHR and SI Supply Header to RCS hot legs. Valves IMO-316 and -326 are normally open valves located in the RHR and SI Supply Header to RCS cold legs. These valves should not be exercised during power operation because failure in a non-conservative position would result in less than minimum number of injection flow path as required by the FSAR. The valves will be full stroke tested at cold shutdown frequency.

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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5143-35

Revision No: 2

Date: 8-31-87

NOTE 5: SI-166 L1, L2, L3, L4: These check valves function to prevent back-flow from the RCS into the accumulators during normal operation. These valves function to supply flow from the accumulators to the RCS during an accident condition. These valves cannot be exercised during power operation because the accumulators do not have sufficient head to overcome RCS pressure.

These valves cannot be exercised during cold shutdown because this would result in a possible low temperature overpressurization of the RCS. Full stroke testing during refueling outages is not possible because of the resulting water surge into the reactor and the potential for high airborne radiation contamination. These valves will be partially-stroke exercised during refueling outages and disassembled for internal inspection on a sampling basis.

NOTE 6: SI-161, L1, L2, L3, L4: These check valves are located in the supply lines from the Residual Heat Removal and Safety Injection Pumps to the RCS cold legs (loop 1 through 4). These valves cannot be exercised during power operation because the RHR pumps and SI pumps do not develop sufficient head to overcome RCS pressure. The valves cannot be full stroke exercised during cold shutdown due to potential low temperature overpressurization damage to reactor vessel. These valves will be part stroke exercised at a cold shutdown frequency and will be full stroke exercised at the refueling frequency when reactor vessel head is removed.

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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5143-35

Revision No: 2

Date: 8-31-87

- NOTE 7: RH-108E and RH-108W: These valves cannot be full stroke exercised quarterly because no full flow path exists. The valves will be full stroke exercised at cold shutdown frequency (during RHR operation).
- NOTE 8: RH-133, -134: These check valves function to circulate water from the RHR pumps to the RCS cold legs when the RHR system is aligned for heat removal operation. These valves cannot be exercised during power operation because the RHR pumps do not develop sufficient head to overcome RCS pressure. These valves will be exercised during start up pursuant to Technical Specification 3.4.6.2.
- NOTE 9: SI-148: Check valve SI-148 is located in the Refueling Water Storage Tank (RWST) supply line to the RHR system. The design flow through the valve is 6000 GPM. Flow to the core is not possible when the RCS pressure is above the shut-off pressure of the RHR pumps (195 psig). In order to full stroke exercise this valve, both RHR pumps must be operated and the RHR system manually aligned to recirculate flow back to the RWST. This configuration places both RHR trains inoperable since neither train can provide design flow to the core. In order to preclude placing the unit in an unsafe condition, a partial stroke test is performed quarterly with both trains operable. The valve cannot be full stroke exercised during cold shutdown since water solid RCS cannot accommodate the introduction of 6000 GPM from the RHR system. In addition, during cold shutdown, the RHR system is required to be operable for RCS temperature control. The valve will be full stroke exercised when the reactor cavity is being flooded at a refueling frequency.

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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5143-29

Revision No: 2

Date: 8-31-87

- NOTE 10: SI-151 E, W: These check valves are located in the RHR supply lines to either the hot or cold legs. These valves cannot be exercised during power operation because the RHR pumps do not develop sufficient head to overcome RCS pressure. These valves will be exercised at a cold shutdown frequency.
- NOTE 11: SI-152 N, S: These check valves function to provide Safety Injection pump discharge to either the hot or cold legs. These valves cannot be exercised during power operation because the SI pumps do not develop sufficient pressure to overcome RCS pressure. These valves cannot be exercised during cold shutdown because the safety injection pumps are required to be inoperable by Technical Specification Section 3.5.3, to protect against low temperature overpressurization of the RCS. Also, during cold shutdown, there may not be sufficient volume in the RCS to accommodate the amount of water needed to full stroke. These valves will be full stroke exercised at refueling frequency in conjunction with full flow test.

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VALVE TEST PROGRAM
RELIEF REQUEST NOTES

Flow Diagram No: 2-5143-35

Revision No: 2

Date: 8-31-87

- NOTE 12: SI-158 L1, L2, L3, L4: Check valves SI-158 are located in the supply lines from the Residual Heat Removal and Safety Injection Pumps to the RCS hot legs (loop 1 through 4). These valves cannot be exercised during power operation because the RHR and SI pumps do not develop sufficient head to overcome RCS pressure. The valve cannot be full stroke exercised during cold shutdown due to potential low temperature cold overpressurization damage to the reactor vessel. These valves will be part stroke exercised at a cold shutdown frequency and will be full stroke exercised at the refueling frequency when reactor vessel head is removed.
- NOTE 13: SI-170 L1, L2, L3, and L4: These valves are located on the RCS cold leg (loops 1 through 4) injection lines from the accumulators, RHR, and SI systems. They cannot be exercised during power operations because the RHR and SI pumps do not develop sufficient head to overcome RCS pressure. The valves will be part-stroke exercised at a cold shutdown frequency. Due to the plant design, the valves are sized as such that full stroke testing cannot be attained without discharging the accumulators and operating SI and RHR pumps simultaneously. The only method available to verify the full stroke exercising is disassembly method. The valve is not equipped with position indication. The valves will be disassembled on a sampling basis during refueling outages to verify full stroke exercising.
- NOTE 14: N-102 This check valve is located in the nitrogen supply header to the accumulators for blanketing purposes. The valve cannot be full stroke tested to closed position during power operation or cold shutdown because, due to the plant design, the only method available to verify the valve closure is leak testing. The valve and necessary test connections are located inside the containment. The valve is not equipped with position indication. The valve will be verified closed during seat leakage testing per Appendix "J" program at refueling frequency.

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DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5144-29

Revision No: 2

Date: 8-31-87

NOTE 1: CTS-138E & W, CTS-103E & W: These check valves are located in the lines supply water from the RWST to the Containment Spray Pumps suction (CTS-138E & W) and the discharge line from the Containment Spray Pumps (CTS-103E & W) to the ring header in containment. The valves cannot be full stroke exercised during power operation, cold shutdown, or refueling without spraying the containment. These valves are partial stroked during Containment Spray Pump Testing. These valves are identical in type, design, and operate at similar frequencies, flows, and temperatures. Since the design conditions and size are sufficient to warrant grouping them, the valves will be disassembled during refueling on a sample basis.

NOTE 2: CTS-131E & W, CTS-127E & W, RH-141, RH-142: These check valves are located in the supply lines to the containment spray ring headers. During normal plant operation, they are in the closed position. They are exposed to the containment atmosphere on the downstream side and are isolated from fluid pressure in the upstream side by closed MOVs. These valves cannot be exercised during power operation, cold shutdown, or refueling because flow through these valves would result in spraying the containment. This could cause problems with wet lagging, corrosion of components inside containment, etc. The only practical method of verifying operability of these check valves is by disassembly. These valves are identical in type and design and operate at similar conditions and frequencies. Since the design conditions and size are sufficiently similar to warrant grouping them, the valves will be disassembled on a sample basis during refueling outages.

NOTE 3: CTS-127E & W, CTS-131E & W, RH-141, RH-142: These valves are to be seat leakage tested in accordance with the special testing procedure because of the configuration at D. C. Cook Plant. The permissible seat leakage values of these valves are listed in Attachment-"A".

DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5145-20

Revision No: 2

Date: 8-31-87

NOTE 1: See "Attachment-A" for permissible seat leakage values.

DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5146B-23

Revision No: 2

Date: 8-31-87

NOTE 1: R-156 and R-157: These check valves are installed in parallel lines to the glycol main supply and return lines mainly to relieve glycol thermal expansion. These valves and necessary test connections are located inside the containment. Due to the plant design, the only method available to verify valve closure is leak testing. The valves are not equipped with position indication. The valves will be full stroke exercised in the open direction quarterly and verified closed by seat leakage testing per Appendix "J" at refueling frequency.

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NOTE 2: See "Attachment-A" for permissible seat leakage values.

DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5147A-35

Revision No: 2

Date: 8-31-87

NOTE 1: See "Attachment-A" for permissible leakage values.

DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5149-23

Revision No: 2

Date: 8-31-87

NOTE 1: VRV-325, -315: These valves are located at the outlet of the control room air conditioner water pump. These three-way valves function to modulate water flow through the air handler package based on cooling requirements. These valves are demonstrated operable during normal control room air conditioning operation. The valves cannot be stroked timed because they are not equipped with position indicator and stroke times are not repeatable.

DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5151A-26

Revision No: 2

Date: 8-31-87

NOTE 1: The required full stroking of the check valves is satisfied when the diesel generator successfully completes its required testing per Technical Specification 4.8.1.1.2.

NOTE 2: QT-114-2AB: This valve is located at the discharge of the engine driven lube oil pump (diesel-generator). This three-way thermostatic valve functions to maintain the correct lube oil temperature by maintaining the correct proportion of oil flowing through the lube oil cooler and bypassing the lube oil cooler to maintain a preset lube oil temperature. We are requesting exemption from testing requirements since (1) this valve functions only as a regulating valve and not opened/closed; (2) this valve is demonstrated operable during diesel generator testing. Diesel generators are tested every 31 days on a staggered basis per Technical Specification 4.8.1.1.2. The valves will be verified operable by observing proper temperatures during diesel testing.

DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5151B-27

Revision No: 2

Date: 8-31-87

NOTE 1: The required full stroking of the check valves is satisfied when the diesel generator successfully completes its required testing per Technical Specification 4.8.1.1.2.

NOTE 2: QT-132-2AB: This valve is located at the discharge of the emergency diesel engine jacket water pump. This three-way thermostatic valve functions to maintain the correct proportion of water flowing through the diesel engine water cooler and bypassing the diesel engine jacket water cooler to maintain a preset jacket water temperature. We are requesting exemption from the testing requirements since (1) this valve functions only as regulating valve and not open/closed valve; (2) this valve is demonstrated operable during diesel generator testing. Diesel generators are tested on a staggered basis, every 31 days per Technical Specification 4.8.1.1.2. The valve will be verified operable by observing proper temperatures during diesel testing.

NOTE 3: XRV-220, (Jet Assist), -221 and -222 (Starting Air): The starting air valves are installed on parallel air supply lines to a diesel generator. The valves are not equipped with position indication devices to directly measure valve stroke times. Stroke timing is verified by measuring diesel starting times (Technical Specification acceptance ten seconds or less). The valves on a staggered basis are valved out one at a time to verify the operability of the opposite valve during diesel testing. The consistent compliance of the diesel generator start times (typically seven to nine seconds) demonstrates the valve performance. Position indication is confirmed during the above testing when only one starting air train is used to start the diesel generators. The starting air valves do not require or have a fail safe position because there is a redundant starting air supply system for each diesel generator.
(continued)

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DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5151B-27

Revision No: 2

Date: 8-31-87

(Note 3 continued)

Similarly, stroke timing of jet assist valve XRV-220 is verified by measuring diesel starting times. The jet assist valve's fail safe position is "closed". The jet assist valve's function is to facilitate diesel generator quick start. Its failure to open upon a diesel start signal could cause the effected diesel generator to achieve operating conditions more slowly. Based on single failure criteria, the other diesel will start within the required ten seconds, thereby meeting system requirements. If this valve were to fail open, (open is the position to assist diesel generator starting) then the starting air reservoirs would bleed down, rendering that diesel generator inoperable. Therefore, in order to assure the starting air supply, the fail safe mode for this valve is closed.

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DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5151C-26

Revision No: 2

Date: 8-31-87

NOTE 1: The required full stroking of the check valves is satisfied when the diesel generator successfully completes its required testing per Technical Specification 4.8.1.1.2.

NOTE 2: QT-114-2CD: This valve is located at the discharge of the engine driven lube oil pump (diesel-generator). This three-way thermostatic valve functions to maintain the correct lube oil temperature by maintaining the correct proportion of oil flowing through the lube oil cooler and bypassing the lube oil cooler to maintain a preset lube oil temperature. We are requesting exemption from testing requirements since (1) this valve functions only as a regulating valve and not opened/closed valve; (2) this valve is demonstrated operable during diesel generator testing. Diesel generators are tested every 31 days on a staggered basis per Technical Specification 4.8.1.1.2. The valves will be verified operable by observing proper temperatures during diesel testing.

DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5151D-27

Revision No: 2

Date: 8-31-87

NOTE 1: The required full stroking of the check valves is satisfied when the diesel generator successfully completes its required testing per Technical Specification 4.8.1.1.2.

NOTE 2: QT-132-2CD: This valve is located at the discharge of the emergency diesel engine jacket water pump. This three-way thermostatic valve functions to maintain the correct proportion of water flowing through the diesel engine water cooler and bypassing the diesel engine jacket water cooler to maintain a preset jacket water temperature. We are requesting exemption from the testing requirements since (1) this valve functions only as a regulating valve and not open/closed valve; (2) this valve is demonstrated operable during diesel generator testing. Diesel generators are tested on a staggered basis, every 31 days per Technical Specification 4.8.1.1.2. The valve will be verified operable by observing proper temperatures during diesel testing.

NOTE 3: XRV-225, (Jet Assist), -226 and -227 (Starting Air): The starting air valves are installed on parallel air supply lines to a diesel generator. The valves are not equipped with position indication devices to directly measure valve stroke times. Stroke timing is verified by measuring diesel starting times (Technical Specification acceptance ten seconds or less). The valves on a staggered basis are valved out one at a time to verify the operability of the opposite valve during diesel testing. The consistent compliance of the diesel generator start times (typically seven to nine seconds) demonstrates the valve performance. Position indication is confirmed during the above testing when only one starting air train is used to start the diesel generators. The starting air valves do not require or have a fail safe position because there is a redundant starting air supply system for each diesel generator. (continued)

DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5151D-27

Revision No: 2

Date: 8-31-87

(Note 3 continued)

Similarly, stroke timing of jet assist valve XRV-225 is verified by measuring diesel starting times. The jet assist valve's fail safe position is "closed". The jet assist valve's function is to facilitate diesel generator quick start. Its failure to open upon a diesel start signal could cause the effected diesel generator to achieve operating conditions more slowly. Based on single failure criteria, the other diesel will start within the required ten seconds, thereby meeting system requirements. If this valve were to fail open, (open is the position to assist diesel generator starting) then the starting air reservoirs would bleed down, rendering that diesel generator inoperable. Therefore, in order to assure the starting air supply, the fail safe mode for this valve is closed.

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DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 12-5115A-41 - Unit-2

Revision No: 2

Date: 8-31-87

NOTE 1: See "Attachment-A" for permissible seat leakage values.

DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 12-5120B-22 - Unit-2

Revision No: 2

Date: 8-31-87

NOTE 1: PA-342: This check valve is located in the maintenance air supply line into the containment. The valve cannot be tested during power operation and cold shutdown because: 1) this line is generally isolated by removing a spool piece and inserting a blind flange, and 2) the valve and test connections are located inside the containment. The valve is not equipped with position indication. Due to the plant design, the only method available to verify the valve closure is leak testing. The valve will be verified closed during the seat leakage testing per Appendix "J" at a refueling frequency.

2

NOTE 2: See "Attachment-A" for permissible seat leakage values.

NOTE 3: XCR-100, -101, -102, -103: These air operated containment isolation valves located in the control air supply lines to the containment. These valves cannot be full stroke tested during power operation without causing a loss of containment control air. Testing of these valves can potentially cause: 1) disruption of air flow to air operated valves in the containment; as a result, they would go to their fail safe position, e.g., close position for containment isolation valves, 2) systems from performing their design function, i.e, termination of system flow and change in RCS pressure and temperature, and 3) challenge to system safeguard protection which may result in a unit trip. The valves will be full stroke exercised at a cold shutdown frequency.

2

DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 12-5131-19 - Unit-2

Revision No: 2

Date: 8-31-87

NOTE 1: CS-427S: This valve is in the emergency boration path. This valve is not normally operated at power because of the resulting large reactivity insertion. The valve will be full stroke exercised at a cold shutdown frequency.

DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 12-5136-25

Revision No: 2

Date: 8-31-87

NOTE 1: See "Attachment-A" for permissible seat leakage values.

DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 12-5137A-21

Revision No: 2

Date: 8-31-87

NOTE 1: See "Attachment-A" for permissible seat leakage values.

NOTE 2: N-160: This containment isolation check valve is located in the Nitrogen Supply line to Reactor Coolant Drain Tank. This valve cannot be part or full stroke exercised due to lack of sufficient differential pressure to back seat the valve during power operation or cold shutdown. Due to the plant design, the only method available to verify the valve closure is leak testing. The valve is not equipped with position indication. This valve will be tested during seat leakage testing per Appendix "J" at a refueling frequency.

2

DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 12-5141C-8

Revision No: 2

Date: 8-31-87

NOTE 1: See "Attachment-A" for permissible seat leakage values.

DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 12-5141F-6

Revision No: 2

Date: 8-31-87

NOTE 1: ECR-36: This valve, located in the common sample return line of the lower containment radiation monitors, cannot be part or full stroke exercised during power operation or refueling because closure of the valve would isolate both radiation monitors, which are required to be operable (Technical Specification Table 3.3-6) during power operation (Mode 1 through 4) and refueling (Mode 6). The valve will be full stroke exercised at a cold shutdown frequency.

2

NOTE 2: See "Attachment-A" for permissible leakage values.

NOTE 3: SM-1: This containment isolation check valve for the containment radiation monitors' sample return cannot be full or part stroke exercised during power operation because these monitors are required to be operable in Modes 1, 2, 3, 4, and 6. The valve is not equipped with position indication. The valve is located in the open ended return line inside the containment. The only method available to verify the valve closure is leak testing. The valve will be tested during seat leakage testing per Appendix "J" at a refueling frequency.

2

DONALD C. COOK NUCLEAR PLANT

ASME SECTION XI VALVE TEST PROGRAM FOR UNIT #2

ATTACHMENT-A

Revision No: 2

Date: 8-31-87

1. CONTAINMENT ISOLATION VALVES (Category A or AC)

Testing Method: (SLT-2) Seat leakage test the valve in accordance with 10CFR50, Appendix J, in lieu of ASME Code Section XI except for paragraphs IWV-3426 and IWV-3427.

<u>Valve No</u>	<u>Flow Diagram</u>	<u>Size</u>	<u>Type</u>	<u>Permissible Leakage Values (SCCM)</u>
WCR-920,-922	5114A	3	DA	900
WCR-921,-923	5114A	3	DA	900
WCR-932,-934	5114A	3	DA	900
WCR-933,-935	5114A	3	DA	900
WCR-941,-945	5114A	3	DA	900
WCR-944,-948	5114A	3	DA	900
WCR-951,-955	5114A	3	DA	900
WCR-954,-958	5114A	3	DA	900
WCR-924,-926	5114A	3	DA	900
WCR-925,-927	5114A	3	DA	900
WCR-928,-930	5114A	3	DA	900



DONALD C. COOK NUCLEAR PLANT

ASME SECTION XI VALVE TEST PROGRAM FOR UNIT #2

ATTACHMENT-A

Revision No: 2

Date: 8-31-87

<u>Valve No.</u>	<u>Flow Diagram</u>	<u>Size</u>	<u>Type</u>	<u>Permissible Leakage Values (SCCM)</u>
WCR-929,-931	5114A	3	DA	900
WCR-942,-946	5114A	3	DA	900
WCR-952,-956	5114A	3	DA	900
WCR-943,-947	5114A	3	DA	900
WCR-953,-957	5114A	3	DA	900
WCR-960,-962	5114A	2	DA	750
WCR-961,-963	5114A	2	DA	750
WCR-964,-966	5114A	2	DA	750
WCR-965,-967	5114A	2	DA	750
ECR-10,-20	5141B	0.50	GL	750
ECR-11,-21	5141B	0.50	GL	750
ECR-12,-22	5141B	0.50	GL	750
ECR-13,-23	5141B	0.50	GL	750
ECR-14,-24	5141B	0.50	GL	750
ECR-15,-25	5141B	0.50	GL	750

DONALD C. COOK NUCLEAR PLANT

ASME SECTION XI VALVE TEST PROGRAM FOR UNIT #2

ATTACHMENT-A

Revision No: 2

Date: 8-31-87

<u>Valve No.</u>	<u>Flow Diagram</u>	<u>Size</u>	<u>Type</u>	<u>Permissible Leakage Values (SCCM)</u>
ECR-16,-26	5141B	0.50	GL	750
ECR-17,-27	5141B	0.50	GL	750
ECR-18,-28	5141B	0.50	GL	750
ECR-19,-29	5141B	0.50	GL	750
CS-442-1	5128A	2	CK	750
CS-442-2	5128A	2	CK	750
CS-442-3	5128A	2	CK	750
CS-442-4	5128A	2	CK	750
SI-189	5128A	4	CK	1200
SM-1	5141F	1	CK	750
N-102	5143	1	CK	750
N-159	5128A	0.75	CK	750
PW-275	5128A	3	CK	900
CS-321	5129	3	CK	1800
VCR-10,-11	5146B	4	DA	1200

DONALD C. COOK NUCLEAR PLANT

ASME SECTION XI VALVE TEST PROGRAM FOR UNIT #2

ATTACHMENT-A

Revision No: 2

Date: 8-31-87

<u>Valve No.</u>	<u>Flow Diagram</u>	<u>Size</u>	<u>Type</u>	<u>Permissible Leakage Values (SCCM)</u>
VCR-20,-21	5146B	4	DA	1200
DCR-203,-207	5137A	1	DA, GL	750
N-160, DCR-201	5137A	1	CK, DA	1125
DCR-610,-611	5137A	2.50	DA	750
DCR-620,-621	5137A	1	DA	750
DCR-205,-206	5137A	4	DA	1200
DCR-600,-601	5124	3	DA	900
QCR-300,-301	5129	2	GL	750
QCM-250,-350	5129A	4	GA	1200
QCR-919,-920	5115A	2	DA	750
SF-152,-154	5136	2.50	DA, GL	750
SF-159,-160	5137A	3	DA	900

DONALD C. COOK NUCLEAR PLANT

ASME SECTION XI VALVE TEST PROGRAM FOR UNIT #2

ATTACHMENT-A

Revision No: 2

Date: 8-31-87

<u>Valve No.</u>	<u>Flow Diagram</u>	<u>Size</u>	<u>Type</u>	<u>Permissible Leakage Values (SCCM)</u>
NCR-105,-106	5141	0.50	GL	750
NCR-107,-108	5141	0.50	GL	750
NCR-109,-110	5141	0.50	GL	750
RCR-100,-101	5128A	0.375	GL	750
DCR-202,-204	5137A	0.75	DA	750
ICR-5,-6	5141	0.50	GL	750
ECR-33,-35	5141F	0.75,2	GL,DA	750
ICM-260	5142	4	GA(DD)*	2 600
ICM-265	5142	4	GA(DD)*	
ECR-31,-32	5141F	1	GL	750
XCR-100,-101	5120B	1	GL	750
XCR-102,-103	5120B	1	GL	750
GCR-301	5128A	0.75	DA	375
GCR-314	5143	1	GL	375

* Double Discs | 2

DONALD C. COOK NUCLEAR PLANT

ASME SECTION XI VALVE TEST PROGRAM FOR UNIT #2

ATTACHMENT-A

Revision No: 2

Date: 8-31-87

<u>Valve No.</u>	<u>Flow Diagram</u>	<u>Size</u>	<u>Type</u>	<u>Permissible Leakage Values (SCCM)</u>
SI-171,-172,-194	5143	0.75	GL	1125
NCR-252	5128A	3	GL	450
CCR-460,-462	5135	3	GL	900
CCR-457,CCW-135	5135	2,2.50	GL,CK	1125
CCR-455,-456	5135	2	GL	750
SM-4,-6	5147A	0.50	GL	750
ICM-251	5142	4	GA (DD) *	600
ICM-250	5142	4	GA (DD) *	600
CA-181S	5145	0.50	CK	750
CA-181N	5145	0.50	CK	750
SM-8,-10	5147A	0.50	ND	750
CCW-243-25	5135B	1	CK	750
CCW-244-25	5135B	1	CK	750

* Double Discs | 2

DONALD C. COOK NUCLEAR PLANT

ASME SECTION XI VALVE TEST PROGRAM FOR UNIT #2

ATTACHMENT-A

Revision No: 2

Date: 8-31-87

<u>Valve No.</u>	<u>Flow Diagram</u>	<u>Size</u>	<u>Type</u>	<u>Permissible Leakage Values (SCCM)</u>
CCW ² -243-72	5135B	1	CK	750
CCW-244-72	5135B	1	CK	750
CCM-430	5135B	1.50	GL	375
CCM-431	5135B	1.50	GL	375
CCR-440	513B	1.50	GL	375
CCR-441	5135B	1.50	GL	375
CCM-432	5135B	1.50	GL	375
CCM-433	5135B	1.50	GL	375
R-156	5146B	0.375	CK	750
R-157	5146B	0.375	CK	750
NS-357	5124	0.50	CK	750
ECR-496,-497	5141C	0.50	GL	750
ECR-416	5141C	0.50	GL	375
ECR-417	5141C	0.50	GL	375
ECR-535	5141C	0.50	GL	375

DONALD C. COOK NUCLEAR PLANT

ASME SECTION XI VALVE TEST PROGRAM FOR UNIT #2

ATTACHMENT-A

Revision No: 2

Date: 8-31-87

<u>Valve No.</u>	<u>Flow Diagram</u>	<u>Size</u>	<u>Type</u>	<u>Permissible Leakage Values (SCCM)</u>
ECR-536	5141C	0.50	GL	375
ECR-36	5141F	2	DA	375
PCR-40	5120B	2	GA	375
PA-342	5120B	2	CK	750
NS-283	5141D	0.50	CK	750
NPX-151	5128A	0.50	GL	375
WCR-900,-902	5114A	6	DA	1800
WCR-901,-903	5114A	6	DA	1800
WCR-912,-914	5114A	6	DA	1800
WCR-913,-915	5114A	6	DA	1800
WCR-904,-906	5114A	6	DA	1800
WCR-905,-907	5114A	6	DA	1800
WCR-908,-910	5114A	6	DA	1800
WCR-909,-911	5114A	6	DA	1800
VCR-101,-201	5147A	14	BF	4200
VCR-102,-202	5147A	14	BF	4200

DONALD C. COOK NUCLEAR PLANT

ASME SECTION XI VALVE TEST PROGRAM FOR UNIT #2

ATTACHMENT-A

Revision No: 2

Date: 8-31-87

<u>Valve No.</u>	<u>Flow Diagram</u>	<u>Size</u>	<u>Type</u>	<u>Permissible Leakage Values (SCCM)</u>
VCR-103,-203	5147A	24	BF	7200
VCR-104,-204	5147A	30	BF	9000
VCR-105,-205	5147A	30	BF	9000
VCR-106,-206	5147A	24	BF	7200
VCR-107,-207	5147A	14	BF	4200
ICM-305	5143	18	GA(DD) *	2700
ICM-306	5143	18	GA(DD) *	2700
CCM-452,-454,-458	5135	8,4,8	BF, GL, BF	3000
CCM-451,-453,-459	5135	8,4,8	BF, GL, BF	3000

* Double Discs | 2

DONALD C. COOK NUCLEAR PLANT

ASME SECTION XI VALVE TEST PROGRAM FOR UNIT #2

ATTACHMENT-A

Revision No: 2

Date: 8-31-87

2. CONTAINMENT SPRAY VALVES (Category A or AC)

Testing Method: As described in "SLT-2A," Figure 3.

2

<u>Valve No.</u>	<u>Flow Diagram</u>	<u>Size</u>	<u>Type</u>	<u>Permissible Leakage Values (CCM)</u>
CTS-131W	5144	8	CK	3.73
CTS-131E	5144	8	CK	3.00
CTS-127W	5144	6	CK	22.55
CTS-127E	5144	6	CK	21.21
RH-141	5144	8	CK	20.70
RH-142	5144	8	CK	23.00

DONALD C. COOK NUCLEAR PLANT

ASME SECTION XI VALVE TEST PROGRAM FOR UNIT #2

ATTACHMENT-A

Revision No: 2

Date: 8-31-87

3. PRESSURE ISOLATION VALVES (Category A or AC)

Testing Method: (SLT-1) Seat leakage test the valve per ASME Code Section XI.

<u>Valve No.</u>	<u>Flow Diagram</u>	<u>Size</u>	<u>Type</u>	<u>Permissible Leakage Values (GPM)</u>
CS-299E	5129	4	CK	2.0
CS-299W	5129	4	CK	2.0
SI-152-N	5143	4	CK	5.0
SI-152-S	5143	4	CK	5.0
ICM-129	5143	14	GA(DD)* 2	10.0
SI-161-L1, -L4	5143	6	CK	10.0
SI-161-L2, -L3	5143	6	CK	10.0
SI-170-L1	5143	10	CK	5.0
SI-170-L2	5143	10	CK	1.0
SI-170-L3	5143	10	CK	1.0
SI-170-L4	5143	10	CK	5.0
SI-158-L1, -L4	5143	6	CK	10.0

* Double Discs | 2

DONALD C. COOK NUCLEAR PLANT

ASME SECTION XI VALVE TEST PROGRAM FOR UNIT #2

ATTACHMENT-A

Revision No: 2

Date: 8-31-87

<u>Valve No.</u>	<u>Flow Diagram</u>	<u>Size</u>	<u>Type</u>	<u>Permissible Leakage Values (GPM)</u>
SI-158-L2, -L3	5143	6	CK	10.0
SI-151-E	5143	8	CK	5.0
SI-151-W	5143	8	CK	5.0
SI-166-L1	5143	10	CK	5.0
SI-166-L2	5143	10	CK	5.0
SI-166-L3	5143	10	CK	5.0
SI-166-L4	5143	10	CK	5.0
RH-133, -134	5143	8	CK	1.0



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUPPLY SHEET - UNIT 2
 FLOW DIAGRAM: 2-51510-27

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: EMERGENCY-DIESEL-GENERATOR "CD"

VALVE				VALVE POSITION				ASME SECTION XI						
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-SV-120-CD	0	REL	0.25	SA	H/2	C	0	3	A	C	TF-1	TF-1	R	NO
2-SV-139-CD	0	REL	1	SA	B/2	C	0	3	A	C	TF-1	TF-1	R	NO
2-SV-61-CD	0	REL	1	SA	A/8	C	0	3	A	C	TF-1	TF-1	R	NO
2-SV-78-CD1	0	REL	1	SA	E/3	C	0	3	A	C	TF-1	TF-1	R	NO
2-SV-78-CD2	0	REL	1	SA	D/3	C	0	3	A	C	TF-1	TF-1	R	NO
2-SV-79-CD1	0	REL	0.5	SA	E/1	C	0	3	A	C	TF-1	TF-1	R	NO
2-SV-79-CD2	0	REL	0.5	SA	E/1	C	0	3	A	C	TF-1	TF-1	R	NO
2-XRV-225	0	GA	1	A	B/3	C	0	3	A	B	EF-1 EF-7 ET-010	EF-1 EF-7 NOTE 3	P P P	NO NO YES, NOTE 3
2-XRV-226	0	GL	3	A	B/4	C	0	3	A	B	EF-1 ET-010	EF-1 NOTE 3	P P	YES, NOTE 3 YES, NOTE 3
2-XRV-227	0	GL	3	A	B/4	C	0	3	A	B	EF-1 ET-010	EF-1 NOTE 3	P P	YES, NOTE 3 YES, NOTE 3



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5151D-27

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM NAME: EMERGENCY DIESEL GENERATOR "CD"

VALVE		VALVE POSITION		ASME SECTION XI										
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-DG-102C	1	CK	1.5	SA	H/4	0	0/C	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-104C	1	CK	1.5	SA	F/4	0	0/C	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-128C	0	CK	1	SA	C/3	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-130C	0	CK	1	SA	C/3	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-132C	0	CK	3	SA	B/4	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-134C	0	CK	3	SA	B/4	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-140C	0	CK	0.5	SA	F/1	C	0/C	3	A	C	CF-1	CF-1	P	NO
2-DG-142C	0	CK	0.5	SA	F/1	C	0/C	3	A	C	CF-1	CF-1	P	NO
2-DG-146C	0	CK	2	SA	A/9	0	C	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-152C	0	CK	4	SA	D/9	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-154C	0	CK	4	SA	C/9	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-QT-132-2CD	0	3M	6	SA	E/8	0	0	3	A	B	EF-1	NOTE 1	P	NO, NOTE 2



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5151C-26

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: EMERGENCY-DIESEL GENERATOR

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-DL-114C	0	CK	1.5	SA	B/9	0	C	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DL-116C	0	CK	1.5	SA	B/9	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DL-132C	0	CK	1	SA	F/9	0	C	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DL-158C	0	CK	6	SA	G/5	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-QT-114-2CD	0	3M	6	SA	H/5	0	0	3	A	B	EF-1	NOTE 2	P	NO, NOTE 2



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLON DIAGRAM: 2-5151B-27

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM NAME: EMERGENCY DIESEL GENERATOR

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-SV-120-AB	0	REL	0.25	SA	G/2	C	0	3	A	C	TF-1	TF-1	R	NO
2-SV-139-AB	0	REL	1	SA	B/2	C	0	3	A	C	TF-1	TF-1	R	NO
2-SV-61-AB	0	REL	1	SA	A/8	C	0	3	A	C	TF-1	TF-1	R	NO
2-SV-78-AB1	0	REL	1	SA	E/3	C	0	3	A	C	TF-1	TF-1	R	NO
2-SV-78-AB2	0	REL	1	SA	D/3	C	0	3	A	C	TF-1	TF-1	R	NO
2-SV-79-AB1	0	REL	0.5	SA	E/1	C	0	3	A	C	TF-1	TF-1	R	NO
2-SV-79-AB2	0	REL	0.5	SA	E/1	C	0	3	A	C	TF-1	TF-1	R	NO
2-XRV-220	0	GA	1	A	B/3	C	0	3	A	B	EF-1 EF-7 ET-010	EF-1 EF-7 NOTE 3	P P P	NO NO YES, NOTE 3
2-XRV-221	0	GL	3	A	B/4	C	0	3	A	B	EF-1 ET-010	EF-1 NOTE 3	P P	NO YES, NOTE 3
2-XRV-222	0	GL	3	A	B/4	C	0	3	A	B	EF-1 ET-010	EF-1 NOTE 3	P P	NO YES, NOTE 3



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5151B-27

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: EMERGENCY-DIESEL GENERATOR

VALVE				VALVE POSITION				ASME SECTION XI						
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-DG-102A	0	CK	1.5	SA	H/4	0	0/C	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-104A	0	CK	1.5	SA	G/4	0	0/C	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-128A	0	CK	1	SA	C/4	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-130A	0	CK	1	SA	C/4	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-132A	0	CK	3	SA	B/4	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-134A	0	CK	3	SA	B/4	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-140A	0	CK	0.5	SA	F/1	C	0/C	3	A	C	CF-1	CF-1	P	NO
2-DG-142A	0	CK	0.5	SA	F/1	C	0/C	3	A	C	CF-1	CF-1	P	NO
2-DG-146A	0	CK	2	SA	A/8	0	C	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-152A	0	CK	4	SA	D/8	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-154A	0	CK	4	SA	C/8	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-QT-132-2AB	0	3W	6	SA	E/8	0	0	3	A	B	EF-1	NOTE 2	P	NO, NOTE 2



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5151A-26

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM NAME: EMERGENCY DIESEL GENERATOR

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-DF-108A	0	CK	1.5	SA	L/3	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DF-109A	0	CK	1.5	SA	K/3	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DF-114A	0	CK	1.5	SA	J/3	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DF-115A	0	CK	1.5	SA	H/3	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DL-114A	0	CK	1.5	SA	B/9	O	C	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DL-116A	0	CK	1.5	SA	B/9	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DL-132A	0	CK	1	SA	F/9	O	C	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DL-158A	0	CK	6	SA	G/6	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-QT-114-2AB	0	3H	6	SA	H/5	O	0	3	A	B	EF-1	NOTE 2	P	NO, NOTE 2



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5149-23

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: CONTROL ROOM VENTILATION

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIN REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-DN-163-N	0	GA	2.5	M	F/2	0	O/C	3	A	B	EF-1	EF-1	P	NO
2-DN-163-S	0	GA	2.5	M	G/2	0	O/C	3	A	B	EF-1	EF-1	P	NO
2-DN-166-N	0	GA	2.5	M	E/5	0	O/C	3	A	B	EF-1	EF-1	P	NO
2-DN-166-S	0	GA	2.5	M	J/5	0	O/C	3	A	B	EF-1	EF-1	P	NO
2-VRV-315	0	3N	2.5	A	F/5	0	0	3	A	B	EF-1 EF-7 ET-NA	EF-1 EF-7 NOTE 1	P P -	NO, NOTE 1 NO, NOTE 1 YES, NOTE 1
2-VRV-325	0	3N	2.5	A	G/5	0	0	3	A	B	EF-1 EF-7 ET-NA	EF-1 EF-7 NOTE 1	P P -	NO, NOTE 1 NO, NOTE 1 YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW-DIAGRAM: 2-5147A-35

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: CONTAINMENT-VENTILATION

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	CL	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-VCR-203	0	BF	24	A	J/5	C	C	2	P	A		EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-VCR-204	0	BF	30	A	J/6	C	C	2	P	A		EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-VCR-205	0	BF	30	A	J/3	C	C	2	P	A		EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-VCR-206	0	BF	24	A	J/3	C	C	2	P	A		EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-VCR-207	0	BF	14	A	J/4	O/C	C	2	A	A		EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5147A-35

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: CONTAINMENT VENTILATION

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-VCR-105	0	BF	30	A	J/3	C	C	2	P	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-VCR-106	0	BF	24	A	J/3	C	C	2	P	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-VCR-107	0	BF	14	A	J/4	O/C	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-VCR-201	0	BF	14	A	J/8	C	C	2	P	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-VCR-202	0	BF	14	A	J/9	C	C	2	P	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1

DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5147A-35

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM NAME: CONTAINMENT VENTILATION

VALVE		VALVE POSITION				ASME SECTION XI								
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-SM-10	0	GA	0.5	M	A/4	C	C	2	P	A	SLT-1	SLT-2	R	YES, NOTE 1
2-SM-4	0	GA	0.5	M	A/2	C	C	2	P	A	SLT-1	SLT-2	R	YES, NOTE 1
2-SM-6	0	GA	0.5	M	A/2	C	C	2	P	A	SLT-1	SLT-2	R	YES, NOTE 1
2-SM-8	0	GA	0.5	M	A/4	C	C	2	P	A	SLT-1	SLT-2	R	YES, NOTE 1
2-VCR-101	0	BF	14	A	J/8	C	C	2	P	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-VCR-102	0	BF	14	A	J/9	C	C	2	P	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-VCR-103	0	BF	24	A	J/5	C	C	2	P	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-VCR-104	0	BF	30	A	J/6	C	C	2	P	A	EF-1 EF-5 EF-7 ET-004 SLT-1	EF-1 EF-5 EF-7 ET-004 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5146B-23

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM NAME: ICE CONDENSER REFRIGERATION

VALVE		VALVE POSITION		ASME SECTION XI										
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-R-156	2	CK	0.375	SA	L/4	C	O/C	2	A	AC	CF-1 SLT-1	CF-1 SLT-2	R R	YES, NOTE 1 YES, NOTE 2
2-R-157	2	CK	0.375	SA	L/6	C	O/C	2	A	AC	CF-1 SLT-1	CF-1 SLT-2	R R	YES, NOTE 1 YES, NOTE 2
2-VCR-10	0	DA	4	A	M/5	O	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 2
2-VCR-11	0	DA	4	A	L/5	O	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 2
2-VCR-20	0	DA	4	A	M/7	O	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 2
2-VCR-21	0	DA	4	A	L/7	O	C	2	A	A	EF-1 EF-5 EF-7 ET-006 SLT-1	EF-1 EF-5 EF-7 ET-006 SLT-2	P - P P R	NO NO NO NO YES, NOTE 2



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5145-20

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM NAME: CPN/WELD CHANNEL PRESSURIZATION

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
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2-CA-181-N	0	CK	0.5	SA	F/2	C	C	2	P	AC	SLT-1	SLT-2	R	YES, NOTE 1
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2-CA-181-S	0	CK	0.5	SA	F/3	C	C	2	P	AC	SLT-1	SLT-2	R	YES, NOTE 1
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DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5144-29

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM NAME: CONTAINMENT SPRAY

VALVE				VALVE POSITION				ASME SECTION XI						
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-IMO-221	0	GA	10	MO	L/8	C	0	2	A	B	EF-1 EF-5 ET-066	EF-1 EF-5 ET-066	P - P	NO NO NO
2-IMO-222	0	GA	2	MO	L/9	0	O/C	2	A	B	EF-1 EF-5 ET-030	EF-1 EF-5 ET-030	P - P	NO NO NO
2-IMO-225	0	GA	12	MO	J/9	0	O/C	2	A	B	EF-1 EF-5 ET-074	EF-1 EF-5 ET-074	P - P	NO NO NO
2-RH-141	0	CK	8	SA	E/3	C	0	2	A	AC	CF-1 SLT-1	CF-2 SLT-2A	R R	YES, NOTE 2 YES, NOTE 3
2-RH-142	0	CK	8	SA	E/3	C	0	2	A	AC	CF-1 SLT-1	CF-2 SLT-2A	R R	YES, NOTE 2 YES, NOTE 3
2-SV-107	0	REL	1	SA	N/5	C	0	2	A	C	TF-1	TF-1	R	NO

DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5144-29

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM NAME: CONTAINMENT SPRAY

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-CTS-138-N	2	CK	12	SA	J/9	C	O/C	2	A	C	CF-1	CF-3	-	YES, NOTE 1
2-IMO-202	0	GA	2.5	NO	M/7	C	0	2	A	B	EF-1 EF-5 ET-018	EF-1 EF-5 ET-018	P - P	NO NO NO
2-IMO-204	0	GA	2.5	NO	M/7	C	0	2	A	B	EF-1 EF-5 ET-018	EF-1 EF-5 ET-018	P - P	NO NO NO
2-IMO-210	0	GA	10	NO	J/8	C	0	2	A	B	EF-1 EF-5 ET-066	EF-1 EF-5 ET-066	P - P	NO NO NO
2-IMO-211	0	GA	10	NO	J/8	C	0	2	A	B	EF-1 EF-5 ET-065	EF-1 EF-5 ET-065	P - P	NO NO NO
2-IMO-212	0	GA	2	NO	H/8	0	O/C	2	A	B	EF-1 EF-5 ET-033	EF-1 EF-5 ET-033	P - P	NO NO NO
2-IMO-215	0	GA	12	NO	G/9	0	O/C	2	A	B	EF-1 EF-5 ET-074	EF-1 EF-5 ET-074	P - P	NO NO NO
2-IMO-220	0	GA	10	NO	L/8	C	0	2	A	B	EF-1 EF-5 ET-065	EF-1 EF-5 ET-065	P - P	NO NO NO



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SURVEY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5144-29

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: CONTAINMENT SPRAY

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-CTS-103-E	2	CK	10	SA	J/9	C	0	2	A	C	CF-1	CF-3	-	YES, NOTE 1
2-CTS-103-W	2	CK	10	SA	L/9	C	0	2	A	C	CF-1	CF-3	-	YES, NOTE 1
2-CTS-109	0	VB	1	SA	M/6	C	0	2	A	C	TF-1	TF-1	R	NO
2-CTS-110	0	VB	1	SA	M/6	C	0	2	A	C	TF-1	TF-1	R	NO
2-CTS-120-E	0	CK	2	SA	H/8	C	0	2	A	C	CF-1	CF-1	P	NO
2-CTS-120-W	0	CK	2	SA	K/8	C	0	2	A	C	CF-1	CF-1	P	NO
2-CTS-127-E	0	CK	6	SA	E/5	C	0	2	A	AC	CF-1 SLT-1	CF-2 SLT-2A	R R	YES, NOTE 2 YES, NOTE 3
2-CTS-127-W	0	CK	6	SA	E/4	C	0	2	A	AC	CF-1 SLT-1	CF-2 SLT-2A	R R	YES, NOTE 2 YES, NOTE 3
2-CTS-131-E	0	CK	8	SA	E/2	C	0	2	A	AC	CF-1 SLT-1	CF-2 SLT-2A	R R	YES, NOTE 2 YES, NOTE 3
2-CTS-131-W	0	CK	8	SA	E/2	C	0	2	A	AC	CF-1 SLT-1	CF-2 SLT-2A	R R	YES, NOTE 2 YES, NOTE 3
2-CTS-138-E	2	CK	12	SA	G/9	C	0/C	2	A	C	CF-1	CF-3	-	YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5143-35

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: EMERGENCY-CORE-COOLING - RHR

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-SV-100-3	0	REL	1	SA	D/1	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-100-4	0	REL	1	SA	D/1	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-102	0	REL	0.75	SA	E/5	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-103	0	REL	3	SA	F/8	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-104E	0	REL	2	SA	G/4	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-104H	0	REL	2	SA	K/4	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-105E	0	REL	2	SA	D/9	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-105H	0	REL	2	SA	D/9	C	0	2	A	C	TF-1	TF-1	R	NO



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5143-35

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: EMERGENCY-CORE-COOLING - RHR

VALVE				VALVE POSITION				ASME SECTION-XI							
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)	
2-SI-166-L4	0	CK	10	SA	C/4	C	0	1	A	AC	CF-1 SLT-1	CF-2 SLT-1	R R	YES, NOTE 5 NO, NOTE 1	
2-SI-170-L1	2	CK	10	SA	A/4	C	0	1	A	AC	CF-1 SLT-1	CF-3 SLT-1	R R	YES, NOTE 13 NO, NOTE 1	
2-SI-170-L2	2	CK	10	SA	A/5	C	0/C	1	A	AC	CF-1 SLT-1	CF-3 SLT-1	R R	YES, NOTE 13 NO, NOTE 1	
2-SI-170-L3	2	CK	10	SA	A/5	C	0/C	1	A	AC	CF-1 SLT-1	CF-3 SLT-1	R R	YES, NOTE 13 NO, NOTE 1	
2-SI-170-L4	2	CK	10	SA	A/4	C	0	1	A	AC	CF-1 SLT-1	CF-3 SLT-1	R R	YES, NOTE 13 NO, NOTE 1	
2-SI-171	0	GL	0.75	M	H/6	C	C	2	P	A	SLT-1	SLT-2	R	YES, NOTE 1	
2-SI-172	0	GL	0.75	M	H/6	C	C	2	P	A	SLT-1	SLT-2	R	YES, NOTE 1	
2-SI-194	0	GL	0.75	M	G/6	C	C	2	P	A	SLT-1	SLT-2	R	YES, NOTE 1	
2-SV-100-1	0	REL	1	SA	D/1	C	0	2	A	C	TF-1	TF-1	R	NO	
2-SV-100-2	0	REL	1	SA	D/1	C	0	2	A	C	TF-1	TF-1	R	NO	



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5143-35

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: EMERGENCY CORE COOLING - RHR

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-SI-158-L3	0	CK	6	SA	B/7	C	0	1	A	AC	CF-1 SLT-1	CF-2 SLT-1	C R	YES, NOTE 12 NO, NOTE 1
2-SI-158-L4	0	CK	6	SA	B/7	C	0	1	A	AC	CF-1 SLT-1	CF-2 SLT-1	C R	YES, NOTE 12 NO, NOTE 1
2-SI-161-L1	0	CK	6	SA	B/6	C	0	1	A	AC	CF-1 SLT-1	CF-2 SLT-1	C R	YES, NOTE 6 NO, NOTE 1
2-SI-161-L2	0	CK	6	SA	B/5	C	0	1	A	AC	CF-1 SLT-1	CF-2 SLT-1	C R	YES, NOTE 6 NO, NOTE 1
2-SI-161-L3	0	CK	6	SA	B/5	C	0	1	A	AC	CF-1 SLT-1	CF-2 SLT-1	C R	YES, NOTE 6 NO, NOTE 1
2-SI-161-L4	0	CK	6	SA	B/6	C	0	1	A	AC	CF-1 SLT-1	CF-2 SLT-1	C R	YES, NOTE 6 NO, NOTE 1
2-SI-166-L1	0	CK	10	SA	C/4	C	0	1	A	AC	CF-1 SLT-1	CF-2 SLT-1	R R	YES, NOTE 5 NO, NOTE 1
2-SI-166-L2	0	CK	10	SA	C/4	C	0	1	A	AC	CF-1 SLT-1	CF-2 SLT-1	R R	YES, NOTE 5 NO, NOTE 1
2-SI-166-L3	0	CK	10	SA	C/4	C	0	1	A	AC	CF-1 SLT-1	CF-2 SLT-1	R R	YES, NOTE 5 NO, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5143-35

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM NAME: EMERGENCY CORE COOLING - RHR

VALVE				VALVE POSITION				ASME SECTION XI						
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-RH-108N	0	CK	8	SA	N/9	C	0	2	A	C	CF-1	CF-3	C	NO, NOTE 7
2-RH-133	0	CK	8	SA	C/5	C	C	1	P	AC	CF-1 SLT-1	CF-2 SLT-1	C R	YES, NOTE 8 NO, NOTE 1
2-RH-134	0	CK	8	SA	C/5	C	C	1	P	AC	CF-1 SLT-1	CF-2 SLT-1	C R	YES, NOTE 8 NO, NOTE 1
2-SI-148	2	CK	12	SA	G/7	C	0	2	A	C	CF-1	CF-3	-	YES, NOTE 9
2-SI-151-E	0	CK	8	SA	D/7	C	0	2	A	AC	CF-1 SLT-1	CF-2 SLT-1	C R	YES, NOTE 10 NO, NOTE 1
2-SI-151-W	0	CK	8	SA	D/7	C	0	2	A	AC	CF-1 SLT-1	CF-2 SLT-1	C R	YES, NOTE 10 NO, NOTE 1
2-SI-152-N	0	CK	4	SA	D/8	C	0	2	A	AC	CF-1 SLT-1	CF-2 SLT-1	R R	YES, NOTE 11 NO, NOTE 1
2-SI-152-S	0	CK	4	SA	D/7	C	0	2	A	AC	CF-1 SLT-1	CF-2 SLT-1	R R	YES, NOTE 11 NO, NOTE 1
2-SI-158-L1	0	CK	6	SA	B/8	C	0	1	A	AC	CF-1 SLT-1	CF-2 SLT-1	C R	YES, NOTE 12 NO, NOTE 1
2-SI-158-L2	0	CK	6	SA	B/7	C	0	1	A	AC	CF-1 SLT-1	CF-2 SLT-1	C R	YES, NOTE 12 NO, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5143-35

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM NAME: EMERGENCY CORE COOLING - RHR

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT.	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-IMO-325	0	GA	8	MO	C/7	C	C/O	1	A	B	EF-1 EF-5 ET-028	EF-2 EF-5 ET-028	C - C	YES, NOTE 4 NO NO
2-IMO-326	0	GA	8	MO	C/7	O	O/C	2	A	B	EF-1 EF-5 ET-028	EF-2 EF-5 ET-028	C - C	YES, NOTE 4 NO NO
2-IMO-330	0	GA	8	MO	G/4	C	O	2	A	B	EF-1 EF-5 ET-053	EF-1 EF-5 ET-053	P - P	NO NO NO
2-IMO-331	0	GA	8	MO	L/5	C	O	2	A	B	EF-1 EF-5 ET-051	EF-1 EF-5 ET-051	P - P	NO NO NO
2-IMO-340	0	GA	8	MO	H/5	C	O	2	A	B	EF-1 EF-5 ET-015	EF-1 EF-5 ET-015	P - P	NO NO NO
2-IMO-350	0	GA	8	MO	L/5	C	O	2	A	B	EF-1 EF-5 ET-015	EF-1 EF-5 ET-015	P - P	NO NO NO
2-N-102	2	CK	1	SA	F/5	O/C	C	2	A	AC	CF-1 SLT-1	CF-2 SLT-2	R R	YES, NOTE 14 YES, NOTE 1
2-RH-108E	0	CK	8	SA	K/9	C	O	2	A	C	CF-1	CF-3	C	NO, NOTE 7



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5143-35

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM NAME: EMERGENCY CORE COOLING - RHR

VALVE		VALVE POSITION		ASME SECTION XI										
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-IMO-312	0	GL	2	MO	J/5	0	O/C	2	A	B	EF-1 EF-5 ET-012	EF-1 EF-5 ET-012	P - P	NO NO NO
2-IMO-314	0	GA	8	MO	K/6	0	O/C	2	A	B	EF-1 EF-5 ET-034	EF-1 EF-5 ET-034	P - P	NO NO NO, NOTE 3
2-IMO-315	0	GA	8	MO	C/7	C	C/O	1	A	B	EF-1 EF-5 ET-033	EF-2 EF-5 ET-033	C - C	YES, NOTE 4 NO NO
2-IMO-316	0	GA	8	MO	C/7	0	O/C	2	A	B	EF-1 EF-5 ET-033	EF-2 EF-5 ET-033	C - C	YES, NOTE 4 NO NO
2-IMO-320	0	GA	14	MO	L/9	0	O/C	2	A	B	EF-1 EF-5 ET-128	EF-1 EF-5 ET-128	P - P	NO NO NO, NOTE 3
2-IMO-322	0	GL	2	MO	M/5	0	O/C	2	A	B	EF-1 EF-5 ET-011	EF-1 EF-5 ET-011	P - P	NO NO NO
2-IMO-324	0	GA	8	NO	M/6	0	O/C	2	A	B	EF-1 EF-5 ET-035	EF-1 EF-5 ET-035	P - P	NO NO NO, NOTE 3

DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5143-35

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM NAME: EMERGENCY CORE COOLING - RHR

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-GCR-314	0	GL	1	A	G/2	O	C	2	A	A	EF-1 EF-5 EF-7 ET-003 SLT-1	EF-1 EF-5 EF-7 ET-003 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-ICH-129	2	GA	14	MO	E/8	C	C	1	P	A	EF-1 EF-5 ET-121 SLT-1	EF-2 EF-5 ET-121 SLT-1	- - - R	YES, NOTE 2 NO NO NO, NOTE 1
2-ICH-305	0	GA	18	MO	D/9	C	O	2	A	A	EF-1 EF-5 ET-049 SLT-1	EF-1 EF-5 ET-049 SLT-2	P - P R	NO NO NO YES, NOTE 1
2-ICH-306	0	GA	18	MO	D/9	C	O	2	A	A	EF-1 EF-5 ET-049 SLT-1	EF-1 EF-5 ET-049 SLT-2	P - P R	NO NO NO YES, NOTE 1
2-IMO-128	2	GA	14	MO	B/8	C	C	1	P	B	EF-1 EF-5 ET-134	EF-2 EF-5 ET-134	- - -	YES, NOTE 2 NO NO
2-IMO-310	0	GA	14	MO	H/9	O	O/C	2	A	B	EF-1 EF-5 ET-148	EF-1 EF-5 ET-148	P - P	NO NO NO, NOTE 3



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5142-28

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: EMERGENCY CORE COOLING - SIS

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-SI-142-L3	0	CK	1.5	SA	C/2	C	0	1	A	C	CF-1	CF-2	R	YES, NOTE 6
2-SI-142-L4	0	CK	1.5	SA	C/1	C	0	1	A	C	CF-1	CF-2	R	YES, NOTE 6
2-SV-96	0	REL	0.75	SA	J/8	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-97	0	REL	0.75	SA	J/4	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-98-N	0	REL	0.75	SA	C/9	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-98-S	0	REL	0.75	SA	E/8	C	0	2	A	C	TF-1	TF-1	R	NO

DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5142-28

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: EMERGENCY-CORE-COOLING - SIS

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD A/P CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-IRV-252	0	GL	1	A	J/5	O	C	3 A B	EF-1 EF-5 EF-7 ET-005	EF-1 EF-5 EF-7 ET-005	P - P P	NO NO NO NO
2-IRV-255	0	GL	1	A	H/6	O	C	2 A B	EF-1 EF-5 EF-7 ET-004	EF-1 EF-5 EF-7 ET-004	P - P P	NO NO NO NO
2-SI-101	0	CK	8	SA	M/8	C	O	2 A C	CF-1	CF-3	R	YES, NOTE 5
2-SI-104-N	0	CK	0.75	SA	E/9	C	O	2 A C	CF-1	CF-1	P	NO
2-SI-104-S	0	CK	0.75	SA	J/9	C	O	2 A C	CF-1	CF-1	P	NO
2-SI-110-N	0	CK	4	SA	E/9	C	O	2 A C	CF-1	CF-2	R	YES, NOTE 5
2-SI-110-S	0	CK	4	SA	H/9	C	O	2 A C	CF-1	CF-2	R	YES, NOTE 5
2-SI-126	0	CK	1	SA	H/6	O	C	2 A C	CF-1	CF-1	P	NO
2-SI-142-L1	0	CK	1.5	SA	C/1	C	O	1 A C	CF-1	CF-2	R	YES, NOTE 6
2-SI-142-L2	0	CK	1.5	SA	C/2	C	O	1 A C	CF-1	CF-2	R	YES, NOTE 6



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5142-28

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: EMERGENCY-CORE-COOLING--SIS

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNC	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-IMO-262	0	GL	2	MO	L/8	0	O/C	2	A	B	EF-1 EF-5 ET-012	EF-2 EF-5 ET-012	C - C	YES, NOTE 4 NO NO
2-IMO-263	0	GL	2	MO	L/8	0	O/C	2	A	B	EF-1 EF-5 ET-012	EF-2 EF-5 ET-012	C - C	YES, NOTE 4 NO NO
2-IMO-270	0	GA	4	MO	E/9	0	O/C	2	A	B	EF-1 EF-5 ET-024	EF-1 EF-5 ET-024	P - P	NO NO NO
2-IMO-275	0	GA	4	MO	E/8	0	O/C	2	A	B	EF-1 EF-5 ET-020	EF-1 EF-5 ET-020	P - P	NO NO NO
2-IMO-361	0	GA	4	MO	G/9	C	C/O	2	A	B	EF-1 EF-5 ET-009	EF-1 EF-5 ET-009	P - P	NO NO NO
2-IMO-362	0	GA	4	MO	G/9	C	C/O	2	A	B	EF-1 EF-5 ET-009	EF-1 EF-5 ET-009	P - P	NO NO NO
2-IRV-251	0	GL	1	A	H/5	0	C	2	A	B	EF-1 EF-5 EF-7 ET-004	EF-1 EF-5 EF-7 ET-004	P - P P	NO NO NO NO



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5142-28

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: EMERGENCY-CORE-COOLING - SIS

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-ICM-250	0	GA	4	MO	H/2	C	O/C	2	A	A	EF-1 EF-5 ET-012 SLT-1	EF-2 EF-5 ET-012 SLT-2	C - C R	YES, NOTE 1 NO NO YES, NOTE 2
2-ICM-251	0	GA	4	MO	H/3	C	O/C	2	A	A	EF-1 EF-5 ET-012 SLT-1	EF-2 EF-5 ET-012 SLT-2	C - C R	YES, NOTE 1 NO NO YES, NOTE 2
2-ICM-260	0	GA	4	MO	C/9	O	O/C	2	A	A	EF-1 EF-5 ET-012 SLT-1	EF-1 EF-5 ET-012 SLT-2	P - P R	NO NO NO YES, NOTE 2
2-ICM-265	0	GA	4	MO	C/8	O	O/C	2	A	A	EF-1 EF-5 ET-012 SLT-1	EF-1 EF-5 ET-012 SLT-2	P - P R	NO NO NO YES, NOTE 2
2-IMO-255	0	GA	4	MO	J/7	C	O	2	A	B	EF-1 EF-5 ET-015	EF-1 EF-5 ET-015	P - P	NO NO NO
2-IMO-256	0	GA	4	MO	J/6	C	O	2	A	B	EF-1 EF-5 ET-012	EF-1 EF-5 ET-012	P - P	NO NO NO
2-IMO-261	0	GA	8	MO	H/8	O	O/C	2	A	B	EF-1 EF-5 ET-015	EF-2 EF-5 ET-015	C - C	YES, NOTE 3 NO NO



DONALD C. COOK NUCLEAR PLANT
SECOND TEN YEAR INTERVAL
VALVE SUMMARY SHEET - UNIT 2
FLOW DIAGRAM: 2-5141D-8

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: PAS-CONTAINMENT-HYDROGEN

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
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2-NS-283	2	CK	0.5	SA	C/8	C	O/C	2	A	AC	CF-1 SLT-1	CF-2 SLT-2	R R	YES, NOTE 2 YES, NOTE 1
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DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5141D-8

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: PAS-CONTAINMENT-HYDROGEN

VALVE

VALVE POSITION

ASME SECTION XI

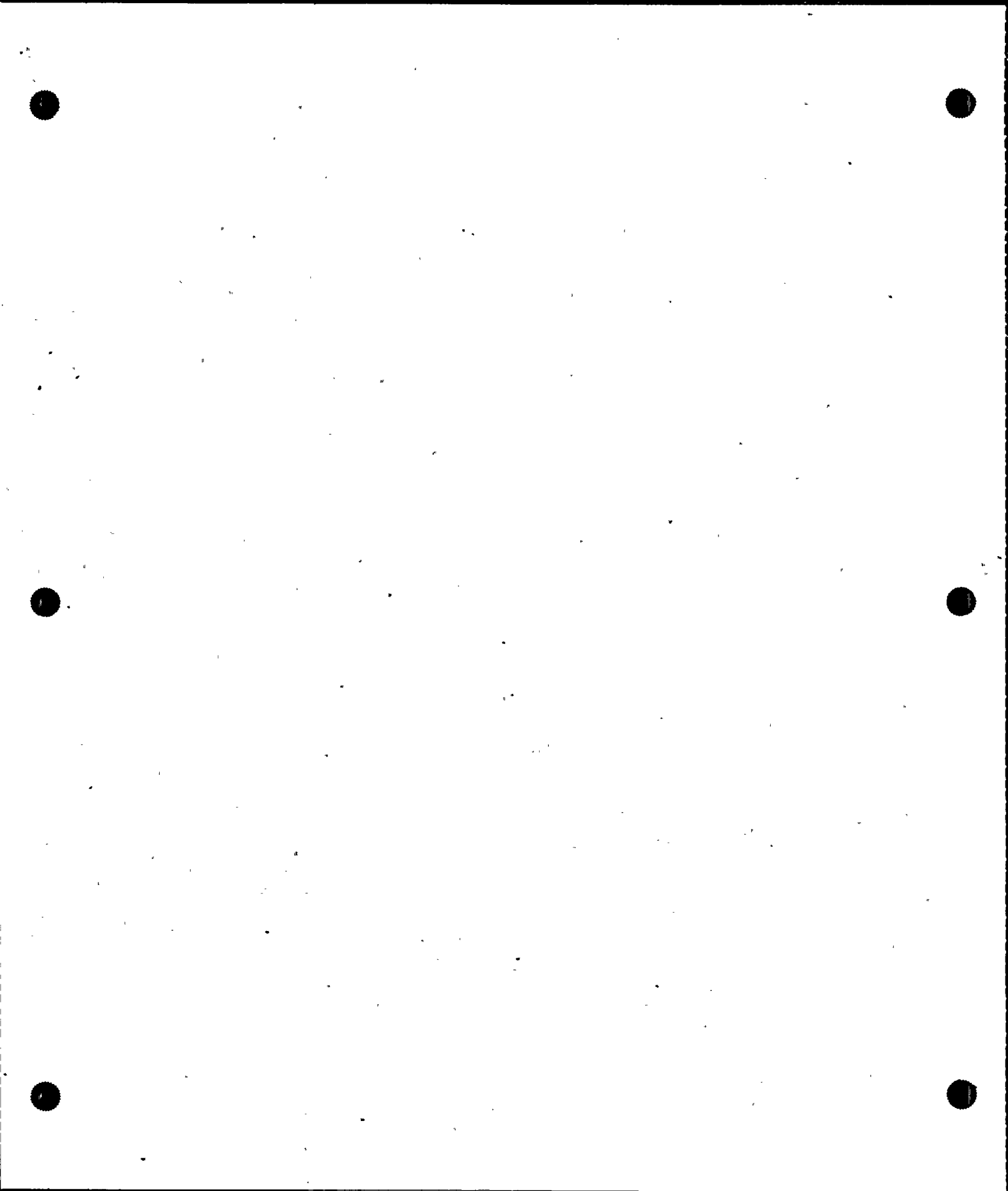
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-ECR-25	0	GL	0.5	A	B/1	C	O/C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ETF-002	ETF-002	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-26	0	GL	0.5	A	B/3	C	O/C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ETF-002	ETF-002	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-27	0	GL	0.5	A	B/3	C	O/C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ETF-002	ETF-002	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-28	0	GL	0.5	A	B/4	C	O/C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ETF-002	ETF-002	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-29	0	GL	0.5	A	B/4	C	O/C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ETF-002	ETF-002	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1

DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5141D-8

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM NAME: PAS CONTAINMENT HYDROGEN

VALVE		VALVE POSITION		ASME SECTION XI										
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-ECR-20	0	GL	0.5	A	C/8	C	O/C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-ECR-21	0	GL	0.5	A	B/2	C	O/C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-ECR-22	0	GL	0.5	A	B/2	C	O/C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-ECR-23	0	GL	0.5	A	B/1	C	O/C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-ECR-24	0	GL	0.5	A	B/3	C	O/C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5141D-8

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: PAS-CONTAINMENT-HYDROGEN

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-ECR-15	0	GL	0.5	A	A/1	C	O/C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-ECR-16	0	GL	0.5	A	A/3	C	O/C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-ECR-17	0	GL	0.5	A	A/3	C	O/C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-ECR-18	0	GL	0.5	A	A/4	C	O/C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-ECR-19	0	GL	0.5	A	A/4	C	O/C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5141D-8

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: PAS-CONTAINMENT HYDROGEN

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD A/P CL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)	
2-ECR-10	0	GL	0.5	A	C/8	C	O/C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-ECR-11	0	GL	0.5	A	A/2	C	O/C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-ECR-12	0	GL	0.5	A	A/2	C	O/C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-ECR-13	0	GL	0.5	A	A/1	C	O/C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-ECR-14	0	GL	0.5	A	A/3	C	O/C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5141A-30

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: NUCLEAR-SAMPLING

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-MCR-253	0	GL	0.5	A	B/1	0	C	2	A	B	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ETF-002	ETF-002	P	NO
2-MCR-254	0	GL	0.5	A	B/1	0	C	2	A	B	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ETF-002	ETF-002	P	NO



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5141A-30

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: NUCLEAR SAMPLING

VALVE				VALVE POSITION				ASME SECTION XI						
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-DCR-301	0	GL	0.5	A	B/2	0	C	2	A	B	EF-1 EF-5 EF-7 ET-003	EF-1 EF-5 EF-7 ET-003	P - P P	NO NO NO NO
2-DCR-302	0	GL	0.5	A	B/3	0	C	2	A	B	EF-1 EF-5 EF-7 ETF-002	EF-1 EF-5 EF-7 ETF-002	P - P P	NO NO NO NO
2-DCR-303	0	GL	0.5	A	B/3	0	C	2	A	B	EF-1 EF-5 EF-7 ETF-002	EF-1 EF-5 EF-7 ETF-002	P - P P	NO NO NO NO
2-DCR-304	0	GL	0.5	A	B/3	0	C	2	A	B	EF-1 EF-5 EF-7 ETF-002	EF-1 EF-5 EF-7 ETF-002	P - P P	NO NO NO NO
2-MCR-251	0	GL	0.5	A	B/2	0	C	2	A	B	EF-1 EF-5 EF-7 ETF-002	EF-1 EF-5 EF-7 ETF-002	P - P P	NO NO NO NO
2-MCR-252	0	GL	0.5	A	B/2	0	C	2	A	B	EF-1 EF-5 EF-7 ETF-002	EF-1 EF-5 EF-7 ETF-002	P - P P	NO NO NO NO

DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5141-27

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: NUCLEAR-SAMPLING

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-NCR-108	0	GL	0.5	A	D/6	0	C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-NCR-109	0	GL	0.5	A	D/5	0	C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-NCR-110	0	GL	0.5	A	D/6	0	C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5141-27

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: NUCLEAR-SAMPLING

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-ICR-5	0	GL	0.5	A	C/5	0	C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-ICR-6	0	GL	0.5	A	D/5	0	C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-NCR-105	0	GL	0.5	A	C/7	0	C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-NCR-106	0	GL	0.5	A	C/7	0	C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-NCR-107	0	GL	0.5	A	D/6	0	C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1

DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5135B-14

RUN DATE AND TIME: 14SEP87:13:28

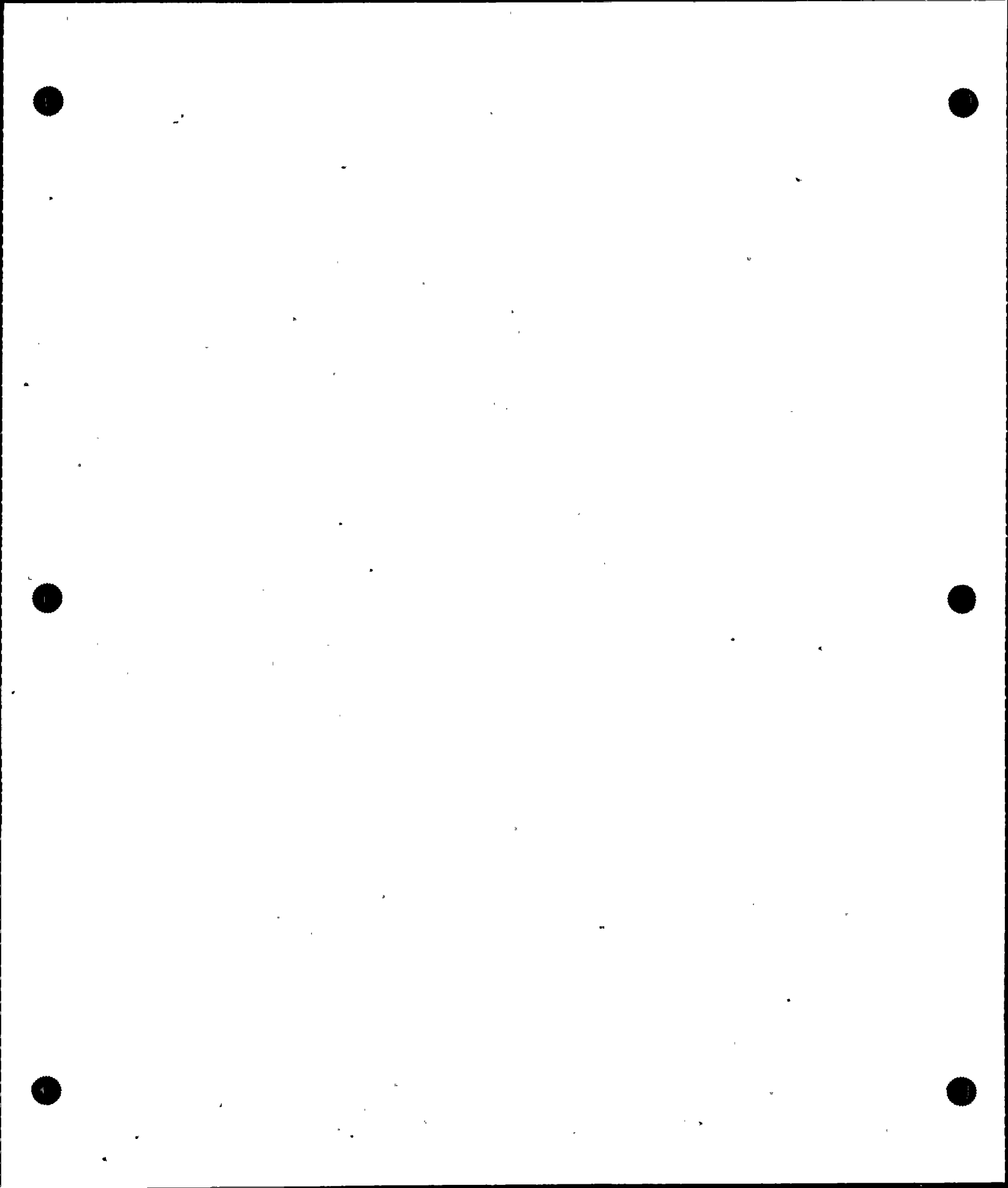
SYSTEM-NAME: COMPONENT-COOLING

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-CCH-243-25	2	CK	1	SA	C/5	0	C	2	A	AC	CF-1 SLT-1	CF-2 SLT-2	R R	YES, NOTE 2 YES, NOTE 1
2-CCH-243-72	2	CK	1	SA	C/5	0	C	2	A	AC	CF-1 SLT-1	CF-2 SLT-2	R R	YES, NOTE 2 YES, NOTE 1
2-CCH-244-25	2	CK	1	SA	C/6	0	C	2	A	AC	CF-1 SLT-1	CF-2 SLT-2	R R	YES, NOTE 2 YES, NOTE 1
2-CCH-244-72	2	CK	1	SA	C/6	0	C	2	A	AC	CF-1 SLT-1	CF-2 SLT-2	R R	YES, NOTE 2 YES, NOTE 1
2-SV-122-25B	0	REL	1.5	SA	B/6	C	0	3	A	C	TF-1	TF-1	R	NO
2-SV-122-72B	0	REL	1.5	SA	B/6	C	0	3	A	C	TF-1	TF-1	R	NO



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5135B-14

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: COMPONENT-COOLING

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-CCM-430	0	GL	1.5	MO	D/6	C	O/C	2	A	A	EF-1 EF-5 ET-018 SLT-1	EF-1 EF-5 ET-018 SLT-2	P - P R	NO NO NO YES, NOTE 1
2-CCM-431	0	GL	1.5	MO	D/6	C	O/C	2	A	A	EF-1 EF-5 ET-015 SLT-1	EF-1 EF-5 ET-015 SLT-2	P - P R	NO NO NO YES, NOTE 1
2-CCM-432	0	GL	1.5	MO	D/6	C	O/C	2	A	A	EF-1 EF-5 ET-018 SLT-1	EF-1 EF-5 ET-018 SLT-2	P - P R	NO NO NO YES, NOTE 1
2-CCM-433	0	GL	1.5	MO	D/6	C	O/C	2	A	A	EF-1 EF-5 ET-019 SLT-1	EF-1 EF-5 ET-019 SLT-2	P - P R	NO NO NO YES, NOTE 1
2-CCR-440	0	GL	1.5	A	D/6	O	C	2	A	A	EF-1 EF-5 EF-7 ET-008 SLT-1	EF-1 EF-5 EF-7 ET-008 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-CCR-441	0	GL	1.5	A	D/6	O	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5135A-30

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM NAME: COMPONENT COOLING

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-CMO-416	0	BF	16	MO	G/5	0	O/C	3	A	B	EF-1 EF-5 ET-103	EF-1 EF-5 ET-103	P - P	NO NO NO, NOTE 1
2-CMO-419	0	BF	14	MO	E/5	C	0	3	A	B	EF-1 EF-5 ET-053	EF-1 EF-5 ET-053	P - P	NO NO NO
2-CMO-420	0	BF	16	MO	H/4	C/O	0	3	A	B	EF-1 EF-5 ET-066	EF-1 EF-5 ET-066	P - P	NO NO NO
2-CMO-429	0	BF	14	MO	E/5	C	0	3	A	B	EF-1 EF-5 ET-054	EF-1 EF-5 ET-054	P - P	NO NO NO
2-CRV-412	0	GL	4	A	K/1	0	C	3	A	B	EF-1 EF-5 EF-7 ET-019	EF-1 EF-5 EF-7 ET-019	P - P P	NO NO NO NO
2-SV-60	0	REL	3	SA	L/1	C	0	3	A	C	TF-1	TF-1	R	NO
2-SV-72	0	REL	1	SA	E/5	C	0	3	A	C	TF-1	TF-1	R	NO



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5135A-30

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: COMPONENT-COOLING

VALVE

VALVE POSITION

ASME SECTION-XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-CCN-176-E	0	CK	16	SA	L/4	C/O	0	3	A	C	CF-1	CF-1	P	NO
2-CCN-176-W	0	CK	16	SA	K/4	C/O	0	3	A	C	CF-1	CF-1	P	NO
2-CMO-410	0	BF	16	MO	H/4	C/O	0	3	A	B	EF-1 EF-5 ET-055	EF-1 EF-5 ET-055	P - P	NO NO NO
2-CMO-411	0	BF	18	MO	M/5	0	0/C	3	A	B	EF-1 EF-5 ET-053	EF-1 EF-5 ET-053	P - P	NO NO NO, NOTE 1
2-CMO-412	0	BF	16	MO	L/3	0	0/C	3	A	B	EF-1 EF-5 ET-054	EF-1 EF-5 ET-054	P - P	NO NO NO, NOTE 1
2-CMO-413	0	BF	18	MO	L/5	0	0/C	3	A	B	EF-1 EF-5 ET-053	EF-1 EF-5 ET-053	P - P	NO NO NO, NOTE 1
2-CMO-414	0	BF	16	MO	K/3	0	0/C	3	A	B	EF-1 EF-5 ET-054	EF-1 EF-5 ET-054	P - P	NO NO NO, NOTE 1
2-CMO-415	0	BF	16	MO	H/5	0	0/C	3	A	B	EF-1 EF-5 ET-054	EF-1 EF-5 ET-054	P - P	NO NO NO, NOTE 1

DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5135-34

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: COMPONENT-COOLING

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD A/P CL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
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2-SV-68	0	REL	1	SA	J/2	C	0	3	A	C	TF-1	TF-1	R	NO
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2-SV-71	0	REL	1	SA	L/3	C	0	3	A	C	TF-1	TF-1	R	NO
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DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLON DIAGRAM: 2-5135-34

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM NAME: COMPONENT COOLING

VALVE				VALVE POSITION				ASME SECTION XI						
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-CCH-135	0	CK	2.5	SA	B/3	0	C	2	A	AC	CF-1 SLT-1	CF-2 SLT-2	R R	YES, NOTE 4 YES, NOTE 2
2-CRV-445	1	BL	6	A	L/5	0	C/O	3	A	B	EF-1 EF-5 EF-7 ET-034	EF-1 EF-5 EF-7 ET-034	P - P P	NO NO NO NO
2-CRV-470	0	GL	6	A	G/1	0	C	3	A	B	EF-1 EF-7 ET-NA	EF-1 NOTE 5 NOTE 5	P - -	NO YES, NOTE 5 YES, NOTE 5
2-CRV-485	0	BF	10	A	B/7	0	C	3	A	B	EF-1 EF-5 EF-7 ET-018	EF-1 EF-5 EF-7 ET-018	P - P P	NO NO NO NO
2-SV-122	0	REL	1	SA	D/3	C	0	3	A	C	TF-1	TF-1	R	NO
2-SV-62	0	REL	1	SA	D/3	C	0	3	A	C	TF-1	TF-1	R	NO
2-SV-63	0	REL	1	SA	E/3	C	0	3	A	C	TF-1	TF-1	R	NO
2-SV-64	0	REL	1	SA	C/3	C	0	3	A	C	TF-1	TF-1	R	NO
2-SV-65	0	REL	1	SA	H/1	C	0	3	A	C	TF-1	TF-1	R	NO

DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5135-34

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: COMPONENT-COOLING

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-CCR-455	0	GL	2	A	B/3	0	C	2	A	A	EF-1	EF-2	C	YES, NOTE 3
											EF-5	EF-5	-	NO
											EF-7	EF-8	C	NO, NOTE 3
											ET-005	ET-005	C	NO
											SLT-1	SLT-2	R	YES, NOTE 2
2-CCR-456	0	GL	2	A	D/4	0	C	2	A	A	EF-1	EF-2	C	YES, NOTE 3
											EF-5	EF-5	-	NO
											EF-7	EF-8	C	NO, NOTE 3
											ET-005	ET-005	C	NO
											SLT-1	SLT-2	R	YES, NOTE 2
2-CCR-457	0	GL	2	A	D/4	0	C	2	A	A	EF-1	EF-2	C	YES, NOTE 3
											EF-5	EF-5	-	NO
											EF-7	EF-8	C	NO, NOTE 3
											ETF-005	ETF-005	C	NO
											SLT-1	SLT-2	R	YES, NOTE 2
2-CCR-460	0	GL	3	A	C/4	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-010	ET-010	P	NO
											SLT-1	SLT-2	R	YES, NOTE 2
2-CCR-462	0	GL	3	A	A/4	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-009	ET-009	P	NO
											SLT-1	SLT-2	R	YES, NOTE 2



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5135-34

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: COMPONENT COOLING

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-CCM-451	0	BF	8	NO	E/4	0	C	2	A	A	EF-1 EF-5 ET-026 SLT-1	EF-2 EF-5 ET-026 SLT-2	C - C R	YES, NOTE 1 NO NO YES, NOTE 2
2-CCM-452	0	BF	8	NO	E/5	0	C	2	A	A	EF-1 EF-5 ET-023 SLT-1	EF-2 EF-5 ET-023 SLT-2	C - C R	YES, NOTE 1 NO NO YES, NOTE 2
2-CCM-453	0	GL	4	NO	E/4	0	C	2	A	A	EF-1 EF-5 ET-030 SLT-1	EF-2 EF-5 ET-030 SLT-2	C - C R	YES, NOTE 1 NO NO YES, NOTE 2
2-CCM-454	0	GL	4	NO	E/5	0	C	2	A	A	EF-1 EF-5 ET-030 SLT-1	EF-2 EF-5 ET-030 SLT-2	C - C R	YES, NOTE 1 NO NO YES, NOTE 2
2-CCM-458	0	BF	8	NO	A/2	0	C	2	A	A	EF-1 EF-5 ET-023 SLT-1	EF-2 EF-5 ET-023 SLT-2	C - C R	YES, NOTE 1 NO NO YES, NOTE 2
2-CCM-459	0	BF	8	NO	B/2	0	C	2	A	A	EF-1 EF-5 ET-024 SLT-1	EF-2 EF-5 ET-024 SLT-2	C - C R	YES, NOTE 1 NO NO YES, NOTE 2



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW-DIAGRAM: 2-5129A-20

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: CVCS - LETDOWN & CHARGING

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-QCM-250	0	GA	4	MO	C/8	0	C	2	A	A	EF-1 EF-5 ET-015 SLT-1	EF-2 EF-5 ET-015 SLT-2	C - C R	YES, NOTE 1 NO NO YES, NOTE 2
2-QCM-350	0	GA	4	MO	D/8	0	C	2	A	A	EF-1 EF-5 ET-009 SLT-1	EF-2 EF-5 ET-009 SLT-2	C - C R	YES, NOTE 1 NO NO YES, NOTE 2
2-QM0-451	0	GA	4	MO	J/5	0	C	2	A	B	EF-1 EF-5 ET-009	EF-2 EF-5 ET-009	C - C	YES, NOTE 3 NO NO
2-QM0-452	0	GA	4	MO	J/5	0	C	2	A	B	EF-1 EF-5 ET-006	EF-2 EF-5 ET-006	C - C	YES, NOTE 3 NO NO
2-QRV-400	0	GL	2	A	K/4	C	0	2	A	B	EF-1 EF-5 EF-7 ET-005	EF-1 EF-5 EF-7 ET-005	P - P P	NO NO NO NO
2-SV-53	0	REL	3	SA	H/2	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-54	0	REL	2	SA	E/4	C	0	2	A	C	TF-1	TF-1	R	NO



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5129-32

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM NAME: CVCS - LETDOWN & CHARGING

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-SV-55	0	REL	0.75	SA	K/7	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-56	0	REL	0.75	SA	L/6	C	0	2	A	C	TF-1	TF-1	R	NO



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5129-32

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: CVCS -- LETDOWN & CHARGING

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-QM0-226	0	GA	2	MO	G/7	0	O/C	2	A	B	EF-1 EF-5 ET-011	EF-1 EF-5 ET-011	P - P	NO NO NO
2-QRV-200	1	GL	3	A	H/3	0	0	2	A	B	EF-1 EF-7 ET-NA	EF-3 NOTE 8 NOTE 8	P - -	NO, NOTE 8 YES, NOTE 8 YES, NOTE 8
2-QRV-251	1	GL	3	A	H/5	0	0	2	A	B	EF-1 EF-7 ET-NA	EF-3 NOTE 9 NOTE 9	P - -	NO, NOTE 9 YES, NOTE 9 YES, NOTE 9
2-QRV-61	0	GL	3	A	C/2	C	0	2	A	B	EF-1 EF-5 EF-7 ET-008	EF-1 EF-5 EF-7 ET-008	P - P P	NO NO NO NO
2-QRV-62	0	GL	3	A	C/2	O/C	0	2	A	B	EF-1 EF-5 EF-7 ET-009	EF-1 EF-5 EF-7 ET-009	P - P P	NO NO NO NO
2-SI-185	0	CK	8	SA	K/5	C	0	2	A	C	CF-1	CF-2	R	YES, NOTE 10
2-SV-51	0	REL	2	SA	E/2	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-52	0	REL	2	SA	K/1	C	0	2	A	C	TF-1	TF-1	R	NO

DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5129-32

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: CVCS - LETDOWN & CHARGING

VALVE				VALVE POSITION				ASME SECTION XI						
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-IMO-910	0	GA	8	MO	L/5	C	0	2	A	B	EF-1 EF-5 ET-012	EF-1 EF-5 ET-012	P - P	NO NO NO
2-IMO-911	0	GA	8	MO	L/6	C	0	2	A	B	EF-1 EF-5 ET-012	EF-1 EF-5 ET-012	P - P	NO NO NO
2-QCR-300	0	GL	2	A	E/1	0	C	2	A	A	EF-1 EF-5 EF-7 ET-003 SLT-1	EF-2 EF-5 EF-8 ET-003 SLT-2	C - C C R	YES, NOTE 6 NO NO, NOTE 6 NO YES, NOTE 3
2-QCR-301	0	GL	2	A	E/1	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-2 EF-5 EF-8 ET-005 SLT-2	C - C C R	YES, NOTE 6 NO NO, NOTE 6 NO YES, NOTE 3
2-QMO-200	0	GA	3	MO	J/3	0	O/C	2	A	B	EF-1 EF-5 ET-012	EF-2 EF-5 ET-012	C - C	YES, NOTE 7 NO NO
2-QMO-201	0	GA	3	MO	J/3	0	O/C	2	A	B	EF-1 EF-5 ET-012	EF-2 EF-5 ET-012	C - C	YES, NOTE 7 NO NO
2-QMO-225	0	GA	2	MO	J/7	0	O/C	2	A	B	EF-1 EF-5 ET-012	EF-1 EF-5 ET-012	P - P	NO NO NO



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5129-32

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: CVCS--LETDOWN-&-CHARGING

VALVE				VALVE POSITION				ASME SECTION XI						
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-CS-292	0	CK	2	SA	H/6	C	O/C	2	A	C	CF-1	CF-2	C	YES, NOTE 1
2-CS-297-E	0	CK	2	SA	H/7	O/C	0	2	A	C	CF-1	CF-1	P	NO
2-CS-297-H	0	CK	2	SA	F/7	O/C	0	2	A	C	CF-1	CF-1	P	NO
2-CS-299-E	0	CK	4	SA	H/7	0	O/C	2	A	AC	CF-1 SLT-1	CF-3 SLT-1	P R	YES, NOTE 2 NO, NOTE 3
2-CS-299-H	0	CK	4	SA	F/7	0	O/C	2	A	AC	CF-1 SLT-1	CF-3 SLT-1	P R	YES, NOTE 2 NO, NOTE 3
2-CS-321	0	CK	3	SA	E/3	0	C/O	2	A	AC	CF-1 SLT-1	CF-2 SLT-2	- R	YES, NOTE 4 YES, NOTE 3
2-CS-328-L1	0	CK	3	SA	B/2	O/C	0	1	A	C	CF-1	CF-1	P	NO, NOTE 5
2-CS-328-L4	0	CK	3	SA	B/3	C/O	0	1	A	C	CF-1	CF-1	P	NO, NOTE 5
2-CS-329-L1	0	CK	3	SA	B/2	O/C	0	1	A	C	CF-1	CF-1	P	NO, NOTE 5
2-CS-329-L4	0	CK	3	SA	B/3	C/O	0	1	A	C	CF-1	CF-1	P	NO, NOTE 5
2-IMO-360	0	GA	4	NO	J/6	C	0	2	A	B	EF-1 EF-5 ET-009	EF-1 EF-5 ET-009	P - P	NO NO NO

DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5128A-34

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: REACTOR-COOLANT

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-SI-189	2	CK	4	SA	D/7	C	O/C	2	A	AC	CF-1 SLT-1	CF-2 SLT-2	R R	YES, NOTE 7 YES, NOTE 2
2-SV-45A	0	REL	6	SA	K/6	C	0	1	A	C	TF-1	TF-1	R	NO
2-SV-45B	0	REL	6	SA	J/6	C	0	1	A	C	TF-1	TF-1	R	NO
2-SV-45C	0	REL	6	SA	H/6	C	0	1	A	C	TF-1	TF-1	R	NO
2-SV-50	0	REL	2	SA	G/3	C	0	3	A	C	TF-1	TF-1	R	NO



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5128A-34

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: REACTOR COOLANT

VALVE				VALVE POSITION				ASME SECTION XI							
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	CL	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-NSO-062	2	GL	1	SO	M/6	C	O/C	2	A	B		EF-1 EF-5 EF-7 ETF-002	EF-2 EF-5 EF-8 ETF-002	R - R R	YES, NOTE 6 NO, NOTE 6 YES, NOTE 6 YES, NOTE 6
2-NSO-063	2	GL	1	SO	M/6	C	O/C	2	A	B		EF-1 EF-5 EF-7 ETF-002	EF-2 EF-5 EF-8 ETF-002	R - R R	YES, NOTE 6 NO, NOTE 6 YES, NOTE 6 YES, NOTE 6
2-NSO-064	2	GL	1	SO	M/6	C	O/C	2	A	B		EF-1 EF-5 EF-7 ETF-002	EF-2 EF-5 EF-8 ETF-002	R - R R	YES, NOTE 6 NO, NOTE 6 YES, NOTE 6 YES, NOTE 6
2-PH-275	2	CK	3	SA	B/9	O/C	C	2	A	AC		CF-1 SLT-1	CF-2 SLT-2	R R	YES, NOTE 4 YES, NOTE 2
2-RCR-100	0	GL	0.375	A	B/7	O	C	2	A	A		EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 2
2-RCR-101	0	GL	0.375	A	B/7	O	C	2	A	A		EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 2



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5128A-34

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: REACTOR-COOLANT

VALVE				VALVE POSITION				ASME SECTION XI						
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-NM0-152	0	GA	3	NO	K/7	0	C	1	A	B	EF-1 EF-5 ET-014	EF-1 EF-5 ET-014	P - P	NO NO NO
2-NM0-153	0	GA	3	NO	K/6	0	C	1	A	B	EF-1 EF-5 ET-014	EF-1 EF-5 ET-014	P - P	NO NO NO
2-NPX-151	0	GL	0.5	M	N/8	C	C	2	P	A	SLT-1	SLT-2	R	YES, NOTE 2
2-NRV-151	0	GL	3	A	K/7	C	C/O	1	A	B	EF-1 EF-5 EF-7 ET-008	EF-4 EF-5 EF-8 ET-008	- - - -	NO, NOTE 3 NO NO, NOTE 3 NO
2-NRV-152	0	GL	3	A	K/7	C	C/O	1	A	B	EF-1 EF-5 EF-7 ET-008	EF-4 EF-5 EF-8 ET-008	- - - -	NO, NOTE 3 NO NO, NOTE 3 NO
2-NRV-153	0	GL	3	A	K/6	C	C/O	1	A	B	EF-1 EF-5 EF-7 ET-008	EF-4 EF-5 EF-8 ET-008	- - - -	NO, NOTE 3 NO NO, NOTE 3 NO
2-NS0-061	2	GL	1	SO	M/6	C	O/C	2	A	B	EF-1 EF-5 EF-7 ETF-002	EF-2 EF-5 EF-8 ETF-002	R - R R	YES, NOTE 6 NO, NOTE 6 YES, NOTE 6 YES, NOTE 6



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5128A-34

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: REACTOR COOLANT

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-CS-442-1	0	CK	2	SA	B/4	0	C	2	A	AC	CF-1 SLT-1	CF-2 SLT-2	R R	YES, NOTE 1 YES, NOTE 2
2-CS-442-2	0	CK	2	SA	B/4	0	C	2	A	AC	CF-1 SLT-1	CF-2 SLT-2	R R	YES, NOTE 1 YES, NOTE 2
2-CS-442-3	0	CK	2	SA	B/4	0	C	2	A	AC	CF-1 SLT-1	CF-2 SLT-2	R R	YES, NOTE 1 YES, NOTE 2
2-CS-442-4	0	CK	2	SA	B/4	0	C	2	A	AC	CF-1 SLT-1	CF-2 SLT-2	R R	YES, NOTE 1 YES, NOTE 2
2-GCR-301	0	DA	0.75	A	B/8	0	C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 2
2-N-159	2	CK	0.75	SA	C/8	0/C	C	2	A	AC	CF-1 SLT-1	CF-2 SLT-2	R R	YES, NOTE 5 YES, NOTE 2
2-NCR-252	0	GL	3	A	B/9	C	C	2	P	A	EF-1 EF-5 EF-7 ET-004 SLT-1	EF-1 EF-5 EF-7 ET-004 SLT-2	P - P P R	NO NO NO NO YES, NOTE 2
2-NYO-151	0	GA	3	NO	K/7	0	C	1	A	B	EF-1 EF-5 ET-015	EF-1 EF-5 ET-015	P - P	NO NO NO



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5128-19

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: REACTOR-COOLANT

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-NSO-021	2	GL	1	SO	J/6	C	O/C	2	A	B	EF-1 EF-5 EF-7 ETF-002	EF-2 EF-5 EF-8 ETF-002	R - R R	YES, NOTE 1 NO, NOTE 1 YES, NOTE 1 YES, NOTE 1
2-NSO-022	2	GL	1	SO	J/6	C	O/C	2	A	B	EF-1 EF-5 EF-7 ETF-002	EF-2 EF-5 EF-8 ETF-002	R - R R	YES, NOTE 1 NO, NOTE 1 YES, NOTE 1 YES, NOTE 1
2-NSO-023	2	GL	1	SO	J/6	C	O/C	2	A	B	EF-1 EF-5 EF-7 ETF-002	EF-2 EF-5 EF-8 ETF-002	R - R R	YES, NOTE 1 NO, NOTE 1 YES, NOTE 1 YES, NOTE 1
2-NSO-024	2	GL	1	SO	J/6	C	O/C	2	A	B	EF-1 EF-5 EF-7 ETF-002	EF-2 EF-5 EF-8 ETF-002	R - R R	YES, NOTE 1 NO, NOTE 1 YES, NOTE 1 YES, NOTE 1

DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5124-20

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: STATION DRAINAGE - CONTAINMENT

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	CL	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-DCR-600	0	DA	3	A	N/6	0	C	2	A	A		EF-1 EF-5 EF-7 ET-004 SLT-1	EF-1 EF-5 EF-7 ET-004 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-DCR-601	0	DA	3	A	N/6	0	C	2	A	A		EF-1 EF-5 EF-7 ET-004 SLT-1	EF-1 EF-5 EF-7 ET-004 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-NS-357	2	CK	0.5	SA	K/9	C	O/C	2	A	AC		CF-1 SLT-1	CF-2 SLT-2	R R	YES, NOTE 2 YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: NON-ESSENTIAL SERVICE WATER

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD A/P CL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
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2-NCR-967-3	0	DA	2	A	J/3	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-005	ET-005	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1

DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: NON-ESSENTIAL SERVICE WATER

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD A/P CL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)	
2-MCR-962	0	DA	2	A	J/3	0	C	2	A	A	EF-1 EF-5 EF-7 ET-004 SLT-1	EF-1 EF-5 EF-7 ET-004 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-963	0	DA	2	A	J/3	0	C	2	A	A	EF-1 EF-5 EF-7 ET-004 SLT-1	EF-1 EF-5 EF-7 ET-004 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-964-3	0	DA	2	A	J/7	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-965-3	0	DA	2	A	J/7	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-966-3	0	DA	2	A	J/3	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM NAME: NON-ESSENTIAL SERVICE WATER

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-MCR-956-2	0	DA	3	A	J/3	0	C	2	A	A	EF-1 EF-5 EF-7 ET-004 SLT-1	EF-1 EF-5 EF-7 ET-004 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-957-3	0	DA	3	A	J/3	0	C	2	A	A	EF-1 EF-5 EF-7 ET-003 SLT-1	EF-1 EF-5 EF-7 ET-003 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-958-4	0	DA	3	A	J/3	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-960	0	DA	2	A	J/7	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-961	0	DA	2	A	J/7	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: NON-ESSENTIAL SERVICE WATER

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-MCR-951	0	DA	3	A	K/6	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-952-2	0	DA	3	A	K/6	0	C	2	A	A	EF-1 EF-5 EF-7 ET-004 SLT-1	EF-1 EF-5 EF-7 ET-004 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-953-3	0	DA	3	A	K/6	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-954-4	0	DA	3	A	K/6	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-955	0	DA	3	A	J/3	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM NAME: NON-ESSENTIAL SERVICE WATER

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-MCR-944-4	0	DA	3	A	J/6	0	C	2	A	A	EF-1 EF-5 EF-7 ET-004 SLT-1	EF-1 EF-5 EF-7 ET-004 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-945	0	DA	3	A	J/3	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-946-2	0	DA	3	A	J/3	0	C	2	A	A	EF-1 EF-5 EF-7 ET-004 SLT-1	EF-1 EF-5 EF-7 ET-004 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-947-3	0	DA	3	A	J/3	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-948-4	0	DA	3	A	J/3	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: NON-ESSENTIAL SERVICE WATER

VALVE				VALVE POSITION				ASME SECTION XI						
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-MCR-934	0	DA	3	A	K/2	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-935	0	DA	3	A	J/2	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-941-1	0	DA	3	A	J/6	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-942-2	0	DA	3	A	J/6	0	C	2	A	A	EF-1 EF-5 EF-7 ET-004 SLT-1	EF-1 EF-5 EF-7 ET-004 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-943-3	0	DA	3	A	J/6	0	C	2	A	A	EF-1 EF-5 EF-7 ET-004 SLT-1	EF-1 EF-5 EF-7 ET-004 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: NON-ESSENTIAL SERVICE WATER

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-MCR-929-3	0	DA	3	A	K/6	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-005	ET-005	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-930-3	0	DA	3	A	K/2	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-004	ET-004	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-931-3	0	DA	3	A	J/2	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-004	ET-004	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-932-4	0	DA	3	A	J/6	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-004	ET-004	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-933	0	DA	3	A	K/6	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-005	ET-005	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1

DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: NON-ESSENTIAL SERVICE WATER

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-MCR-924-2	0	DA	3	A	J/6	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-925-2	0	DA	3	A	K/6	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-926-2	0	DA	3	A	K/2	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-927-2	0	DA	3	A	J/2	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-928-3	0	DA	3	A	J/6	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: NON-ESSENTIAL-SERVICE-WATER

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-NCR-915-4	0	DA	6	A	K/4	0	C	2	A	A	EF-1 EF-5 EF-7 ET-006 SLT-1	EF-1 EF-5 EF-7 ET-006 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-NCR-920-1	0	DA	3	A	J/6	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-NCR-921-1	0	DA	3	A	K/6	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-NCR-922-1	0	DA	3	A	K/2	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-NCR-923-1	0	DA	3	A	J/2	0	C	2	A	A	EF-1 EF-5 EF-7 ET-006 SLT-1	EF-1 EF-5 EF-7 ET-006 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1

DONALD C. COOK NUCLEAR PLANT
 SECND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: NON-ESSENTIAL SERVICE WATER

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	CL	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-NCR-910-3	0	DA	6	A	J/4	0	C	2	A	A		EF-1 EF-5 EF-7 ET-006 SLT-1	EF-1 EF-5 EF-7 ET-006 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-NCR-911-3	0	DA	6	A	K/4	0	C	2	A	A		EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-NCR-912-4	0	DA	6	A	J/9	0	C	2	A	A		EF-1 EF-5 EF-7 ET-009 SLT-1	EF-1 EF-5 EF-7 ET-009 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-NCR-913-4	0	DA	6	A	K/9	0	C	2	A	A		EF-1 EF-5 EF-7 ET-008 SLT-1	EF-1 EF-5 EF-7 ET-008 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-NCR-914-4	0	DA	6	A	J/4	0	C	2	A	A		EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: NON-ESSENTIAL SERVICE WATER

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-MCR-905-2	0	DA	6	A	K/9	0	C	2	A	A	EF-1 EF-5 EF-7 ET-006 SLT-1	EF-1 EF-5 EF-7 ET-006 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-906-2	0	DA	6	A	J/4	0	C	2	A	A	EF-1 EF-5 EF-7 ET-006 SLT-1	EF-1 EF-5 EF-7 ET-006 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-907	0	DA	6	A	K/4	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-908-3	0	DA	6	A	J/9	0	C	2	A	A	EF-1 EF-5 EF-7 ET-008 SLT-1	EF-1 EF-5 EF-7 ET-008 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-909-3	0	DA	6	A	K/9	0	C	2	A	A	EF-1 EF-5 EF-7 ET-006 SLT-1	EF-1 EF-5 EF-7 ET-006 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM NAME: NON-ESSENTIAL SERVICE WATER

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-MCR-900-1	0	DA	6	A	J/9	0	C	2	A	A	EF-1 EF-5 EF-7 ET-008 SLT-1	EF-1 EF-5 EF-7 ET-008 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-901-1	0	DA	6	A	K/9	0	C	2	A	A	EF-1 EF-5 EF-7 ET-008 SLT-1	EF-1 EF-5 EF-7 ET-008 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-902-1	0	DA	6	A	J/4	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-903-1	0	DA	6	A	K/4	0	C	2	A	A	EF-1 EF-5 EF-7 ET-006 SLT-1	EF-1 EF-5 EF-7 ET-006 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-MCR-904-2	0	DA	6	A	J/9	0	C	2	A	A	EF-1 EF-5 EF-7 ET-008 SLT-1	EF-1 EF-5 EF-7 ET-008 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5113-36

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: ESSENTIAL-SERVICE-WATER

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-HRV-722-CD	0	3W	4	A	K/8	0	0	3	A	B	EF-1 EF-7 ET-NA	NOTE 3 EF-8 NOTE 3	P R -	YES, NOTE 3 YES, NOTE 3 YES, NOTE 3
2-HRV-724-CD	0	3W	4	A	M/8	0	0	3	A	B	EF-1 EF-7 ET-NA	NOTE 3 EF-8 NOTE 3	P R -	YES, NOTE 3 YES, NOTE 3 YES, NOTE 3
2-HRV-726-AB	0	3W	4	A	K/8	0	0	3	A	B	EF-1 EF-7 ET-NA	NOTE 3 EF-8 NOTE 3	P R -	YES, NOTE 3 YES, NOTE 3 YES, NOTE 3
2-HRV-728-AB	0	3W	4	A	M/8	0	0	3	A	B	EF-1 EF-7 ET-NA	NOTE 3 EF-8 NOTE 1	P R -	YES, NOTE 3 YES, NOTE 3 YES, NOTE 3



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5113-36

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: ESSENTIAL-SERVICE-WATER

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIN TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-K10-726	0	BF	6	MO	K/6	C	0	3	A	B	EF-1 EF-5 ET-023	EF-1 EF-5 ET-023	P - P	NO NO NO
2-K10-728	0	BF	6	MO	L/6	C	0	3	A	B	EF-1 EF-5 ET-024	EF-1 EF-5 ET-024	P - P	NO NO NO
2-K10-734	0	BF	16	MO	H/3	O/C	0	3	A	B	EF-1 EF-5 ET-054	EF-1 EF-5 ET-054	P - P	NO NO NO
2-K10-738	0	BF	16	MO	K/3	O/C	0	3	A	B	EF-1 EF-5 ET-055	EF-1 EF-5 ET-055	P - P	NO NO NO
2-K10-744	0	BF	4	MO	J/6	C	0	3	A	B	EF-1 EF-5 ET-036	EF-1 EF-5 ET-036	P - P	NO NO NO
2-K10-753	0	BF	6	MO	M/5	C	0	3	A	B	EF-1 EF-5 ET-024	EF-1 EF-5 ET-024	P - P	NO NO NO
2-K10-754	0	BF	4	MO	K/6	C	0	3	A	B	EF-1 EF-5 ET-026	EF-1 EF-5 ET-026	P - P	NO NO NO



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5113-36

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: ESSENTIAL SERVICE WATER

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2- W MO-704-2H	0	BF	20	MO	H/8	C	0	3	A	B	EF-1 EF-5 ET-054	EF-1 EF-5 ET-054	P - P	NO NO NO
2- W MO-706	0	BF	20	MO	G/8	0	0/C	3	A	B	EF-1 EF-5 ET-056	EF-1 EF-5 ET-056	P - P	NO NO NO
2- W MO-708	0	BF	20	MO	G/6	0	0/C	3	A	B	EF-1 EF-5 ET-055	EF-1 EF-5 ET-055	P - P	NO NO NO
2- W MO-714	0	BF	12	MO	M/5	C	0	3	A	B	EF-1 EF-5 ET-034	EF-1 EF-5 ET-034	P - P	NO NO NO
2- W MO-718	0	BF	12	MO	M/5	C	0	3	A	B	EF-1 EF-5 ET-036	EF-1 EF-5 ET-036	P - P	NO NO NO
2- W MO-722	0	BF	6	MO	M/6	C	0	3	A	B	EF-1 EF-5 ET-023	EF-1 EF-5 ET-023	P - P	NO NO NO
2- W MO-724	0	BF	6	MO	M/6	C	0	3	A	B	EF-1 EF-5 ET-020	EF-1 EF-5 ET-020	P - P	NO NO NO



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5113-36

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: ESSENTIAL-SERVICE-WATER

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-ESH-170-S	0	BF	3	M	F/1	O	C	3	A	B	EF-1	EF-1	P	NO
2-ESH-171-N	0	BF	3	M	F/1	C	O	3	A	B	EF-1	EF-1	P	NO
2-ESH-171-S	0	BF	3	M	F/1	C	O	3	A	B	EF-1	EF-1	P	NO
2-ESH-240	0	BF	6	M	M/5	C	O	3	A	B	EF-1	EF-2	R	YES, NOTE 2
2-ESH-243	0	BF	4	M	J/7	C	O	3	A	B	EF-1	EF-2	R	YES, NOTE 2
2-SV-14-2E	0	REL	1	SA	L/1	C	O	3	A	C	TF-1	TF-1	R	NO
2-SV-14-2N	0	REL	1	SA	M/1	C	O	3	A	C	TF-1	TF-1	R	NO
2-SV-15-2E	0	REL	0.75	SA	G/3	C	O	3	A	C	TF-1	TF-1	R	NO
2-SV-15-2N	0	REL	0.75	SA	J/4	C	O	3	A	C	TF-1	TF-1	R	NO
2-SV-16-AB	0	REL	1	SA	L/8	C	O	3	A	C	TF-1	TF-1	R	NO
2-SV-16-CD	0	REL	1	SA	L/8	C	O	3	A	C	TF-1	TF-1	R	NO
2-WV-703-2E	0	BF	20	NO	H/8	C	O	3	A	B	EF-1 EF-5 ET-053	EF-1 EF-5 ET-053	P - P	NO NO NO



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5113-36

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: ESSENTIAL-SERVICE-WATER

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-ESW-102-2E	0	CK	20	SA	H/8	C	0	3	A	C	CF-1	CF-1	P	NO
2-ESW-102-2H	0	CK	20	SA	H/8	C	0	3	A	C	CF-1	CF-1	P	NO
2-ESN-141	0	CK	6	SA	K/6	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-ESW-142	0	CK	6	SA	L/6	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-ESW-143	0	CK	6	SA	M/6	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-ESW-144	0	CK	6	SA	M/6	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-ESW-145	0	BF	4	M	J/6	C	0	3	A	B	EF-1	EF-2	R	YES, NOTE 2
2-ESW-168-N	0	BF	3	M	H/1	C	0	3	A	B	EF-1	EF-1	P	NO
2-ESW-168-S	0	BF	3	M	H/1	C	0	3	A	B	EF-1	EF-1	P	NO
2-ESN-169-N	0	BF	3	M	G/1	O	C	3	A	B	EF-1	EF-1	P	NO
2-ESW-169-S	0	BF	3	M	G/1	O	C	3	A	B	EF-1	EF-1	P	NO
2-ESW-170-N	0	BF	3	M	F/1	O	C	3	A	B	EF-1	EF-1	P	NO

DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5106A-41

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: FEEDWATER

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-FW-160	2	CK	1	SA	M/9	C	O/C	3	A	C	CF-1	CF-1	P	NO, NOTE 5
2-FW-161	0	CK	8	SA	J/7	C	O	3	A	C	CF-1	CF-1	P	NO
2-SV-140-1	0	REL	0.75	SA	E/1	C	O	3	A	C	TF-1	TF-1	R	NO
2-SV-140-2	0	REL	0.75	SA	D/1	C	O	3	A	C	TF-1	TF-1	R	NO
2-SV-169-A	0	REL	0.75	SA	K/9	C	O	3	A	C	TF-1	TF-1	R	NO
2-SV-169-B	0	REL	0.75	SA	G/9	C	O	3	A	C	TF-1	TF-1	R	NO

DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5106A-41

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: FEEDWATER

VALVE				VALVE POSITION				ASME SECTION XI						
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT.	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-FW-132-3	2	CK	4	SA	D/5	C	O/C	2	A	C	CF-1	NOTE 1	-	YES, NOTE 1
2-FW-132-4	2	CK	4	SA	C/4	C	O/C	2	A	C	CF-1	NOTE 1	-	YES, NOTE 1
2-FW-134	0	CK	10	SA	B/9	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 2
2-FW-135	0	CK	8	SA	E/8	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 2
2-FW-138-1	2	CK	4	SA	C/4	C	O/C	2	A	C	CF-1	NOTE 3	-	YES, NOTE 3
2-FW-138-2	2	CK	4	SA	D/5	C	O/C	2	A	C	CF-1	NOTE 3	-	YES, NOTE 3
2-FW-138-3	2	CK	4	SA	D/5	C	O/C	2	A	C	CF-1	NOTE 3	-	YES, NOTE 3
2-FW-138-4	2	CK	4	SA	C/4	C	O/C	2	A	C	CF-1	NOTE 3	-	YES, NOTE 3
2-FW-149	0	CK	0.75	SA	D/2	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 4
2-FW-150	0	CK	0.75	SA	D/3	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 4
2-FW-153	2	CK	1	SA	H/9	C	O/C	3	A	C	CF-1	CF-1	P	NO, NOTE 5
2-FW-159	0	CK	6	SA	L/7	C	0	3	A	C	CF-1	CF-1	P	NO



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5106A-41

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM NAME: FEEDWATER

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-FMO-242	0	GL	4	MO	B/4	O	O	3	A	B	EF-1 EF-5 ET-030	EF-1 EF-5 ET-030	P - P	NO NO NO
2-FRV-247	0	GL	1	A	M/9	C	C/O	3	A	B	EF-1 EF-5 EF-7 ET-008	EF-1 EF-5 EF-7 ET-008	P - P P	NO NO NO NO
2-FRV-257	0	GL	1	A	H/9	C	C/O	3	A	B	EF-1 EF-5 EF-7 ET-005	EF-1 EF-5 EF-7 ET-005	P - P P	NO NO NO NO
2-FRV-258	0	GL	1	A	E/9	C	C/O	3	A	B	EF-1 EF-5 EF-7 ET-005	EF-1 EF-5 EF-7 ET-005	P - P P	NO NO NO NO
2-FW-124	0	CK	8	SA	F/7	C	O	3	A	C	CF-1	CF-1	P	NO
2-FW-128	0	CK	6	SA	H/7	C	O	3	A	C	CF-1	CF-1	P	NO
2-FW-132-1	2	CK	4	SA	C/4	C	O/C	2	A	C	CF-1	NOTE 1	-	YES, NOTE 1
2-FW-132-2	2	CK	4	SA	D/5	C	O/C	2	A	C	CF-1	NOTE 1	-	YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5106A-41

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: FEEDWATER

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-FMO-211	0	GL	4	MO	B/4	0	0	3	A	B	EF-1 EF-5 ET-025	EF-1 EF-5 ET-025	P - P	NO NO NO
2-FMO-212	0	GL	4	MO	B/4	0	0	3	A	B	EF-1 EF-5 ET-031	EF-1 EF-5 ET-031	P - P	NO NO NO
2-FMO-221	0	GL	4	MO	C/5	0	0	3	A	B	EF-1 EF-5 ET-021	EF-1 EF-5 ET-021	P - P	NO NO NO
2-FMO-222	0	GL	4	MO	C/5	0	0	3	A	B	EF-1 EF-5 ET-036	EF-1 EF-5 ET-036	P - P	NO NO NO
2-FMO-231	0	GL	4	MO	C/5	0	0	3	A	B	EF-1 EF-5 ET-026	EF-1 EF-5 ET-026	P - P	NO NO NO
2-FMO-232	0	GL	4	MO	C/5	0	0	3	A	B	EF-1 EF-5 ET-034	EF-1 EF-5 ET-034	P - P	NO NO NO
2-FMO-241	0	GL	4	MO	B/4	0	0	3	A	B	EF-1 EF-5 ET-024	EF-1 EF-5 ET-024	P - P	NO NO NO



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5106-34

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: FEEDWATER

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD A/P CL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-FRV-240	0	AG	14	A	H/5	0	C	2	A B	EF-1 EF-5 EF-7 ET-005	EF-2 EF-5 EF-8 ET-005	C - C C	YES, NOTE 1 NO NO, NOTE 1 NO



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5106-34

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: FEEDWATER

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-FMO-201	0	GA	14	NO	G/5	0	C	2	A	B	EF-1 EF-5 ET-020	EF-2 EF-5 ET-020	C - C	YES, NOTE 1 NO NO
2-FMO-202	0	GA	14	NO	E/9	0	C	2	A	B	EF-1 EF-5 ET-018	EF-2 EF-5 ET-018	C - C	YES, NOTE 1 NO NO
2-FMO-203	0	GA	14	NO	F/9	0	C	2	A	B	EF-1 EF-5 ET-019	EF-2 EF-5 ET-019	C - C	YES, NOTE 1 NO NO
2-FMO-204	0	GA	14	NO	H/5	0	C	2	A	B	EF-1 EF-5 ET-019	EF-2 EF-5 ET-019	C - C	YES, NOTE 1 NO NO
2-FRV-210	0	AG	14	A	G/5	0	C	2	A	B	EF-1 EF-5 EF-7 ET-005	EF-2 EF-5 EF-8 ET-005	C - C C	YES, NOTE 1 NO NO, NOTE 1 NO
2-FRV-220	0	AG	14	A	E/9	0	C	2	A	B	EF-1 EF-5 EF-7 ET-005	EF-2 EF-5 EF-8 ET-005	C - C C	YES, NOTE 1 NO NO, NOTE 1 NO
2-FRV-230	0	AG	14	A	F/9	0	C	2	A	B	EF-1 EF-5 EF-7 ET-005	EF-2 EF-5 EF-8 ET-005	C - C C	YES, NOTE 1 NO NO, NOTE 1 NO

DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5105D-2

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM NAME: STEAM GENERATING SYSTEM

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-SV-3-1	0	REL	6	SA	B/5	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-3-2	0	REL	6	SA	M/5	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-3-3	0	REL	6	SA	M/1	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-3-4	0	REL	6	SA	B/1	C	0	2	A	C	TF-1	TF-1	R	NO



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5105D-2

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: STEAM-GENERATING-SYSTEM

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-SV-1B-1	0	REL	6	SA	B/5	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-1B-2	0	REL	6	SA	L/5	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-1B-3	0	REL	6	SA	L/1	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-1B-4	0	REL	6	SA	B/1	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-2A-1	0	REL	6	SA	B/5	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-2A-2	0	REL	6	SA	L/5	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-2A-3	0	REL	6	SA	L/1	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-2A-4	0	REL	6	SA	B/1	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-2B-1	0	REL	6	SA	B/5	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-2B-2	0	REL	6	SA	L/5	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-2B-3	0	REL	6	SA	L/1	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-2B-4	0	REL	6	SA	B/1	C	0	2	A	C	TF-1	TF-1	R	NO



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5105D-2

RUN DATE AND TIME: 14SEP87:13:28

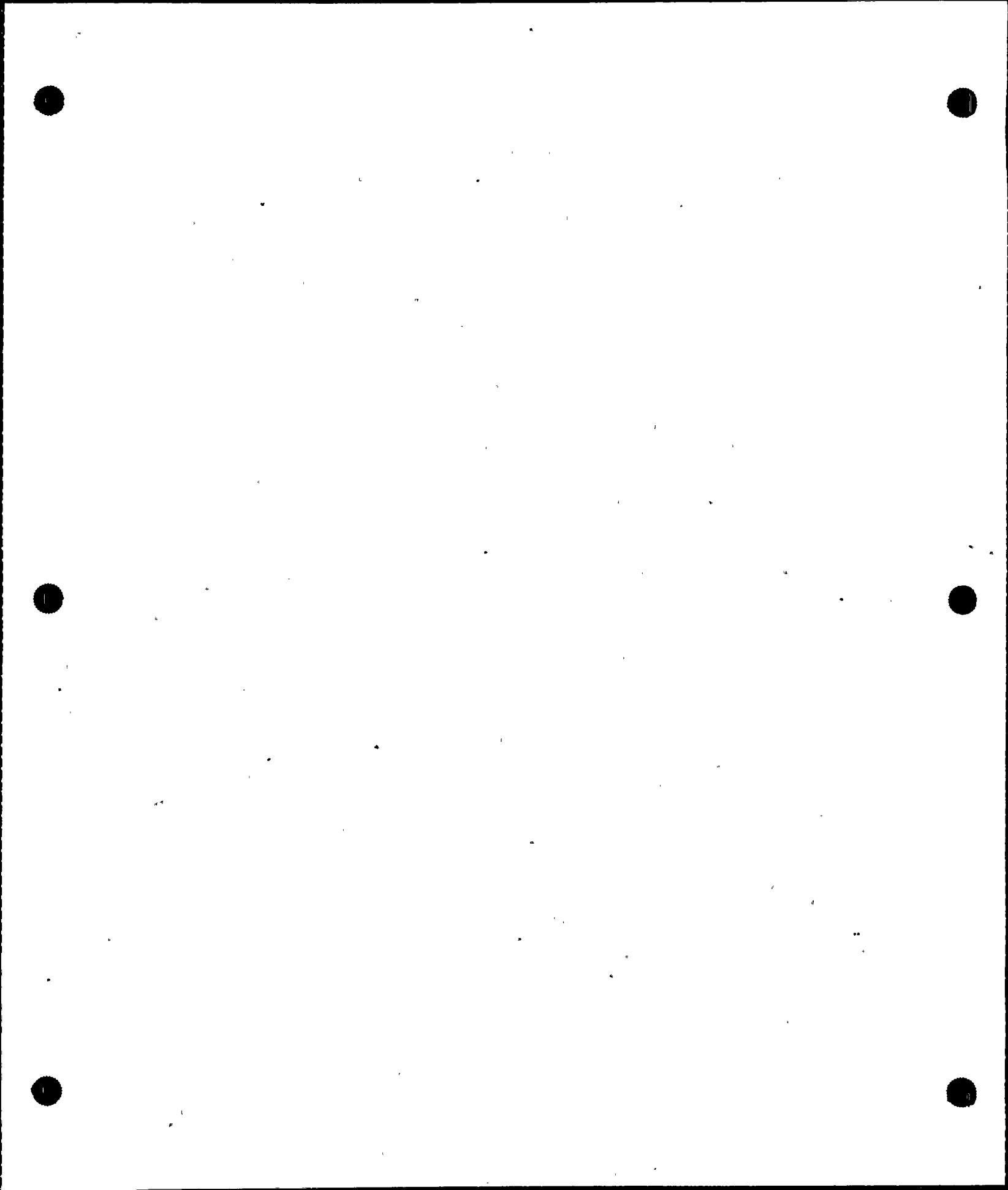
SYSTEM-NAME: STEAM-GENERATING-SYSTEM

VALVE

VALVE-POSITION

ASME-SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-MRV-240	1	GA	28	PO	B/3	0	C	2	A	B	EF-1 EF-5 EF-7 ET-005	EF-3 EF-5 EF-8 ET-005	P - C C	NO, NOTE 2 NO NO, NOTE 2 NO
2-MRV-241	0	AG	2	A	A/1	C	0	2	A	B	EF-1 EF-5 EF-7 ETF-002	EF-1 EF-5 EF-7 ETF-002	P - P P	NO NO NO NO
2-MRV-242	0	AG	2	A	A/1	C	0	2	A	B	EF-1 EF-5 EF-7 ETF-002	EF-1 EF-5 EF-7 ETF-002	P - P P	NO NO NO NO
2-MS-108-2	2	CK	4	SA	K/4	C	0/C	3	A	C	CF-1	CF-2	R	YES, NOTE 3
2-MS-108-3	2	CK	4	SA	K/4	C	0/C	3	A	C	CF-1	CF-2	R	YES, NOTE 3
2-SV-1A-1	0	REL	6	SA	C/5	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-1A-2	0	REL	6	SA	K/5	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-1A-3	0	REL	6	SA	K/1	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-1A-4	0	REL	6	SA	C/1	C	0	2	A	C	TF-1	TF-1	R	NO



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5105D-2

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: STEAM-GENERATING-SYSTEM

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-MRV-220	0	GA	28	PO	L/7	0	C	2	A	B	EF-1 EF-5 EF-7 ET-005	EF-3 EF-5 EF-8 ET-005	P - C C	NO, NOTE 2 NO NO, NOTE 2 NO
2-MRV-221	0	AG	2	A	M/5	C	0	2	A	B	EF-1 EF-5 EF-7 ET-003	EF-1 EF-5 EF-7 ET-003	P - P P	NO NO NO NO
2-MRV-222	0	AG	2	A	M/5	C	0	2	A	B	EF-1 EF-5 EF-7 ET-003	EF-1 EF-5 EF-7 ET-003	P - P P	NO NO NO NO
2-MRV-230	0	GA	28	PO	M/3	0	C	2	A	B	EF-1 EF-5 EF-7 ET-005	EF-3 EF-5 EF-8 ET-005	P - C C	NO, NOTE 2 NO NO, NOTE 2 NO
2-MRV-231	0	AG	2	A	M/1	C	0	2	A	B	EF-1 EF-5 EF-7 ETF-002	EF-1 EF-5 EF-7 ETF-002	P - P P	NO NO NO NO
2-MRV-232	0	AG	2	A	M/1	C	0	2	A	B	EF-1 EF-5 EF-7 ET-003	EF-1 EF-5 EF-7 ET-003	P - P P	NO NO NO NO



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5105D-2

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: STEAM GENERATING SYSTEM

VALVE				VALVE POSITION				ASME SECTION XI						
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-FN-118-1	0	CK	14	SA	B/9	0	C	2	A	C	CF-1	CF-2	R	YES, NOTE 1
2-FN-118-2	2	CK	14	SA	K/8	0	C	2	A	C	CF-1	CF-2	R	YES, NOTE 1
2-FN-118-3	0	CK	14	SA	J/3	0	C	2	A	C	CF-1	CF-2	R	YES, NOTE 1
2-FN-118-4	0	CK	14	SA	C/3	0	C	2	A	C	CF-1	CF-2	R	YES, NOTE 1
2-MCM-221	0	GL	4	MO	K/4	0	O/C	2	A	B	EF-1 EF-5 ET-049	EF-1 EF-5 ET-049	P - P	NO NO NO
2-MCM-231	0	GL	4	MO	K/4	0	O/C	2	A	B	EF-1 EF-5 ET-050	EF-1 EF-5 ET-050	P - P	NO NO NO
2-MRV-210	0	GA	28	PO	B/7	0	C	2	A	B	EF-1 EF-5 EF-7 ET-005	EF-3 EF-5 EF-8 ET-005	P - C C	NO, NOTE 2 NO NO, NOTE 2 NO
2-MRV-211	0	AG	2	A	A/5	C	0	2	A	B	EF-1 EF-5 EF-7 ET-003	EF-1 EF-5 EF-7 ET-003	P - P P	NO NO NO NO
2-MRV-212	0	AG	2	A	A/5	C	0	2	A	B	EF-1 EF-5 EF-7 ET-004	EF-1 EF-5 EF-7 ET-004	P - P P	NO NO NO NO

DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 2-5105B-42

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: MAIN-STEAM

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-DCR-310	2	GL	2	A	B/3	O	C	2	A	B	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-006	ET-006	P	NO
2-DCR-320	2	GL	2	A	B/2	O	C	2	A	B	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-006	ET-006	P	NO
2-DCR-330	2	GL	2	A	B/1	O	C	2	A	B	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-008	ET-008	P	NO
2-DCR-340	2	GL	2	A	B/2	O	C	2	A	B	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-009	ET-009	P	NO
2-QT-506	0	GL	4	NO	A/8	C	O	3	A	B	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											ET-023	ET-023	P	NO



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 12-5141F-6

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: PAL-SAMPLING-&-INST. PANELS - U-2

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD A/P CL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
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2-SM-1	0	CK	1	SA	A/3	0	C	2	A	AC	CF-1 SLT-1	CF-2 SLT-2	R R	YES, NOTE 3 YES, NOTE 2
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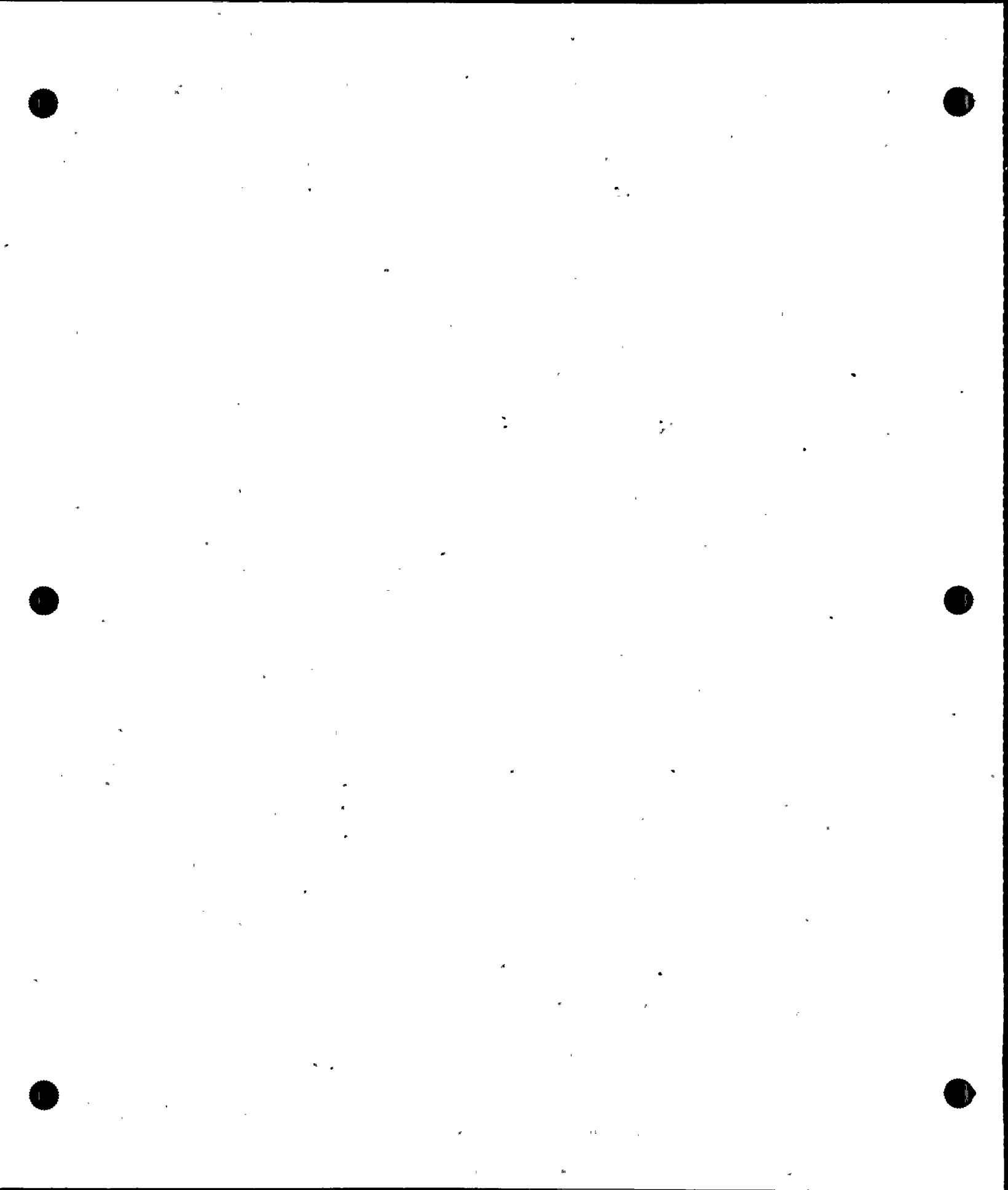


DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 12-5141F-6

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: PAL SAMPLING & INST. PANELS - U-2

VALVE		VALVE POSITION		ASME SECTION XI										
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-ECR-31	2	GL	1	A	B/3	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 2
2-ECR-32	2	GL	1	A	B/5	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 2
2-ECR-33	2	GL	0.75	A	B/2	0	C	2	A	A	EF-1 EF-5 EF-7 ET-004 SLT-1	EF-1 EF-5 EF-7 ET-004 SLT-2	P - P P R	NO NO NO NO YES, NOTE 2
2-ECR-35	2	GL	1	A	B/2	0	C	2	A	A	EF-1 EF-5 EF-7 ET-004 SLT-1	EF-1 EF-5 EF-7 ET-004 SLT-2	P - P P R	NO NO NO NO YES, NOTE 2
2-ECR-36	2	GL	1	A	B/3	0	C	2	A	A	EF-1 EF-5 EF-7 ET-004 SLT-1	EF-2 EF-5 EF-8 ET-004 SLT-2	C - C C R	YES, NOTE 1 NO NO, NOTE 1 YES, NOTE 1 YES, NOTE 2



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 12-5141C-8

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: PAS-LIQUID & GAS - UNIT-2

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
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2-ECR-536	0	GL	0.5	A	L/2	C	C	2	P	A	EF-1 EF-5 EF-7 ET-003 SLT-1	EF-1 EF-5 EF-7 ET-003 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
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DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 12-5141C-8

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: PAS-LIQUID & GAS - UNIT-2

VALVE		VALVE POSITION			ASME SECTION XI									
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-ECR-416	0	GL	0.5	A	M/6	C	C	2	P	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-ECR-417	0	GL	0.5	A	M/6	C	C	2	P	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-ECR-496	0	GL	0.5	A	M/8	C	C	2	P	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-ECR-497	0	GL	0.5	A	M/8	C	C	2	P	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-ECR-535	0	GL	0.5	A	M/2	C	C	2	P	A	EF-1 EF-5 EF-7 ET-003 SLT-1	EF-1 EF-5 EF-7 ET-003 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 12-5137A-21

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: WDS-VENTS-&-DRAINS

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD A/P CL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-DCR-621	0	DA	1	A	N/9	0	C	2	A A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-N-160	0	CK	1	SA	F/4	0	C	2	A AC	CF-1 SLT-1	CF-2 SLT-2	R R	YES, NOTE 2 YES, NOTE 1
2-SF-159	0	DA	3	M	E/5	C	C	2	P A	SLT-1	SLT-2	R	YES, NOTE 1
2-SF-160	0	DA	3	M	F/5	C	C	2	P A	SLT-1	SLT-2	R	YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 12-5137A-21

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: WDS-VENTS-&-DRAINS

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-DCR-206	0	GL	4	A	E/8	O/C	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-DCR-207	0	DA	1	A	F/4	O	C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-DCR-610	0	DA	2.5	A	M/9	O	C	2	A	A	EF-1 EF-5 EF-7 ET-003 SLT-1	EF-1 EF-5 EF-7 ET-003 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-DCR-611	0	DA	2.5	A	N/9	O	C	2	A	A	EF-1 EF-5 EF-7 ET-004 SLT-1	EF-1 EF-5 EF-7 ET-004 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-DCR-620	0	DA	1	A	M/9	O	C	2	A	A	EF-1 EF-5 EF-7 ET-004 SLT-1	EF-1 EF-5 EF-7 ET-004 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUPPLY SHEET - UNIT 2
 FLOW DIAGRAM: 12-5137A-21

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: WDS-VENTS-&-DRAINS

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-DCR-201	0	DA	1	A	E/4	C	C	2	P	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-DCR-202	0	DA	0.75	A	E/5	O	C	2	A	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-DCR-203	0	DA	1	A	F/4	C	C	2	P	A	EF-1 EF-5 EF-7 ETF-002 SLT-1	EF-1 EF-5 EF-7 ETF-002 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-DCR-204	0	DA	0.75	A	F/5	O	C	2	A	A	EF-1 EF-5 EF-7 ET-003 SLT-1	EF-1 EF-5 EF-7 ET-003 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-DCR-205	0	GL	4	A	E/7	O/C	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-1 EF-5 EF-7 ET-005 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 12-5136-25

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: SPENT-FUEL-PIT-COOLING & CLEANUP U2

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD CL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-SF-152	0	DA	2.5	M	K/9	C	C	2	P	A	SLT-1	SLT-2	R	YES, NOTE 1
2-SF-154	0	GL	2.5	M	K/9	C	C	2	P	A	SLT-1	SLT-2	R	YES, NOTE 1



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 12-5131-19

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: CVCS - BORON MAKE-UP - UNITS 1 & 2

VALVE				VALVE POSITION				ASME SECTION XI						
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-CS-415-3	1	CK	2	SA	K/6	O/C	0	3	A	C	CF-1	CF-1	P	NO
2-CS-415-4	1	CK	2	SA	L/6	O/C	0	3	A	C	CF-1	CF-1	P	NO
2-CS-426-S	1	CK	1	SA	M/6	O/C	0	3	A	C	CF-1	CF-1	P	NO
2-CS-427-S	1	CK	2	SA	M/5	C	0	3	A	C	CF-1	CF-2	C	YES, NOTE 1
2-QMO-420	1	GA	2	MO	L/5	C	0	3	A	B	EF-1 EF-5 ET-012	EF-1 EF-5 ET-012	P - P	NO NO NO
2-QRV-421	1	GL	2	A	M/6	O/C	0	3	A	B	EF-1 EF-5 EF-7 ET-006	EF-1 EF-5 EF-7 ET-006	P - P P	NO NO NO NO
2-QRV-422	1	GL	2	A	M/7	O	C	3	A	B	EF-1 EF-5 EF-7 ET-005	EF-1 EF-5 EF-7 ET-005	P - P P	NO NO NO NO



DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 12-5120B-22

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM NAME: COMPRESSED AIR SYSTEM UNIT 2

VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-PA-342	2	CK	2	SA	K/7	O/C	C	2	A	AC	CF-1 SLT-1	CF-2 SLT-2	R R	YES, NOTE 1 YES, NOTE 2
2-PCR-40	2	GA	2	A	H/7	O/C	C	2	A	A	EF-1 EF-5 EF-7 ET-003 SLT-1	EF-1 EF-5 EF-7 ET-003 SLT-2	P - P P R	NO NO NO NO YES, NOTE 2
2-XCR-100	0	GL	1	A	L/3	0	C	2	A	A	EF-1 EF-5 EF-7 ET-004 SLT-1	EF-2 EF-5 EF-8 ET-004 SLT-2	C - C C R	YES, NOTE 3 NO NO, NOTE 3 NO YES, NOTE 2
2-XCR-101	0	GL	1	A	L/3	0	C	2	A	A	EF-1 EF-5 EF-7 ET-005 SLT-1	EF-2 EF-5 EF-8 ET-005 SLT-2	C - C C R	YES, NOTE 3 NO NO, NOTE 3 NO YES, NOTE 2
2-XCR-102	0	GL	1	A	L/2	0	C	2	A	A	EF-1 EF-5 EF-7 ET-004 SLT-1	EF-2 EF-5 EF-8 ET-004 SLT-2	C - C C R	YES, NOTE 3 NO NO, NOTE 3 NO YES, NOTE 2
2-XCR-103	0	GL	1	A	L/2	0	C	2	A	A	EF-1 EF-5 EF-7 ET-004 SLT-1	EF-2 EF-5 EF-8 ET-004 SLT-2	C - C C R	YES, NOTE 3 NO NO, NOTE 3 NO YES, NOTE 2

DONALD C. COOK NUCLEAR PLANT
 SECOND TEN YEAR INTERVAL
 VALVE SUMMARY SHEET - UNIT 2
 FLOW DIAGRAM: 12-5115A-41

RUN DATE AND TIME: 14SEP87:13:28

SYSTEM-NAME: MAKE-UP & PRIMARY WATER UNIT 2

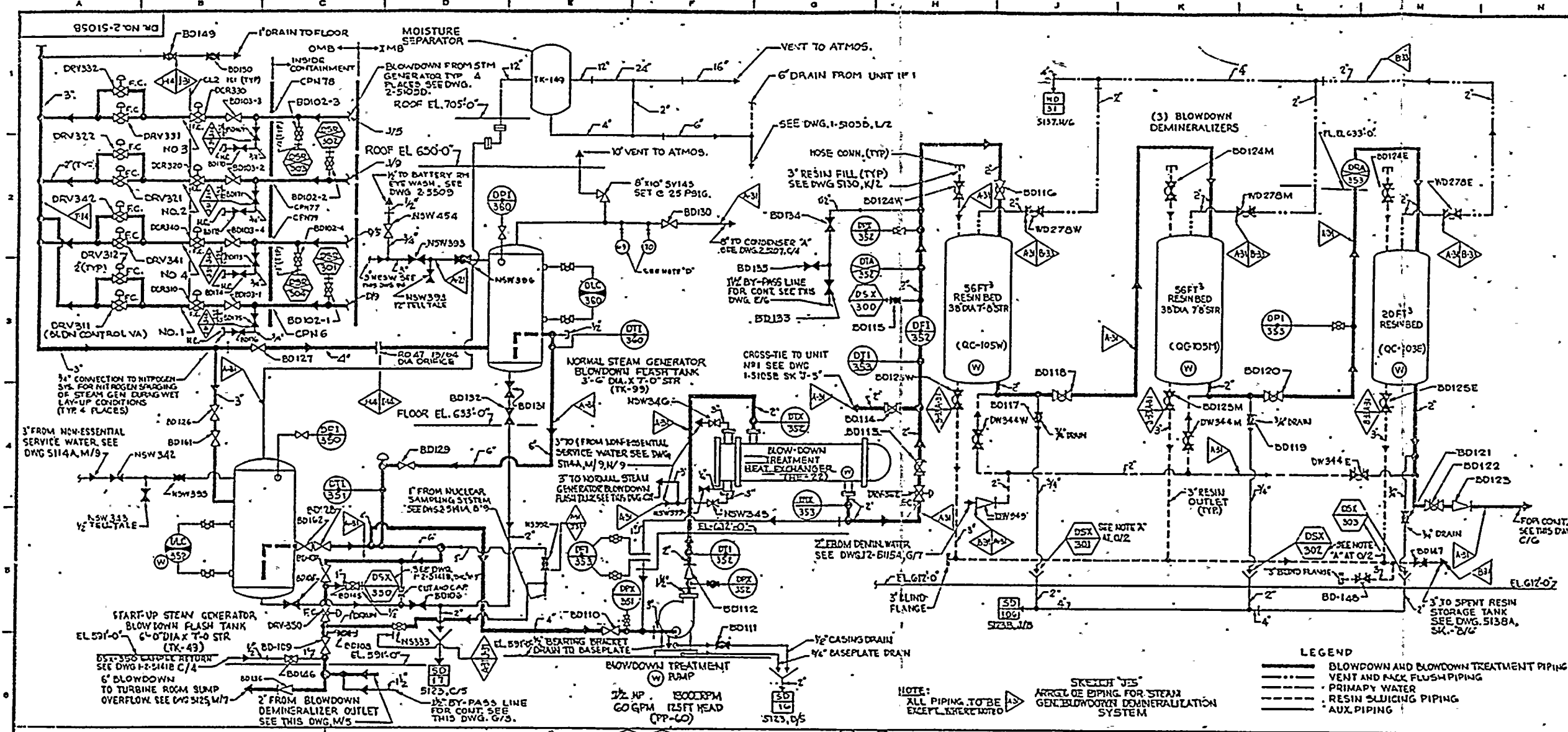
VALVE

VALVE POSITION

ASME SECTION XI

NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-QCR-919	0	DA	2	A	D/7	O/C	C	2	A	A	EF-1 EF-5 EF-7 ET-004 SLT-1	EF-1 EF-5 EF-7 ET-004 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-QCR-920	0	DA	2	A	D/7	O/C	C	2	A	A	EF-1 EF-5 EF-7 ET-004 SLT-1	EF-2 EF-5 EF-7 ET-004 SLT-2	P - P P R	NO NO NO NO YES, NOTE 1





GENERAL NOTES

LEGEND
AS NOTED

FOR VALVE, INSTRUMENT, SAMPLING, PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG. AND FOR MARK NUMBER CODES, SEE DWGS. 12-5103 & 12-5104.

(W) BY WESTINGHOUSE
(R) BY INGERSOLL RAND

NOTE "A"
SUFFICIENT ROOM PROVIDED AT DSX-301, 302, & 303 FOR GRAB SAMPLES

NOTE "B"
ALL EQUIPMENT SC II EXCEPT AS NOTED

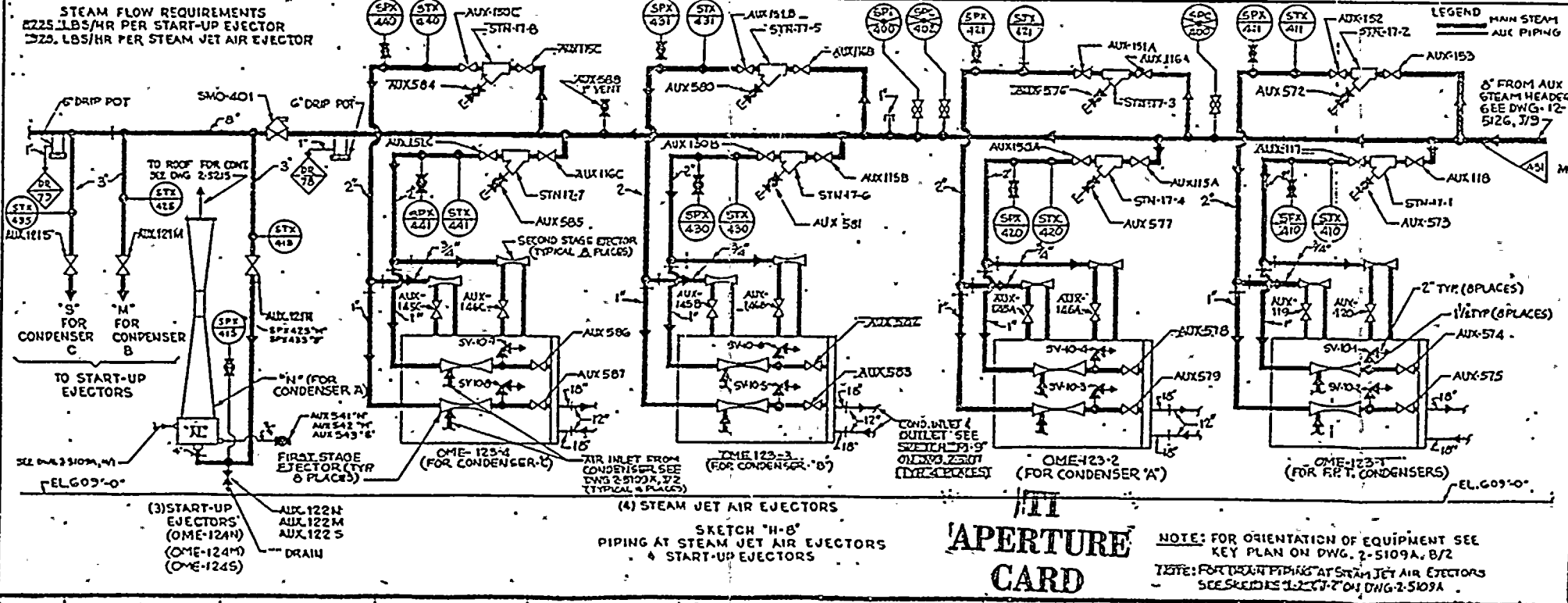
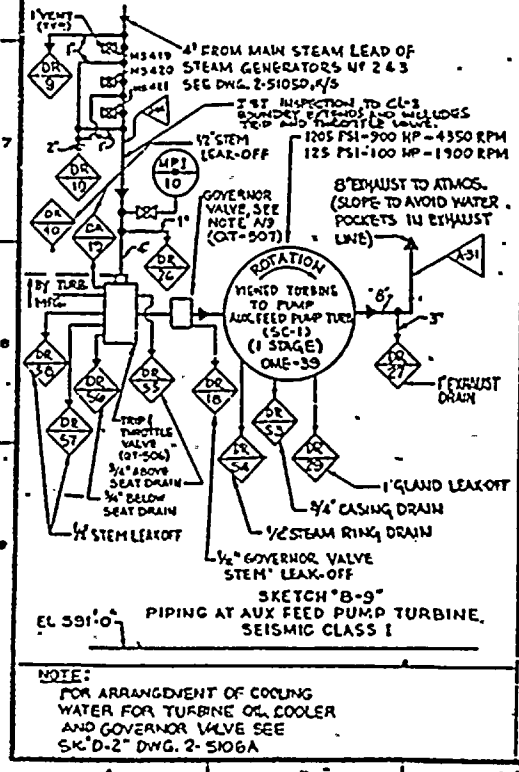
NOTE "C"
FOR CLASS 2 INSTRUMENT LINES TO SEE EQUIPMENT EXTENT TO AND INCLUDES THE FIRST ROOT VALVE FOR CLASS 2. VENT & DRAIN LINES TO THE SEE BOUNDARY EXTENDS TO AND INCLUDES THE FIRST NORMALLY CLOSED VALVE.

NOTE "D"
THIS SYMBOL INDICATES A TRAP TO BE INSPECTED ON T.P. THE NUMBER WITHIN THE CIRCLE INDICATES THE VALVE LIST FOR THE CONNECTION. SEE VALVE LIST FOR SYMBOL ON TAG VALVE LIST.

NOTE "E"
THE UNIT PREFIX DESIGNATIONS FOR EACH COMPONENT IDENTIFICATION NUMBER IS "2" UNLESS OTHERWISE NOTED.

LEGEND

- BLOWDOWN AND BLOWDOWN TREATMENT PIPING
- VENT AND BACK FLUSH PIPING
- PRIMARY WATER
- RESIN SLICING PIPING
- AUX PIPING



LEGEND

- MAN STEAM
- AUX PIPING

NOTE: ALL PIPING TO BE AS SKETCH "JES" UNLESS OTHERWISE NOTED.

NOTE: ARRANGE PIPING FOR STEAM GENERATOR DEMINERALIZATION SYSTEM.

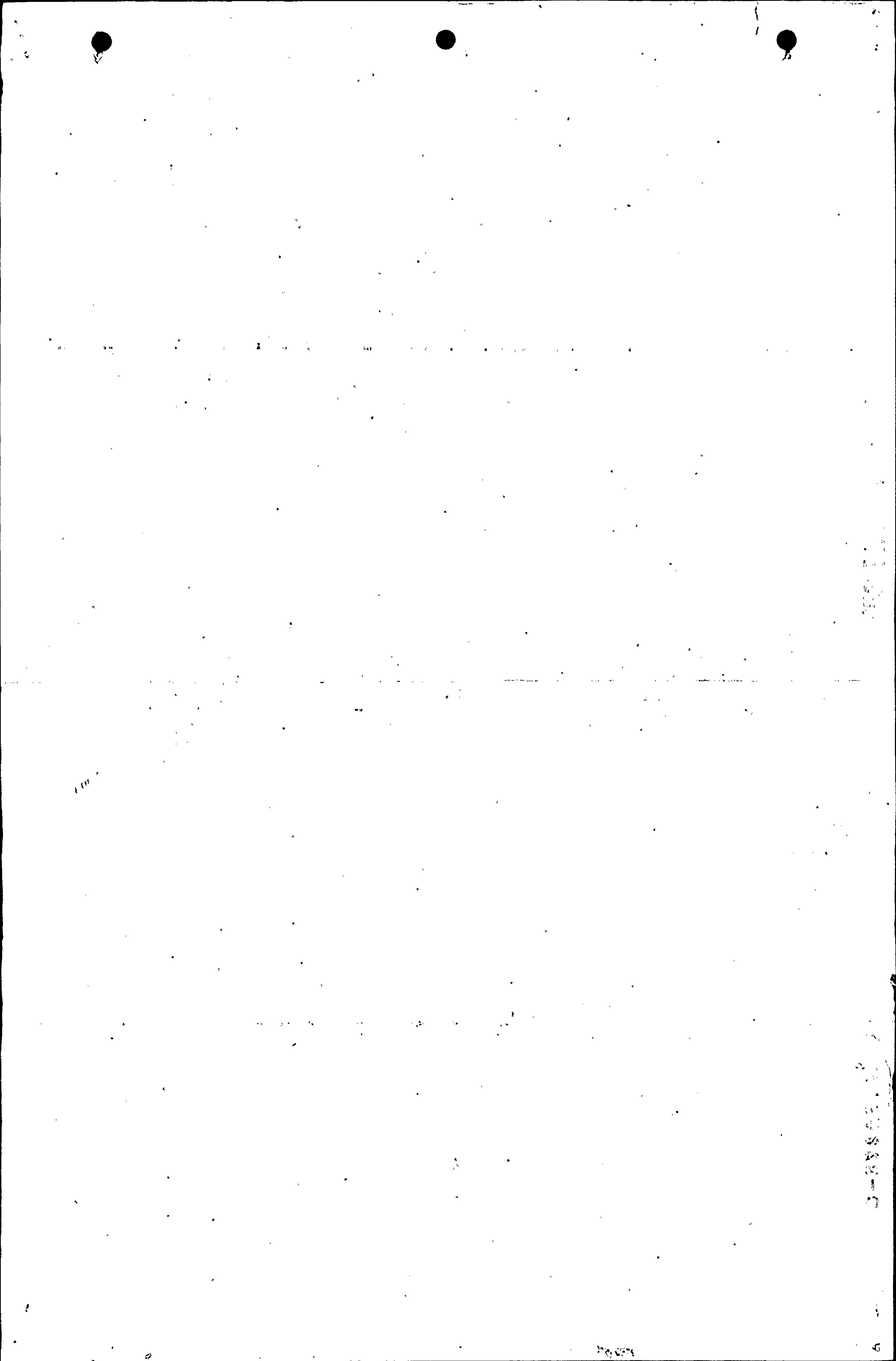
NOTE: FOR ORIENTATION OF EQUIPMENT SEE KEY PLAN ON DWG. 2-5109A, B/2

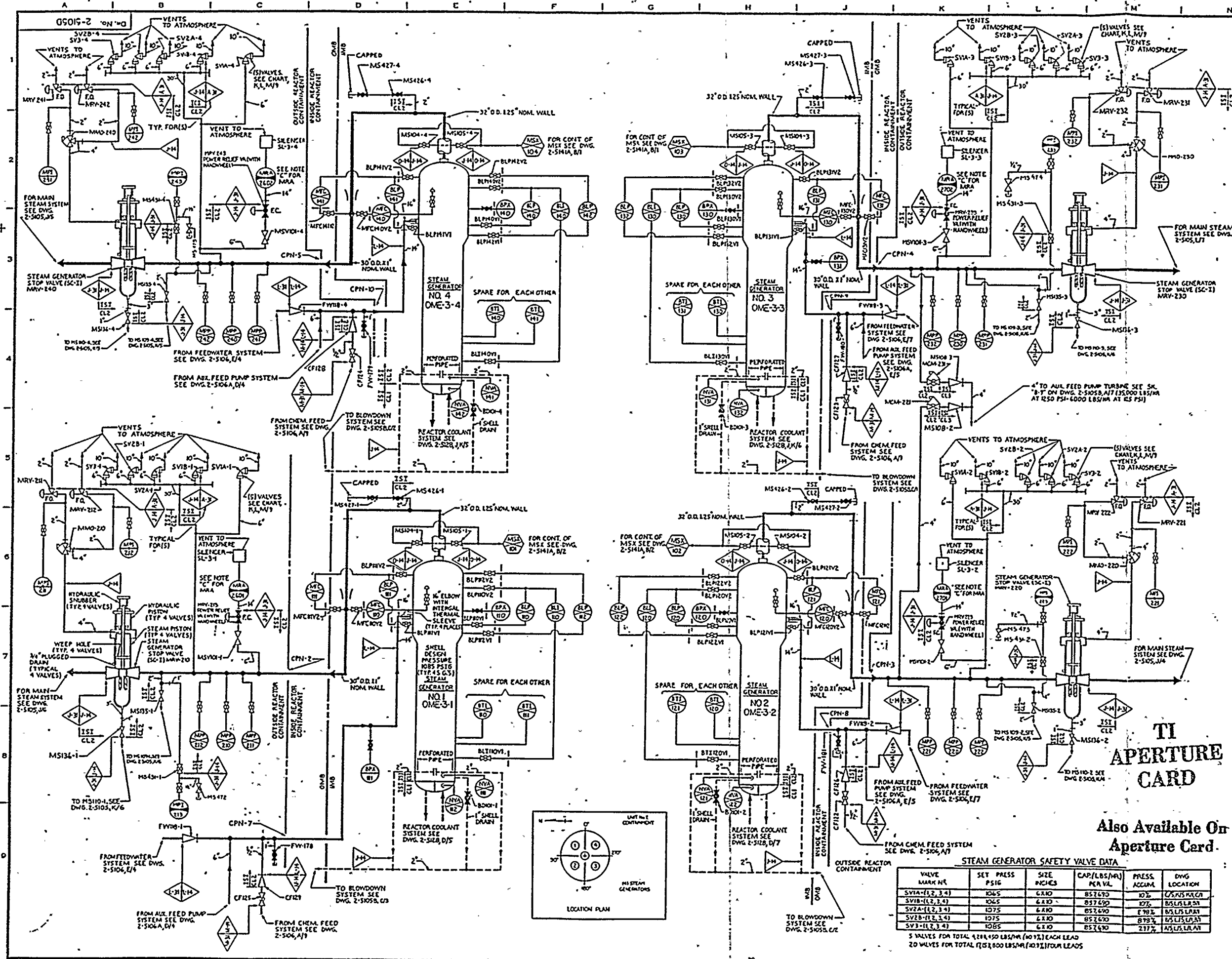
NOTE: FOR DRAIN PIPING AT STEAM JET AIR EJECTORS SEE SKETCHES 12-277-01 DWG. 2-5109A

APERTURE CARD

DR. NO. 2-51058-42

AMERICAN ELECTRIC POWER SERVICE CO. NEW YORK





GENERAL NOTES

LEGEND

- MAIN STEAM
- FEEDWATER
- REACTOR COOLANT
- - - - - AUX. PPMG
- — — — — BLOWDOWN

FOR VALVE INSTRUMENT SAMPLING PPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG. AND FOR MARK NUMBER CODES, SEE DWG. 2-5103, 504

NOTE "A"
ALL EQUIPMENT S.C. 2 EXCEPT AS NOTED.

NOTE "B"
FOR CODE CLASS 2 INSTRUMENT & SAMPLE CONNECTIONS THE S1 BOUNDARY EXTENDS TO AND INCLUDES THE FAST ROOT VALVE.

NOTE "C"
DETECTOR IS IN PROXIMITY TO PIPE BUT NOT PHYSICALLY ATTACHED FOR DETAIL. SEE DWG. 2-5104, 516, 6-2

HAND OPERATED VALVE IDENTIFICATION NUMBERS

1. ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIPMENT DESIGN (UCR) NUMBERS.

2. "TAG" NUMBERS LOOKED FOR DRAWING USE AS FOLLOWS:
TAG NO. 2-5104-MC-W APPEARS AS 2-5104-W

3. INSTRUMENT ROOT VALVE MARK NO'S NOT SHOWN ON DRAWING. SEE VALVE IDENTIFICATION LIST DERIVED BY ADDING TO INSTRUMENT NUMBER: FOR SINGLE IMPLUSE: IMPLPSTR AND FOR DOUBLE IMPLUSE: IMPLDSTR

NOTES:

THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NO. IS "2" UNLESS OTHERWISE NOTED.

6-23-97 2 1-24-97
DATE: 10 1974 APPROVED: [Signature]

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

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INDIANA & MICHIGAN ELECTRIC CO.
DONALD C. COOK
NUCLEAR PLANT

BRIDGMAN MICHIGAN

**FLOW DIAGRAM
STEAM GENERATING
SYSTEM
UNIT NO. 2**

DWG. NO. 2-5105D-2

AMERICAN ELECTRIC POWER SERVICE CORP.

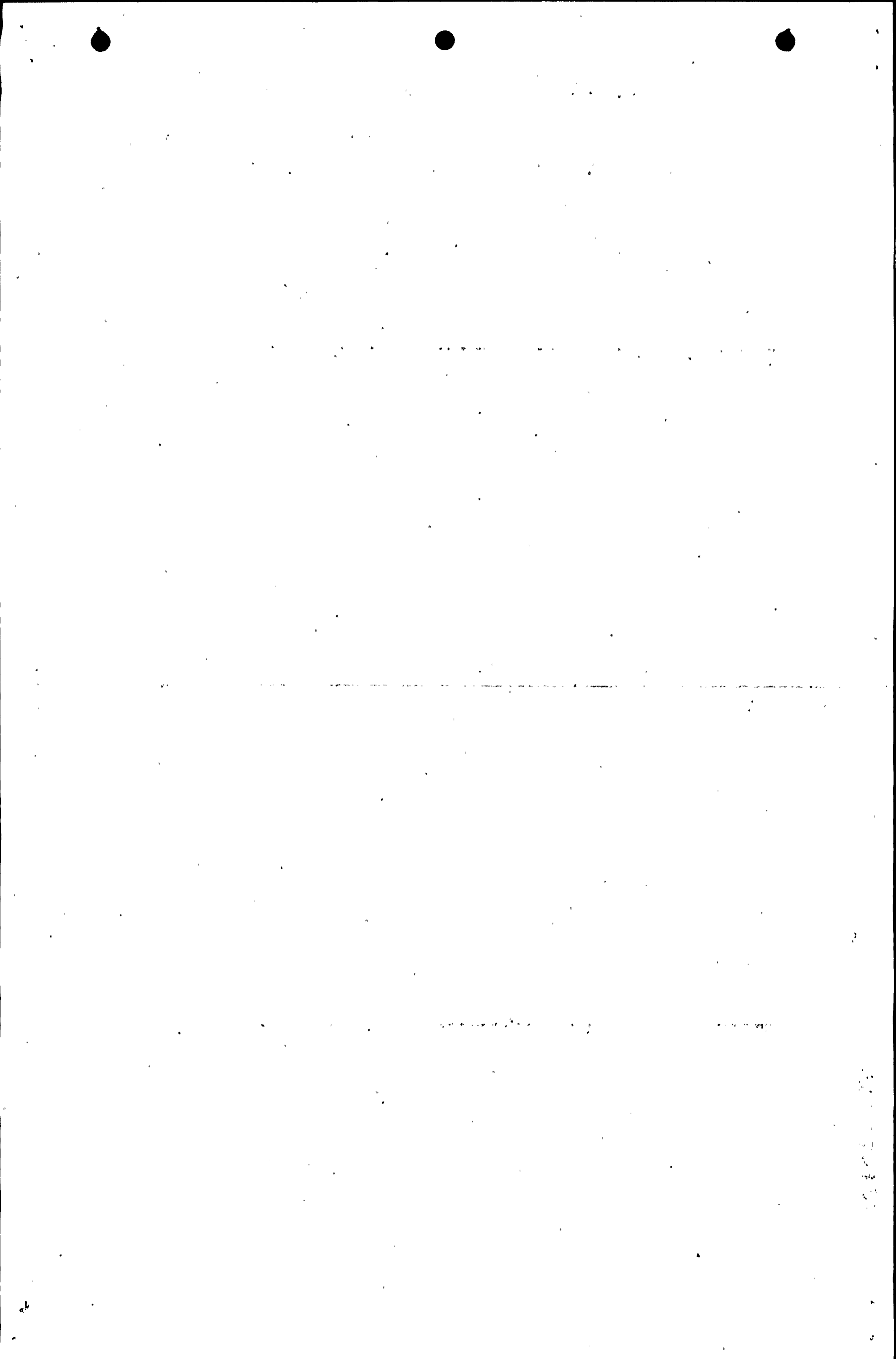
**TI
APERTURE
CARD**

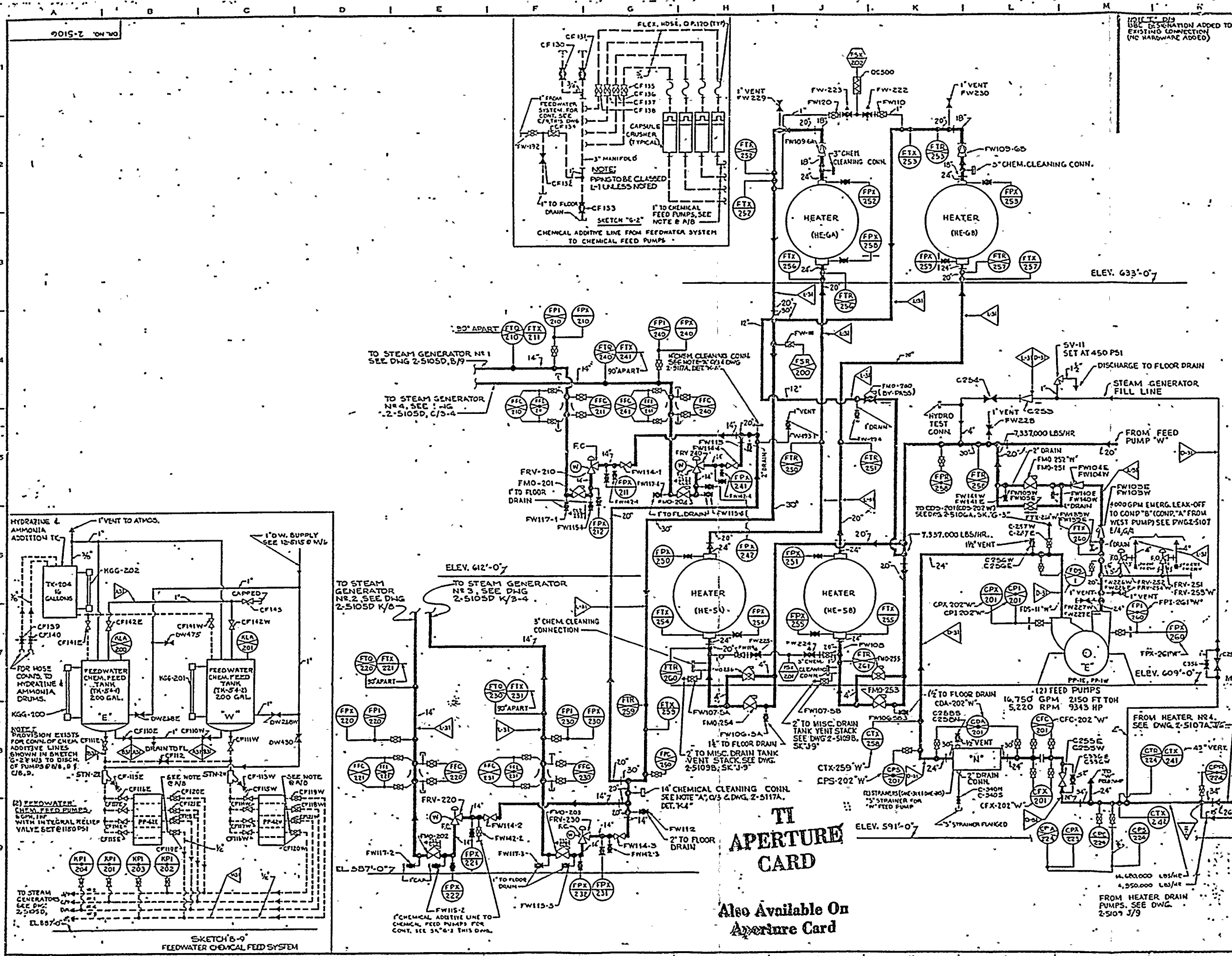
Also Available On
Aperture Card.

STEAM GENERATOR SAFETY VALVE DATA

VALVE MARK NR.	SET PRESS. PSIG	SIZE INCHES	CAP./LBS./HR. PER VAL.	PRESS. ACCUM.	DWG. LOCATION
SV1A-(1,2,3,4)	1065	6.00	857600	10%	OSASRACR
SV1B-(1,2,3,4)	1065	6.00	857600	10%	BLSLUBSA
SV2A-(1,2,3,4)	1075	6.00	857600	10%	BLSLUBSA
SV2B-(1,2,3,4)	1075	6.00	857600	10%	BLSLUBSA
SV3-(1,2,3,4)	1085	6.00	857600	217%	ASLULRAN

5 VALVES FOR TOTAL 428450 LBS./HR. (10%) EACH LEAD
20 VALVES FOR TOTAL 1715000 LBS./HR. (10%) FOUR LEADS





GENERAL NOTES

LEGEND

- FEEDWATER
- AUX. PIPING
- - - CHEM FEED PIPING

FOR VALVE, INSTRUMENT, SAMPLING, PIPE MATERIAL, AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG., AND FOR MARK NUMBER CODES, SEE DWG. 125034200.

NOTE: ALL EQUIPMENT SEISMIC CLASS III EXCEPT AS NOTED.

QUANTITIES PER G.E. CO. HEAT BALANCE 371H8136 V.W.O. REVISED 3-25-68 & B.B. CO. HEAT BALANCE D10240/D DATED 12-11-68 AT MAX. REACTOR POWER.

NOTE "A": H/S, G/S CHEMICAL CLEANING CONNECTIONS PROVIDED FOR CONDENSATE FEEDWATER SYSTEM CHEMICAL CLEANING. SEE DWG. 2-51078 FOR MISC. CONNS & MATERIALS (9 VENTS, DRAIN, SYS).

NOTE "B": FOR CODE CLASS "Z" INSTRUMENT CONNECTIONS, THE ISM BOUNDARY EXTENDS TO AND INCLUDES THE FIRST ROOT VALVE.

NOTE "C": FOR CODE CLASS "Z" VENTS AND DRAINS THE ISM BOUNDARY EXTENDS TO AND INCLUDES THE FIRST NORMALLY CLOSED VALVE.

THE ENT. PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NO. IS "Z" UNLESS OTHERWISE NOTED.

HAND OPERATED VALVE IDENTIFICATION NUMBERS

ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MCR) NUMBERS.

"TAG" NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:

- TAG NO. 2-NSW-V03-W APPEARS AS: NSW03-W
- INSTRUMENT ROOT VALVE MARK NTS NOT SHOWN ON DRAWING. SEE VALVE IDENTIFICATION LIST DERIVED BY ADDING TO INSTRUMENT NUMBER: "V" FOR SINGLE IMPULSE, "V2" FOR DOUBLE IMPULSE, "V3" FOR STREAMLINE.

DATE	NO.	APPROVED
2-25-67	3A	[Signature]

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INDIANA & MICHIGAN ELECTRIC CO.
DONALD C. COOK
NUCLEAR PLANT

FLOW DIAGRAM
FEEDWATER

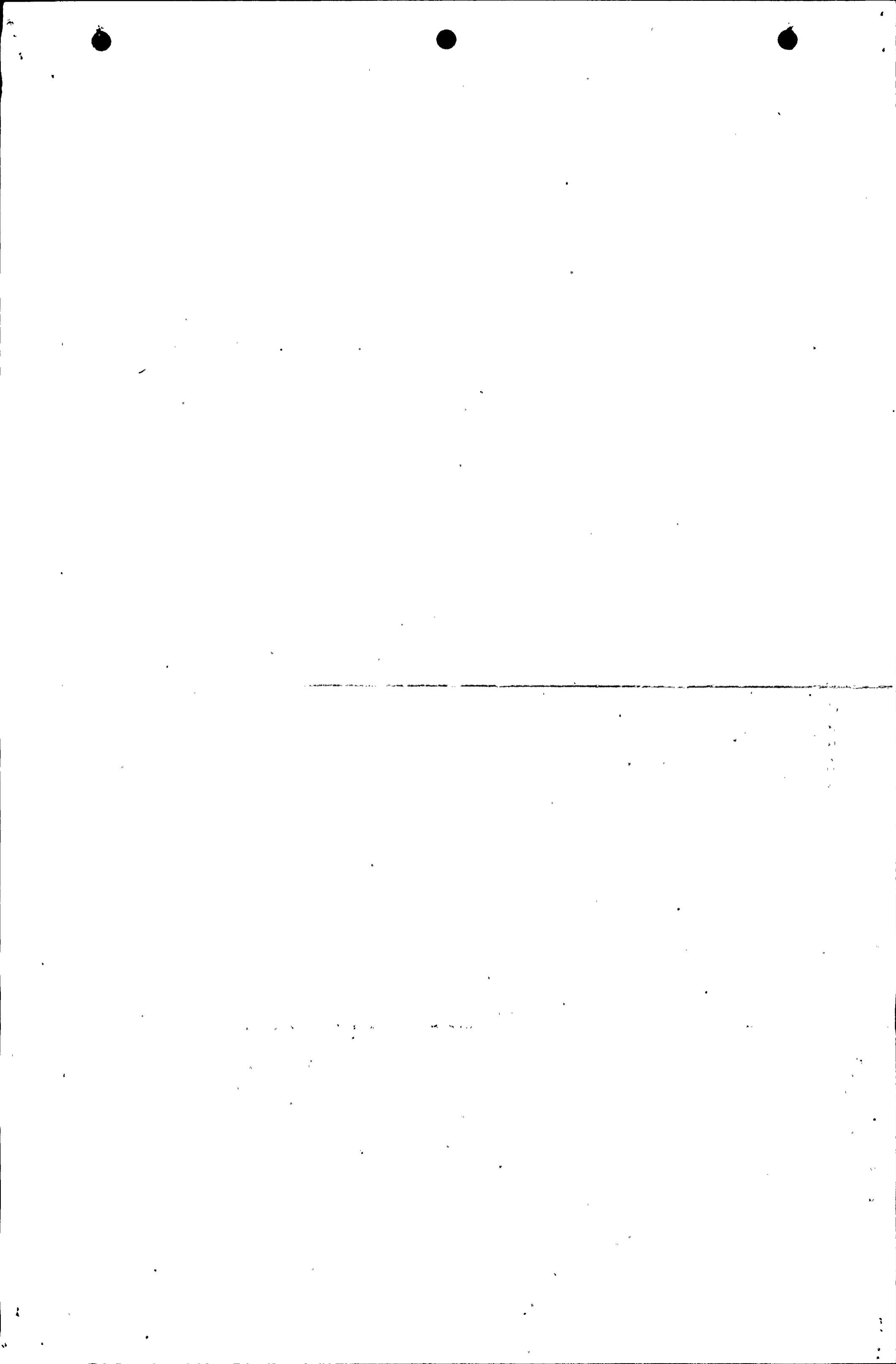
UNIT NO. 2 SHEET 1 OF 2

DWG. NO. 2-5106-34

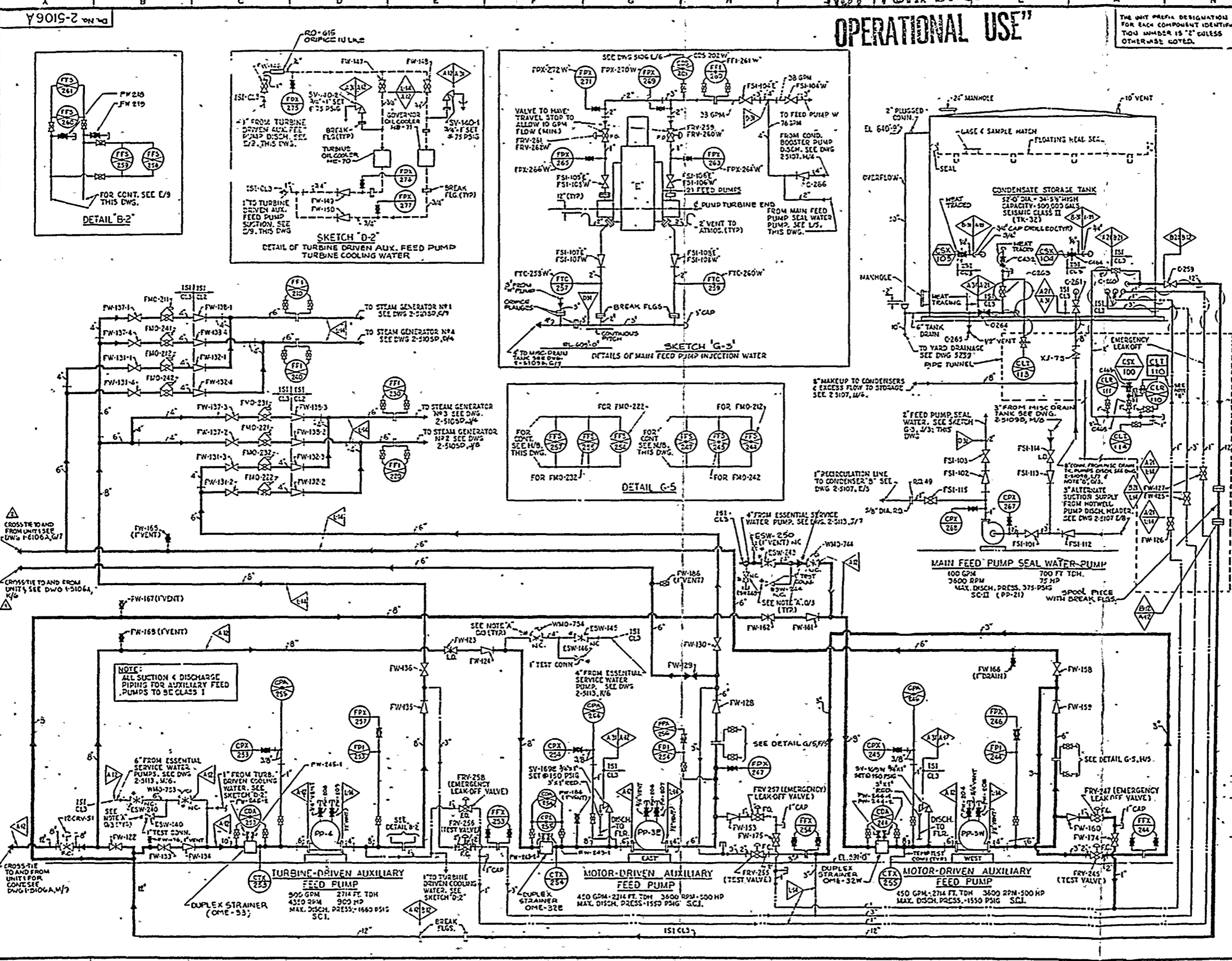
AMERICAN ELECTRIC POWER SERVICE CORP.
2 BROADWAY
NEW YORK

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**"NOT FOR D. C. COOK
OPERATIONAL USE"**



GENERAL NOTES

--- AUX. FEED WATER
 --- EMERGENCY LEAKOFF
 --- COOLING WATER
 --- AUX. PIPING
 --- TEST LINE

THIS DWG. MADE UNIQUE FOR UNIT 2 FROM DWG 12-5106A REV. 25.

FOR VALVE, INSTRUMENT, SAMPLING, PIPE MATERIAL & OTHER SYMBOLS NOT EXPLAINED ON THIS DWG. FOR MARK NUMBER CODES, SEE DWG. 12-5103 (12-5104).

△△△ LINE IDENTIFICATION SYMBOLS

NOTE A*
 VALVES ALSO SHOWN (AND NUMBERED) ON DWG. 5113 NOT TO BE DUPLICATED, AND ARE NORMALLY CLOSED.

NOTE B*
 6" FROM MISC. DRAIN TANK USED FOR HEATING SYSTEM OPERATION DURING CONSTRUCTION AND ON OCCASIONS WHEN BOTH UNITS ARE IN OPERATION.

NOTE C*
 EQUIPMENT SEISMIC CLASSIFICATION AS NOTED.

NOTE D*
 1. FOR CODE CLASS 2 & 3 INSTRUMENT CONNECTIONS, THE ISI BOUNDARY EXTENDS TO AND INCLUDES THE FIRST NORMALLY CLOSED VALVE.
 2. FOR CODE CLASS 2 & 3 VENTS & DRAINS, THE ISI BOUNDARY EXTENDS TO AND INCLUDES THE FIRST NORMALLY CLOSED VALVE.

NOTE E*
 CL-110 LOCATED IN TAFF ROOM. 120\"/>

NOTE F*
 FOR TAFF STEAM SUPPLY SEE DWG. 2-5098, A/3.

NOTE G*
 FOR COOLING WATER SUPPLY TO AUX. FEED PUMP BEARING SEE DWG. 2-5114.

HAND OPERATED VALVE IDENTIFICATION NUMBERS

LEGALLY UNIQUE VALVE NUMBERS APPEAR ON THIS DWG. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MCR) NUMBERS.

2. TAG NUMBERS MODIFIED FOR DWG. USE AS FOLLOWS:
 TAG NR. 2-NSW-VI05W APPEARS AS NSW105W

3. INSTRUMENT ROOT VALVE MARK #3'S NOT SHOWN ON DWG. SEE VALVE IDENTIFICATION LIST DERIVED BY ADDING TO INSTRUMENT NUMBER FOR SINGLE IMPULSE: VI FOR DOUBLE IMPULSE: VI (UPSTREAM) V2 (DOWNSTREAM)

4-5-37-41

DATE	NO.	APPROVED

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INDIANA & MICHIGAN ELECTRIC CO.
 DONALD C. COOK
 NUCLEAR PLANT

BRODGMAN MORGAN

**FLOW DIAGRAM
 AUX. FEEDWATER
 UNIT 2**

DR. NO. 2-5106A-41

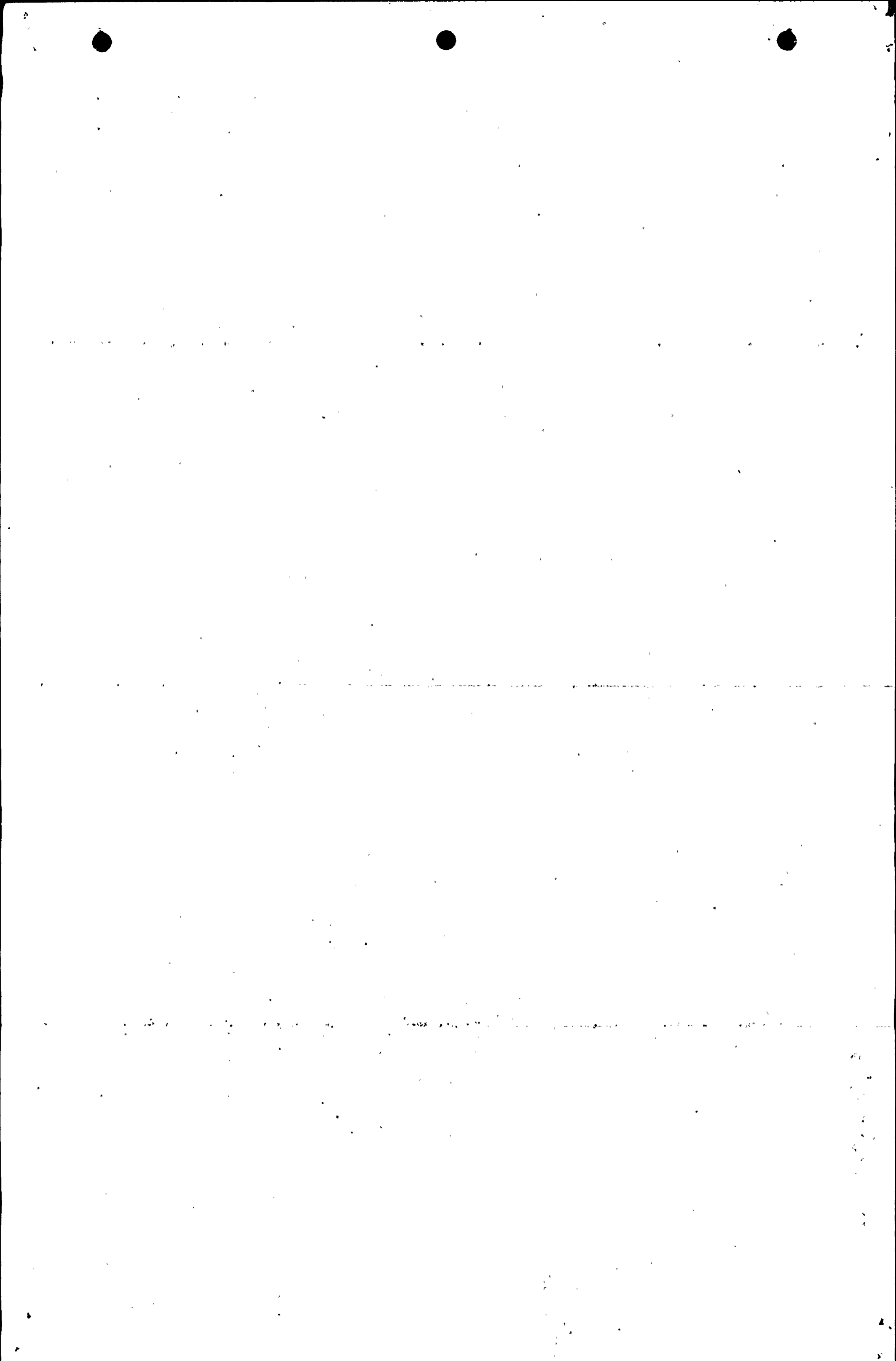
SCALE	DATE	BY	CHKD.	APP'D.

AMERICAN ELECTRIC POWER SERVICE CORP.

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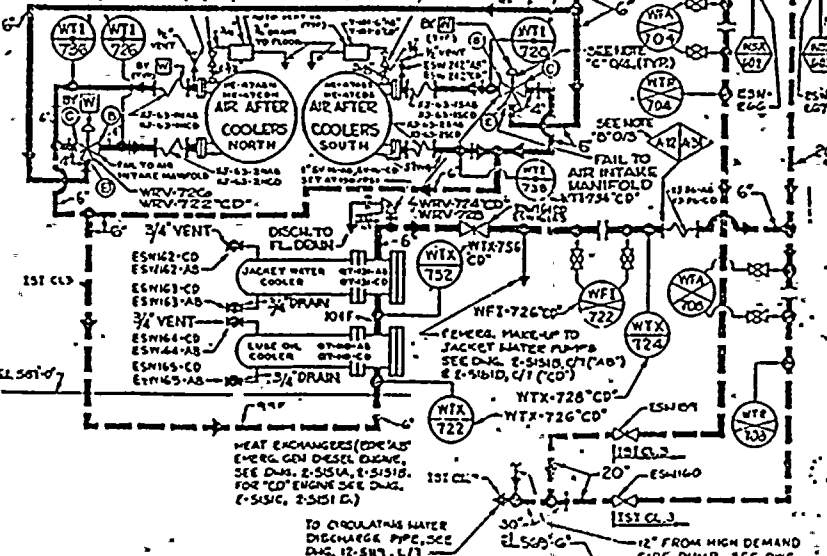
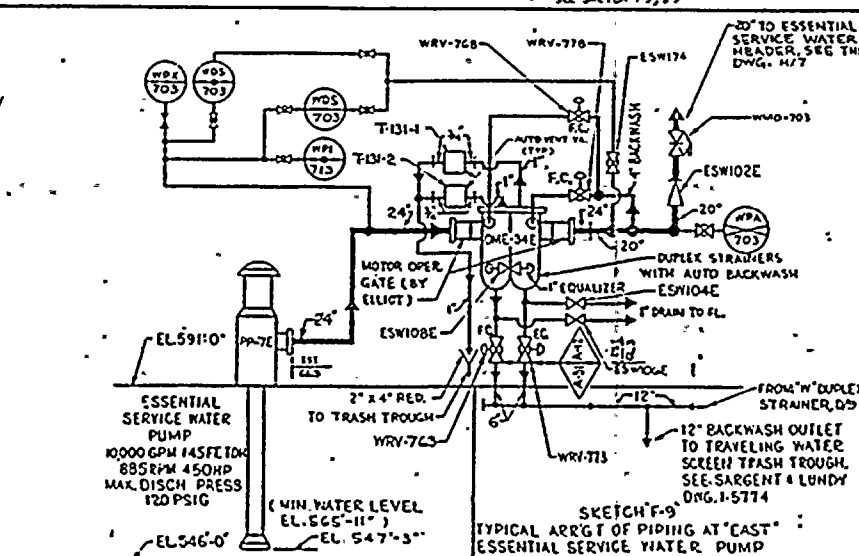
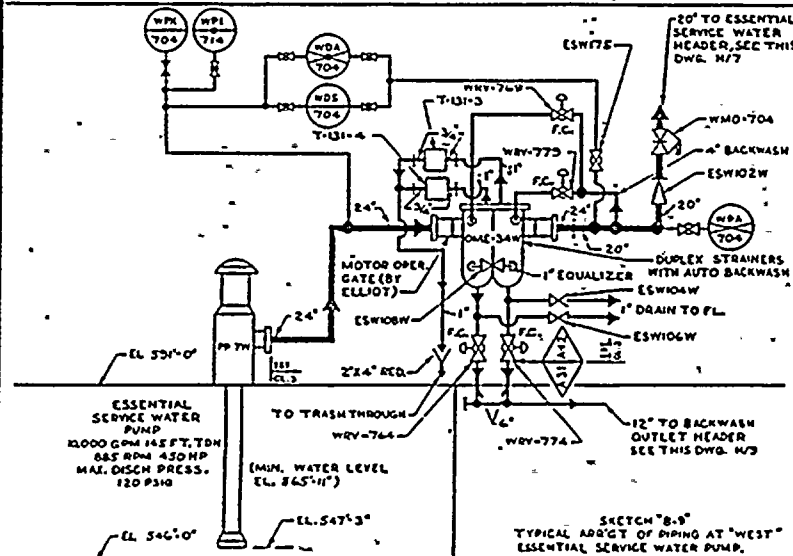
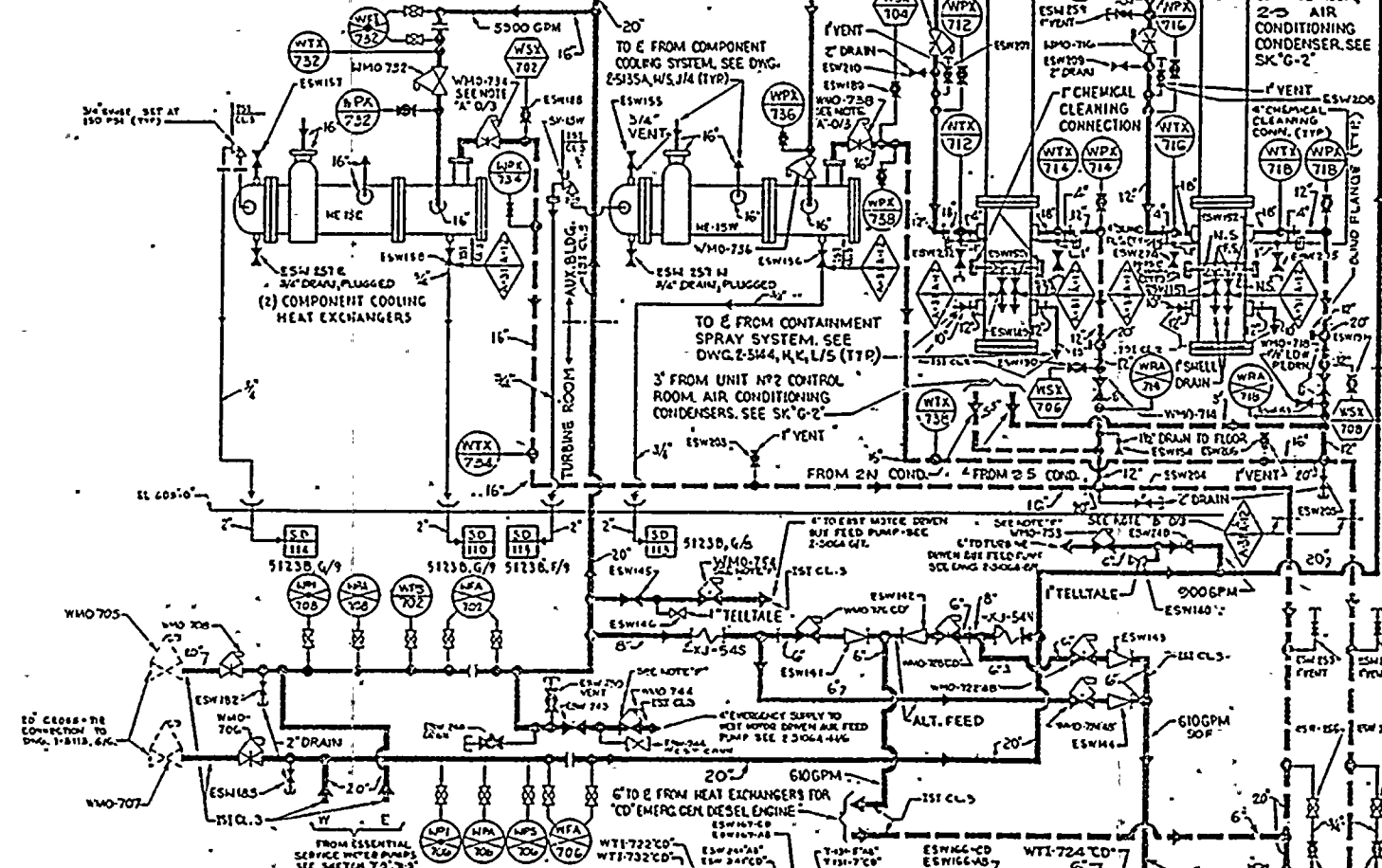
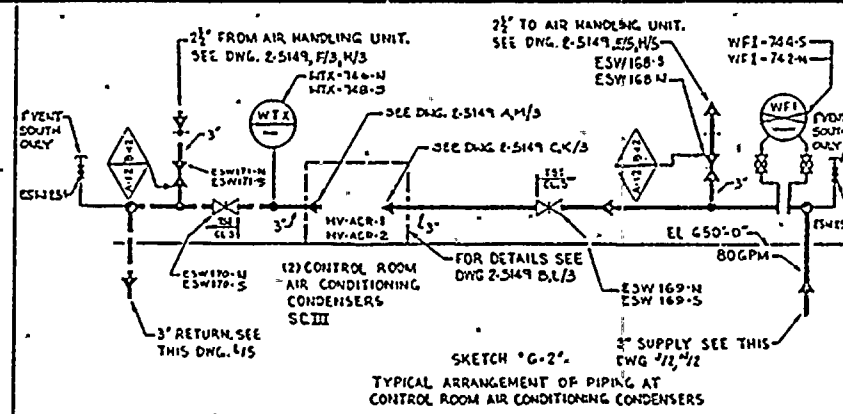
8710130278-04



1115-2 'OM '60

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GENERAL NOTES

LEGEND
 --- SUPPLY PIPING
 --- RETURN PIPING
 --- AUX. PIPING

ALL PIPING CLASS A-12 UNLESS NOTED
 ALL EQUIPMENT SEISMIC CLASS I, EXCEPT AS NOTED.
 FOR VALVE, INSTRUMENT, SAMPLING, PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG., AND FOR MARK NUMBER CODES, SEE DNG. 12-5104.

SYMBOL
 [Symbol] BY WORTHINGTON

NOTE "A": WMO-734, 738 TO HAVE INTERMEDIATE LIMIT SWITCH TO LIMIT FLOW ON SAFETY INJECTION SIGNAL

NOTE "B": RETURN PIPING CHANGES FROM CLASS I (AUX. BLDG) TO CLASS III (TURB. ROOM)

NOTE "C": ENCLOSED LETTERS ARE SHOWN FOR ORIENTATION OF VALVE IN PIPING. THESE LETTERS REFLECT SIMILAR MARKINGS ON VALVE BODY

NOTE "D": THIS DWG. MADE UP FOR UNIT #2 AND SUPPLIES TO UNIT #2

NOTE "E": FOR COOL CLASS 2 & 3 INSTRUMENT CONNECTIONS, THE 1" BOUNDARY EXTENDS TO AND INCLUDES THE FIRST NORMALLY CLOSED VALVE.

NOTE "F": VALVES ALSO SHOWN AND NUMBERED ON DNG. 2-5104.

THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER IS "2" UNLESS OTHERWISE SPECIFIED.

HAND OPERATED VALVE IDENTIFICATION NUMBERS
 ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MCR) NUMBERS.
 TAG NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:
 TAG N: 2-NSW-VDS-W APPEARS AS: NSWDSW

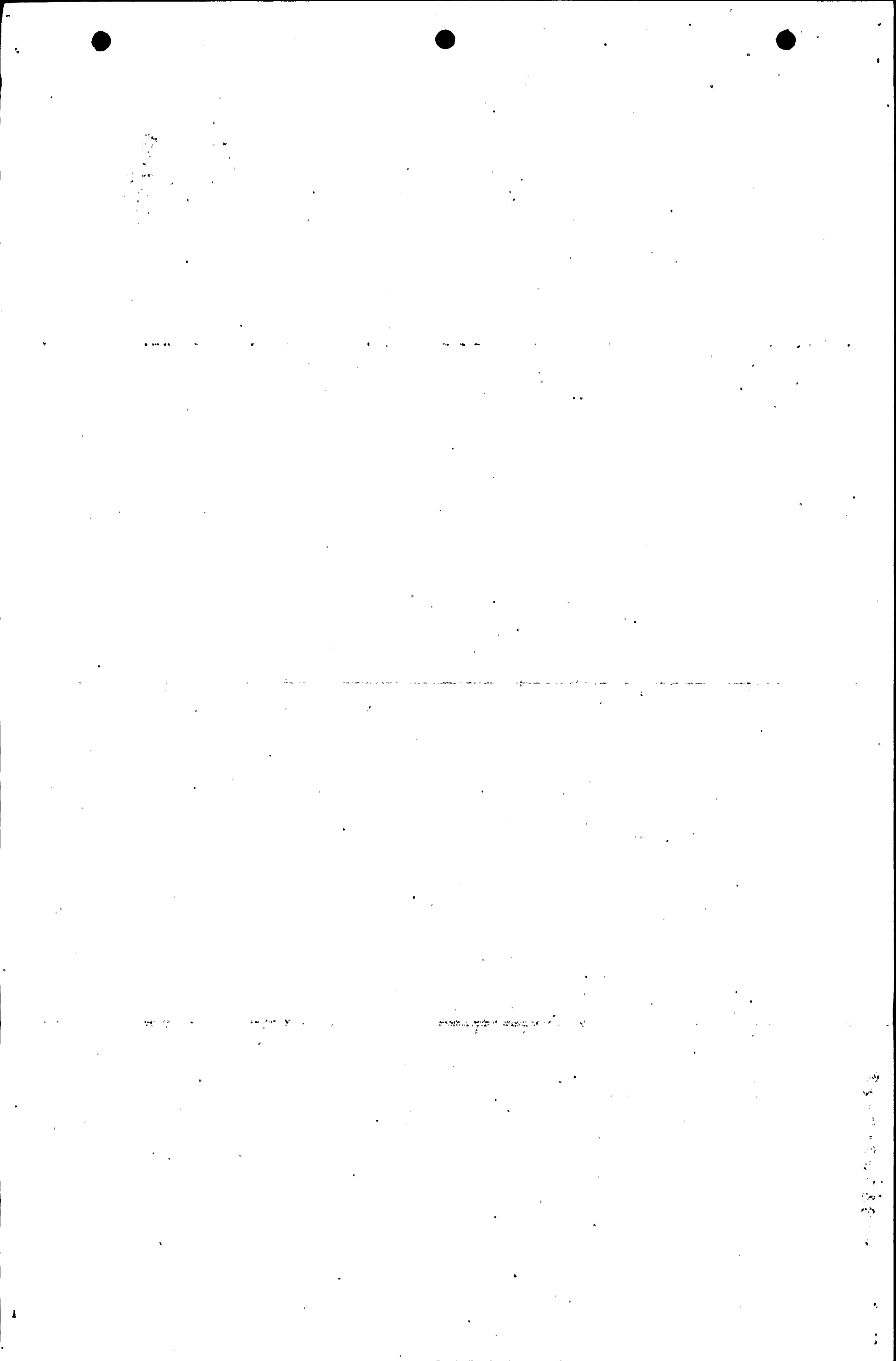
INSTRUMENT ROOT VALVE MARK
 N'S NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:
 FOR SINGLE IMPULSE: V
 FOR DOUBLE IMPULSE: VS
 FOR STREAM: VS

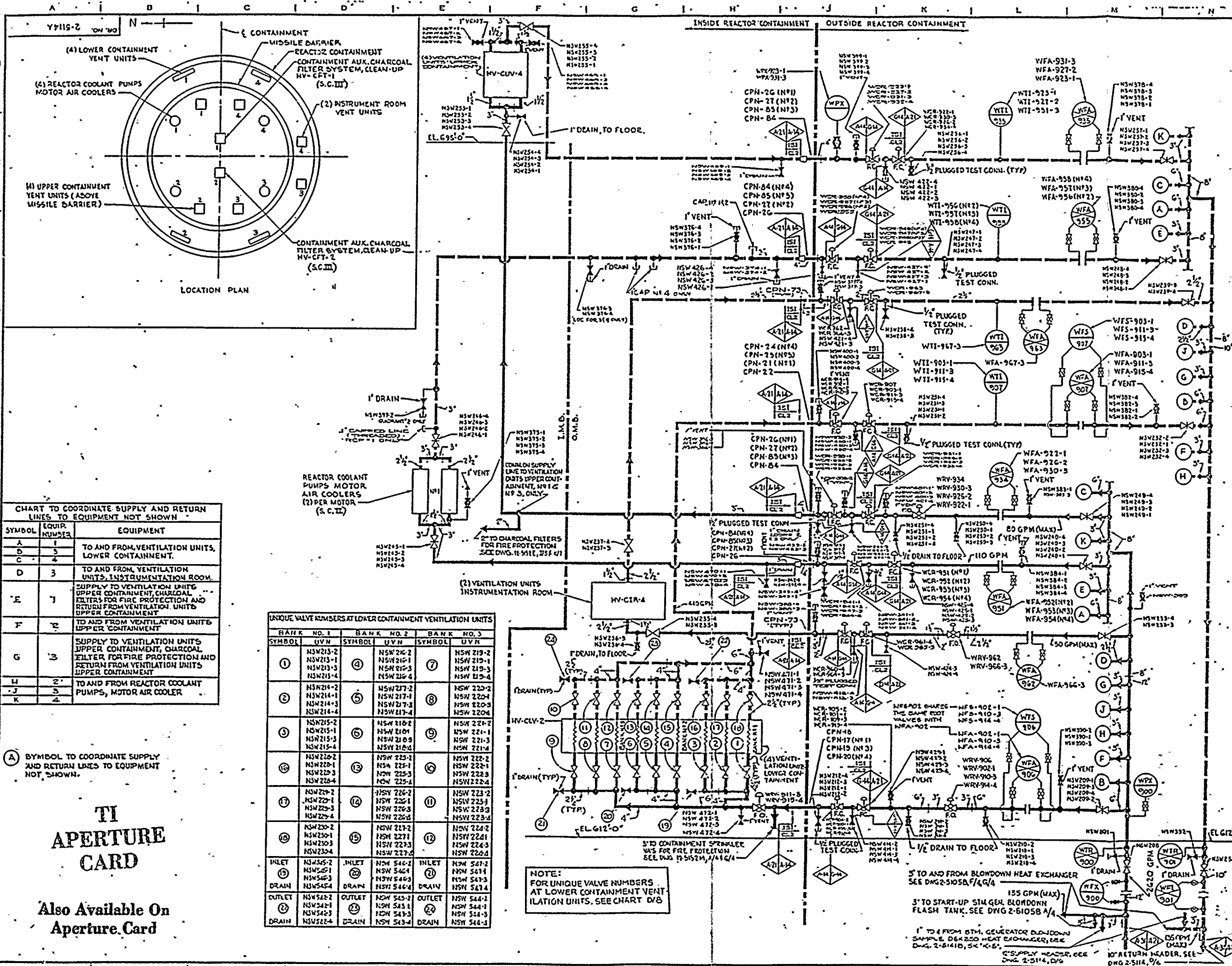
DATE: 2-28-67 136
 APPROVED: [Signature]
 FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

INDIANA & MICHIGAN ELECTRIC CO.
 DONALD C. COOK
 NUCLEAR PLANT
 BRIDGEMAN
 FLOW DIAGRAM
 ESSENTIAL SERVICE WATER
 UNITS NO. 2

DWG. NO. 2-5113-36
 AMERICAN ELECTRIC POWER SERVICE CORP.
 2 BROADWAY NEW YORK

8710130278-05





GENERAL NOTES

LEGEND
 — SUPPLY PIPING
 — RETURN PIPING
 — AUXILIARY PIPING

FOR VALVE, INSTRUMENT, SAMPLING, PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG., AND FOR MARK NUMBER CODES, SEE DWG. 2-5114-204.

NOTES:
 A. ALL EQUIPMENT SEISMIC CLASS II EXCEPT AS NOTED.
 B. FOR CODE CLASS 2 INST. COUPLERS THE 181 BOUNDARY EXTENDS TO & INCLUDES THE FIRST ROOT VALVE.
 C. FOR CODE CLASS 2 VENTS & DRAINS THE 181 BOUNDARY EXTENDS TO & INCLUDES THE FIRST NORMALLY CLOSED VALVE.

NOTE:
 1. UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER IS "2" UNLESS OTHERWISE NOTED.
 2. TAG NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:
 TAG NO. NSW400-N APPEARS AS: NSW400
 3. INSTRUMENT ROOT VALVE MARK N'S NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:
 FOR SINGLE IMPULSE: V (FOR DOUBLE IMPULSE: VDP/STREAM) VZ/DOM/STRM

DATE: 10-3-66 27
 APPROVED: CIL

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

INDIANA & MICHIGAN ELECTRIC CO.
 DONALD C. COOK
 NUCLEAR PLANT

FLOW DIAGRAM NON-ESSENTIAL SERVICE WATER UNIT #27

DR. NO. 2-5114 A-27

AMERICAN ELECTRIC POWER SERVICE CORP.
 2 BROADWAY, NEW YORK

CHART TO COORDINATE SUPPLY AND RETURN LINES TO EQUIPMENT NOT SHOWN

SYMBOL	EQUIP. NUMBER	EQUIPMENT
A	1	TO AND FROM VENTILATION UNITS, LOWER CONTAINMENT.
B	2	TO AND FROM VENTILATION UNITS, INSTRUMENTATION ROOM.
C	3	SUPPLY TO VENTILATION UNITS UPPER CONTAINMENT, CHARCOAL FILTERS FOR FIRE PROTECTION AND RETURN FROM VENTILATION UNITS UPPER CONTAINMENT.
D	4	TO AND FROM VENTILATION UNITS UPPER CONTAINMENT.
E	5	SUPPLY TO VENTILATION UNITS UPPER CONTAINMENT, CHARCOAL FILTER FOR FIRE PROTECTION AND RETURN FROM VENTILATION UNITS UPPER CONTAINMENT.
F	6	TO AND FROM REACTOR COOLANT PUMPS, MOTOR AIR COOLER.

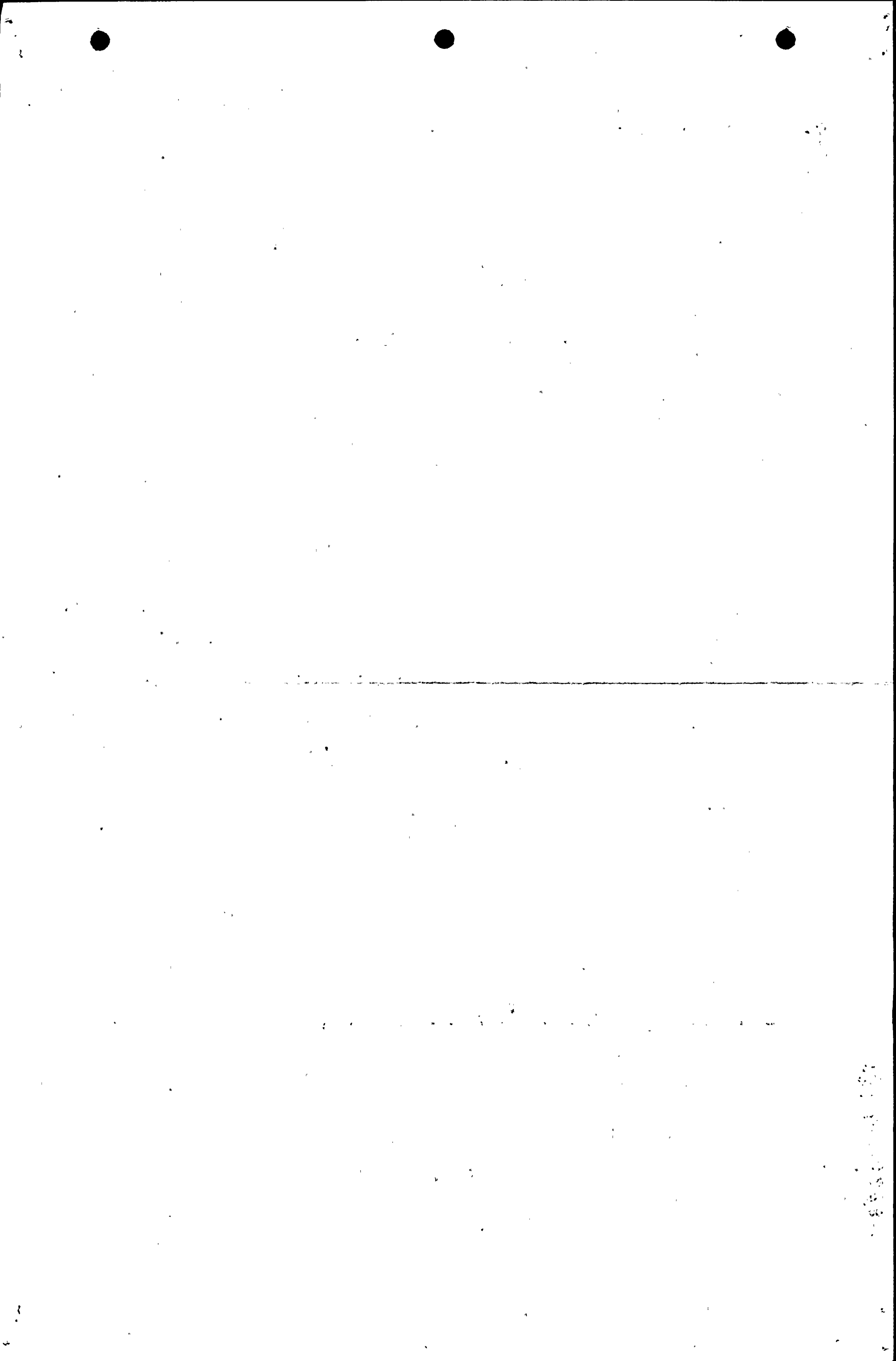
UNIQUE VALVE NUMBERS AT LOWER CONTAINMENT VENTILATION UNITS

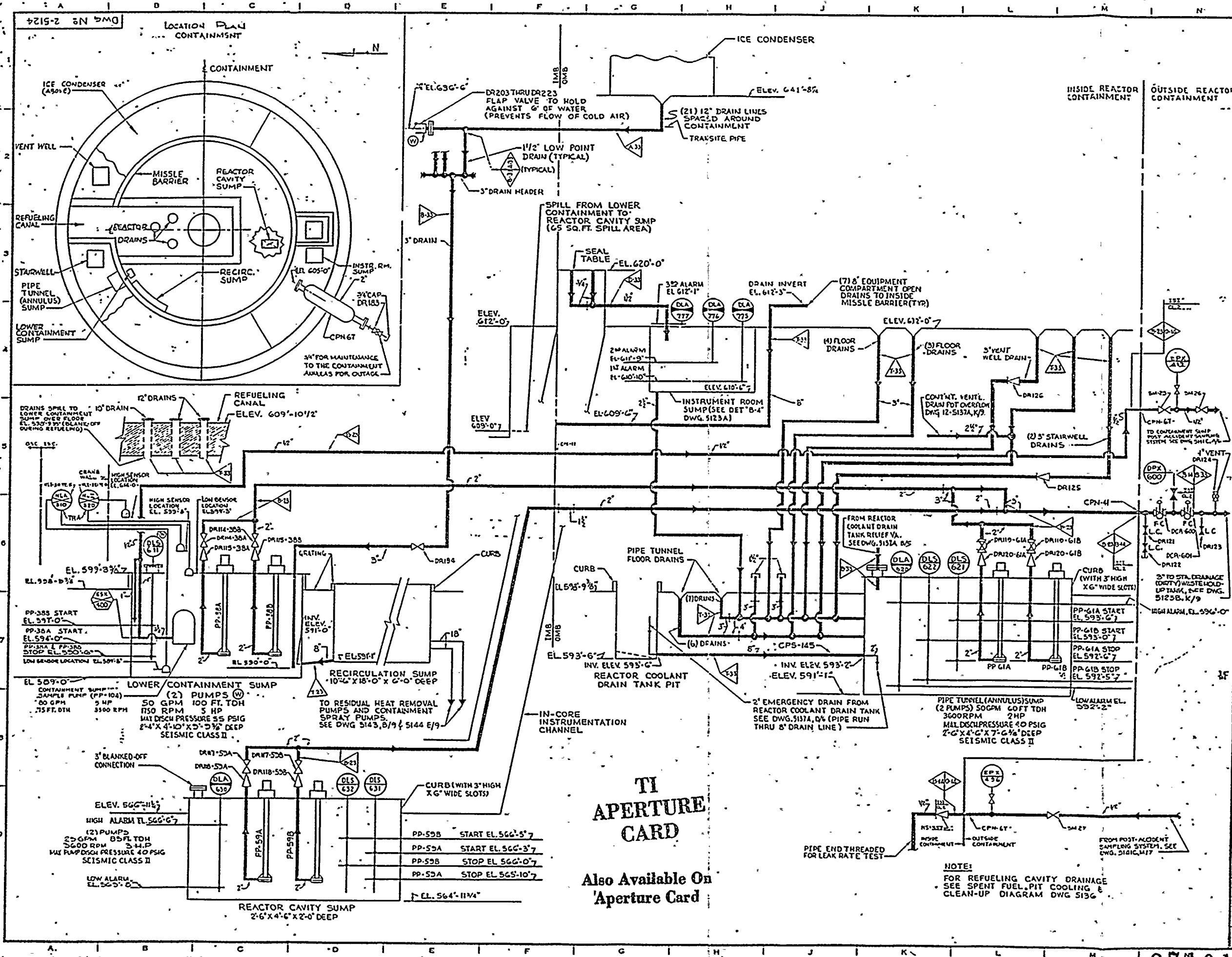
BANK NO. 1	BANK NO. 2	BANK NO. 3			
SYMBOL	U/VN	SYMBOL	U/VN	SYMBOL	U/VN
1	NSW213-2 NSW213-1 NSW213-3 NSW213-4	4	NSW216-2 NSW216-1 NSW216-3 NSW216-4	7	NSW219-2 NSW219-1 NSW219-3 NSW219-4
2	NSW214-2 NSW214-1 NSW214-3 NSW214-4	5	NSW217-2 NSW217-1 NSW217-3 NSW217-4	8	NSW220-2 NSW220-1 NSW220-3 NSW220-4
3	NSW215-2 NSW215-1 NSW215-3 NSW215-4	6	NSW218-2 NSW218-1 NSW218-3 NSW218-4	9	NSW221-2 NSW221-1 NSW221-3 NSW221-4
4	NSW222-2 NSW222-1 NSW222-3 NSW222-4	13	NSW225-2 NSW225-1 NSW225-3 NSW225-4	16	NSW228-2 NSW228-1 NSW228-3 NSW228-4
5	NSW229-2 NSW229-1 NSW229-3 NSW229-4	14	NSW226-2 NSW226-1 NSW226-3 NSW226-4	17	NSW231-2 NSW231-1 NSW231-3 NSW231-4
6	NSW230-2 NSW230-1 NSW230-3 NSW230-4	15	NSW227-2 NSW227-1 NSW227-3 NSW227-4	18	NSW234-2 NSW234-1 NSW234-3 NSW234-4
INLET	NSW545-2 NSW545-1 NSW545-3 NSW545-4	INLET	NSW546-2 NSW546-1 NSW546-3 NSW546-4	INLET	NSW547-2 NSW547-1 NSW547-3 NSW547-4
OUTLET	NSW542-2 NSW542-1 NSW542-3 NSW542-4	OUTLET	NSW543-2 NSW543-1 NSW543-3 NSW543-4	OUTLET	NSW544-2 NSW544-1 NSW544-3 NSW544-4

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NOTE:
 FOR UNIQUE VALVE NUMBERS AT LOWER CONTAINMENT VENTILATION UNITS, SEE CHART D/B





GENERAL NOTES

LEGEND

— DRAINAGE PIPING
 - - - AUXILIARY PIPING

FOR VALVE, INSTRUMENT, SAMPLING PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG. AND FOR MARK NUMBER CODES, SEE DWG. 12-5103 & 12-5104.

(W) BY WESTINGHOUSE CO.

ALL EQUIPMENT SEISMIC CLASS I EXCEPT AS NOTED

NOTE

① ALL CONTAINMENT SUMP PUMPS TO BE TRIPPED OFF ON ISOLATE SIGNAL.

② VALVES SM-25, SM-26, SM-27 ARE TEMPORARY TO BE PERMANENTLY REPLACED BY ECR-416, 417, 496, 497

SUMPS SEISMIC CLASSIFICATION SAME AS STRUCTURE IN WHICH ARE LOCATED.

③ FOR CODE CLASS 2 INSTRUMENT COMP. THE 15% BOUNDARY EXTENDS TO AND INCLUDES THE FIRST ROOT VALVE.

④ FOR CODE CLASS 2 HEADS OF DRAINS THE 15% BOUNDARY EXTENDS TO & INCLUDES THE FIRST, NORMALLY CLOSED VALVE.

THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER IS "2" UNLESS OTHERWISE NOTED.

REV. 11

NOTE: THIS DWG. MADE UNIQUE FOR UNIT #2 FROM DWG. 12-5104, REV. 10.

HAND OPERATED VALVE IDENTIFICATION NUMBERS

ONLY UNIQUE VALVE NUMBERS APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MCR) NUMBERS.

2. TAG NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:

TAG NO.: 2-INSW-1105-11 APPEARS AS: NSW-1105

3. INSTRUMENT ROOT VALVE MARK N'S NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER: FOR SINGLE IMPULSE (V) FOR DOUBLE IMPULSE (V2) (V2DONGTR)

1-1-87 20 [Signature] [Initials]

DATE NO. APPROVED

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

INDIANA & MICHIGAN ELECTRIC CO.
 DONALD C. COOK
 NUCLEAR PLANT

BRIDGMAN MICHIGAN

FLOW DIAGRAM STATION CONTAINMENT UNIT # 2

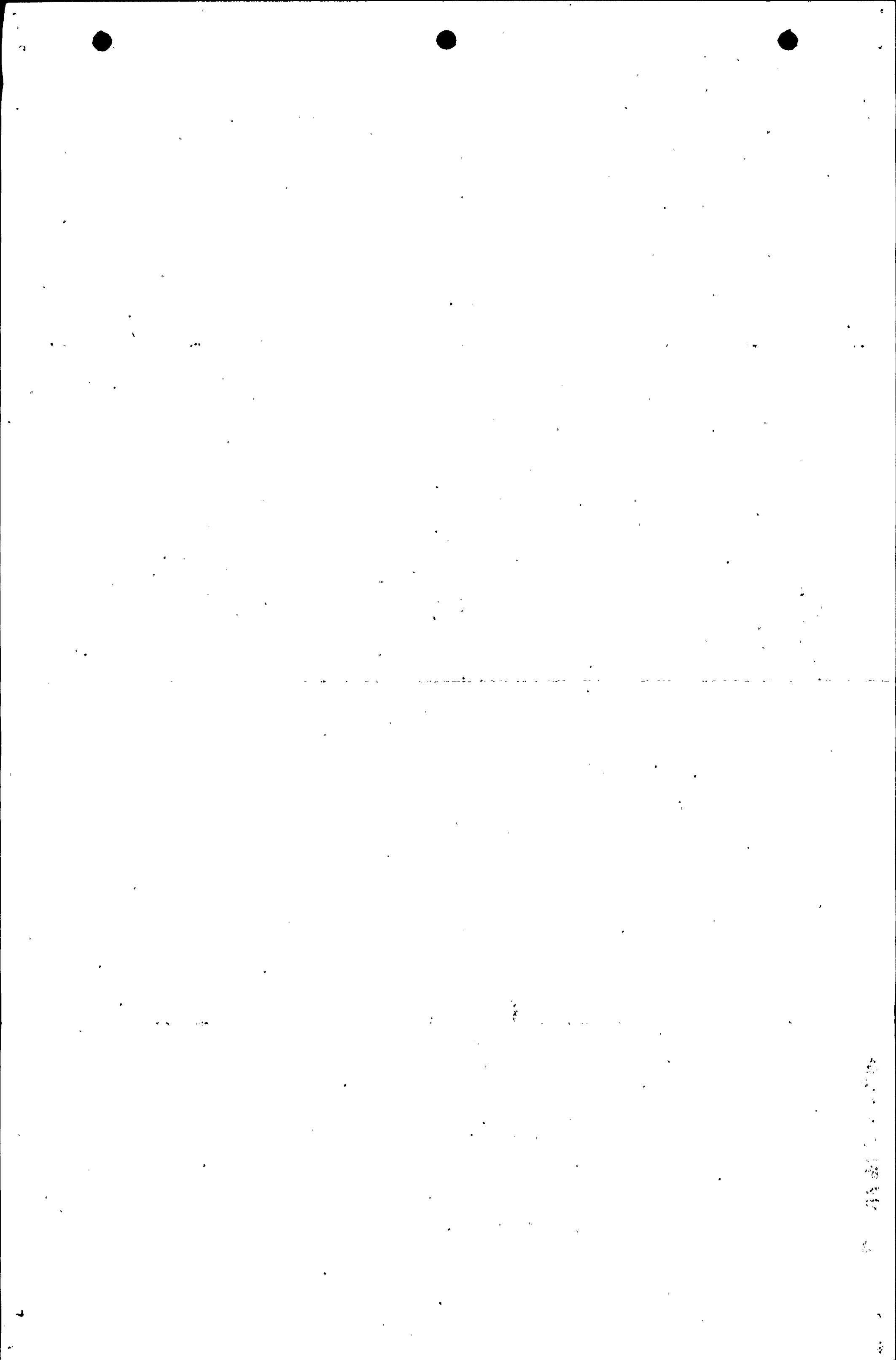
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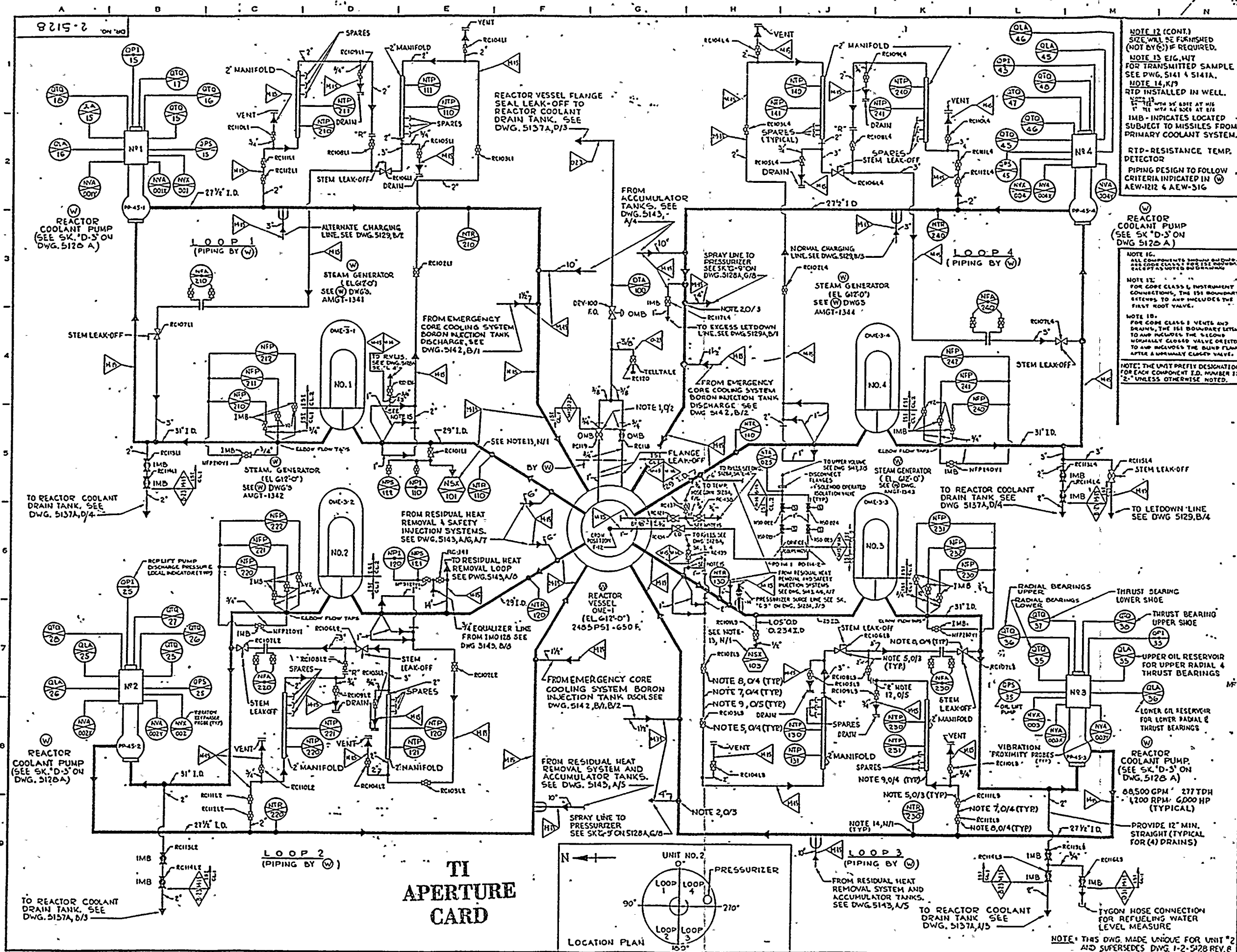
AMERICAN ELECTRIC POWER SERVICE CORP.
 2 BROADWAY NEW YORK

TI APERTURE CARD

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NOTE:
 FOR REFUELING CAVITY DRAINAGE SEE SPENT FUEL PIT COOLING & CLEAN-UP DIAGRAM DWG 5136





NOTE 12 (CONT.)
 SIZE WILL BE FURNISHED (NOT BY C) IF REQUIRED.
 NOTE 13 EIG. NIT FOR TRANSMITTED SAMPLE SEE DWG. 5141 & 5141A.
 NOTE 14, K7 RTD INSTALLED IN WELL.
 RTD WITH 3/8" BORE AT 1/2" TYP. WITH 1/2" BORE AT 1/2" TYP.
 IMB - INDICATES LOCATED SUBJECT TO MISSILES FROM PRIMARY COOLANT SYSTEM.
 RTD - RESISTANCE TEMP. DETECTOR
 PIPING DESIGN TO FOLLOW CRITERIA INDICATED IN (W) AEW-112 & AEW-316

GENERAL NOTES

LEGEND
 REACTOR COOLANT PIPING (W)
 AUX. PIPING (C)
 INSTR. PIPING (I)
 BY WESTINGHOUSE (W)
 SEISMIC CLASS I

ALL VALVES AND INSTRUMENTATION BY (W)

FOR VALVE, INSTRUMENT, SAMPLING, PIPE MATERIAL, AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG., AND FOR MARK NUMBER CODES SEE DWGS 12-5103 & 5104

BLANKED FLANGED CONNECTION

NOTE 1, G15 LOCATE OUTSIDE SECONDARY SHIELD WALL. ONE VALVE FROM INNER O-RING, ONE VALVE FROM OUTER O-RING.

NOTE 1, H3, W9 SPRAY LINE SCOOP

NOTE 5, J7, H8, L8 LOCATE RTD MANL. ISOLATION VALV. APPROX. 9" FROM MANIFOLD.

NOTE 7, W7, K9. ALL BYPASS LOOP PIPING / THE RTD MANIFOLDS SHALL HAVE REMOVABLE INSULATION UP TO LOOP ROOT VALVES.

NOTE 8, H7, K7, L9 LOCATE ROOT VALV. ABOVE ELEV. OF REACTOR VESSEL NOZZLES.

NOTE 9, W8, K8 LENGTH OF HOT LEG PIPE AND COLD LEG PIPE BASED ON (W) RECOMMENDATION TO MEET "TEMPERATURE TIME LAG" OF LESS THAN 1.0 SEC. FOR RTD MANIFOLD.

NOTE 13, K7 FLGS. ARE INSTALLED FOR INSERT OF FLOW LIMITING ORIFICES, IF REQUIRED. BLANK CRIFICE PLATES TO BE DRILLED TO (CONT'N W1)

REACTOR COOLANT PUMP (SEE 5X "D-3" ON DWG 5128 A)

NOTE 16. ALL COMPONENTS SHOWN ON THIS DWG. ARE TO BE INSTALLED IN ACCORDANCE WITH THE CODE CLASS 1, INSTRUMENT CONNECTIONS, THE 151 BOUNDARY SETBACKS TO AND INCLUDES THE FIRST ROOT VALVE.

NOTE 17. FOR CODE CLASS 1, INSTRUMENT CONNECTIONS, THE 151 BOUNDARY SETBACKS TO AND INCLUDES THE FIRST ROOT VALVE.

NOTE 18. FOR CODE CLASS 1 VENTS AND DRAINS, THE 151 BOUNDARY SETBACKS TO AND INCLUDES THE SECOND HIGHERLY LOCATED VALVE OR STOP TO AND INCLUDES THE BULK FLANGE AFTER A NORMALLY CLOSED VALVE.

NOTE: THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT ID. NUMBER IS "2" UNLESS OTHERWISE NOTED.

MAND OPERATED VALVE IDENTIFICATION NUMBERS

1. ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MCR) NUMBERS.

2. TAG NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:
 TAG N1: 2-N5W-V001-Y APPEARS AS: N5W001Y

3. INSTRUMENT ROOT VALVE MARKING IS NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER FOR SINGLE REFERENCE (FOR DOUBLE REFERENCE: VALVE STREAM) V2000MTRK

REACTOR COOLANT PUMP (SEE 5X "D-3" ON DWG. 5128 A)

68,500 GPM 277 TDH
 1,200 RPM - 6,000 HP (TYPICAL)

PROVIDE 12" MIN. STRAIGHT (TYPICAL) FOR (4) DRAINS

TYGON HOSE CONNECTION FOR REFUELING WATER LEVEL MEASURE

NOTE 1 THIS DWG. MADE UNIQUE FOR UNIT #2 AND SUPERSEDES DWG. 1-2-5128 REV. B

DATE	NO.	APPROVED
3-21-77	19	[Signature]

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

INDIANA & MICHIGAN ELECTRIC CO.
 DONALD C. COOK
 NUCLEAR PLANT

BRIDGMAN MICHIGAN

FLOW DIAGRAM
 REACTOR COOLANT
 UNIT NO. 2
 SHEET 1 OF 2

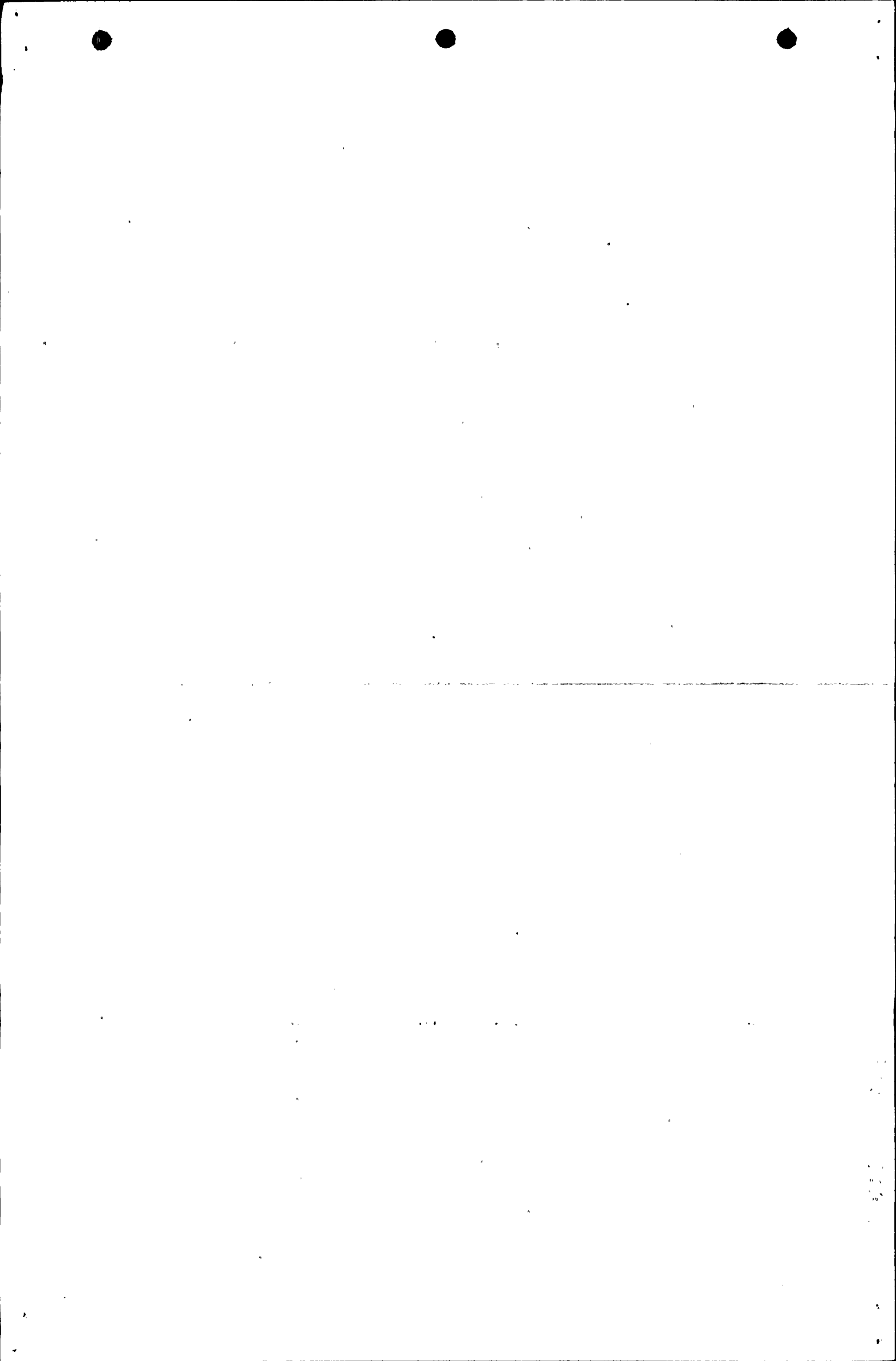
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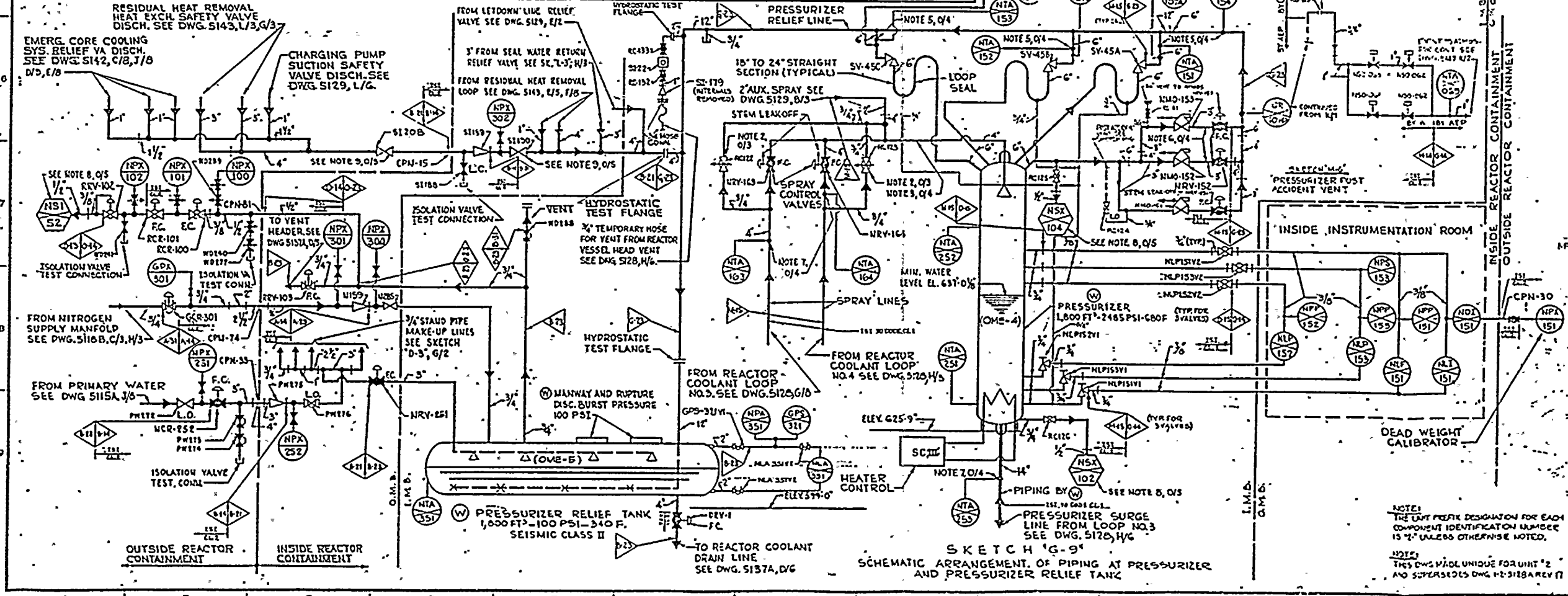
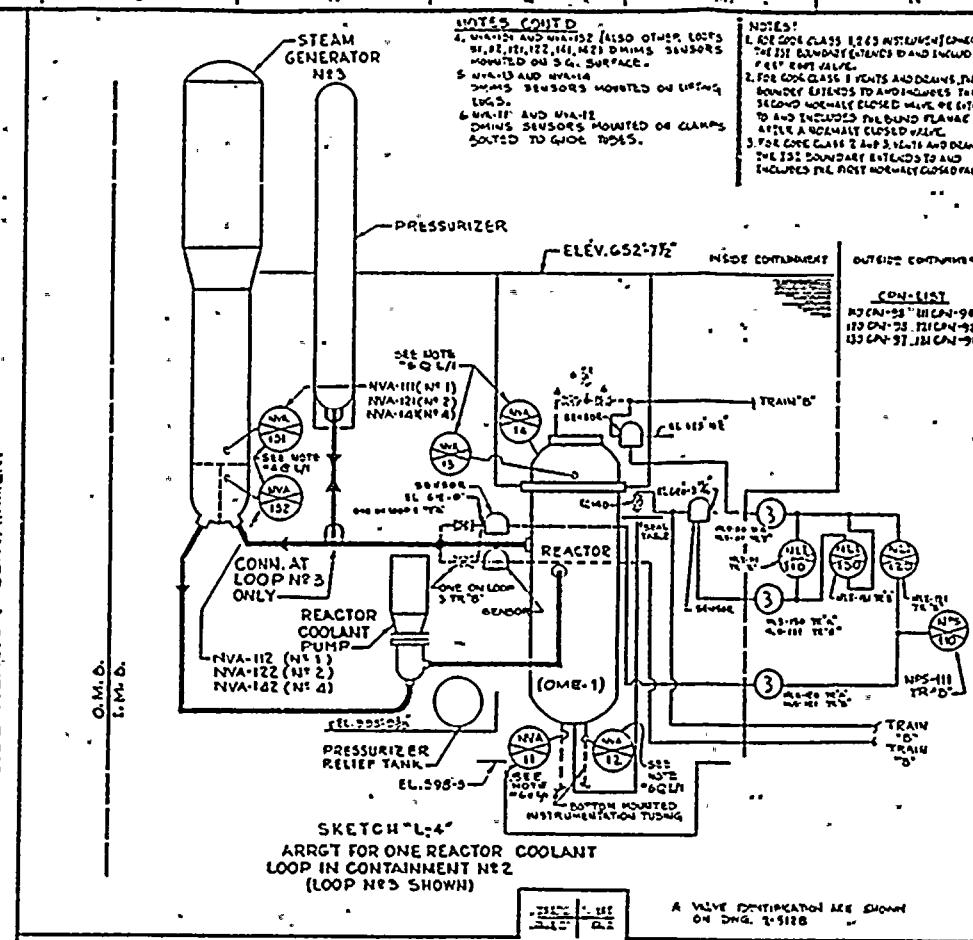
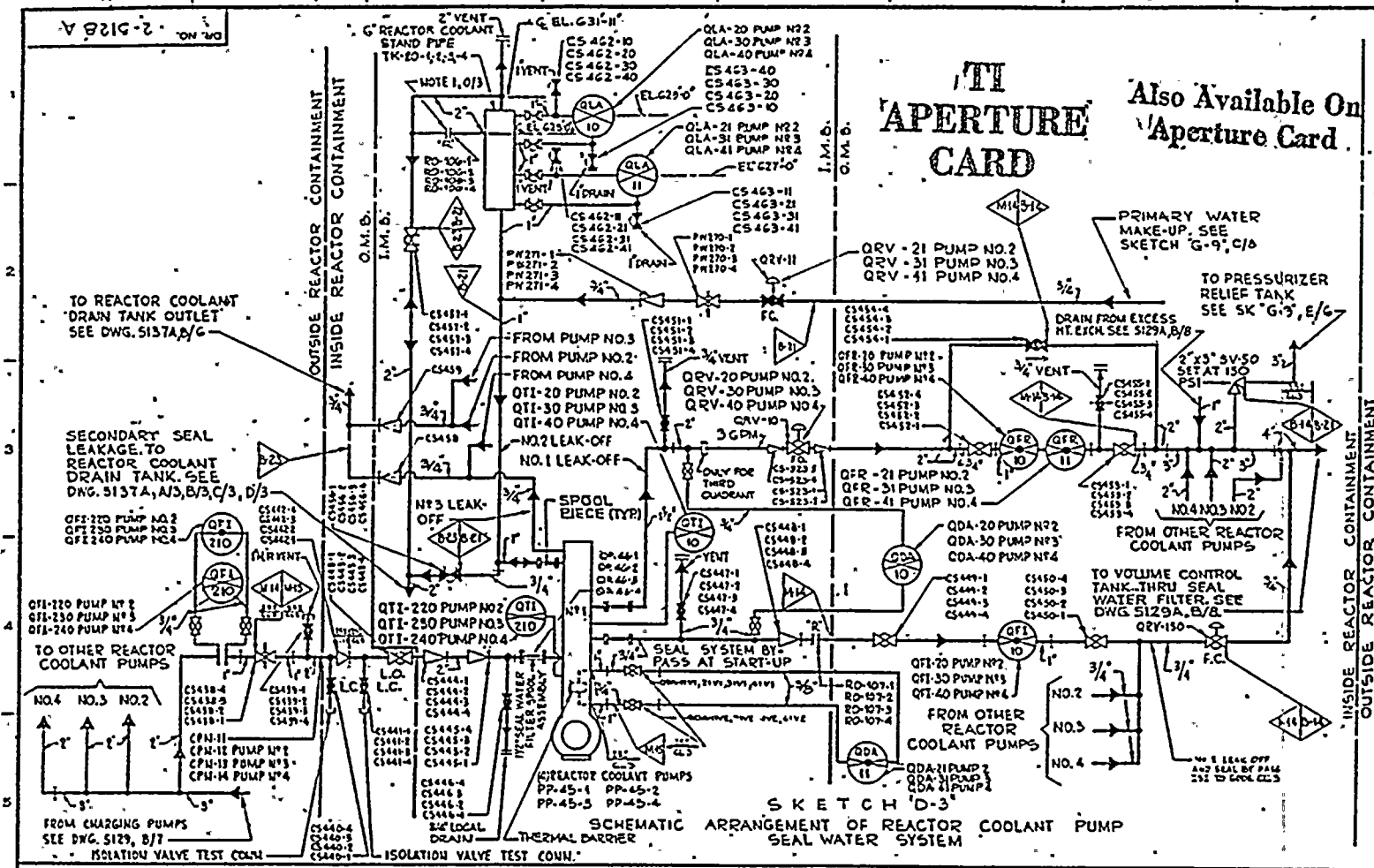
DATE	NO.	APPROVED
3-21-77	19	[Signature]

AMERICAN ELECTRIC POWER SERVICE CORP.
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NOTES CONT'D
1. VALVES AND INSTRUMENTS (ALSO OTHER LOOPS) MOUNTED ON S.G. SURFACE.
2. INSTRUMENTS MOUNTED ON LIFTING LOGS.
3. INSTRUMENTS MOUNTED ON CLAMPS SLOTTED TO GUIDE TUBES.

NOTES:
1. FOR SEISMIC CLASS I VALVES AND DEVICES, PRESSURIZER RELIEF TANK AND INSTRUMENTS TO BE PROVIDED WITH SECOND MOISTURE CHECKS MADE BY EXTENSION TO AND INCLUDING THE FULCRUM FLANGE WITH A NORMALLY CLOSED VALVE.
2. FOR SEISMIC CLASS II VALVES AND DEVICES, THE 150 LB. DOWNSTAMP EXTENSION TO AND INCLUDING THE FULCRUM FLANGE FLANGE.

GENERAL NOTES
LEGEND
○ REACTOR COOLANT PIPING
○ AUX. PIPING
○ INSTR. PIPING
○ BY WESTINGHOUSE

ALL VALVES AND INSTRUMENTATION BY (W)
FOR VALVE, INSTRUMENT, SAMPLING, PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG., AND FOR MARK NUMBER CODES; SEE DWG. 5128-5104.
NOTE:
PIPING DESIGN TO FOLLOW CRITERIA INDICATED IN (W) AEW-1212 & AEW-31G.
SEISMIC CLASS I EXCEPT AS INDICATED.
NOTE 1, G11
ORFICE IS A MIN. OF 1 FT. ABOVE THE COUPLER TO THE REACTOR COOLANT PUMP.
NOTE 2, H17, H17
VALVE TO HAVE EXTENSION STEM TO BE OPERATED OUTSIDE OF PRESSURIZER ENCLOSURE AT EL. 612'-0".
NOTE 3, W17
SLOPE SPRAY PIPE DOWNWARD TO PROVIDE WATER SEAL BETWEEN PRESSURIZER AND SPRAY VALVES.
NOTE 5, W6, W6, W6
PLACE DETECTORS AT BOTTOM OF PIPE.
NOTE 6, K12
SLOPE PIPE DOWNWARD TO PROVIDE WATER SEAL ON RELIEF VALVES.
NOTE 7, G17, J19
LOCATE APPROXIMATELY MIDWAY BETWEEN LOOP AND PRESSURIZER.
NOTE 8, A17, J17, J17
FOR TRANSMITTED SAMPLE SEE DWG. 5141.
NOTE 9, E17
VALVE BONNET AND INTERNALS ARE TO BE REMOVED AND BLIND HEAD INSTALLED EXCEPT WHEN TESTING VALVE 51169.

HAND OPERATED VALVE IDENTIFICATION NUMBERS
1. ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MFR) NUMBERS.
2. TAG NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:
TAG NO.: 2-NSW1003-B APPEARS AS: 2NSW1003B
3. INSTRUMENT ROOT VALVE MARK NO. 3221 SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:
FOR SINGLE IMPULSE, VI
FOR DOUBLE IMPULSE, VI/STREAM/VI
FOR DOWNSTREAM, VI/STREAM/VI

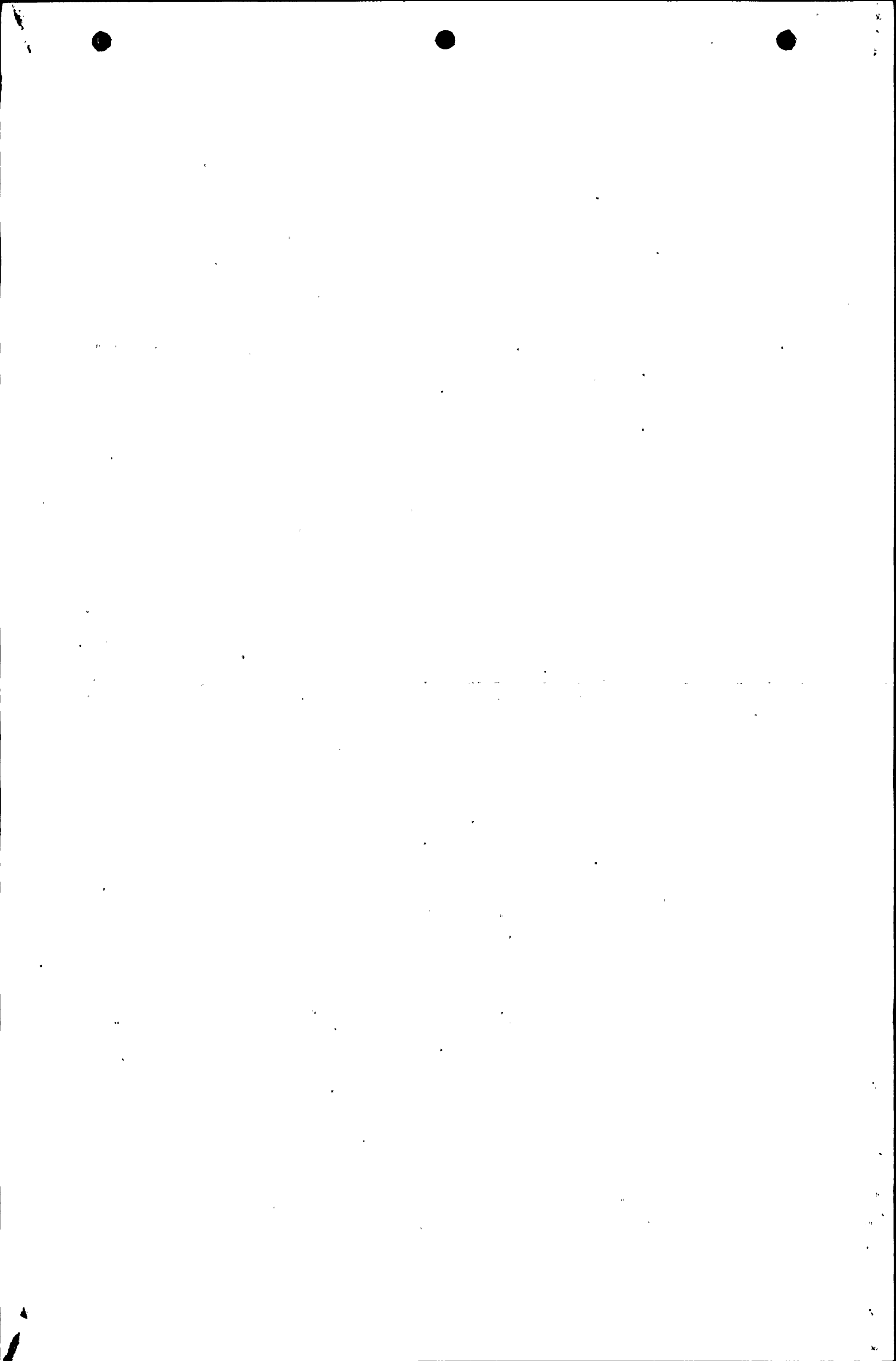
FOR REVISION STATUS SEE REVISION RECORD FOR THIS DWG.
DATE: 4-27-97 34
FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

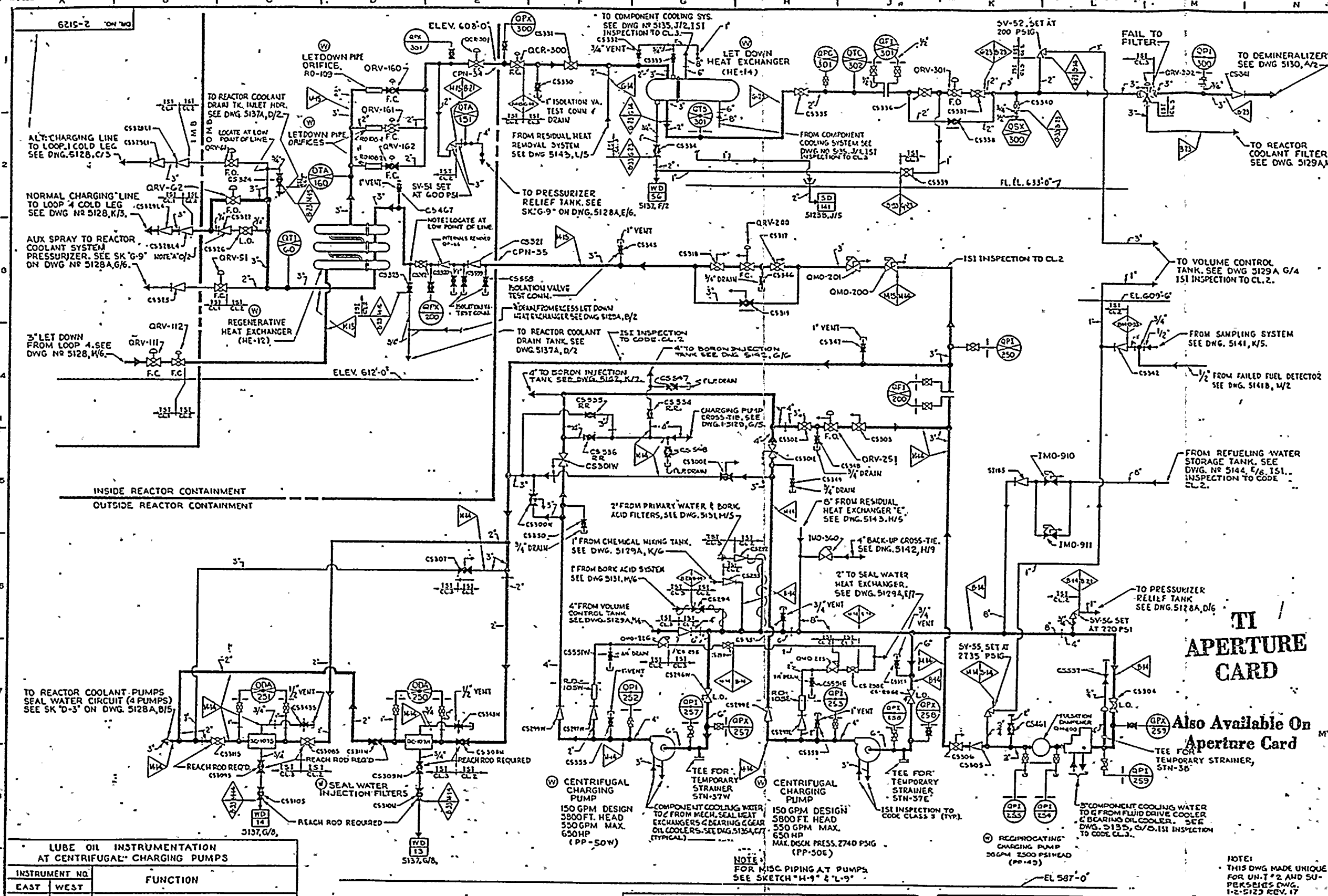
INDIANA & MICHIGAN ELECTRIC CO.
DONALD C. COOK
NUCLEAR PLANT
BROADWAY
MEMPHIS

FLOW DIAGRAM
REACTOR COOLANT UNIT 2
SHEET 2 OF 2

DW. NO. 2-5128 A-34

DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE





GENERAL NOTES

LEGEND
 — MAIN FLOW
 - - - - - AUX. FLOW

FOR VALVE, INSTRUMENT, SAMPLING, PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG AND FOR MARK NUMBER CODES SEE DWG 5128, C/3.

SEISMIC CLASS 1.

VALVE NOTED 'A' B/S WAVE OPERATED AT 500 PSID

Ⓜ BY WESTINGHOUSE EXCEPT AS NOTED

ALL VALVES & INSTRUMENTATION SUPPLIED BY Ⓜ

EQUIPMENT SUPPLIED BY Ⓜ AS NOTED

1. FOR CODE CLASS 2 & 3 INSTRUMENT CONNECTIONS, THE ISI BOUNDARY EXTENDS TO AND INCLUDES THE FIRST ROOT VALVE.

2. FOR CODE CLASS 2 & 3 VENTS & DRAINS, THE ISI BOUNDARY EXTENDS TO & INCLUDES THE FIRST NORMALLY CLOSED VALVE.

3. RR - INDICATES REACH ROD REQUIRED

THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER IS "2" UNLESS OTHERWISE NOTED.

TI APERTURE CARD

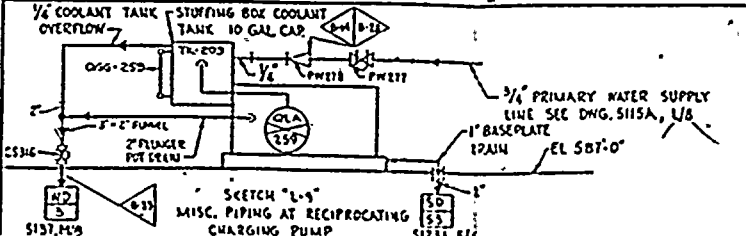
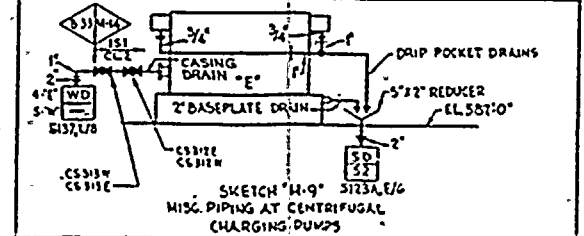
Also Available On Aperture Card

LUBE OIL INSTRUMENTATION AT CENTRIFUGAL CHARGING PUMPS

INSTRUMENT NO.	EAST	WEST	FUNCTION
LPS-270	LPS-272		START-STOP AUX PUMP @PSI DECR, 12 PSI INCR. PRESS.
LPA-270	LPA-272		ANNUNCIATES IN CONTROL ROOM AT @PSI DECR. PRESS.
LPI-270	LPI-272		0-30 PSI RANGE AT OIL FILTER INLET
LPI-271	LPI-273		0-30 PSI RANGE AT OIL FILTER OUTLET
LTI-270	LTI-272		ON THRUST BEARING HOUSING 0-250 °F
LTA-270	LTA-272		OIL TEMP ALARMS (45° LOW AT COOLER INLET MANIFOLD)
LTI-275	LTI-277		OIL COOLER OUTLET TEMP 0-250 °F

LUBE OIL INSTRUMENTATION AT RECIPROCATING CHARGING PUMP

INSTRUMENT NO.	FUNCTION
LT1-255	LUBE OIL TEMP. INDICATION
LPI-255	LUBE OIL PRESS. INDICATION
LPS-255	TRIPS RECP. CHARGING PUMP AT @PSI DECR. PRESS.



HAND OPERATED VALVE IDENTIFICATION NUMBERS

1. ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (ICR) NUMBERS.

2. "TAG" NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS: TAG NO: 2-NSW-VIOS-W APPEARS AS: NSW120-W

3. INSTRUMENT ROOT VALVE MARK 'NY'S' NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER: FOR SINGLE PULSE (VI) FOR DOUBLE PULSE (VAP/STREAM) V200W/STRM

EP FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG.

3-11-67 132 P. A. S.

DATE: NO. APPROVED

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

INDIANA & MICHIGAN ELECTRIC CO.
 DONALD C. COOK
 NUCLEAR PLANT

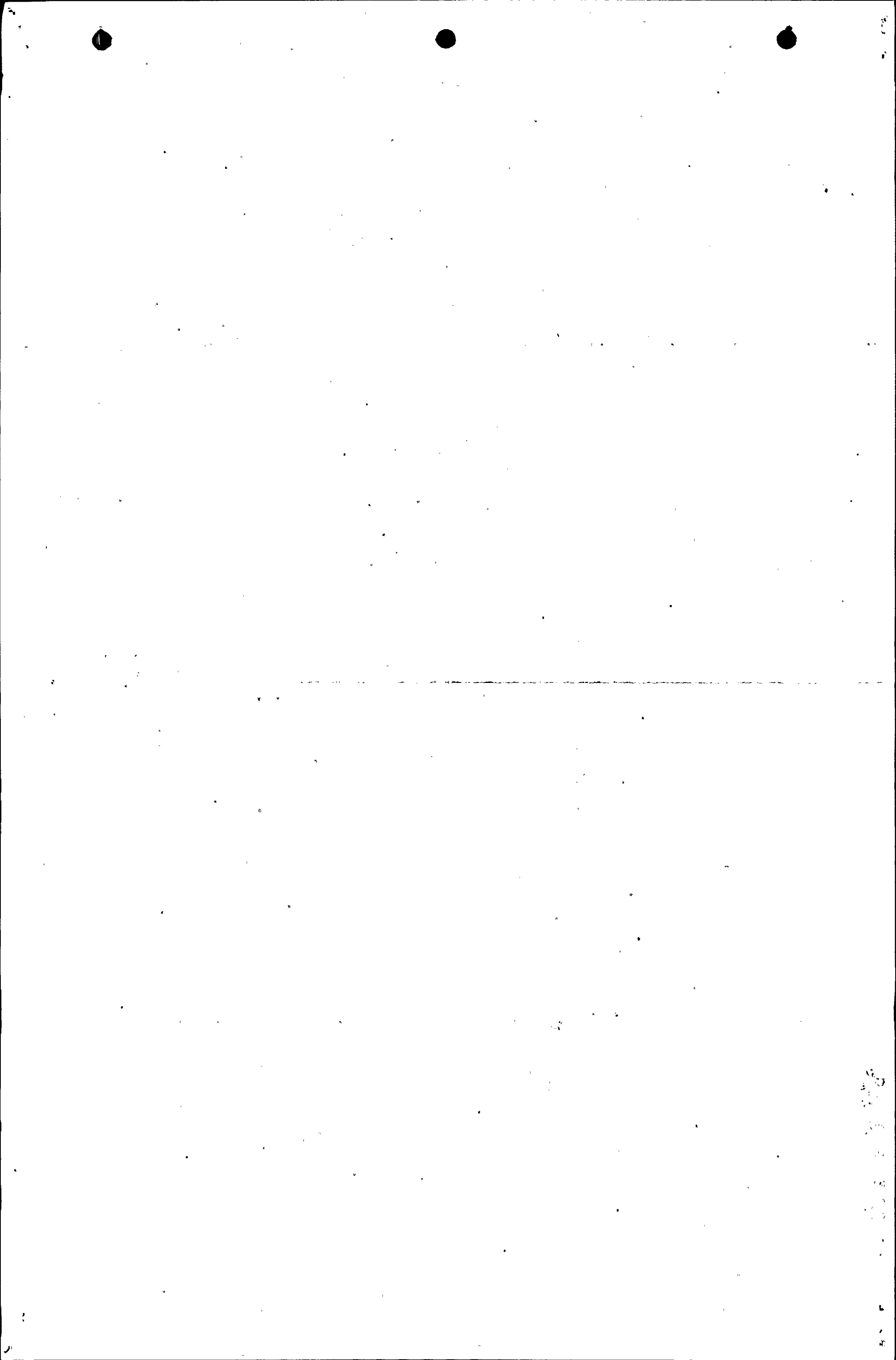
BRIDGMAN MICHIGAN

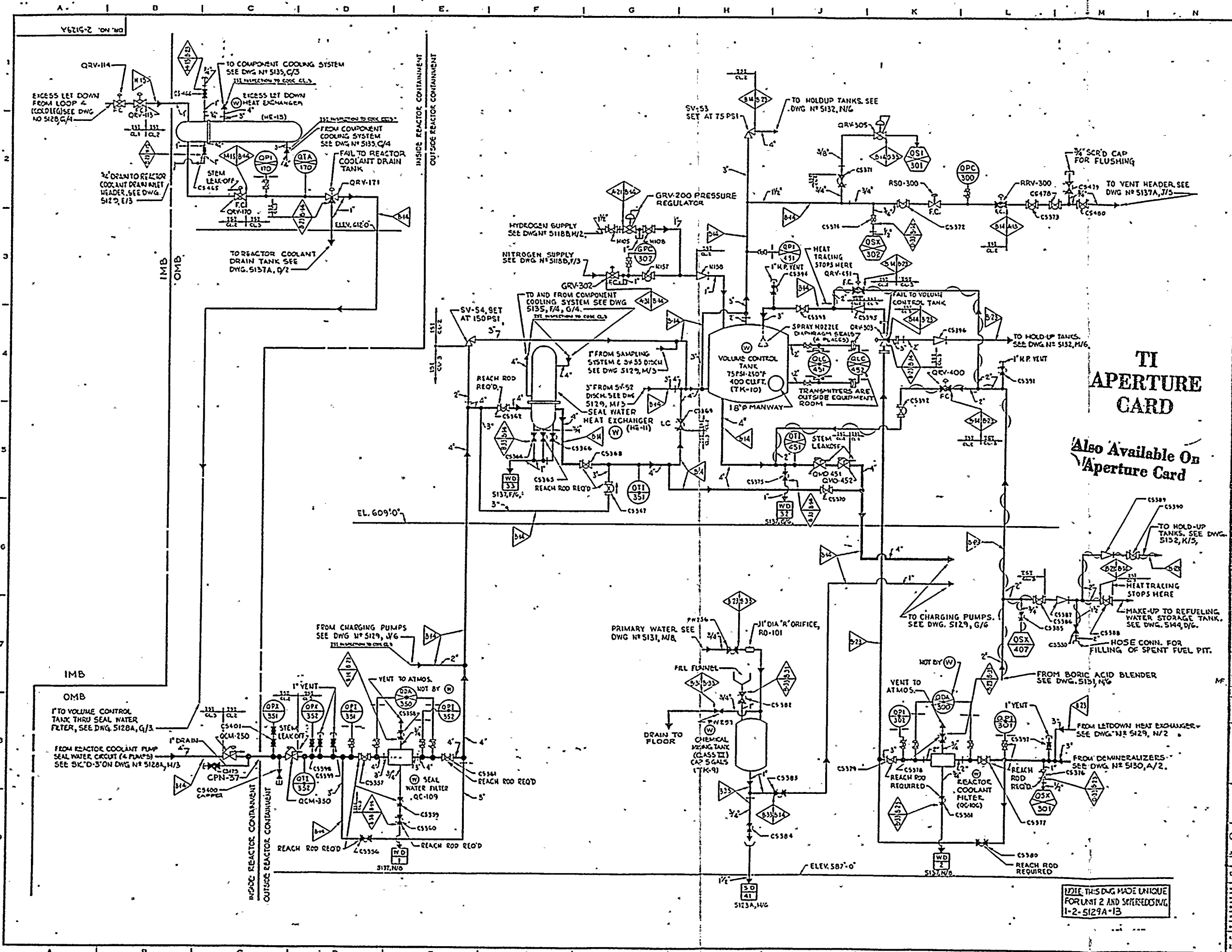
FLOW DIAGRAM CVCS-REACTOR LETDOWN & CHARGING

UNIT NO. 2 SHEET 10A-2

DWG. NO. 2-5129-32

AMERICAN ELECTRIC POWER SERVICE CORP. 2 BROADWAY NEW YORK





GENERAL NOTES

LEGEND
 — MAIN FLOW
 - - - - - AUX. FLOW

FOR VALVE, INSTRUMENT, SAMPLING, PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG AND FOR MARK NUMBER CODES SEE DWGS 12-5103 & 12-5104

SEISMIC CLASS I EXCEPT AS NOTED

Ⓜ BY WESTINGHOUSE

ALL VALVES & INSTRUMENTATION SUPPLIED BY Ⓜ

EQUIPMENT SUPPLIED BY Ⓜ AS NOTED

NOTES:
 1. FOR COOL. CL. 2'S INSTRUMENT CODES THE 1ST BOUNDARY EXTENSION TO AND INCLUDES THE FIRST ROOT VALVE.
 2. FOR COOL. CL. 2'S VENTS/DRAINS THE 1ST BOUNDARY EXTENSION TO INCLUDES THE FIRST NORMALLY CLOSED VALVE.

THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER IS TO BE SMALLER THAN THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER.

HAND OPERATED VALVE IDENTIFICATION NUMBERS
 1. ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MCR) NUMBERS.
 2. TAG NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:
 TAG NO.: 2-NSW-VIOS-W APPEARS AS: NSWVIOSW
 3. INSTRUMENT ROOT VALVE MARK NTS NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:
 FOR SINGLE IMPULSE: V
 FOR DOUBLE IMPULSE: VIMPSTREAM
 V2000WSTREAM

M FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG.

DATE: 4-10-87 201500 P22
 DATE: NO. APPROVED

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

THIS DRAWING IS THE PROPERTY OF THE AMERICAN ELECTRIC POWER SERVICE CORP. AND IS LOANED UNDER CONDITION THAT IT IS NOT TO BE REPRODUCED OR COPIED IN WHOLE OR IN PART, OR FOR ANY PURPOSES WHATSOEVER, WITHOUT THE WRITTEN CONSENT OF THE AEP SERVICE CORP., OR THE USE THEREOF WITHOUT THE WRITTEN CONSENT OF AEP IS TO BE WITHDRAWN AND DESTROYED.

INDIANA & MICHIGAN ELECTRIC CO.
 DONALD C. COOK
 NUCLEAR PLANT
 BRIDGMAN MICHIGAN

**FLOW DIAGRAM
 CVCS - REACTOR LETDOWN
 & CHARGING**

SHEET NO. 2
 SHEET 2 OF 2

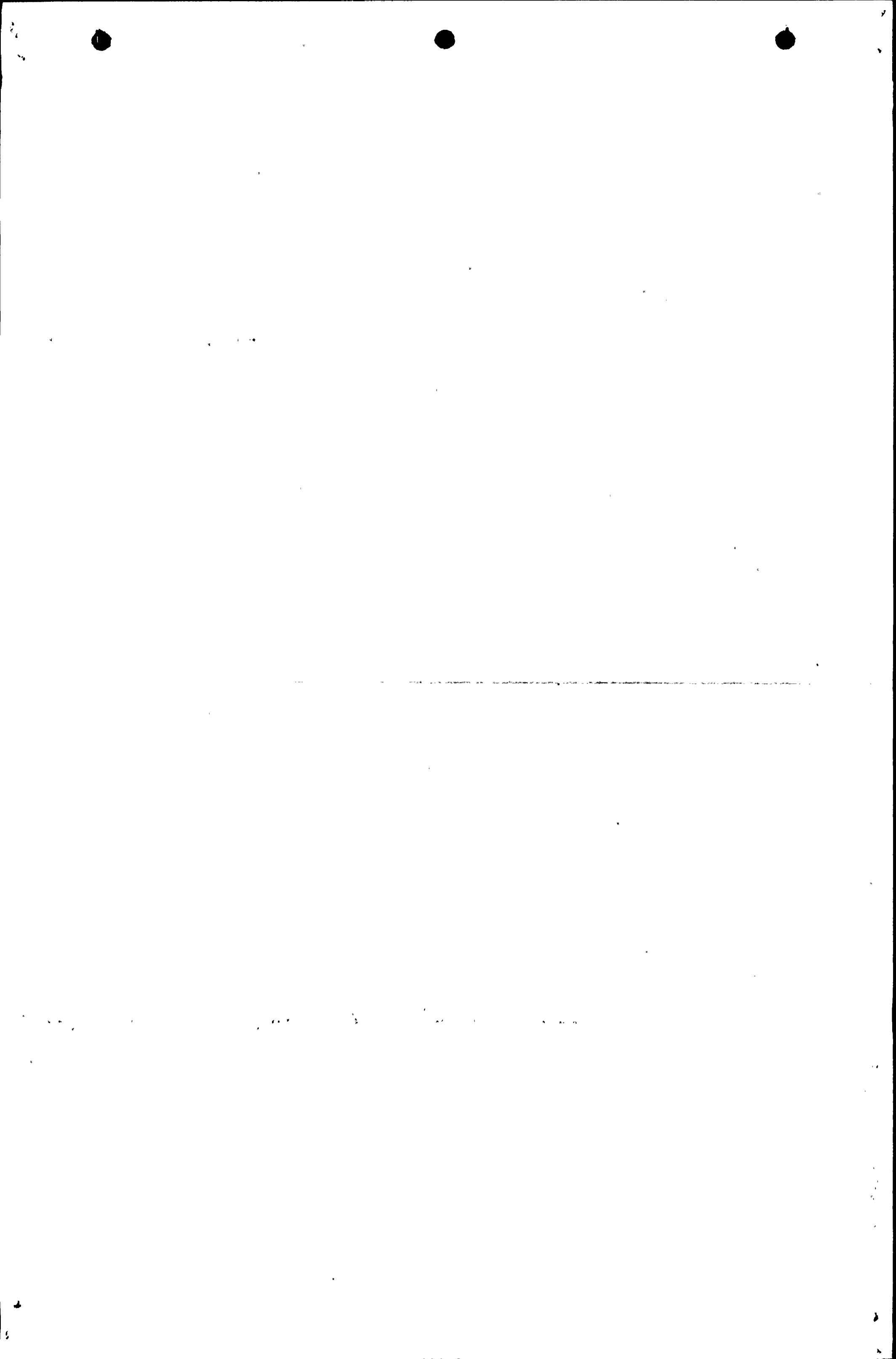
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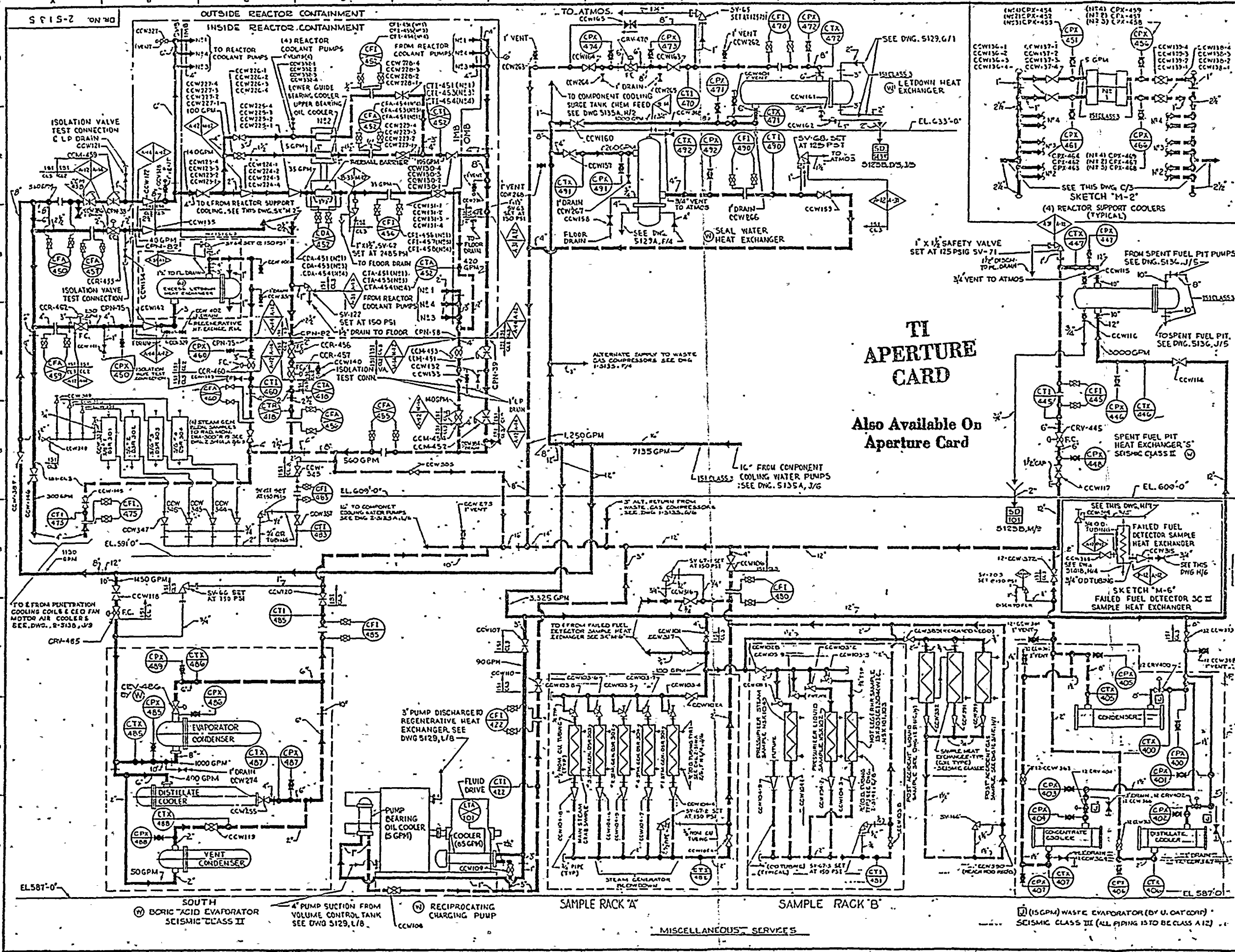
NOTE: THIS DWG MADE UNIQUE FOR UNIT 2 AND SUPERSEDES DWG. 1-2-5129A-13

AMERICAN ELECTRIC POWER SERVICE CORP.
 2 BROADWAY
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GENERAL NOTES

LEGEND

- COMPONENT COOLING SUPPLY
- COMPONENT COOLING RETURN
- AUXILIARY PIPING

FOR VALVE, INSTRUMENT, SAMPLING, PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG., AND FOR MARK NUMBER CODES, SEE DWG. 12-5104

BY WESTINGHOUSE

EQUIPMENT SUPPLIED BY AS NOTED

ALL PIPING TO BE CLASS A-12
ALL TUBING TO BE CLASS P-12 EXCEPT AS NOTED

ALL EQUIPMENT SEISMIC CLASS I EXCEPT AS NOTED

FOR CODE CLASS 2 AND 3 INSTRUMENTS, THE ISI BOUNDARY EXTENDS TO AND INCLUDES THE FIRST ROOT VALVE.

FOR CODE CLASS 2 (3 VENTS) DRAINS THE ISI BOUNDARY - EXTENDS TO AND INCLUDES THE FIRST NORMALLY CLOSED VALVE.

NOTE: THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION IS "12" UNLESS OTHERWISE NOTED.

NOTE: THIS DWG. MADE UNIQUE FOR UNIT #2 AND SUPERSEDES DWG. 12-5135 REV 17

HAND OPERATED VALVE IDENTIFICATION NUMBERS

- ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MCR) NUMBERS.
- "TAG" NUMBERS SPECIFIED FOR DRAWING USE AS FOLLOWS:
TAG # 2: AS-1000-W APPEARS AS "AS1000W"
- INSTRUMENT ROOT VALVE MARK #S NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:
FOR SINGLE PULSE: V
FOR DOUBLE PULSE: VWP (STREAM) V2 (DOWNSTREAM)

FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG.

3-27-87 134 11/20 AM

DATE NO. APPROVED

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

"THIS DRAWING IS THE PROPERTY OF THE AMERICAN ELECTRIC POWER SERVICE CORP. AND IS LOANED TO THE CONTRACTOR FOR USE IN THE PERFORMANCE OF HIS CONTRACT. IT IS TO BE RETURNED TO THE CONTRACTOR AT THE END OF HIS CONTRACT. NO PART OF THIS DRAWING IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF THE AMERICAN ELECTRIC POWER SERVICE CORP. A PENALTY OF \$1000.00 WILL BE ASSESSED FOR EACH VIOLATION OF THIS NOTICE."

INDIANA & MICHIGAN ELECTRIC CO.
DONALD C. COOK
NUCLEAR PLANT

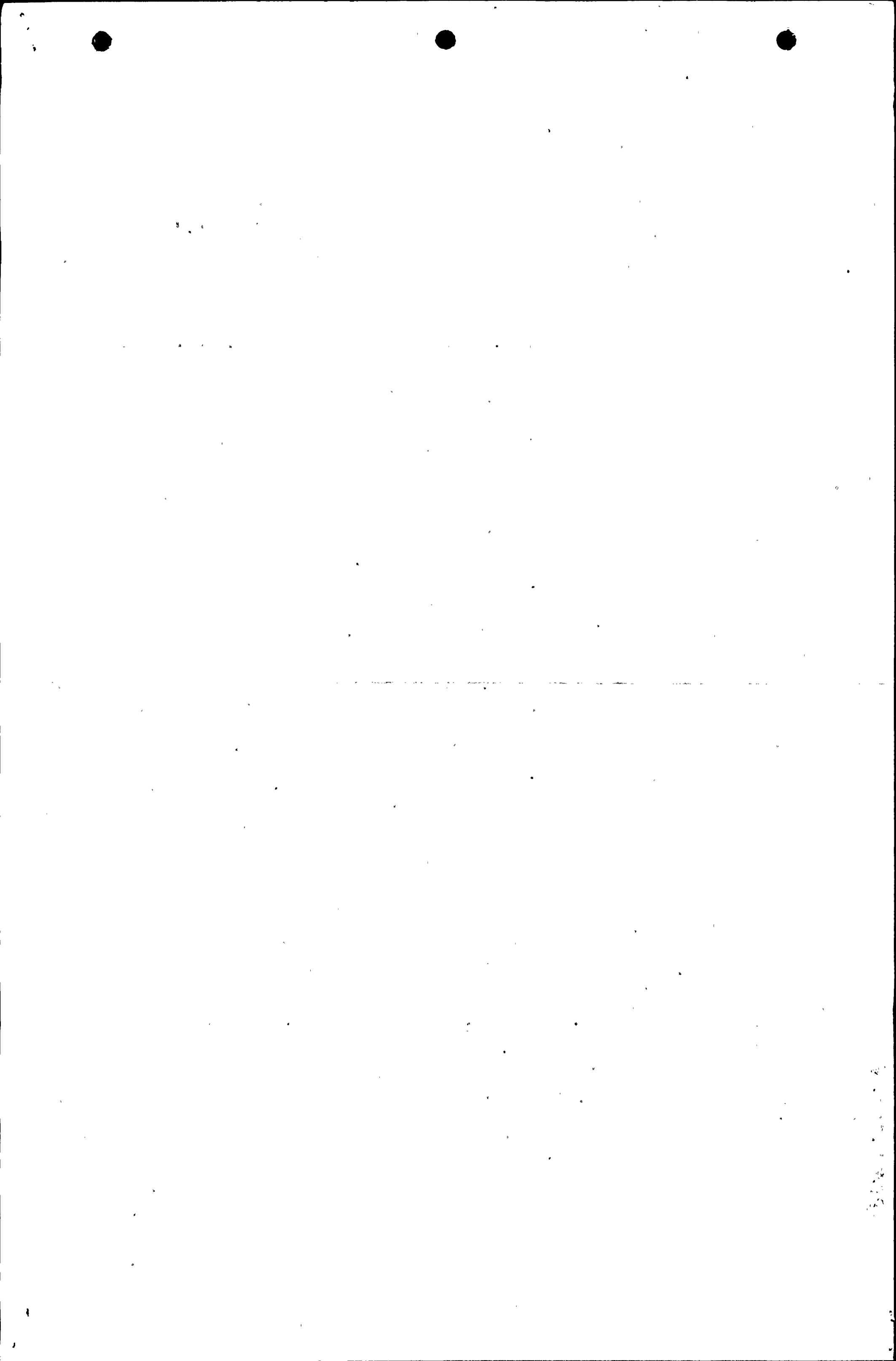
FLOW DIAGRAM
COMPONENT COOLING
UNIT #2
SHEET 1 OF 3

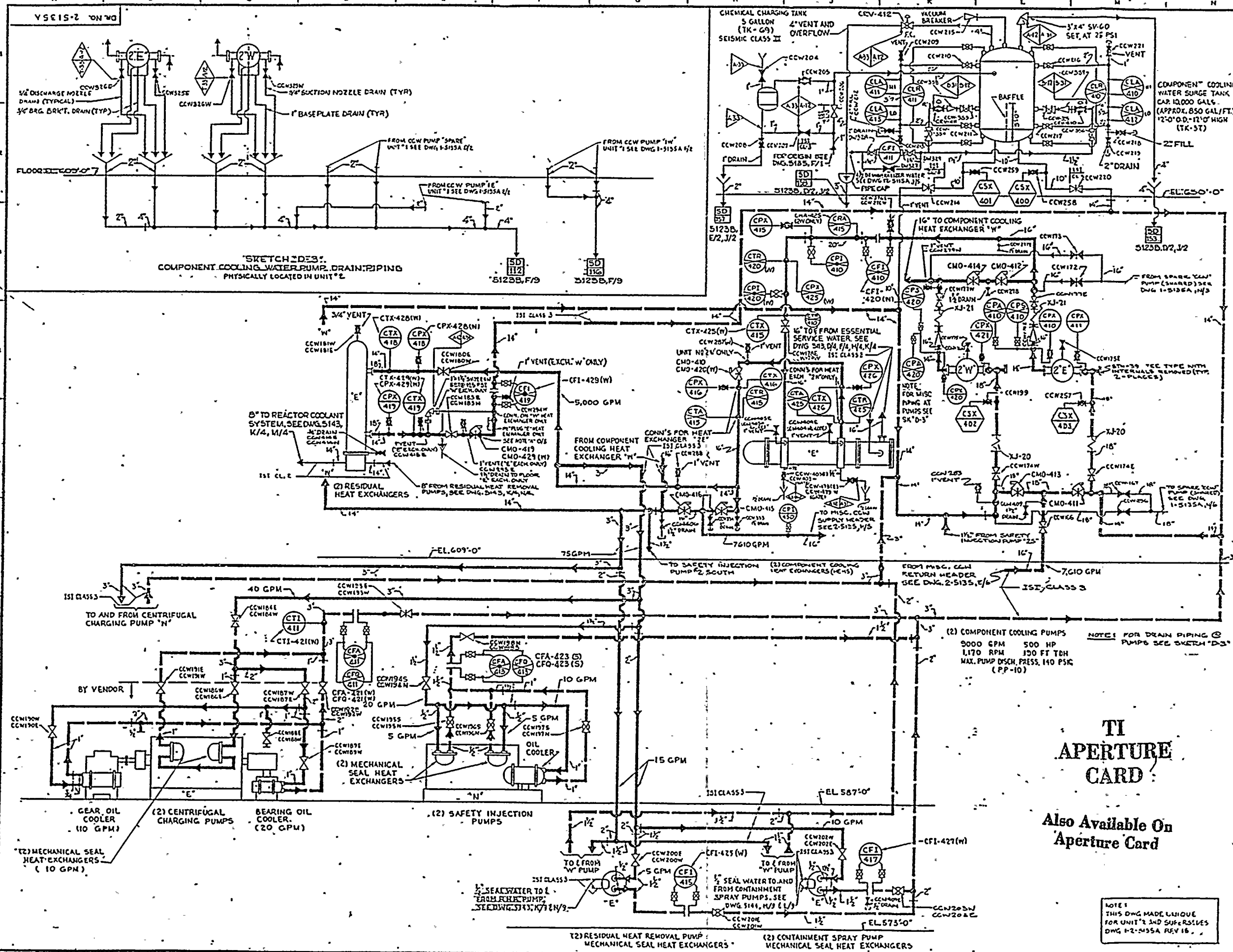
DR. NO. 2-5135-34

AMERICAN ELECTRIC POWER SERVICE CORP.
2 BROADWAY NEW YORK

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GENERAL NOTES

LEGEND

- COMPONENT COOLING SUPPLY
- COMPONENT COOLING RETURN
- AUXILIARY PIPING

FOR VALVE, INSTRUMENT SAMPLING, PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG., AND FOR MARK NUMBER CODES, SEE DWG. 12-503(S)04.

(W) BY WESTINGHOUSE EQUIPMENT SUPPLIED BY (W) AS NOTED

ALL PIPING TO BE EXCEPT AS NOTED

ALL EQUIPMENT SEISMIC CLASS I EXCEPT AS NOTED

NOTE "A-E/S": CMO-417, C-429 TO HAVE INTERMEDIATE LIMIT SWITCH TO LIMIT FLOW ON SAFETY INJECTION SIGNAL

NOTE: FOR CODE CLASS, INSTRUMENT AND EQUIPMENT IDENTIFICATION AND VALVE IDENTIFICATION, SEE DWG. 12-503(S)04.

NOTE: FOR CODE CLASS, INSTRUMENT AND EQUIPMENT IDENTIFICATION AND VALVE IDENTIFICATION, SEE DWG. 12-503(S)04.

THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER IS 2 UNLESS OTHERWISE NOTED.

HAND OPERATED VALVE IDENTIFICATION NUMBERS

- ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MCR) NUMBERS.
- "TAG" NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:
TAG NO: 2-NSW-VI05-W APPEARS AS: NSW05W
- INSTRUMENT ROOT VALVE MARKINGS NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:
FOR SHOLE INFLUENCE FOR COUPLER INFLUENCE (VALVE/STREAM) V200DM2TRM

FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG.

DATE	REV	APPROVED
1-27-87	30	Rev

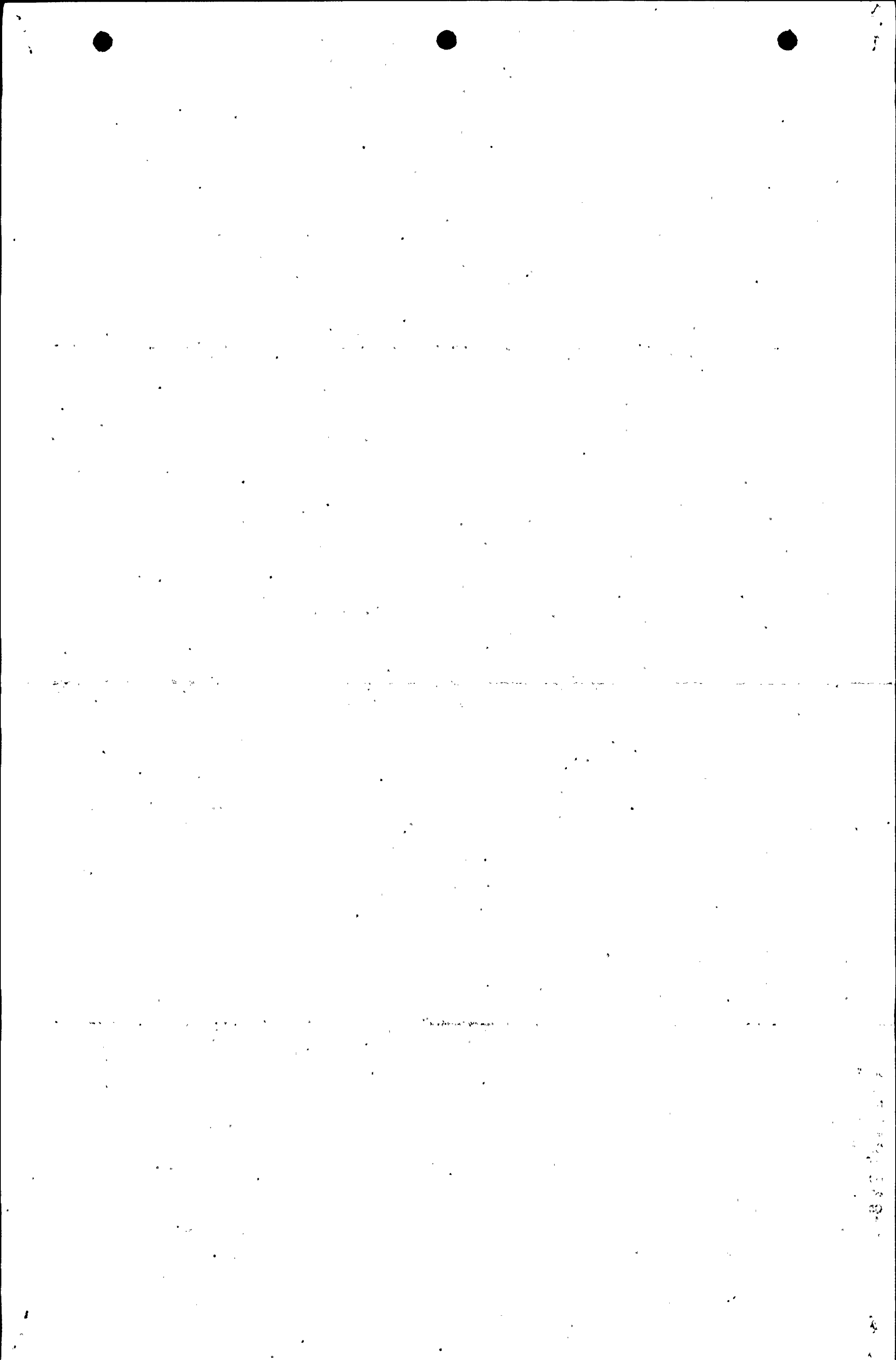
FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

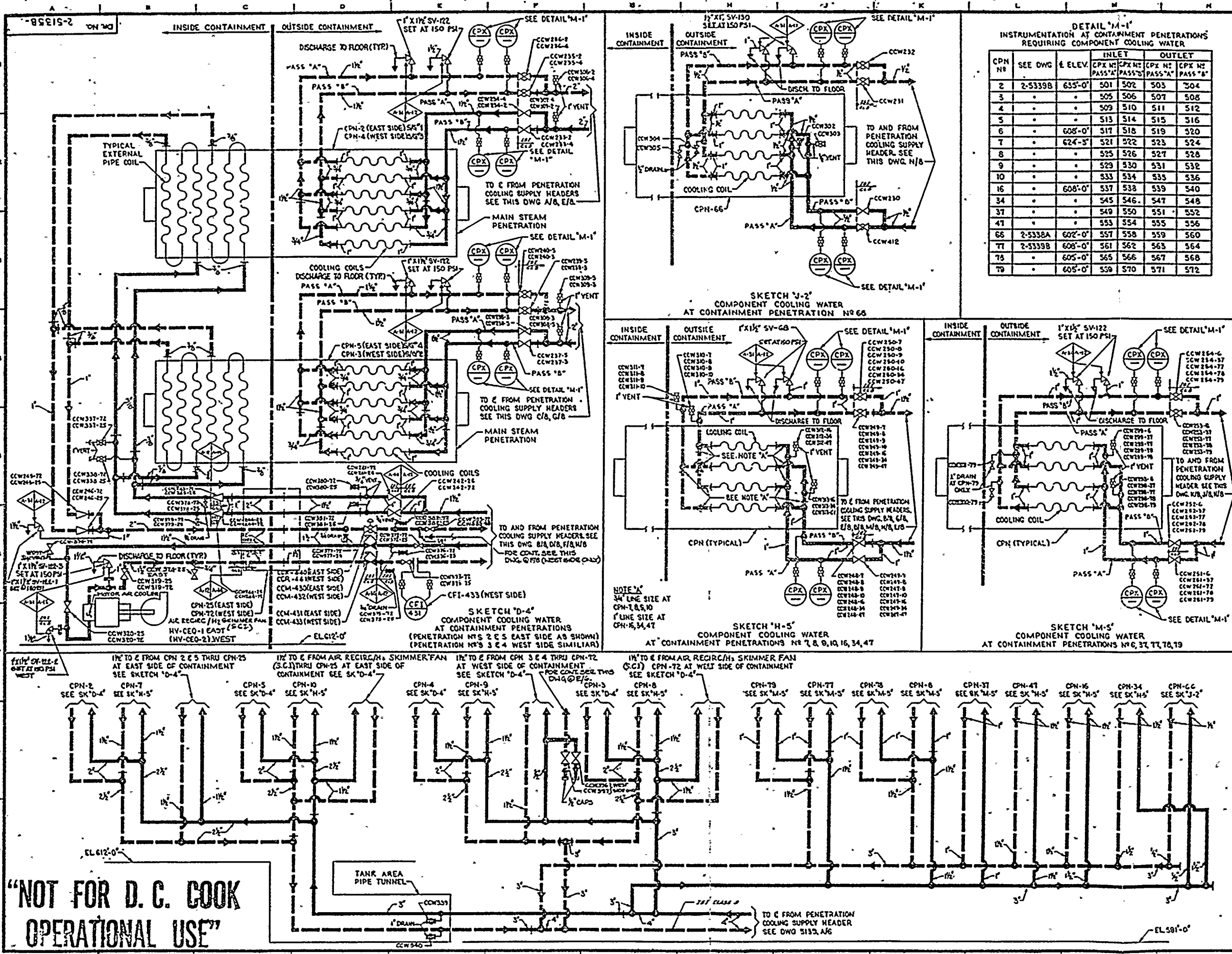
INDIANA & MICHIGAN ELECTRIC CO.
DONALD C. COOK
NUCLEAR PLANT

FLOW DIAGRAM COMPONENT COOLING UNIT NO. 2 SHEET 2 OF 3

DR. NO. 2-5135A-30

NOTE: THIS DWG MADE LIQUID FOR UNIT 2 AND SUPERSEDES DWG 12-5135A REV 18.





DETAIL 'M-1'
INSTRUMENTATION AT CONTAINMENT PENETRATIONS REQUIRING COMPONENT COOLING WATER

CPN NR	SEE DWG	E. ELEV.	INLET		OUTLET	
			CPX NR PASS 'A'	CPX NR PASS 'B'	CPX NR PASS 'A'	CPX NR PASS 'B'
2	2-5339B	635'-0"	501	502	503	504
3	"	"	505	506	507	508
4	"	"	509	510	511	512
5	"	"	513	514	515	516
6	"	608'-0"	517	518	519	520
7	"	624'-5"	521	522	523	524
8	"	"	525	526	527	528
9	"	"	529	530	531	532
10	"	"	533	534	535	536
16	"	608'-0"	537	538	539	540
34	"	"	545	546	547	548
37	"	"	549	550	551	552
47	"	"	553	554	555	556
66	2-5338A	602'-0"	557	558	559	560
77	2-5339B	608'-0"	561	562	563	564
78	"	605'-0"	565	566	567	568
79	"	605'-0"	569	570	571	572

GENERAL NOTES

LEGEND

- COMPONENT COOLING SUPPLY
- COMPONENT COOLING RETURN
- AUXILIARY PIPING

FOR VALVE, INSTRUMENT SAMPLING PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG., AND FOR MARK NUMBER CODES, SEE DWG. 5104

PENETRATION COOLING COILS ARE SEISMIC CLASS I

NOTE:

1. FOR SEISMIC CLASS I & II INSTRUMENT SAMPLING PIPE MATERIAL SEE DWG. 5104 FOR MARK NUMBER CODES.

2. FOR SEISMIC CLASS I & II INSTRUMENT SAMPLING PIPE MATERIAL SEE DWG. 5104 FOR MARK NUMBER CODES.

SKETCH 'J-2'
COMPONENT COOLING WATER AT CONTAINMENT PENETRATION NO. 66

SKETCH 'D-4'
COMPONENT COOLING WATER AT CONTAINMENT PENETRATIONS (PENETRATION NOS 2 & 5 EAST SIDE AS SHOWN) (PENETRATION NOS 3 & 4 WEST SIDE SIMILIAR)

SKETCH 'H-5'
COMPONENT COOLING WATER AT CONTAINMENT PENETRATIONS NO. 7, 8, 9, 10, 16, 34, 47

SKETCH 'M-5'
COMPONENT COOLING WATER AT CONTAINMENT PENETRATIONS NO. 6, 37, 77, 78, 79

NOTE 'A'

3/4" LINE SIZE AT CPN-6, 34, 47

1" LINE SIZE AT CPN-7, 8, 9, 10, 16, 34, 47

THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT I.D. IS 1/2" UNLESS OTHERWISE NOTED.

NOTE

THIS DWG MADE UNIQUE FOR UNIT # 2 AND SUPERSEDES DWG. 2-5135 B REV. 7

HAND OPERATED VALVE IDENTIFICATION NUMBERS

1. ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MCR) NUMBERS.

2. "TAG" NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:
TAG NO. 2-5339B-100-10 APPEARS AS: K539100

3. INSTRUMENT ROOT VALVE MARK NO'S NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER FOR SINGLE BRANCH (V) FOR DOUBLE BRANCH (V) STREAMLINE CONNECTIONS.

FOR APPROXIMATE STATUS SEE REVISION RECORD ON THIS DWG.

DATE: 6-24-68
REV: 14
APPROVED: [Signature]

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

INDIANA & MICHIGAN ELECTRIC CO.
DONALD C. COOK
NUCLEAR PLANT

FLOW DIAGRAM
COMPONENT COOLING
UNIT NO. 2
SHEET 3 OF 3

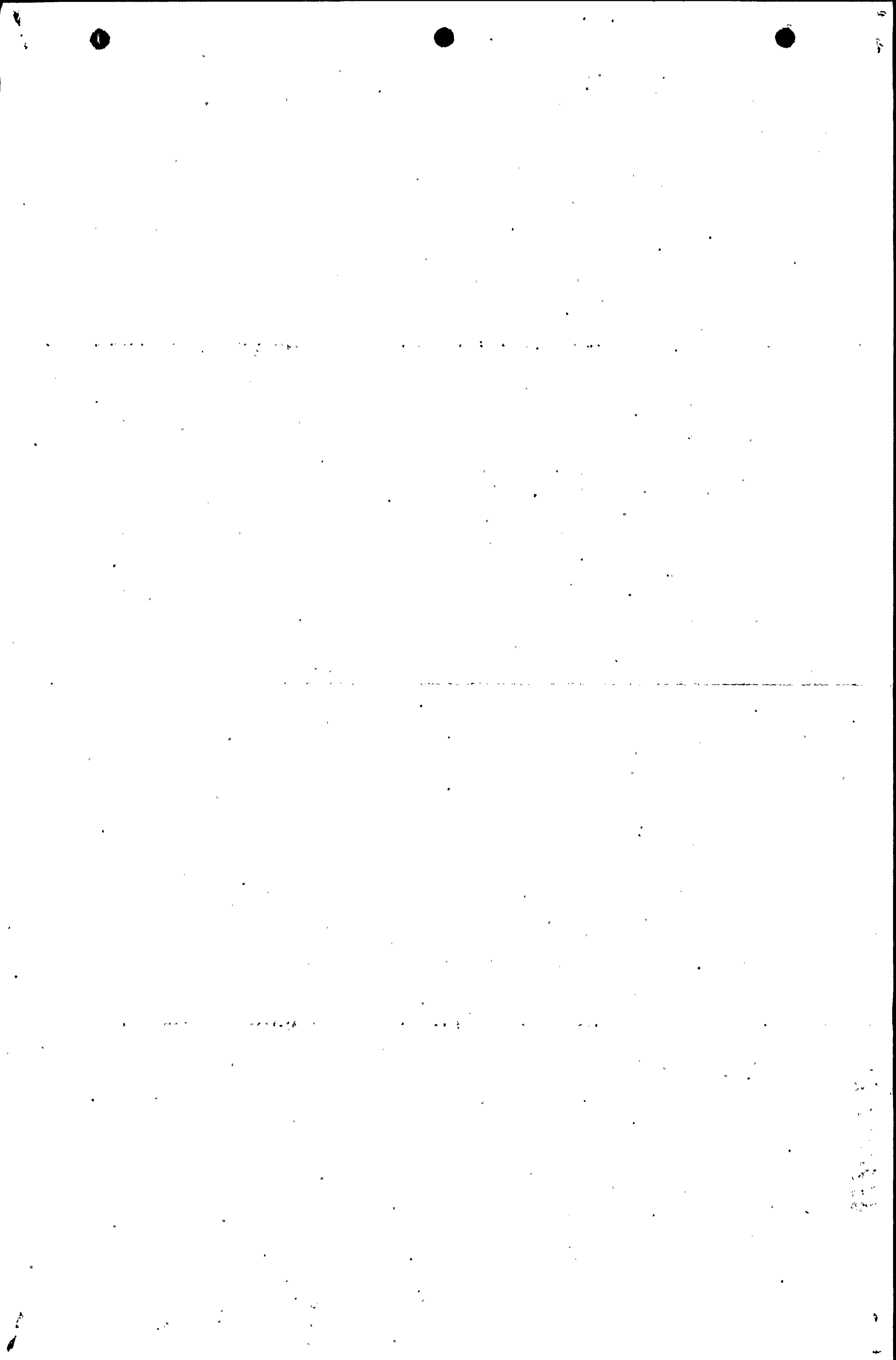
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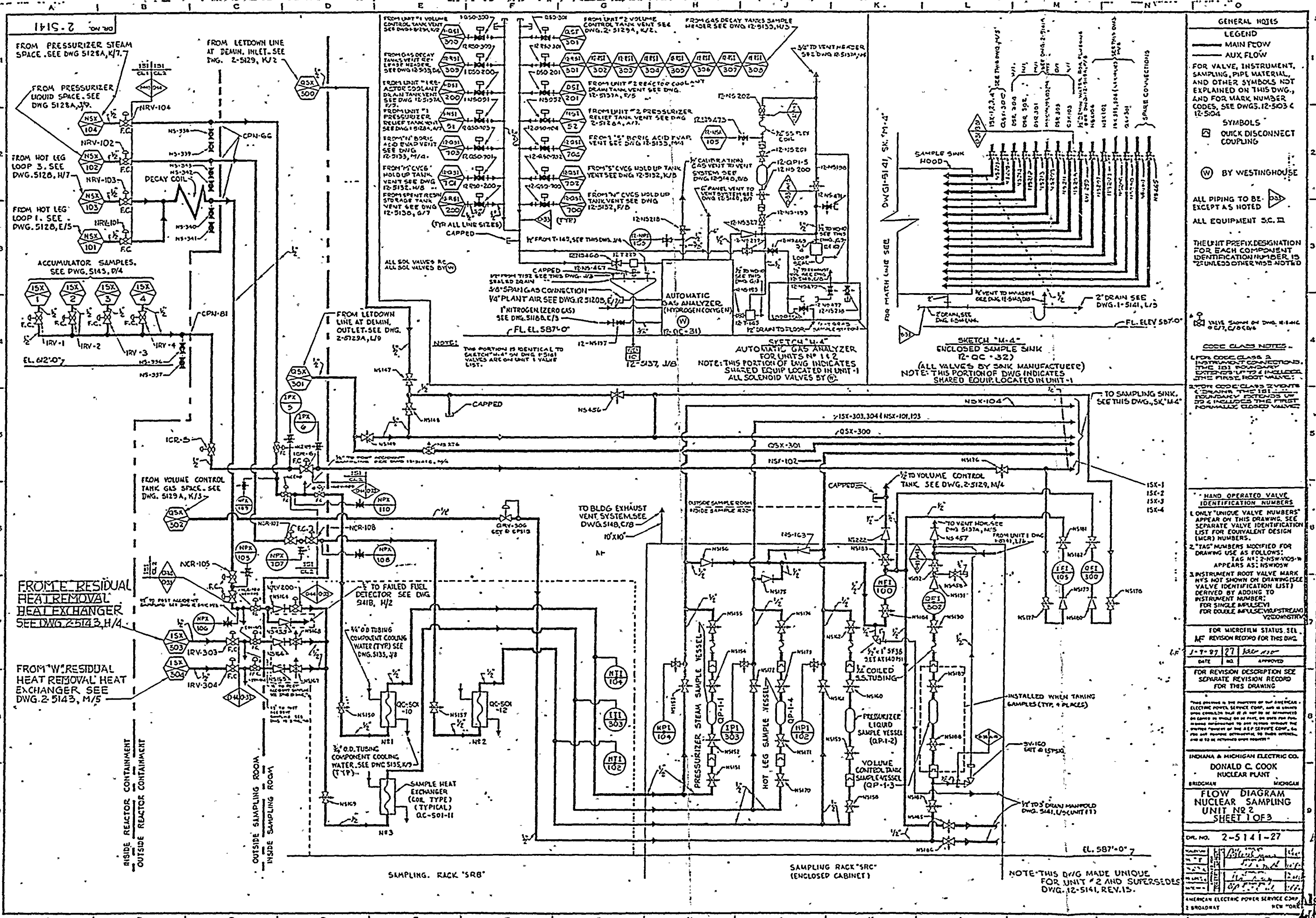
AMERICAN ELECTRIC POWER SERVICE CORP.
1 BROADWAY
NEW YORK

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GENERAL NOTES

LEGEND

— MAIN FLOW
 - - - AUX FLOW

FOR VALVE, INSTRUMENT, SAMPLING, PIPE MATERIAL, AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG., AND FOR MARK NUMBER CODES, SEE DWGS. 12-503 & 12-504

SYMBOLS

⊠ QUICK DISCONNECT COUPLING
 ⊙ BY WESTINGHOUSE

ALL PIPING TO BE EXCEPT AS NOTED
 ALL EQUIPMENT S.C. III

THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER IS UNLESS OTHERWISE NOTED

CODE CLASS NOTES

FOR CODE CLASS 2 IMPROVED CONNECTIONS, THE IS1 BOUNDARY EXTENDS UP TO & INCLUDES THE FIRST ROOT VALVE. MORE CODE CLASS 2 VALVES & INSTRUMENTS ARE BOUNDARY EXTENDS UP TO & INCLUDES THE FIRST NORMALLY CLOSED VALVE.

HAND OPERATED VALVE IDENTIFICATION NUMBERS

1. ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MCR) NUMBERS.

2. "TAG" NUMBERS SPECIFIED FOR DRAWING USE AS FOLLOWS:
 TAG NO. 2-N5W-1005-10 APPEARS AS: N5W1005-10

3. INSTRUMENT ROOT VALVE MARK N5 NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:
 FOR SINGLE PULSE: V1P
 FOR DOUBLE PULSE: V2P
 FOR DOUBLE PULSE: V2P
 FOR DOUBLE PULSE: V2P

FOR MICROFILM STATUS, SEE REVISION RECORD FOR THIS DWG.

DATE: 1-7-87 27
 APPROVED: [Signature]

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

INDIANA & MICHIGAN ELECTRIC CO.
 DONALD C. COOK
 NUCLEAR PLANT

BRIDGMAN MICHIGAN

FLOW DIAGRAM NUCLEAR SAMPLING UNIT NO. 2 SHEET 1 OF 3

DWG. NO. 2-5141-27

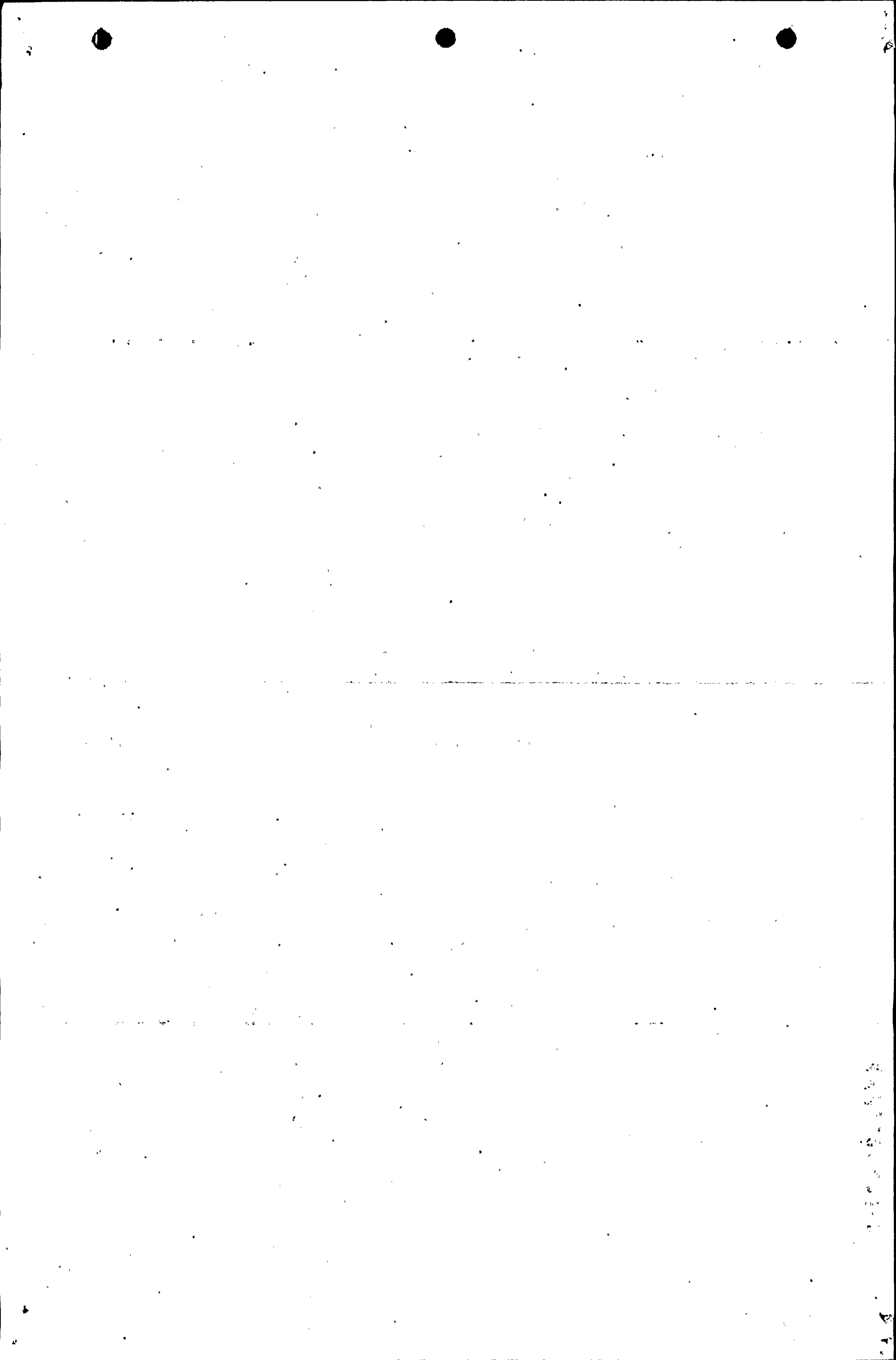
AMERICAN ELECTRIC POWER SERVICE CO. 2 BROADWAY NEW YORK

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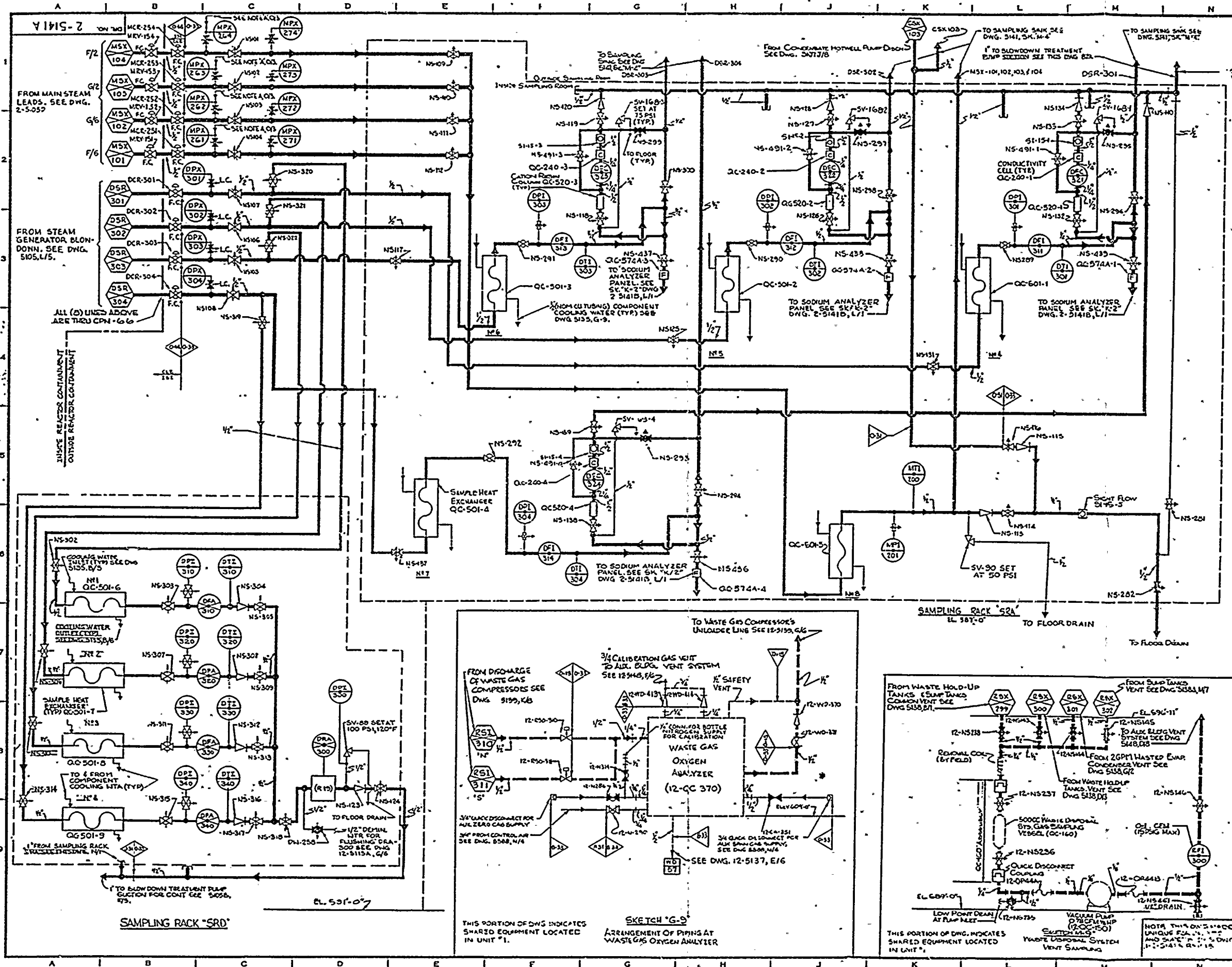
NOTE: THIS DWG MADE UNIQUE FOR UNIT #2 AND SUPERSEDES DWG. 12-5141, REV. 15.

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8710130278-15



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GENERAL NOTES

LEGEND
 — MAIN FLOW
 - - - - - AUX. FLOW

FOR VALVE, INSTRUMENT SAMPLING, PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG., AND FOR MARK NUMBER CODES SEE DWG. 12-5103 & 12-5104

ALL PIPING TO BE EXCEPT AS NOTED

ALL EQUIPMENT S.C. II

NOTE C, C2
 1/2" SUPPLY FOR DRAWING STEAM GENERATORS FOR CONTINUATION SEE DWG. 5165, 5166

NOTE D
 [Symbol] THIS SYMBOL DENOTES A FILTER

THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER IS "2" UNLESS OTHERWISE NOTED.

HAND OPERATED VALVE IDENTIFICATION NUMBERS

ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING; SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (TAG) NUMBERS.

"TAG" NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:
 TAG #1: 2-NS-1003-W APPEARS AS: NS1003W

INSTRUMENT ROOT VALVE MARK #S NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:
 FOR SINGLE IMPULSE: V
 FOR DOUBLE IMPULSE: V2
 FOR DOUBLE IMPULSE WITH VENT: V2W

1-21-87	30	REVISED
DATE	NO.	APPROVED
FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING		

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INDIANA & MICHIGAN ELECTRIC CO.
 DONALD C. COOK
 NUCLEAR PLANT

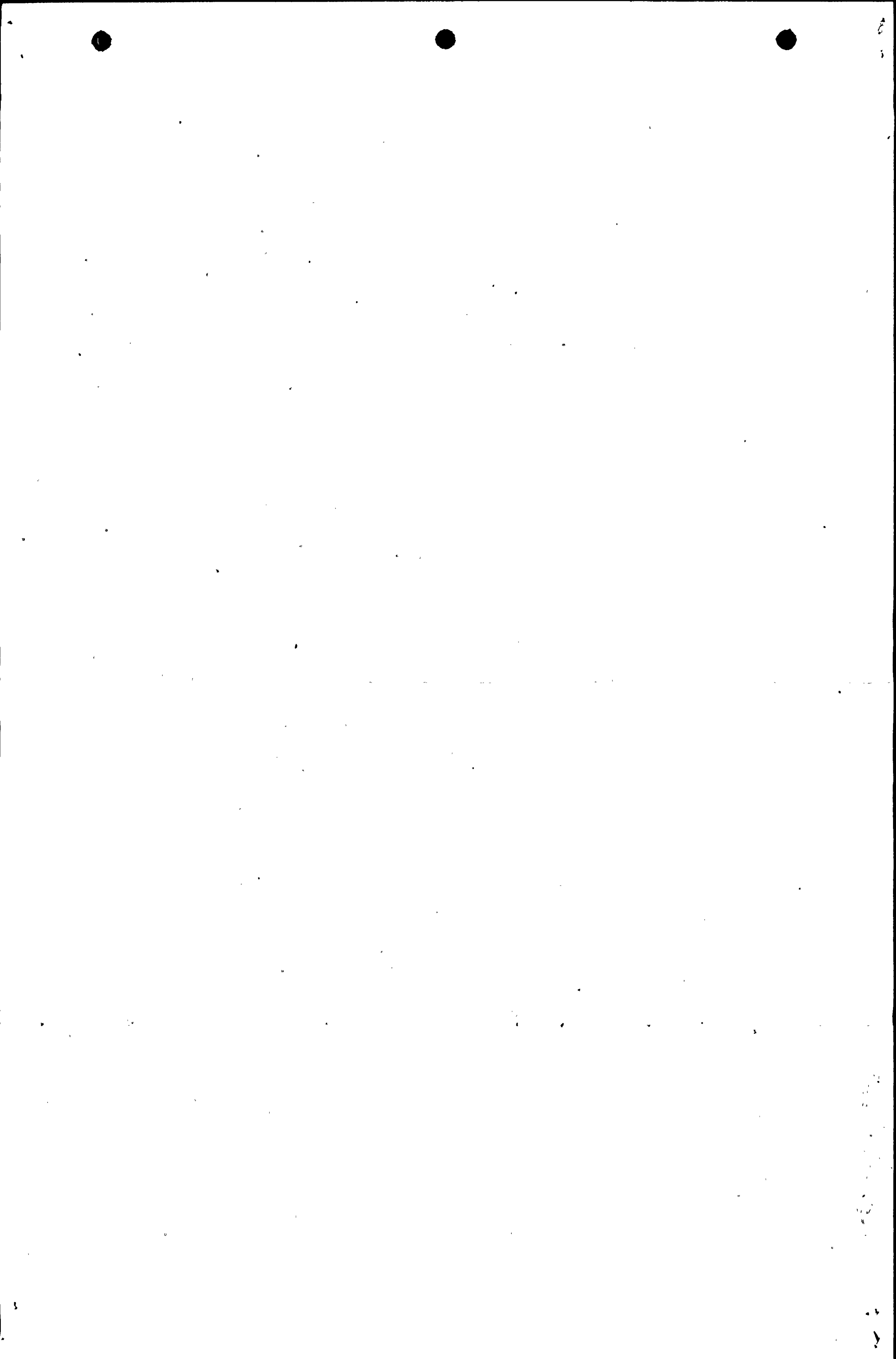
BRIDGEVILLE, MICHIGAN
**FLOW DIAGRAM
 NUCLEAR SAMPLING
 UNIT NO. 2
 SHEET 2 OF 3**

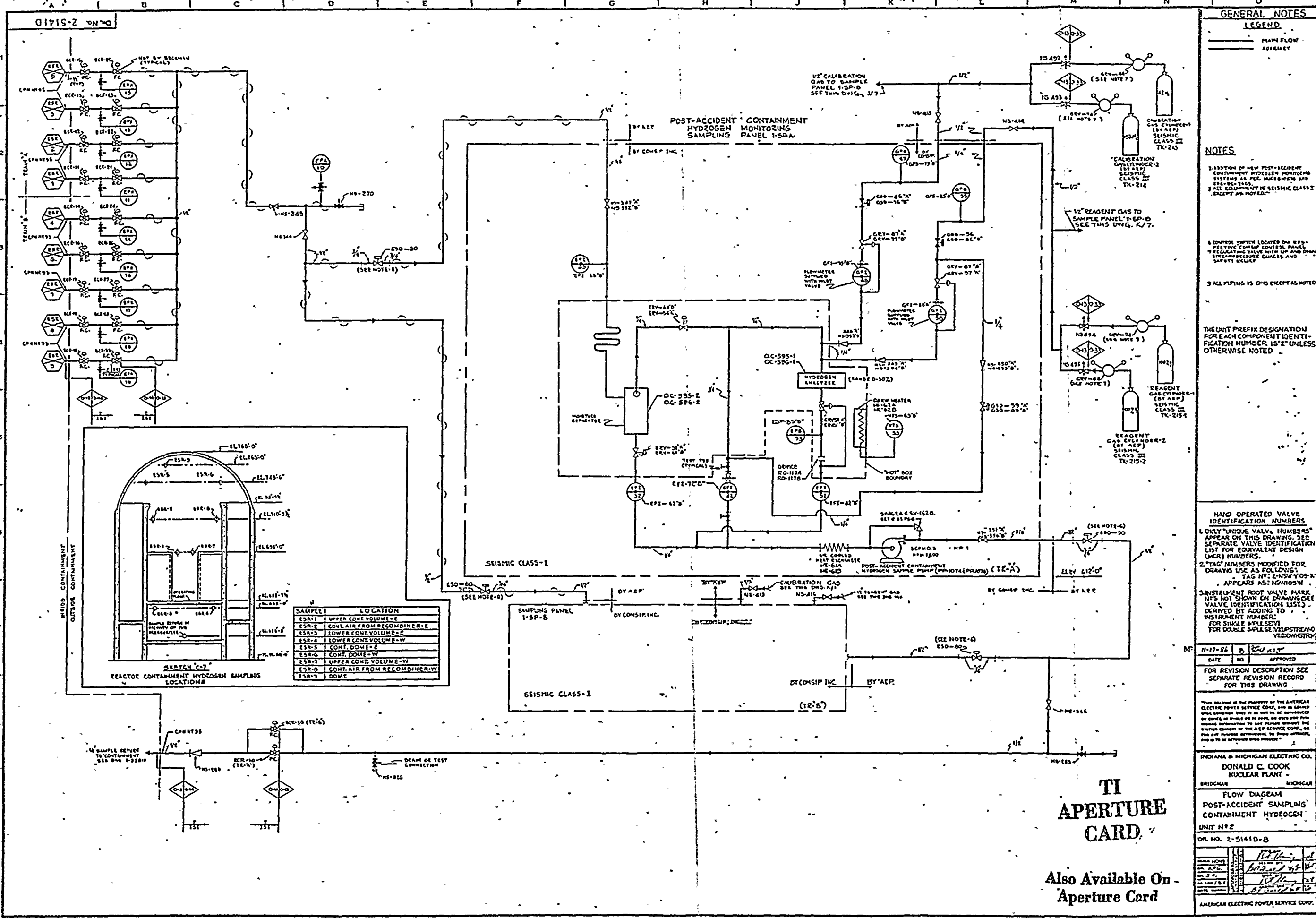
DRW. NO.	2-5141A-30
DATE	1-21-87
BY	D. C. Cook
CHECKED	[Signature]
APPROVED	[Signature]
SCALE	AS SHOWN
PROJECT	NUCLEAR SAMPLING UNIT NO. 2
REVISION	30

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GENERAL NOTES

LEGEND
 ——— MAIN FLOW
 - - - - - ASSEMBLY

NOTES
 1. LOCATION OF NEW POST-ACCIDENT CONTAINMENT HYDROGEN MONITORING SYSTEMS AS PER INCHES-05N AND ESE-PC-1005.
 2. ALL EQUIPMENT IS SEISMIC CLASS I, EXCEPT AS NOTED.

3. INSTRUMENT ROOT VALVE MARK THIS NOT SHOWN ON DRAWING SEE VALVE IDENTIFICATION LIST. DETERMINED BY ADDING TO INSTRUMENT NUMBER FOR DOUBLE BALL VALVES (V-1000) YIELDING:

4. CONTROL SWITCH LOCATED ON REAGENT GAS CONTROL PANEL REGULATING VALVE WITH UP AND DOWN STEAMPRESSURE GAUGES AND SAFETY RELIEF.

5. ALL PIPING IS O.D. EXCEPT AS NOTED.

6. CALIBRATION GAS CYLINDER-1 (BY AEP) SEISMIC CLASS III TX-214
 7. CALIBRATION GAS CYLINDER-2 (BY AEP) SEISMIC CLASS III TX-214
 8. REAGENT GAS CYLINDER-1 (BY AEP) SEISMIC CLASS III TX-214
 9. REAGENT GAS CYLINDER-2 (BY AEP) SEISMIC CLASS III TX-214

10. TAG NO. E-NSW-1005-N APPEARS AS: NWH05W

11. INSTRUMENT ROOT VALVE MARK THIS NOT SHOWN ON DRAWING SEE VALVE IDENTIFICATION LIST. DETERMINED BY ADDING TO INSTRUMENT NUMBER FOR DOUBLE BALL VALVES (V-1000) YIELDING:

12. TAG NO. E-NSW-1005-N APPEARS AS: NWH05W

13. INSTRUMENT ROOT VALVE MARK THIS NOT SHOWN ON DRAWING SEE VALVE IDENTIFICATION LIST. DETERMINED BY ADDING TO INSTRUMENT NUMBER FOR DOUBLE BALL VALVES (V-1000) YIELDING:

14. TAG NO. E-NSW-1005-N APPEARS AS: NWH05W

15. INSTRUMENT ROOT VALVE MARK THIS NOT SHOWN ON DRAWING SEE VALVE IDENTIFICATION LIST. DETERMINED BY ADDING TO INSTRUMENT NUMBER FOR DOUBLE BALL VALVES (V-1000) YIELDING:

16. TAG NO. E-NSW-1005-N APPEARS AS: NWH05W

17. INSTRUMENT ROOT VALVE MARK THIS NOT SHOWN ON DRAWING SEE VALVE IDENTIFICATION LIST. DETERMINED BY ADDING TO INSTRUMENT NUMBER FOR DOUBLE BALL VALVES (V-1000) YIELDING:

18. TAG NO. E-NSW-1005-N APPEARS AS: NWH05W

19. INSTRUMENT ROOT VALVE MARK THIS NOT SHOWN ON DRAWING SEE VALVE IDENTIFICATION LIST. DETERMINED BY ADDING TO INSTRUMENT NUMBER FOR DOUBLE BALL VALVES (V-1000) YIELDING:

20. TAG NO. E-NSW-1005-N APPEARS AS: NWH05W

21. INSTRUMENT ROOT VALVE MARK THIS NOT SHOWN ON DRAWING SEE VALVE IDENTIFICATION LIST. DETERMINED BY ADDING TO INSTRUMENT NUMBER FOR DOUBLE BALL VALVES (V-1000) YIELDING:

22. TAG NO. E-NSW-1005-N APPEARS AS: NWH05W

23. INSTRUMENT ROOT VALVE MARK THIS NOT SHOWN ON DRAWING SEE VALVE IDENTIFICATION LIST. DETERMINED BY ADDING TO INSTRUMENT NUMBER FOR DOUBLE BALL VALVES (V-1000) YIELDING:

24. TAG NO. E-NSW-1005-N APPEARS AS: NWH05W

25. INSTRUMENT ROOT VALVE MARK THIS NOT SHOWN ON DRAWING SEE VALVE IDENTIFICATION LIST. DETERMINED BY ADDING TO INSTRUMENT NUMBER FOR DOUBLE BALL VALVES (V-1000) YIELDING:

26. TAG NO. E-NSW-1005-N APPEARS AS: NWH05W

27. INSTRUMENT ROOT VALVE MARK THIS NOT SHOWN ON DRAWING SEE VALVE IDENTIFICATION LIST. DETERMINED BY ADDING TO INSTRUMENT NUMBER FOR DOUBLE BALL VALVES (V-1000) YIELDING:

28. TAG NO. E-NSW-1005-N APPEARS AS: NWH05W

29. INSTRUMENT ROOT VALVE MARK THIS NOT SHOWN ON DRAWING SEE VALVE IDENTIFICATION LIST. DETERMINED BY ADDING TO INSTRUMENT NUMBER FOR DOUBLE BALL VALVES (V-1000) YIELDING:

30. TAG NO. E-NSW-1005-N APPEARS AS: NWH05W

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DATE	NO.	APPROVED
11-17-86	8	[Signature]

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

INDIANA & MICHIGAN ELECTRIC CO.
 DONALD C. COOK
 NUCLEAR PLANT

BRIDGMAN MICHIGAN

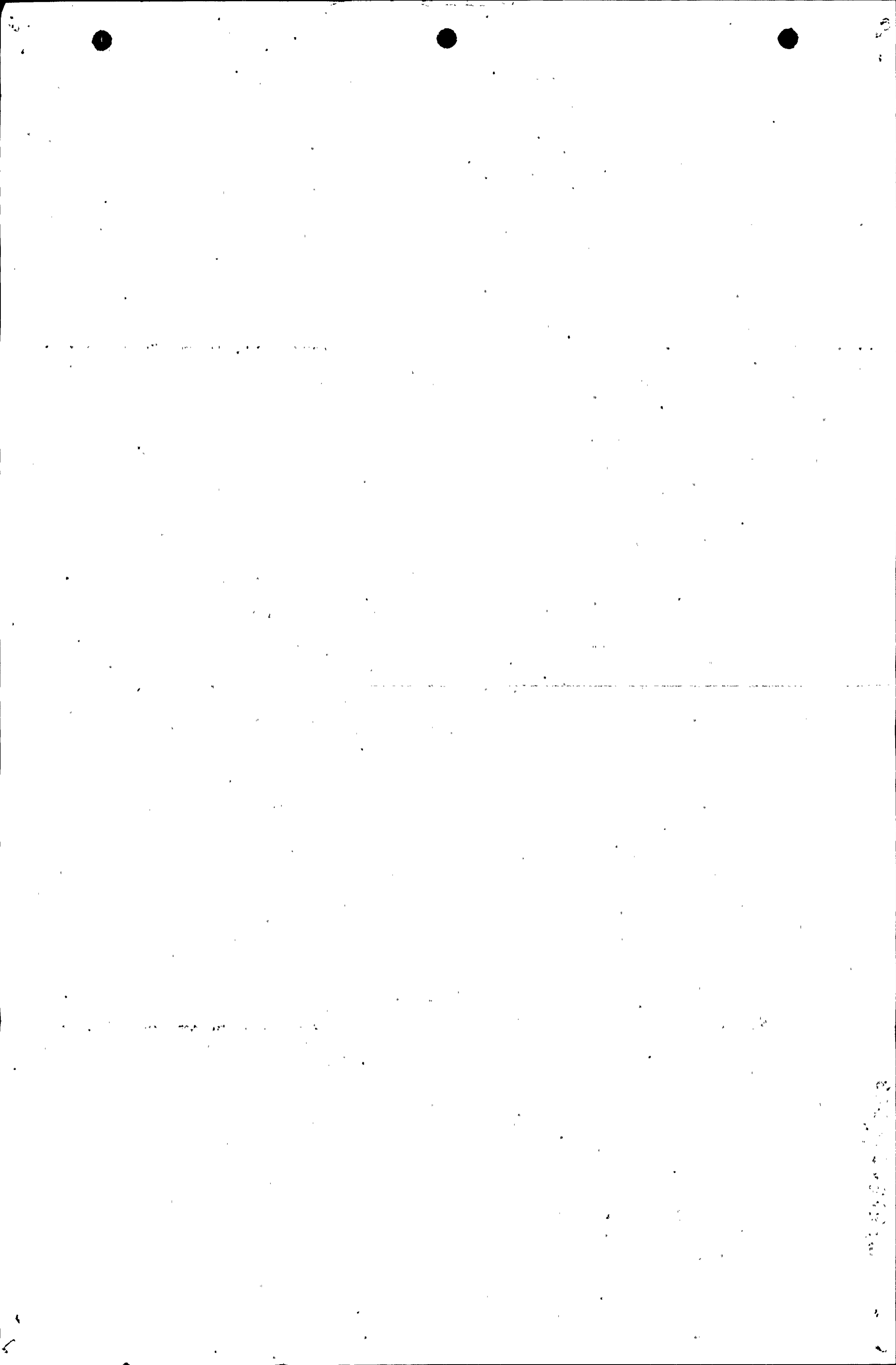
FLOW DIAGRAM
 POST-ACCIDENT SAMPLING
 CONTAINMENT HYDROGEN

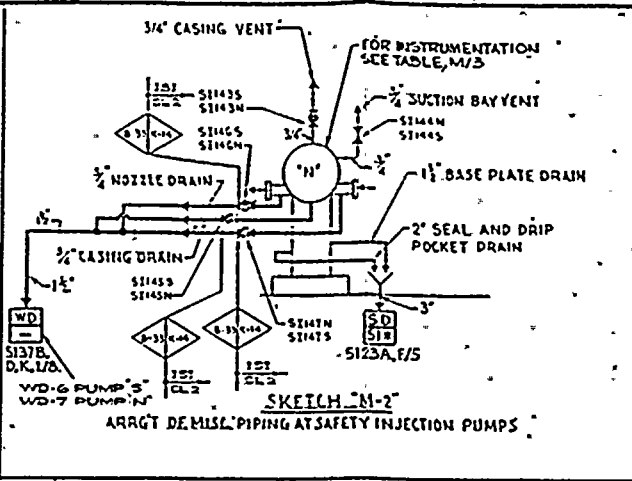
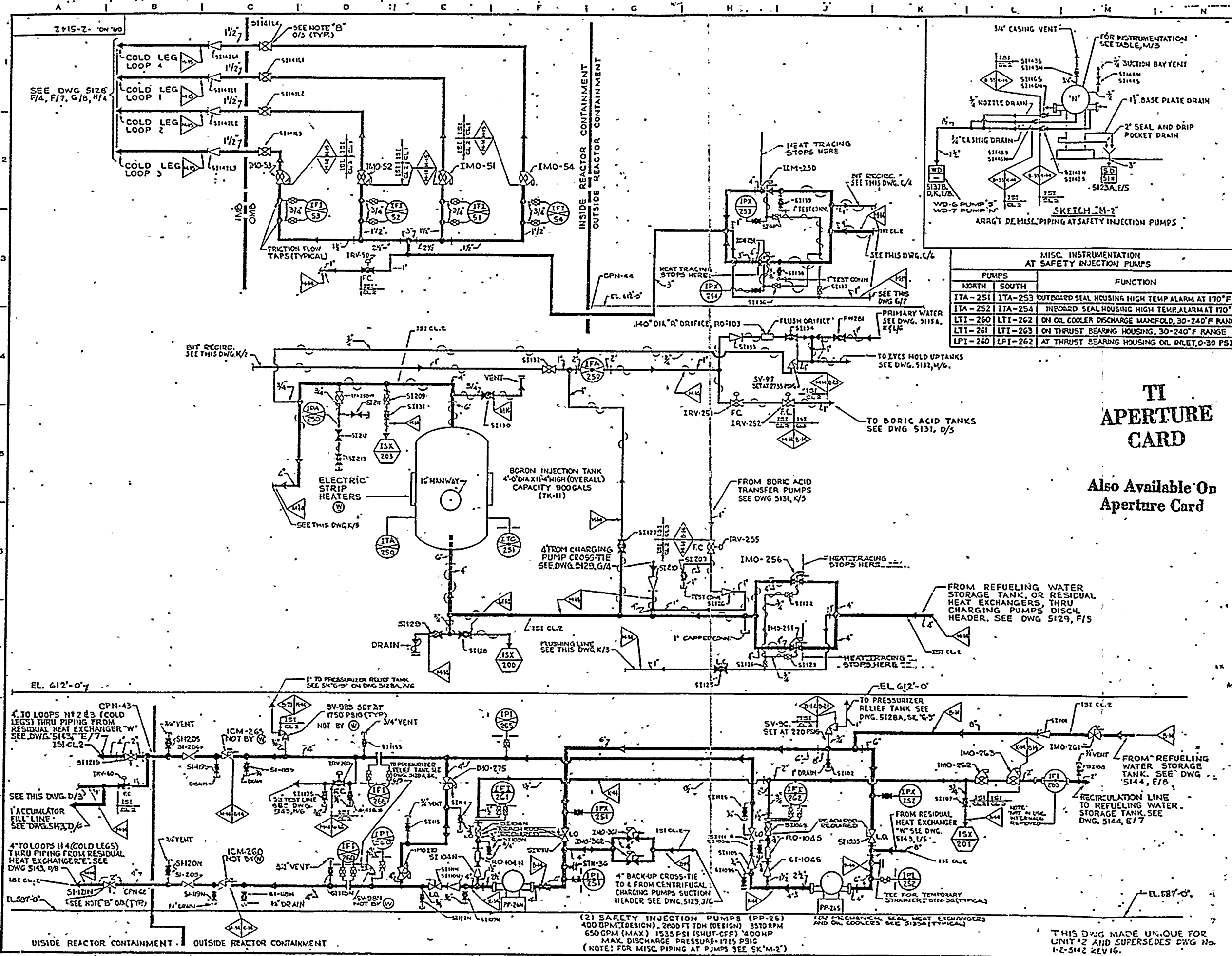
UNIT #2
 DPL NO. 2-5141D-B

DESIGNED BY	[Signature]
CHECKED BY	[Signature]
DATE	11/17/86
SCALE	AS SHOWN

AMERICAN ELECTRIC POWER SERVICE CORP.

8710130278-17





MISC. INSTRUMENTATION AT SAFETY INJECTION PUMPS

PUMPS		FUNCTION
NORTH	SOUTH	
ITA-251	ITA-253	OUTBOARD SEAL HOUSING HIGH TEMP ALARM AT 170°F
ITA-252	ITA-254	INBOARD SEAL HOUSING HIGH TEMP ALARM AT 170°F
LTI-260	LTI-262	ON OIL COOLER DISCHARGE MANIFOLD, 30-240°F RANGE
LTI-261	LTI-263	ON THRUST BEARING HOUSING, 30-240°F RANGE
LPI-260	LPI-262	AT THRUST BEARING HOUSING OIL PLETO, 0-30 PSI

GENERAL NOTES.

LEGEND
 ——— MAIN FLOW
 - - - - - AUXILIARY FLOW

Ⓜ BY WESTINGHOUSE

FOR VALVE, INSTRUMENT, SAMPLING, PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG AND FOR MARK NUMBER CODES - SEE DWG 5104

NOTE A:
 ALL EQUIPMENT VALVES & INSTRUMENTS SUPPLIED BY W EXCEPT AS NOTED

NOTE B:
 ADDITIONAL VALVES IN FIELD TO LIMIT PUMP RUN OUT THEN LOCK IN POSITION.

NOTE C:
 ALL EQUIPMENT SEISMIC CLASS 1 EXCEPT AS NOTED.

NOTE D:
 FOR CODE CLASS 2 INSTRUMENT CONNECTIONS, THE TEG BOUNDARY EXTENDS TO & INCLUDES THE FIRST ROOT VALVE.

NOTE E:
 FOR CODE CLASS 2 VENTS & DRAINS THE TEG BOUNDARY EXTENDS TO & INCLUDES THE FIRST NORMALLY CLOSED VALVE.

NOTE F:
 REFER TO DWG. 2-5123C FOR PORTIONS OF PIPING CONTAINED WITHIN LEAK DETECTION ENCLOSURES.

NOTE G:
 THE UNIT PREFIX DESIGNATION FOR EACH EQUIPMENT IDENTIFICATION NO. IS 2 UNLESS OTHERWISE NOTED.

HAND OPERATED VALVE IDENTIFICATION NUMBERS
 1. ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MCR) NUMBERS.
 2. "TAG" NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS: TAG NO. 2-NSW-V05-W APPEARS AS: NSWV05W
 3. INSTRUMENT ROOT VALVE MARK NO'S NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST). DERIVED BY ADDING TO INSTRUMENT NUMBER: FOR SINGLE PULSE: V FOR DOUBLE PULSE: V/P STREAM: V200MGTIRM

FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG.

DATE	NO.	APPROVED
10-2-86	28	CU

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

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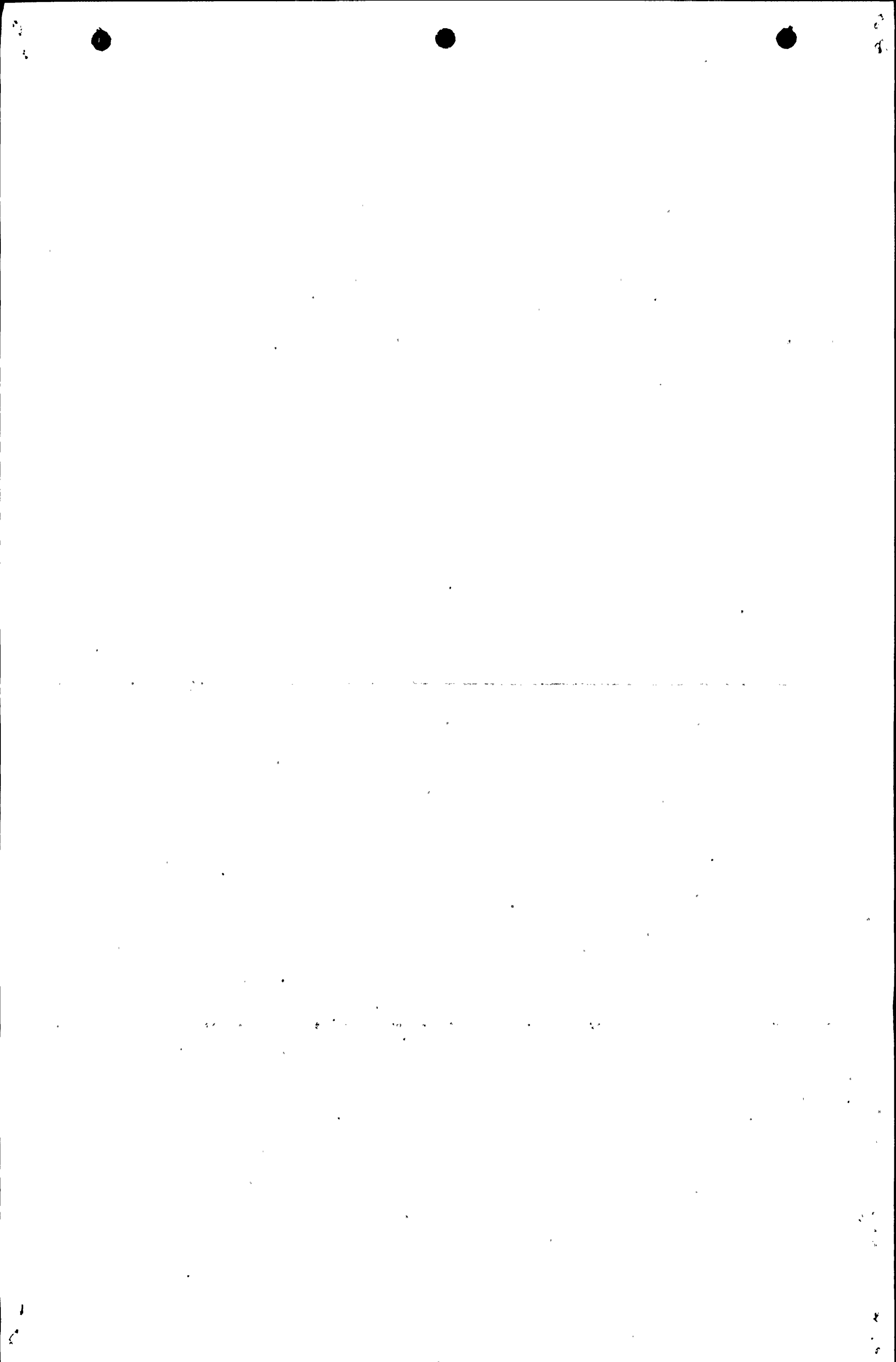
BROCKMAN MICHIGAN

FLOW DIAGRAM EMERG. CORE COOLING ISIS UNIT NO. 2

DN. NO. 2-5142-28.

THIS DWG MADE UNIQUE FOR UNIT #2 AND SUPERSEDES DWG NO. 1-2-5142 REV 16.

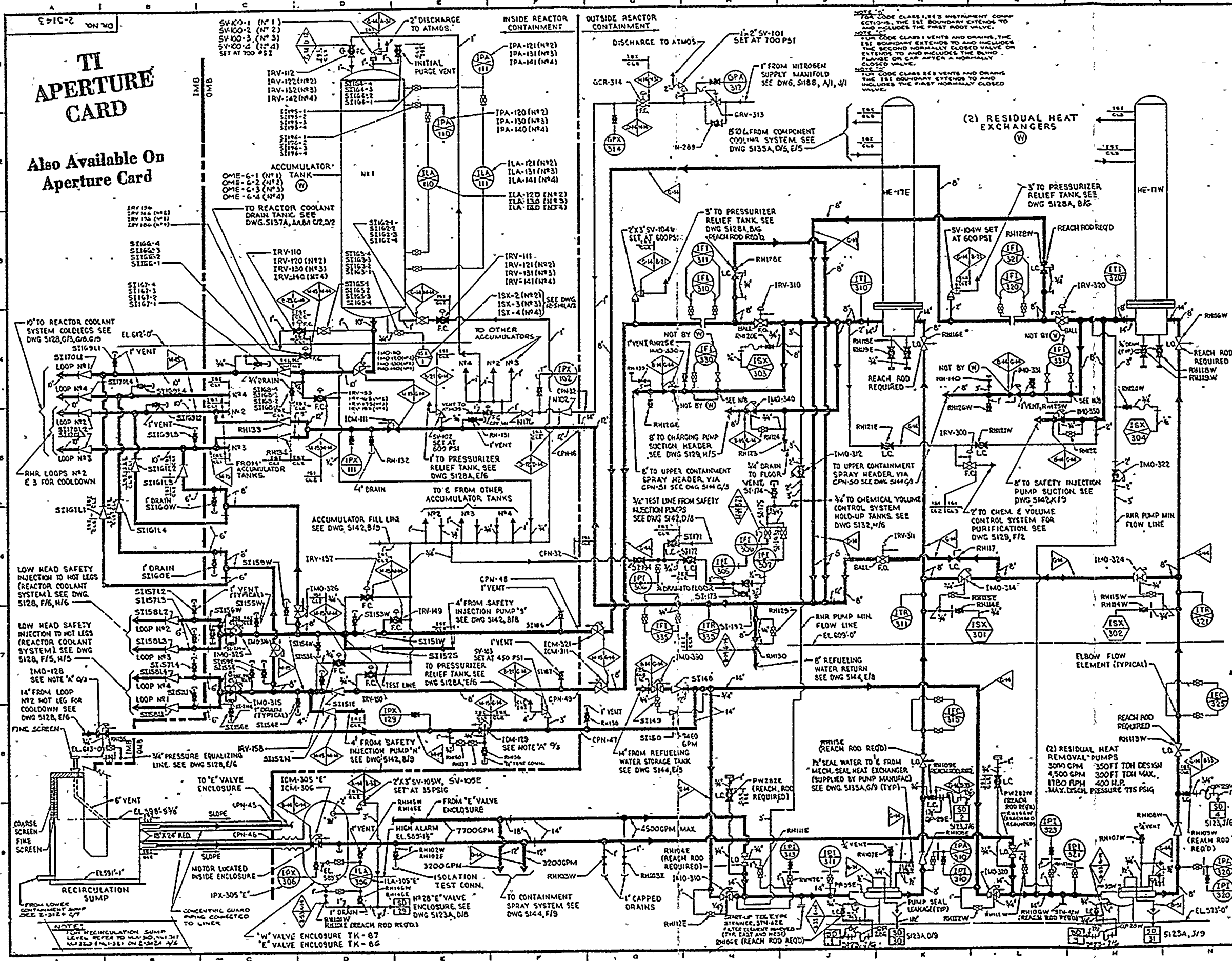
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GENERAL NOTES

LEGEND

— MAIN FLOW
- - - AUXILIARY FLOW

FOR VALVE INSTRUMENT, SAMPLING PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG AND FOR MARK NUMBER CODES SEE DWG 51304.2. ALL EQUIPMENT SEISMIC CLASS I EXCEPT AS NOTED BY WESTINGHOUSE. ALL EQUIPMENT VALVES SUPPLIED BY © EXCEPT AS NOTED.

NOTE A
VALVE INTERLOCKED WITH REACTOR COOLANT SYSTEM PRESSURE SIGNAL @ A/1

THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER IS "2" UNLESS OTHERWISE NOTED.

THIS DWG MADE UNIQUE FOR UNIT "2" AND SUPERSEDES DWG. P-2-5143, REV. 22.

HAND OPERATED VALVE IDENTIFICATION NUMBERS

1. ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MCR) NUMBERS.

2. TAG NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:
TAG NO. IN DRAWING APPEARS AS: NSW00W

3. INSTRUMENT ROOT VALVE MARK "N" IS NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER FOR SINGLE IMPULSE: V1P (STREAM) V2D (METER)

FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG.

DATE: 3-17-61
NO. 35
APPROVED: [Signature]

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING.

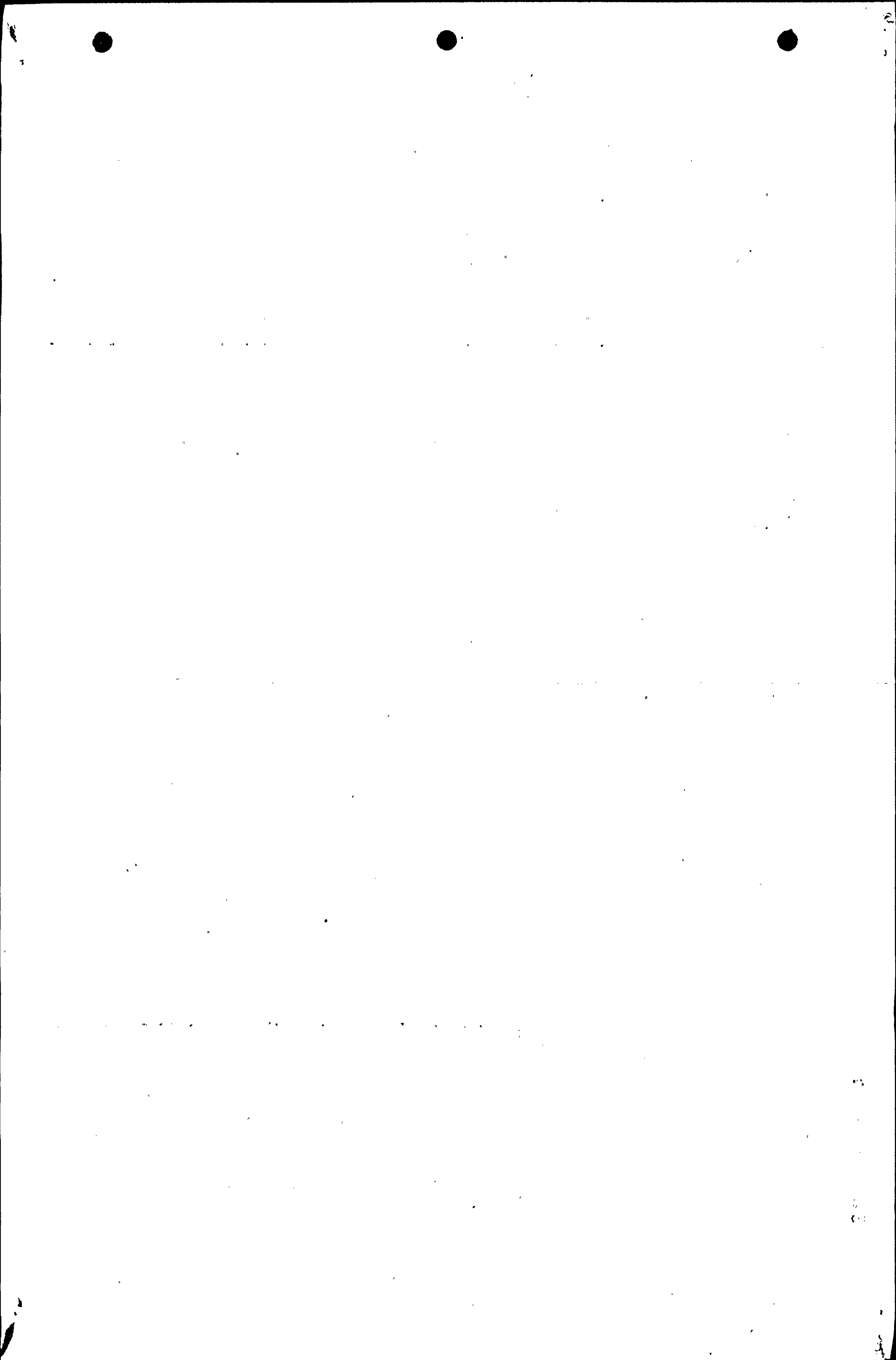
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DONALD C. COOK
NUCLEAR PLANT

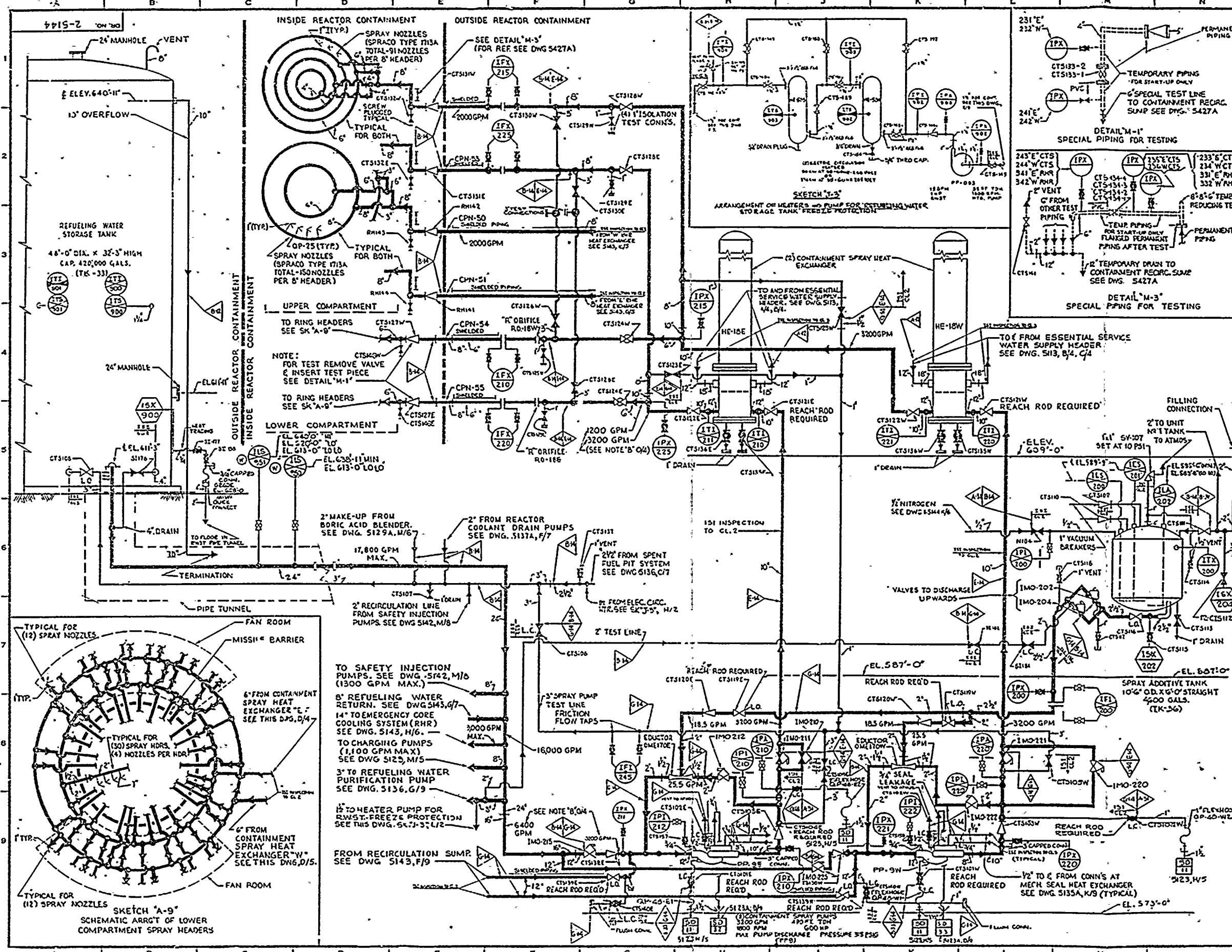
FLOW DIAGRAM EMERG. CORE COOLING RHR UNIT NO. 2

DWG. NO. 2-5143-35

AMERICAN ELECTRIC POWER SERVICE CORP.
2 BROADWAY
NEW YORK



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GENERAL NOTES

LEGEND

FOR VALVE, INSTRUMENT, SAMPLING, PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG., AND FOR MARK NUMBER CODES, SEE DWG. 2-5142-203 & 2-5142-204.

ALL EQUIPMENT AND PIPING SEISMIC CLASS I EXCEPT AS NOTED

(W) BY WESTINGHOUSE

REFUELING WATER STORAGE TANK FREEZE PROTECTED

DRAINS FROM SPRAY ADDITIVE TANK TO SPRAY ADDITIVE TANK ROOM SUMP 5137 W/3

NOTE 'B' G/S, F/S, G/O FLOWS SHOWN ARE REDUCED BY 25.5 GPM WHEN H₂O H₂O EDUCTORS ARE IN SERVICE

THE FIRST PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER IS '2' UNLESS OTHERWISE NOTED.

FOR COOL DOWN OF REACTOR CONTAINMENT SPRAY ADDITIVE TANKS, SEE DWG. 5137 W/3 FOR COOL DOWN OF REACTOR CONTAINMENT SPRAY ADDITIVE TANKS, SEE DWG. 5137 W/3

NOTE: THIS DWG. MADE UNIQUE FOR UNIT #2 AND SUPERSEDES DWG. 2-5144 REV. 18

HAND OPERATED VALVE IDENTIFICATION NUMBERS

1. ONLY UNIQUE VALVE NUMBERS* APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MCR) NUMBERS.

2. TAG NUMBERS ASSIGNED FOR DRAWING USE AS FOLLOWS: TAG #1: 2-NSW-VIC-W APPEARS AS: NSWVW

3. INSTRUMENT ROOT VALVE MARK #S NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER: FOR SINGLE IMPULSE: FOR DOUBLE IMPULSE: VACUUM BREAKERS

FOR MICROFORM STATUS SEE REVISION RECORD FOR THIS DWG.

1-27-87 29 *hcr* *hcr*

DATE NO. APPROVED

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

INDIANA & MICHIGAN ELECTRIC CO. DONALD C. COOK NUCLEAR PLANT BRIGMAN MICHIGAN

FLOW DIAGRAM CONTAINMENT SPRAY UNIT NR2

DWG. NO. 2-5144-29

REV. NO. 18

DATE 1-27-87

BY *hcr*

CHKD BY *hcr*

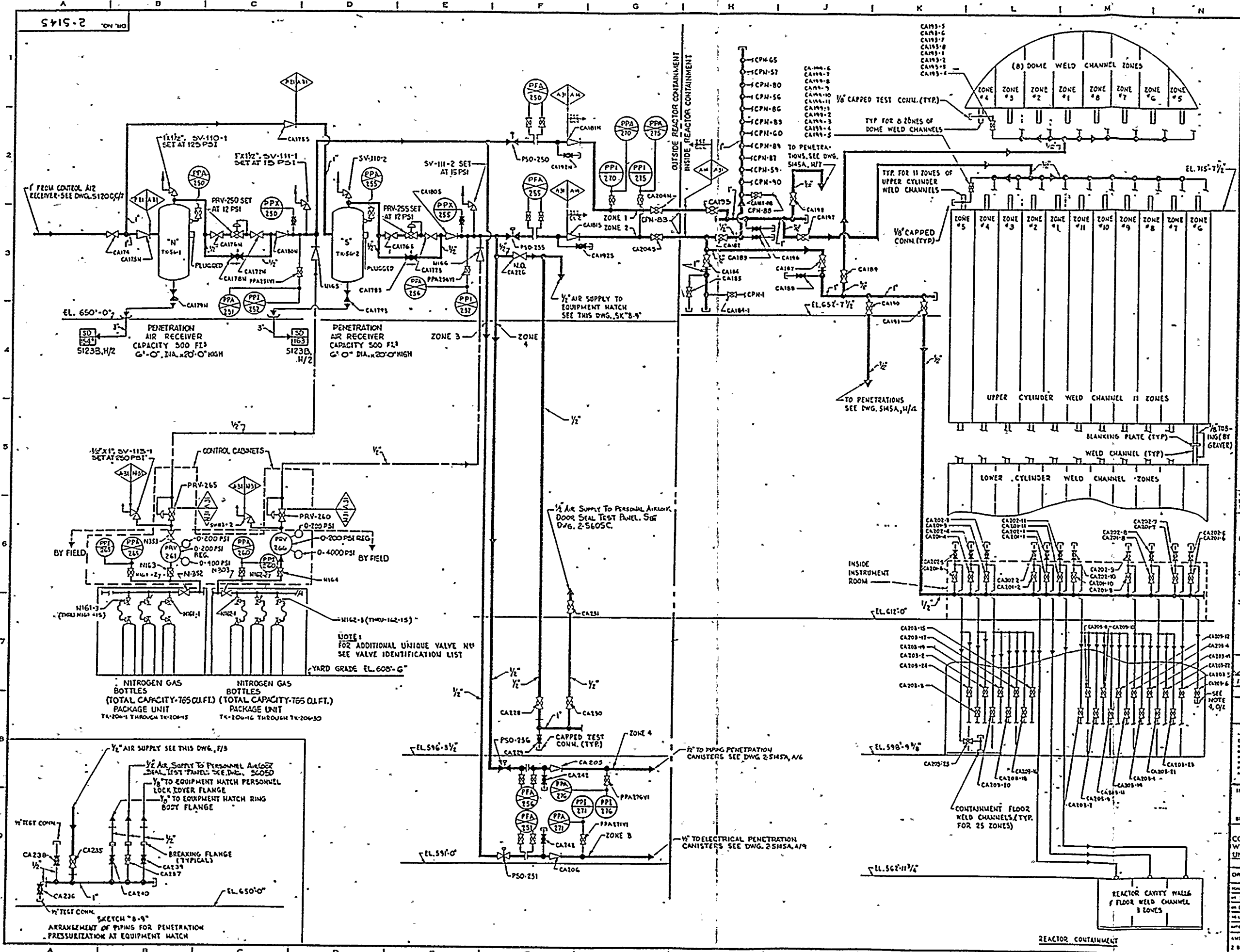
APP. BY *hcr*

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GENERAL NOTES

LEGEND

— NITROGEN
 — CONTROL AIR
 - - - AUX. PIPING

FOR VALVE, INSTRUMENT, SAMPLING, PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG., AND FOR MARK NUMBER CODES, SEE DWGS. 12-503 AND 12-5104. ALL EQUIPMENT SEISMIC CLASS II.

NOTE 1 REFER TO DWGS 5336 E 5337 FOR LIST OF PIPING PENETRATIONS CALL PIPING CLASS A-31

NOTE 2 UNIQUE VALVE NUMBERS ARE DERIVED FOR CONTAINMENT PENETRATIONS BY USING THE HEADER VALVE NUMBER PLUS THE CPH NUMBER.

NOTE 3 FOR ADDITIONAL UNIQUE VALVE NUMBERS SEE VALVE IDENTIFICATION LIST.

NOTE 4 FOR CODE CLASS 2 INSTRUMENT CONNECTIONS, THE IS1 BOUNDARY EXTENDS TO AND INCLUDES THE FIRST ROOT VALVE.

NOTE 5 THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER IS "2" UNLESS OTHERWISE NOTED.

NOTE: THIS DWG. MADE UNCHG. FOR UNIT #2 AND SUPERSEDED DWG. 2-5145 REV. 10

HAND OPERATED VALVE IDENTIFICATION NUMBERS

1. ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MCR) NUMBERS.

2. TAG NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:
 TAG #1: 2-NSW-V05-W APPEARS AS 105W05W

3. INSTRUMENT ROOT VALVE MARKS NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:
 FOR SINGLE INFLUENT FOR DOUBLE INFLUENT (W/UPSTREAM) V200W01R1K

FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG.

DATE	NO.	APPROVED
12-8-76	20	See Note 9, 10

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

INDIANA & MICHIGAN ELECTRIC CO.
 DONALD C. COOK
 NUCLEAR PLANT
 BRIDGMAN, MICHIGAN

FLOW DIAGRAM CONTAINMENT PENETRATION & WELD CHANNEL PRESSURIZATION UNIT #2 SHEET 1 OF 2

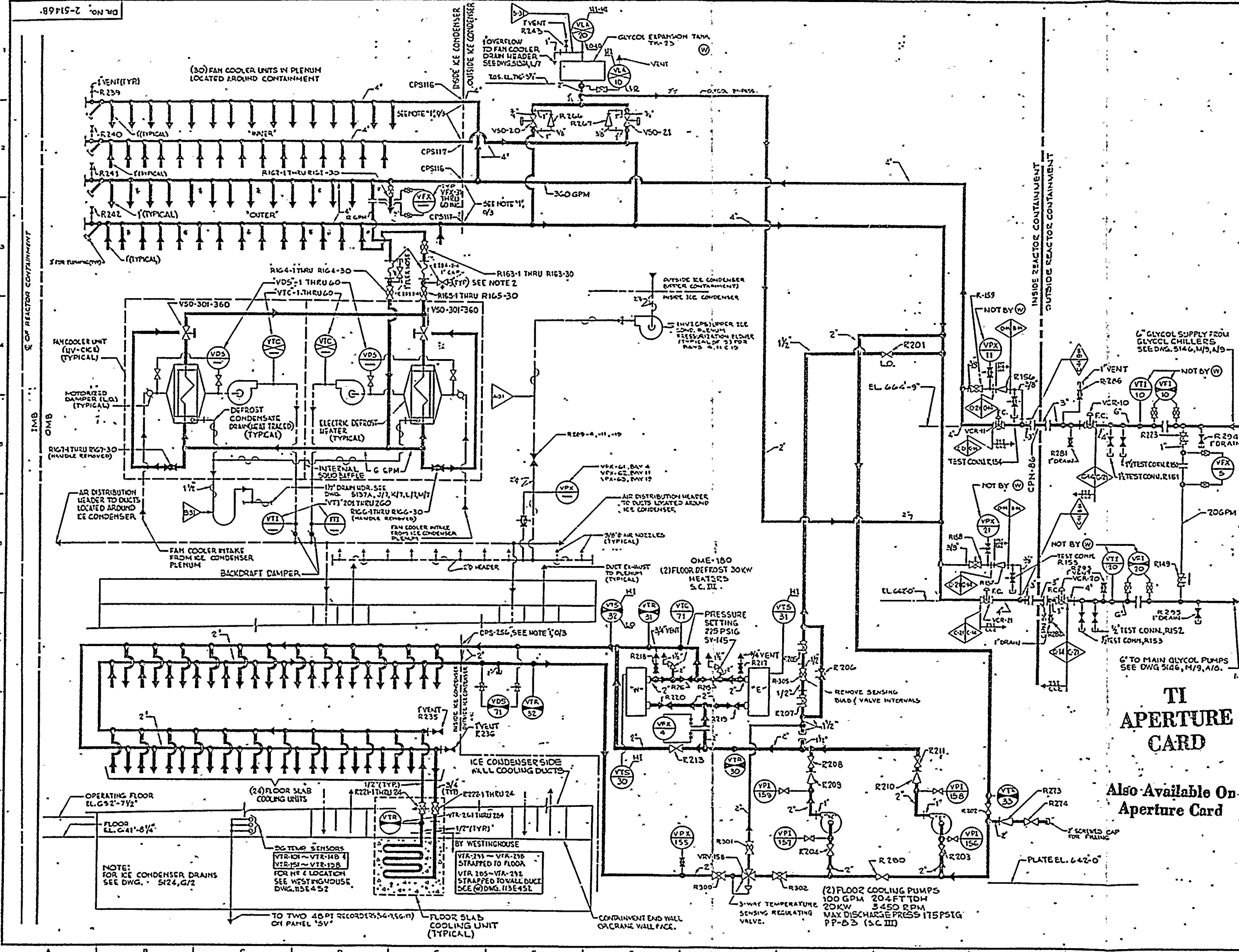
ORL NO. 2-5145-20

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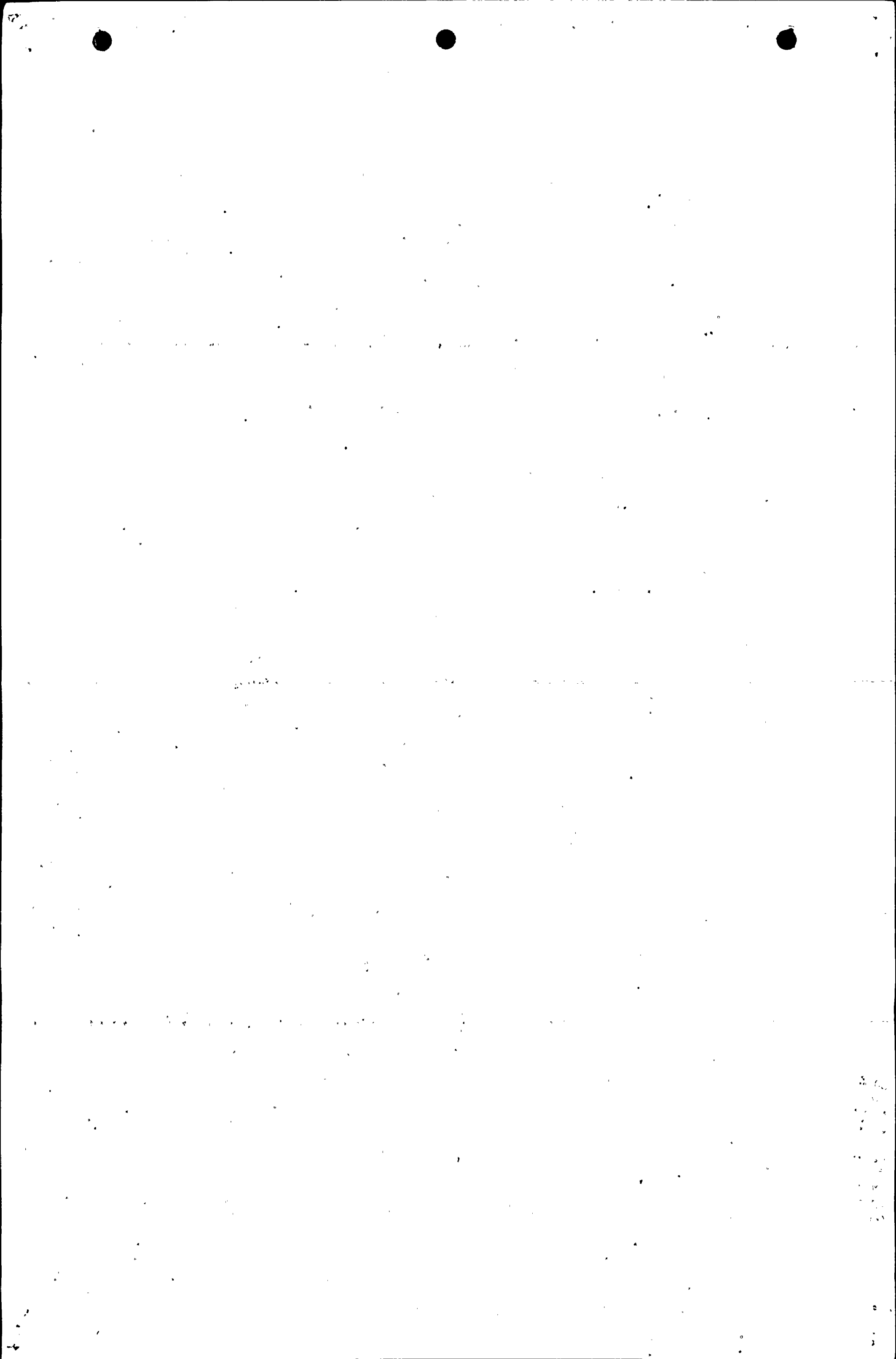
T1 APERTURE CARD

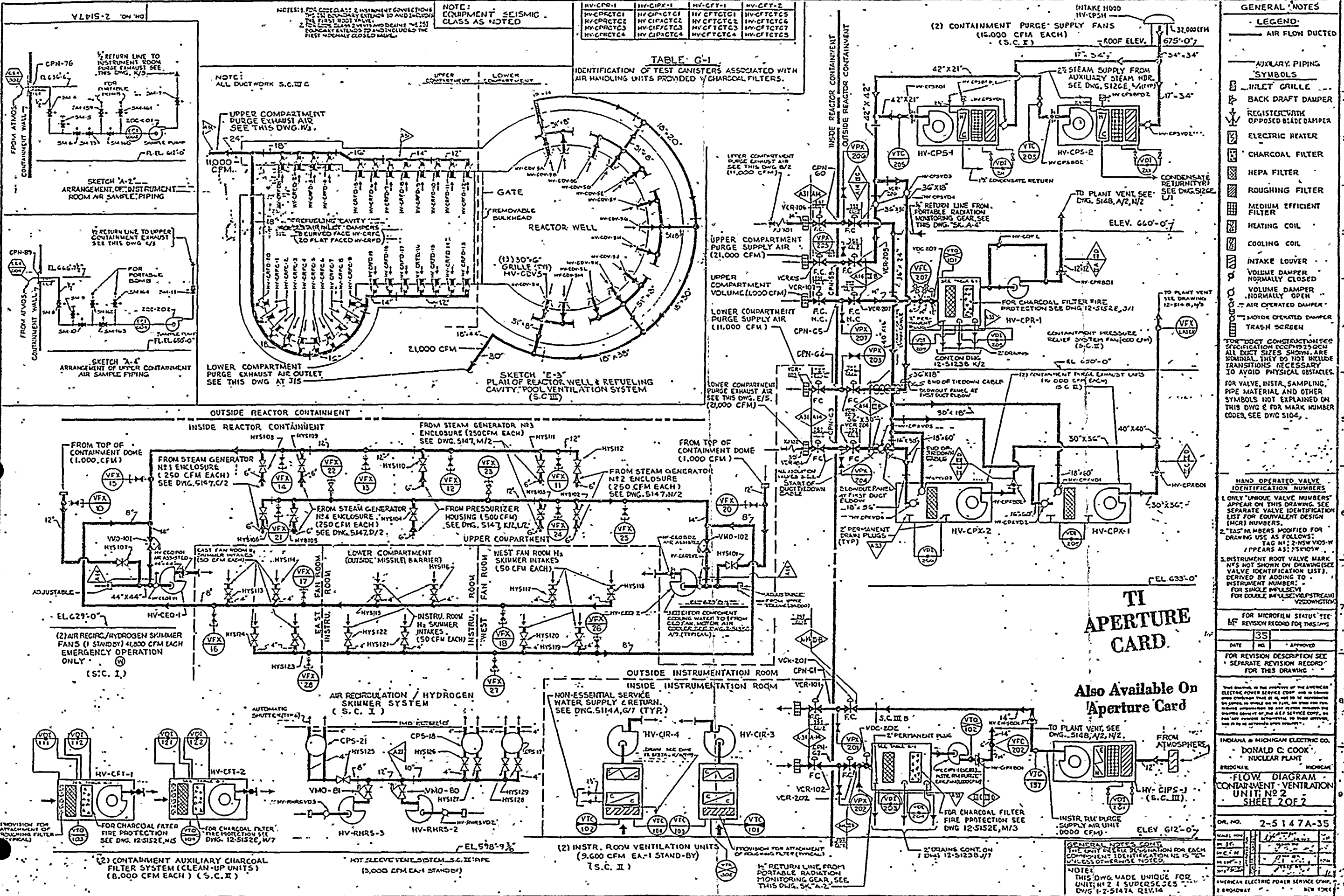
Also Available On Aperture Card

INDIANA & MICHIGAN ELECTRIC CO.
DONALD C. COOK
NUCLEAR PLANT

FLOW DIAGRAM
ICE CONDENSER
REFRIGERATION

DR. NO. 2-51468-23





NOTE: EQUIPMENT SEISMIC CLASS AS NOTED

NOTE: ALL DUCTWORK S.C.I.I.C

NOTE: FOR CODE LIST & INSTRUMENT CONNECTIONS SEE THIS DWG. EXTENDS TO AND INCLUDES THE FIRST BODY VALVE. FOR CODE LIST & INSTRUMENT CONNECTIONS SEE THIS DWG. EXTENDS TO AND INCLUDES THE FIRST NORMALLY CLOSED VALVE.

HV-CPS-1	HV-CPS-2	HV-CPS-3	HV-CPS-4
HV-CPS101	HV-CPS102	HV-CPS103	HV-CPS104
HV-CPS105	HV-CPS106	HV-CPS107	HV-CPS108
HV-CPS109	HV-CPS110	HV-CPS111	HV-CPS112
HV-CPS113	HV-CPS114	HV-CPS115	HV-CPS116
HV-CPS117	HV-CPS118	HV-CPS119	HV-CPS120

TABLE G-1
IDENTIFICATION OF TEST CANISTERS ASSOCIATED WITH AIR HANDLING UNITS PROVIDED WITH CHARCOAL FILTERS.

GENERAL NOTES

LEGEND:

- AIR FLOW DUCTED
- AUXILIARY PIPING
- INLET GRILLE
- BACK DRAFT DAMPER
- REGISTER WITH OPPOSITE BLADE DAMPER
- ELECTRIC HEATER
- CHARCOAL FILTER
- HEPA FILTER
- ROUGHING FILTER
- MEDIUM EFFICIENT FILTER
- HEATING COIL
- COOLING COIL
- INTAKE LOUVER
- VOLUME DAMPER NORMALLY CLOSED
- VOLUME DAMPER NORMALLY OPEN
- AIR OPERATED DAMPER
- MOTOR OPERATED DAMPER
- TRASH SCREEN

FOR DUCT CONSTRUCTION SEE SPECIFICATION DCCP-25.001. ALL DUCT SIZES SHOWN ARE NOMINAL. THEY DO NOT INCLUDE TRANSITIONS NECESSARY TO AVOID PHYSICAL OBSTACLES.

FOR VALVE, INSTR. SAMPLING, PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG. FOR MARK NUMBER CODES, SEE DWG 5104.

HAND OPERATED VALVE IDENTIFICATION NUMBERS

- ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MCR) NUMBERS.
- TAG NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:
TAG NO: 2-HS-V05-W
APPEARS AS: 2-HS-V05
- INSTRUMENT ROOT VALVE MARKING IS NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST). DERIVED BY ADDING TO INSTRUMENT NUMBER:
FOR SINGLE PIPE: 1
FOR DOUBLE PIPE: VALVE STREAM NO. (V200MGT03)

FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DRAWING

DATE: 3/5
NO.:
APPROVED:

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

INDIANA MICHIGAN ELECTRIC CO.
DONALD C. COOK
NUCLEAR PLANT

BRIDGE: INDOCHAM

FLOW DIAGRAM CONTAINMENT VENTILATION UNIT #2 SHEET 2 OF 2

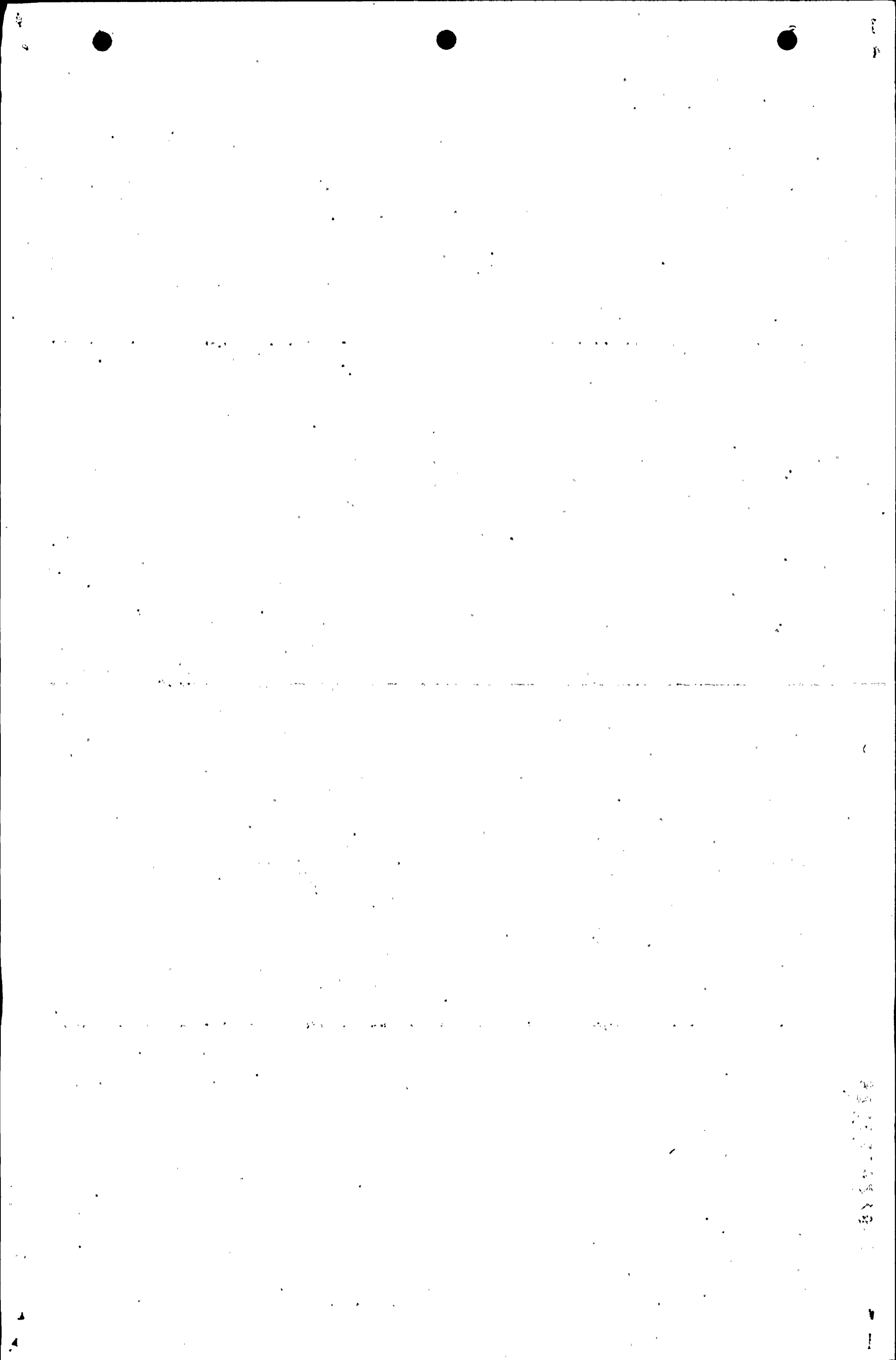
DR. NO. 2-5147A-35

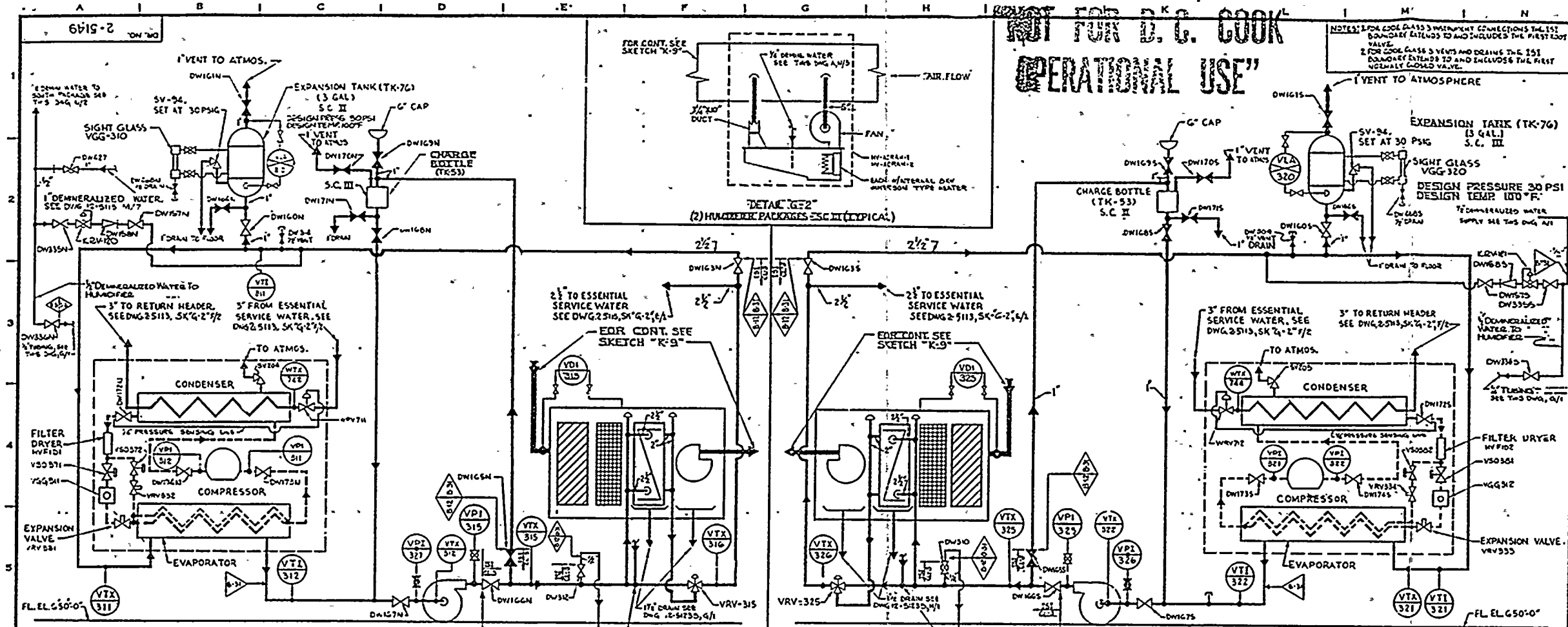
AMERICAN ELECTRIC POWER SERVICE CO. 2 BROADWAY NEW YORK

NOTE: THIS DWG. MADE UNIQUE FOR UNIT #2 & SUPERSEDES DWG 12-5147A REV. 14

TI APERTURE CARD

Also Available On Aperture Card





NORTH LIQUID CHILLER PACKAGE S.C. III
30 H.P. RPM
S.C. III

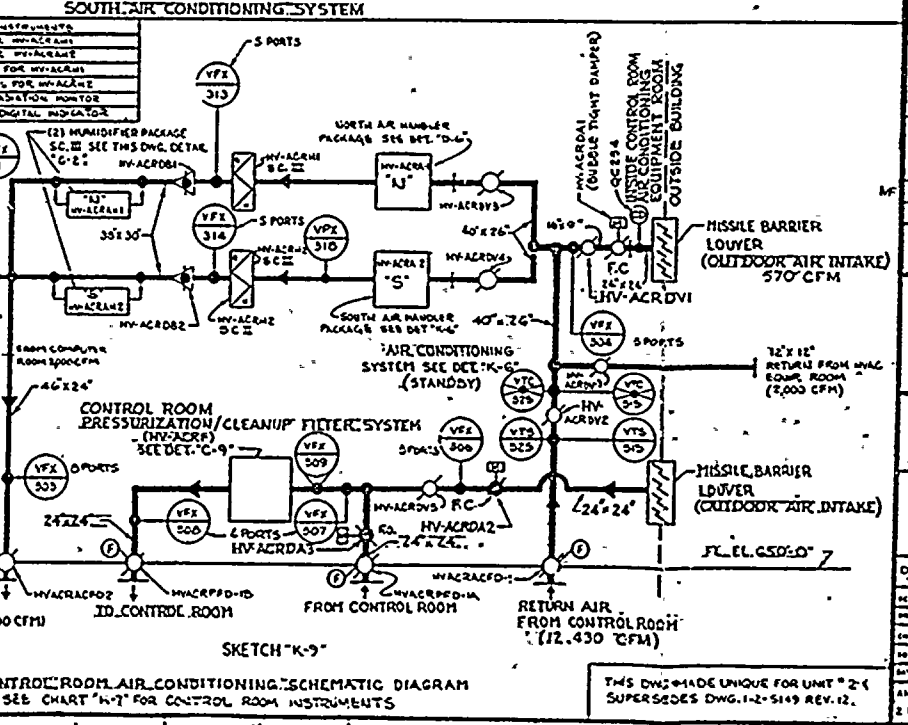
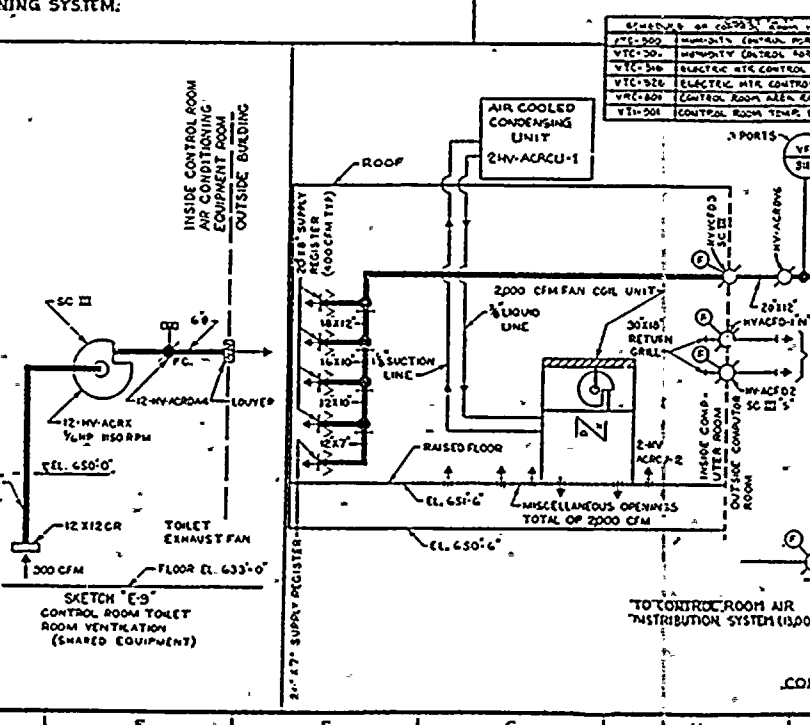
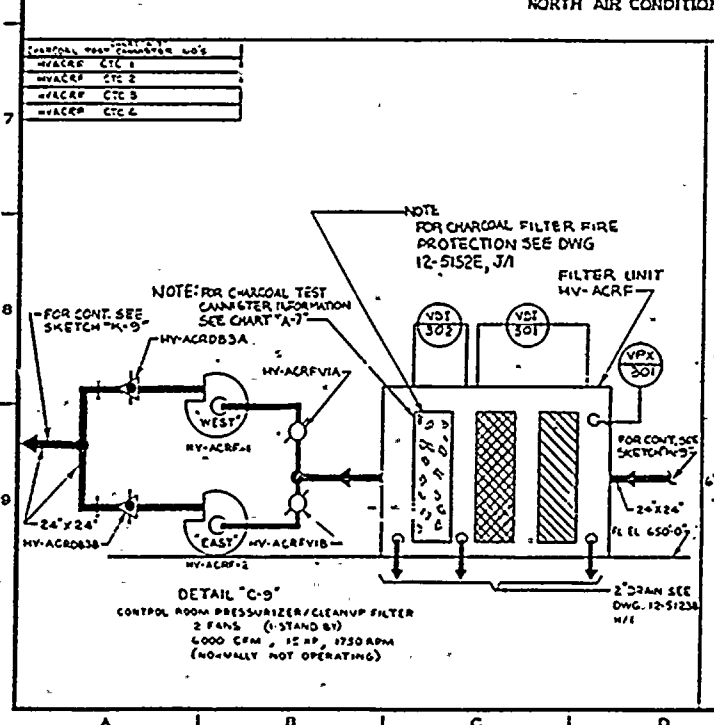
NORTH CONTROL ROOM A.C. WATER PUMP (PP-79)
75 GPM SOFT TDH
1 1/2 HP 3500 RPM
S.C. III
DETAIL "D-C"

NORTH AIR HANDLER PACKAGE (HV-ACRA-1)
15,000 CFM
10 H.P. 1750 RPM

SOUTH LIQUID CHILLER PACKAGE (HV-ACR-2)
30 H.P.
S.C. III

SOUTH CONTROL ROOM A.C. WATER PUMP (PP-82)
75 GPM SOFT TDH
1 1/2 HP 3500 RPM
S.C. III
DETAIL "K-C"

SOUTH AIR HANDLER PACKAGE (HV-ACRA-2)
15,000 CFM
10 H.P. 1750 RPM



NOT FOR D. G. COOK OPERATIONAL USE

GENERAL NOTES

1. FOR ESD, CLASS 3 W/VENT CONNECTIONS THE 151 DOWNCAST ELIMINATED AND ENCLOSED THE FIRST NORMALLY CLOSED VALVE.

2. FOR COOL CLASS 3 VENTS AND DRAINS THE 151 DOWNCAST ELIMINATED AND ENCLOSED THE FIRST NORMALLY CLOSED VALVE.

LEGEND

- AIR
- WATER
- - - REFRIGERANT

FOR VALVE INSTRUMENT, SAMPLING, PIPE MATERIAL AND OTHER SYMBOLS, NOT EXPLAINED ON THIS DWG., AND FOR MARK NO. CODES, SEE DWG. 12-5103 & 12-5104.

- - MANUAL VOLUME DAMPER
- - NORMALLY OPEN
- ⊖ - NORMALLY CLOSED
- ⊕ - MOTOR OPERATED
- ⊖ - VOLUME DAMPER
- ⊖ - BACK DRAFT DAMPER
- ⊖ - FIRE DAMPER
- ⊖ - CHLORINE DETECTOR SENSOR

ROUGHING FILTER
MEDIUM EFFICIENT FILTER
ABSOLUTE FILTER
CHARCOAL FILTER
CHILLED WATER COIL
ELECTRIC BLAST COIL HEATER 2 STAGE 15 KW EACH STAGE CONTROL OFF REFRIGERANT LINE TEMP. RATURE
CRTR RETURN AIR REGISTERS THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER IS "2" UNLESS OTHERWISE NOTED.

ALL ESD'S S.C.I. EXCEPT AS NOTED.

HAND OPERATED VALVE IDENTIFICATION NUMBERS

1. ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MCR) NUMBERS.

2. TAG NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:
TAG #1: 2-5149-003-W
APP: 2: 5 AS: 1251003-W

3. INSTRUMENT ROOT VALVE MARKINGS NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:
FOR SINGLE IMPULSE/STREAM V220W375V
FOR DOUBLE IMPULSE/STREAM V220W375V

FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG.

DATE	NO.	APPROVED
1-14-77	23	[Signature]

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

THIS DRAWING IS THE PROPERTY OF THE AMERICAN ELECTRIC POWER SERVICE CORP. AND IS LOANED TO YOU FOR YOUR INFORMATION ONLY. IT IS NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF THE A.E.P. SERVICE CORP. AND IS TO BE RETURNED TO THE SOURCE.

INDIANA & MICHIGAN ELECTRIC CO.
DONALD C. COOK
NUCLEAR PLANT

BRIDGMAN MICHIGAN

FLOW DIAGRAM CONTROL ROOM VENTILATION UNIT NO 2

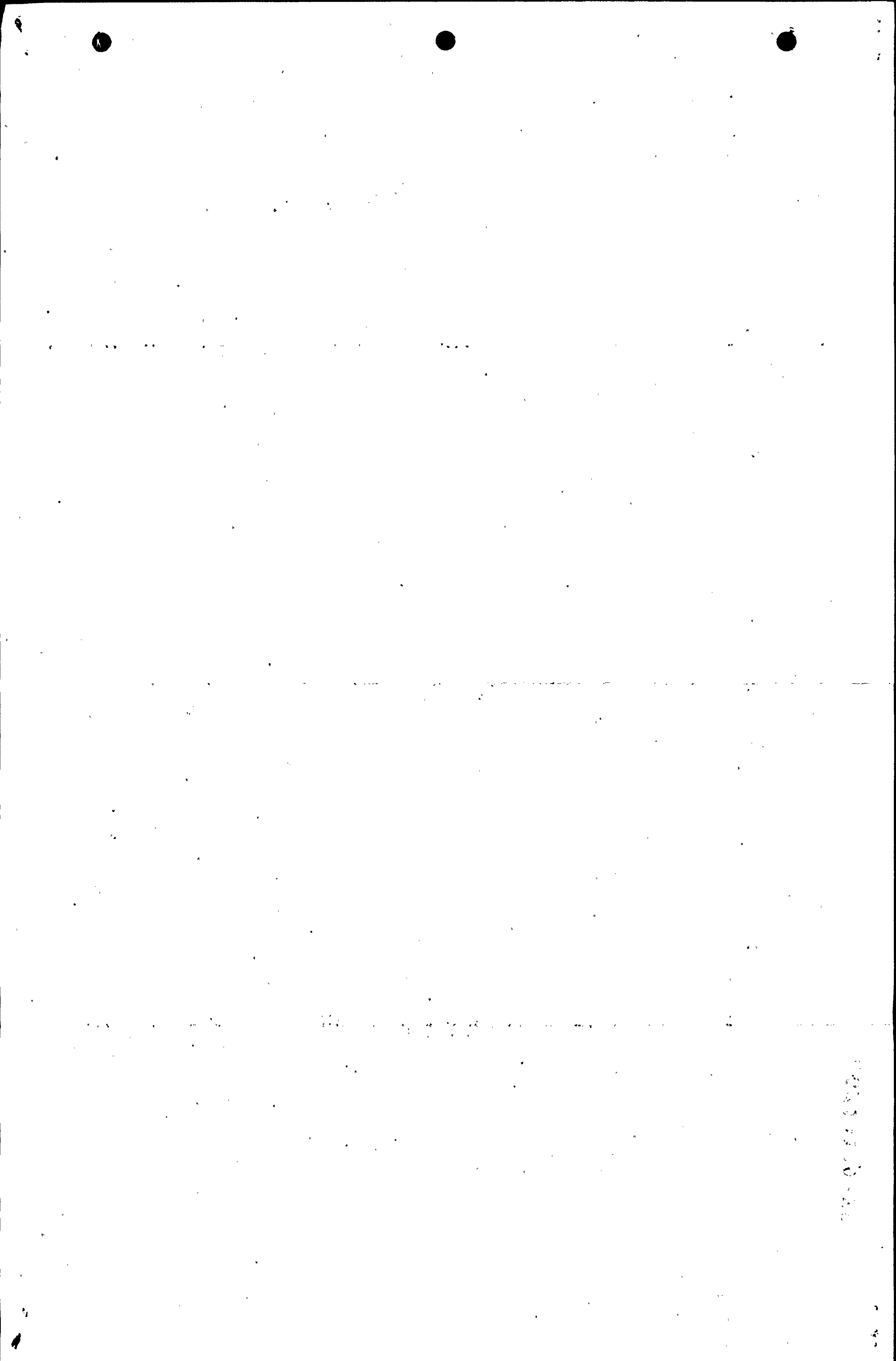
DWG. NO. 2-5149-23

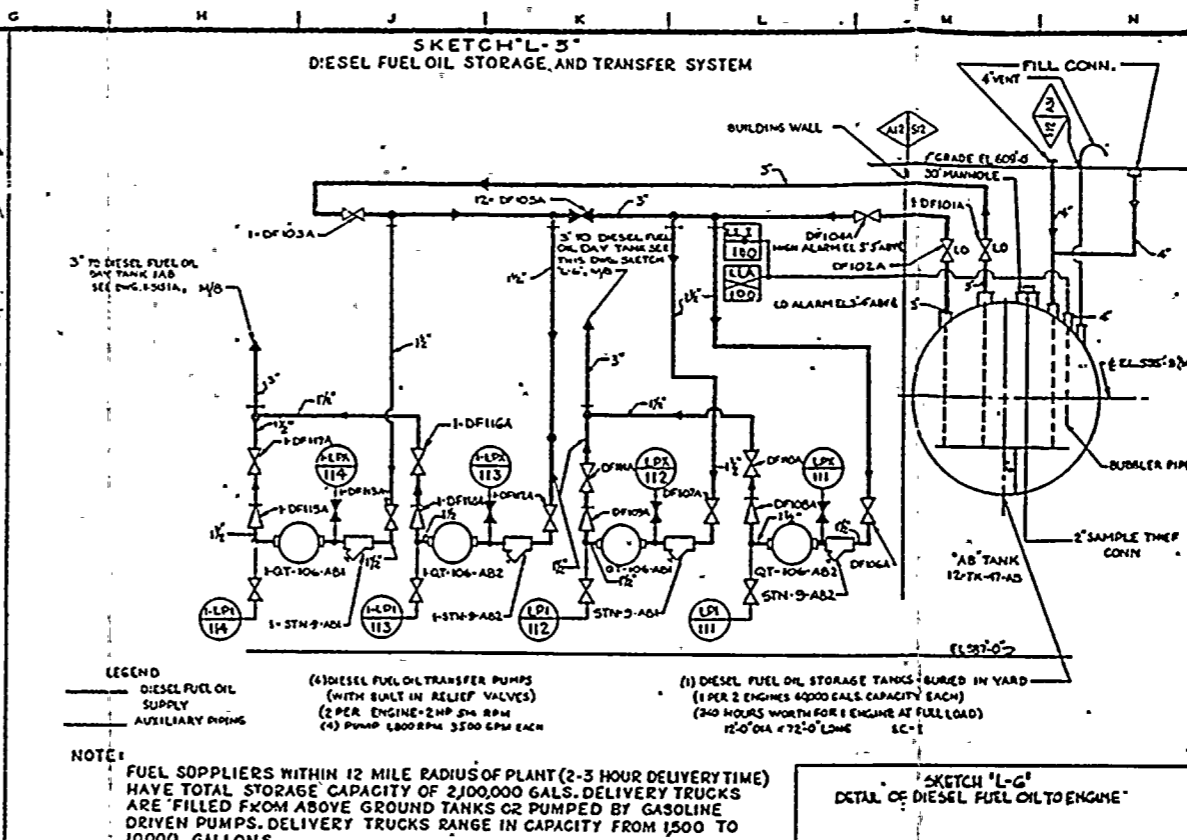
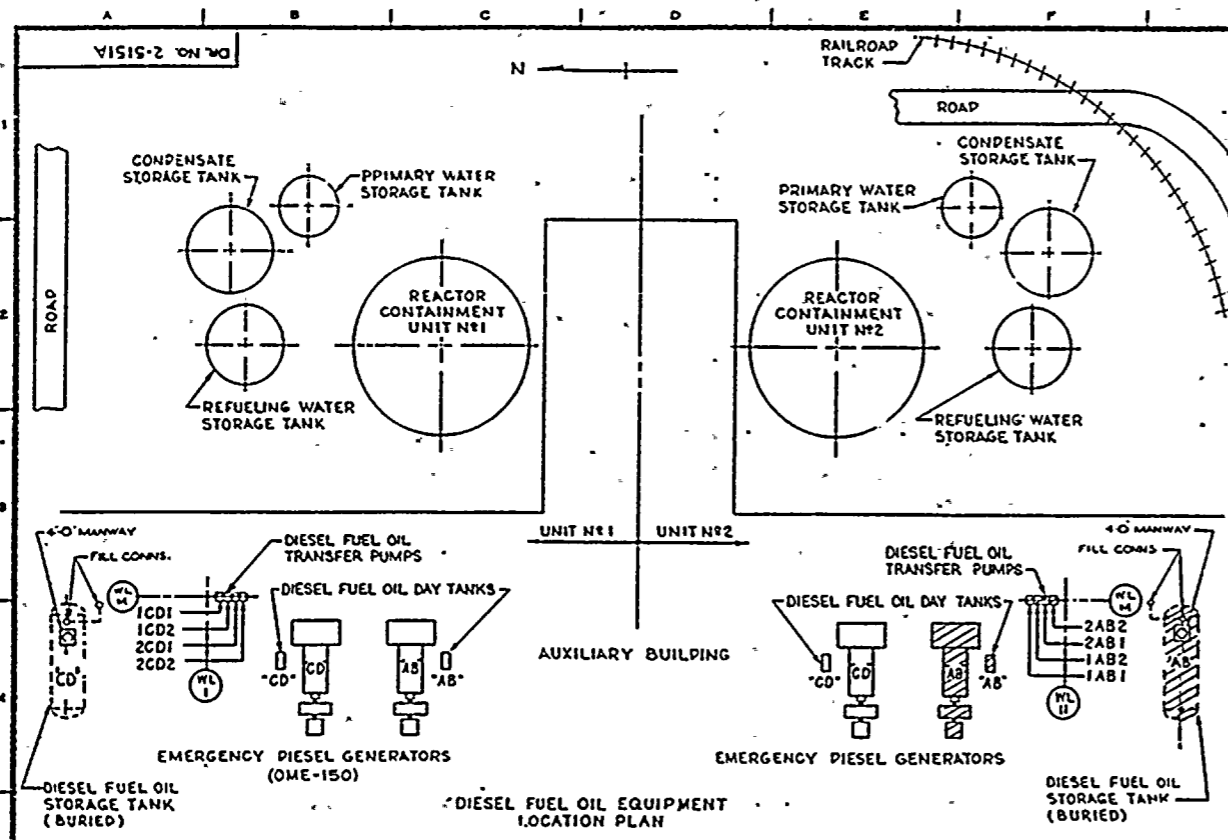
AMERICAN ELECTRIC POWER SERVICE CORP.
2 BROADWAY
NEW YORK

TI APERTURE CARD

Also Available On Aperture Card

8710130278-24





GENERAL NOTES

LEGEND
AS NOTED

SYMBOLS
BY WORTHINGTON

PIPING AND VALVES FURNISHED BY ARE NOTED.

FOR VALVE, INSTRUMENT, SAMPLING, PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG., AND FOR MARK NUMBER CODES, SEE DWGS. 12-5103 & 12-5104.

ALL DIESEL GENERATORS, INCLUDING THEIR AUXILIARIES, STORAGE TANKS AND PIPING ARE SEISMIC CLASS 1 EXCEPT AS NOTED.

NOTE A, HYS ENCIRCLED LETTERS ARE SHOWN FOR ORIENTATION OF VALVE IN PIPING. THESE LETTERS REFLECT SIMILAR MARKINGS ON VALVE BODY.

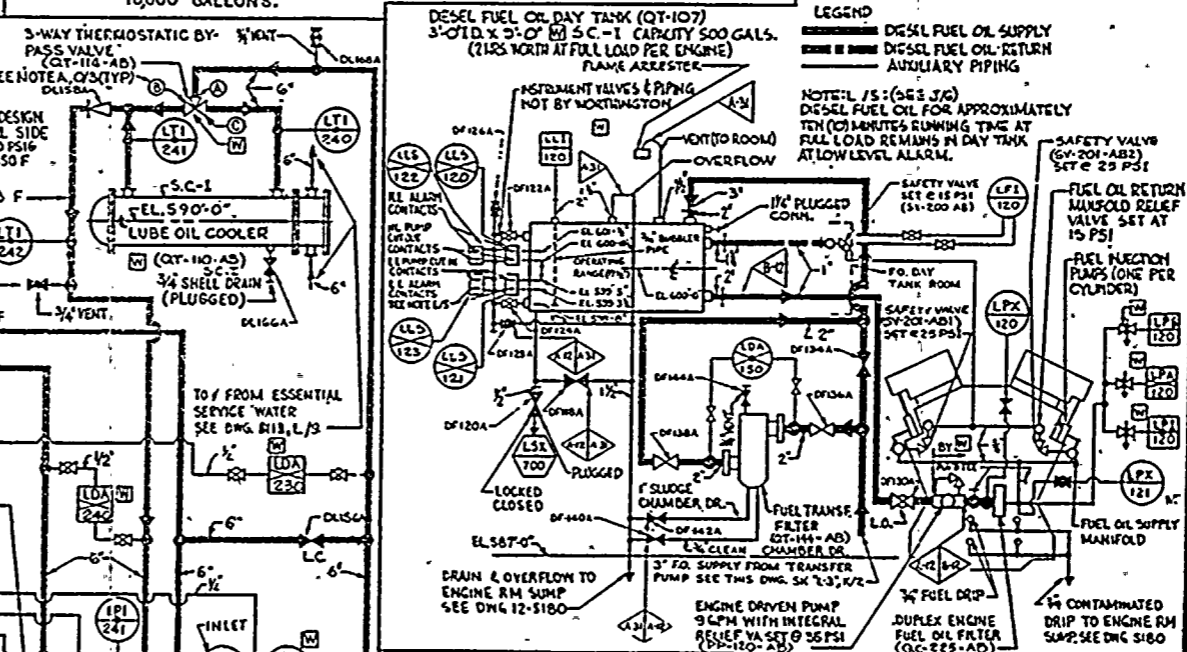
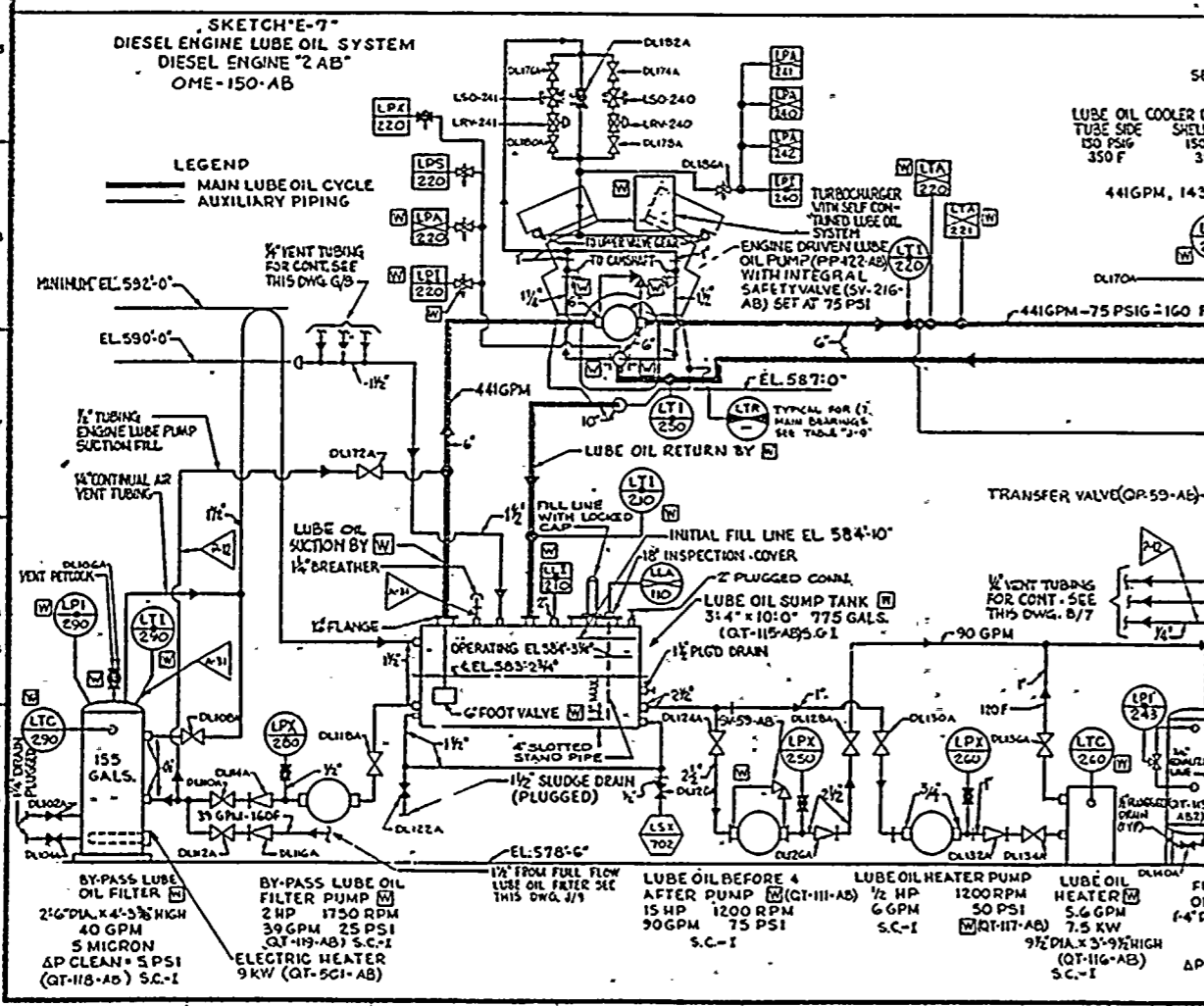
ALL PIPING TO BE CLASS 1 EXCEPT AS NOTED.

NOTE: THIS DWG. MADE UNIFORM FOR UNIT #2 AND SUPERSEDES 2-5102 REV. 02.

NOTE: THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER IS "2" UNLESS OTHERWISE NOTED.

NOTE: THIS DWG. MADE UNIFORM FOR UNIT #2 AND SUPERSEDES 2-5102 REV. 02.

NOTE: THIS DWG. MADE UNIFORM FOR UNIT #2 AND SUPERSEDES 2-5102 REV. 02.



GENERAL NOTES

LEGEND
DIESEL FUEL OIL SUPPLY
DIESEL FUEL OIL RETURN
AUXILIARY PIPING

NOTE: 1/5 (SEE JG) DIESEL FUEL OIL FOR APPROXIMATELY 10 MINUTES RUNNING TIME AT FULL LOAD REMAINS IN DAY TANK AT LOW LEVEL ALARM.

NOTE: THIS DWG. MADE UNIFORM FOR UNIT #2 AND SUPERSEDES 2-5102 REV. 02.

NOTE: THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER IS "2" UNLESS OTHERWISE NOTED.

NOTE: THIS DWG. MADE UNIFORM FOR UNIT #2 AND SUPERSEDES 2-5102 REV. 02.

NOTE: THIS DWG. MADE UNIFORM FOR UNIT #2 AND SUPERSEDES 2-5102 REV. 02.

TABLE J-9
MAIN BEARING TEMPERATURE INSTRUMENTS

MAIN ENG. NO.	LTR.
1	201
2	202
3	203
4	204
5	205
6	206
7	207

"NOT FOR D. C. COOK OPERATIONAL USE"

DATE: 1-6-87
BY: [Signature]
CHECKED: [Signature]
APPROVED: [Signature]

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING.

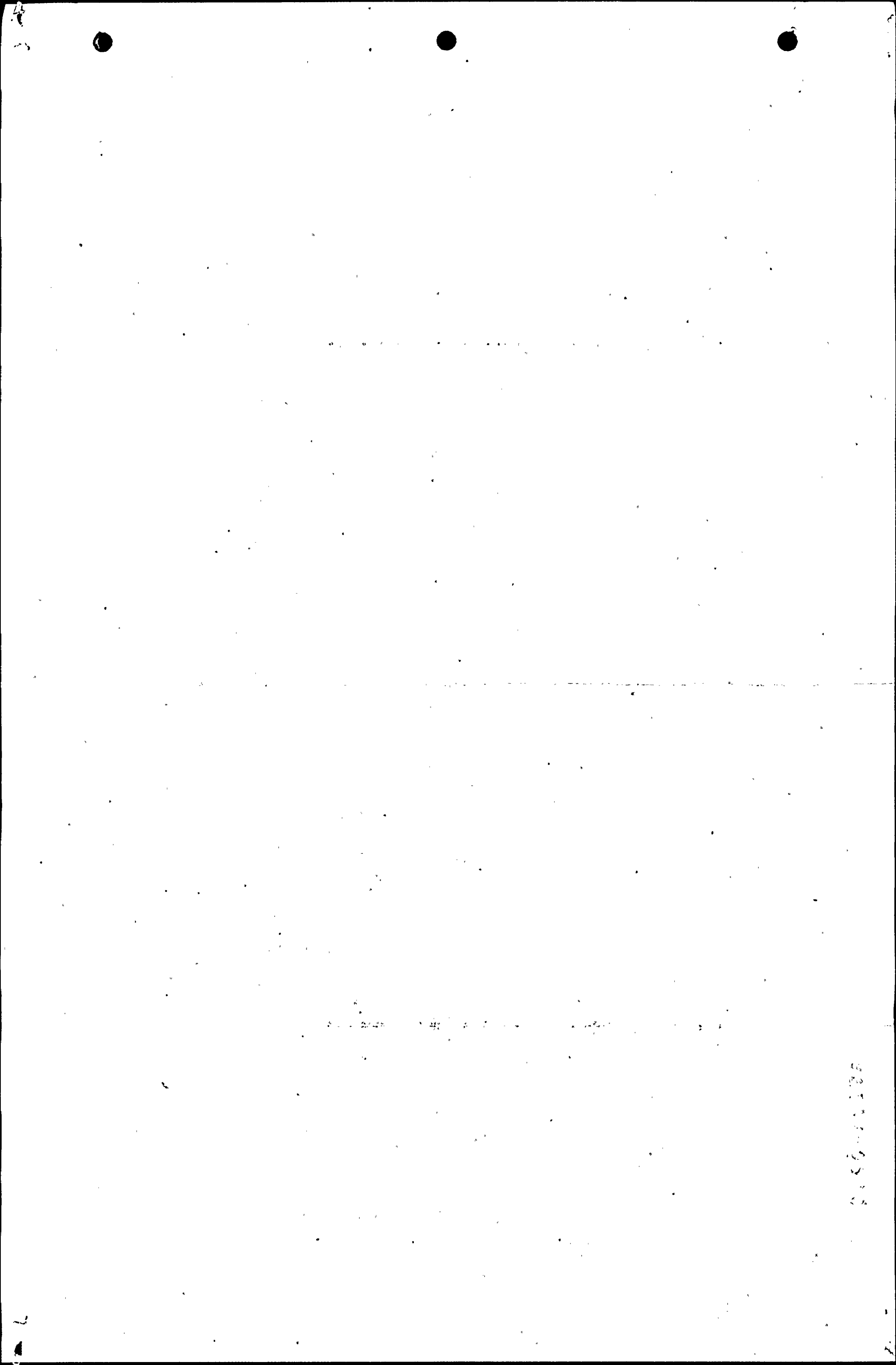
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AMERICAN ELECTRIC POWER SERVICE COMPANY
2 BROADWAY, NEW YORK, N.Y.

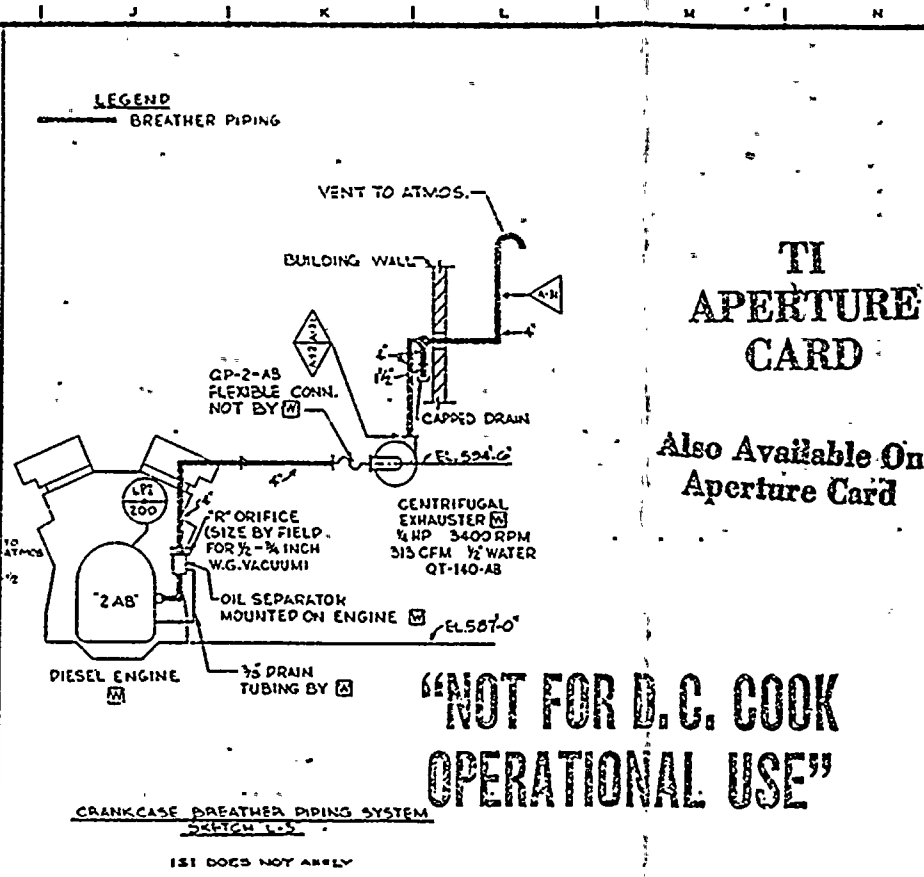
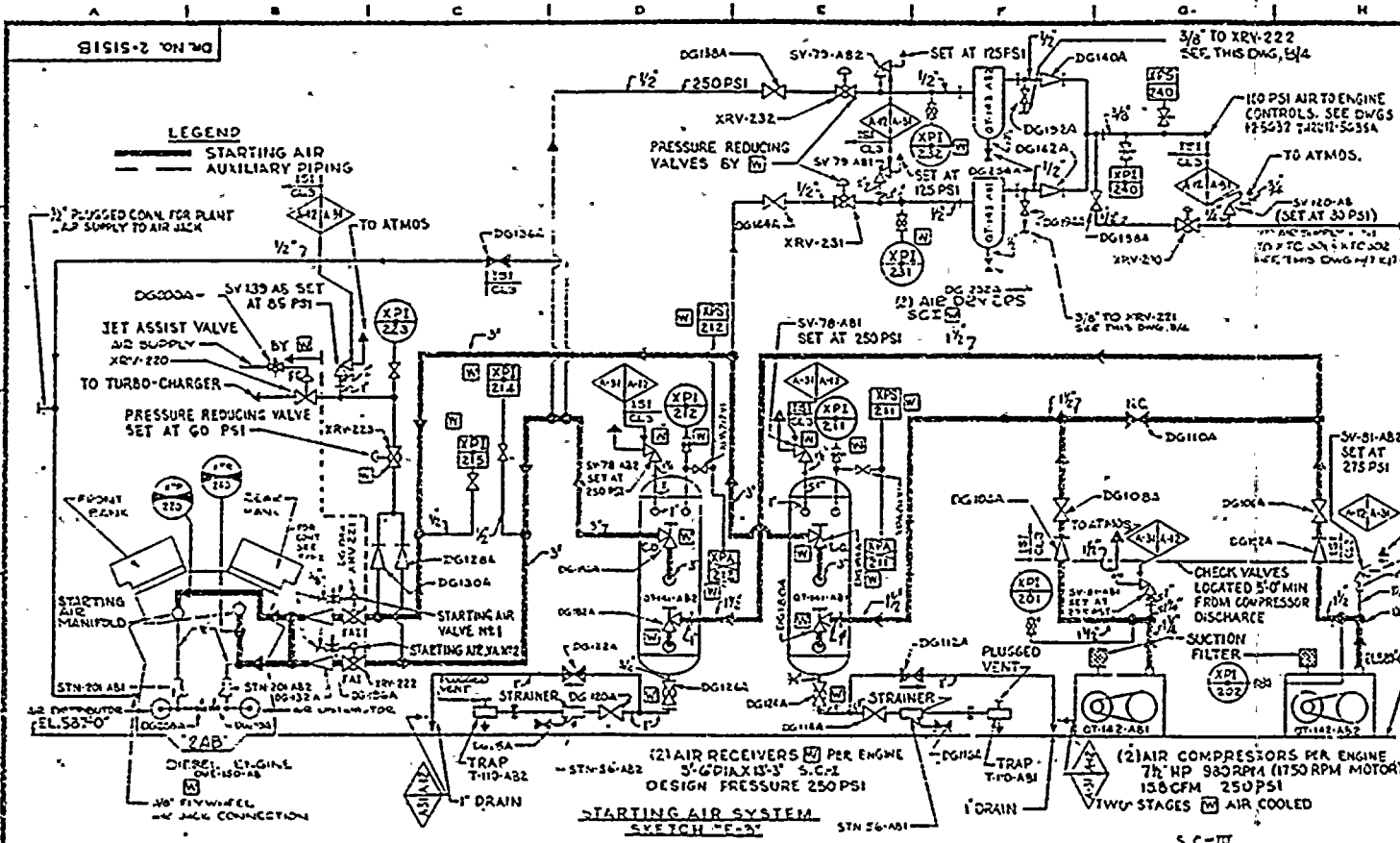
TI APERTURE CARD

Also Available On Aperture Card

8710130278-25



23



GENERAL NOTES

LEGEND
AS NOTED

SYMBOLS
BY WORTHINGTON

* PIPING AND VALVES FURNISHED BY [] ARE NOTED.

FOR VALVE, INSTRUMENT, SAMPLING, PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG., AND FOR MARK-NUMBER CODES SEE DWG. 12-5103 & 12-5104. THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER IS "2" UNLESS OTHERWISE NOTED.

NOTE: 'A', 'E', 'S' ENCLOSED LETTERS ARE SHOWN FOR ORIENTATION OF VALVE IN PIPING. THESE LETTERS REFLECT SIMILAR MARKINGS ON VALVE BODY.

NOTE: "F.A.I." INDICATES (FAILS AS IS)

ALL DIESEL-GENERATORS INCLUDING THEIR AUXILIARIES, STORAGE TANKS & PIPING ARE SEISMIC CLASS I EXCEPT AS NOTED.

ALL PIPING TO BE CLASS [] OR [] FOR EMBEDDED, EXCEPT AS NOTED.

CLASS NOTES
ALL PIPING IS EQUIPPED TO BE 151 CODE CLASS 2 EXCEPT AS NOTED. FOR CODE CLASS 2, REFER TO DWG. 12-5103 & 12-5104. THE 151 REQUIREMENT FOR CLASS 2 IS TO BE MET BY THE USE OF A 151 BONDING DEVICE. THE 151 BONDING DEVICE IS TO BE INSTALLED AT THE POINT WHERE THE PIPE ENDS OR WHERE THE PIPE IS CONNECTED TO ANOTHER PIPE. THE PIPE SHOULD BE CLOSED WHEN THE 151 BONDING DEVICE IS INSTALLED.

MANO OPERATED VALVE IDENTIFICATION NUMBERS

1. ONLY UNIQUE VALVE NUMBERS APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MCR) NUMBERS.

2. TAG NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:
TAG NO. 2-NS-1003-W APPEARS AS: NS1003W

3. INSTRUMENT ROOT VALVE MARKINGS NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:
FOR SINGLE IMPULSE: VCCDINSTG
FOR DOUBLE IMPULSE: VCCDINSTG2

FOR MICROFILM STATUS SET REVISION RECORD FOR THIS DWG.

DATE: 11-3-62
NO. 27
APPROVED: [Signature]

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING.

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INDIANA & MICHIGAN ELECTRIC CO.
DONALD C. COOK
NUCLEAR PLANT

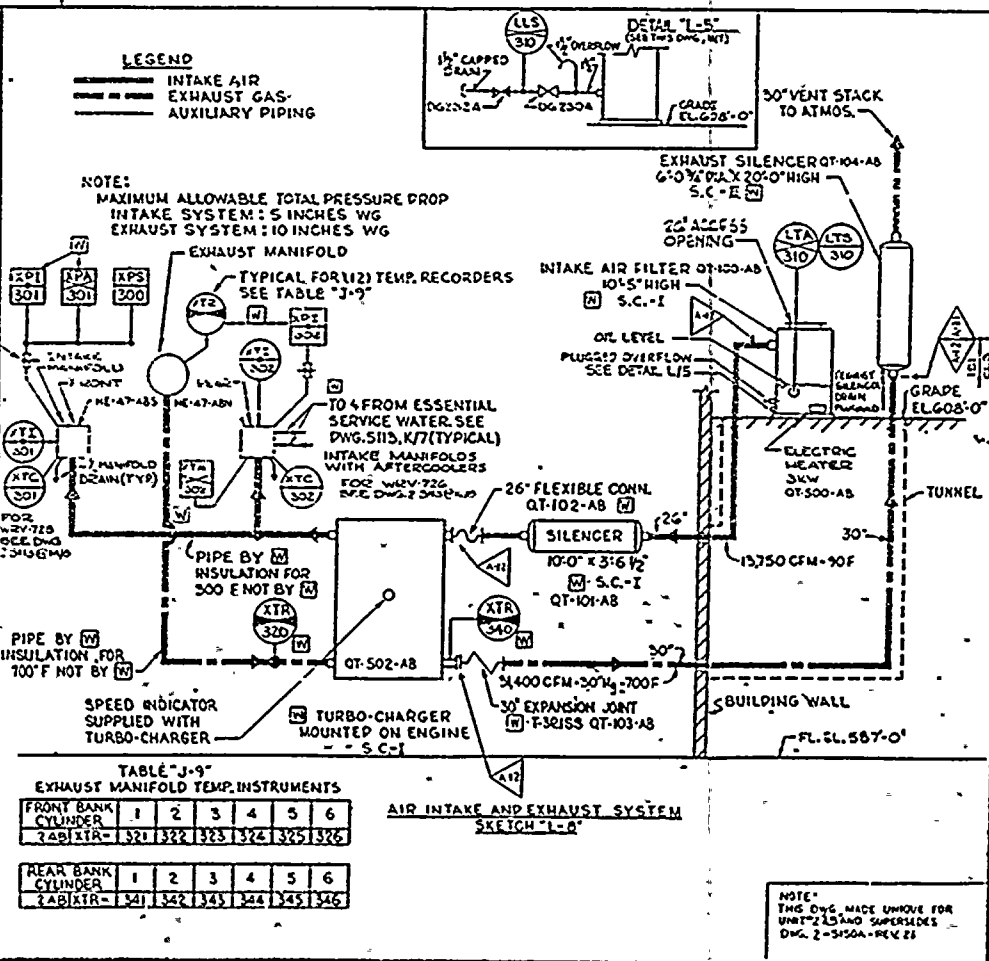
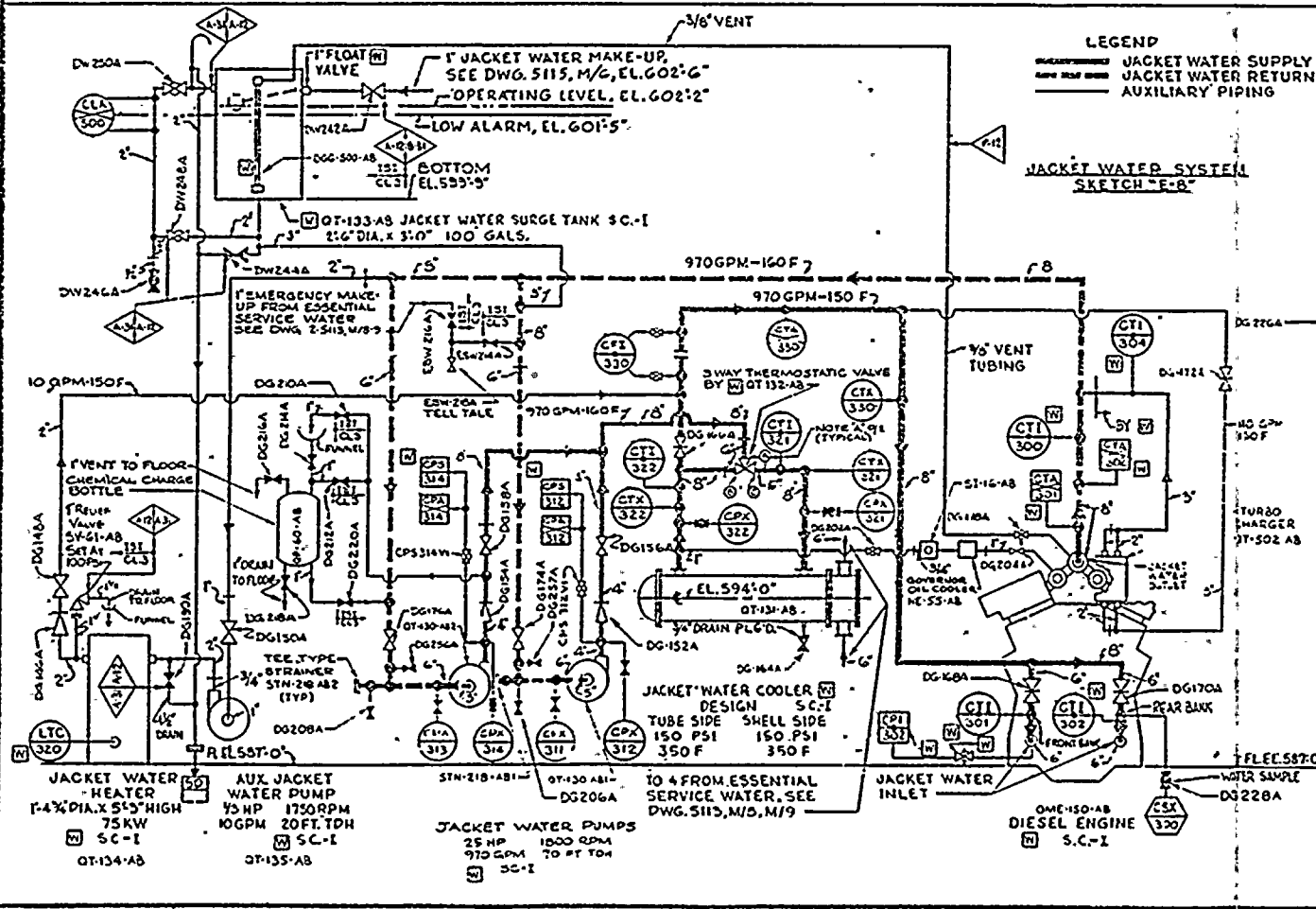
FLOW DIAGRAM EMERGENCY DIESEL GENERATOR 'AB'

UNIT 212

DR. NO. 2-5151B-27

DATE: 11-3-62
NO. 27
APPROVED: [Signature]

AMERICAN ELECTRIC POWER SERVICE CORP.
2 BROADWAY
NEW YORK



LEGEND
INTAKE AIR
EXHAUST GAS
AUXILIARY PIPING

NOTE:
MAXIMUM ALLOWABLE TOTAL PRESSURE DROP
INTAKE SYSTEM: 5 INCHES WG
EXHAUST SYSTEM: 10 INCHES WG

EXHAUST MANIFOLD
TYPICAL FOR (12) TEMP. RECORDERS
SEE TABLE "J-9"

INTAKE AIR FILTER QT-103-AB
10'5" HIGH
S.C.-I

OIL LEVEL
PLUGGED OVERFLOW
SEE DETAIL L15

EXHAUST SILENCER QT-104-AB
6'-0" DIA. X 20'-0" HIGH
S.C.-E

26" ACCESS OPENING

26" FLEXIBLE CONN. QT-102-AB

PIPE BY [] INSULATION FOR 300 F NOT BY []

PIPE BY [] INSULATION FOR 100' F NOT BY []

SPEED INDICATOR SUPPLIED WITH TURBO-CHARGER

TURBO-CHARGER MOUNTED ON ENGINE - S.C.-I

15,750 CFM - 90F

34,400 CFM - 20 1/2 - 700F

30" EXPANSION JOINT QT-103-AB

FL. EL. 557'-0"

TABLE "J-9"
EXHAUST MANIFOLD TEMP. INSTRUMENTS

FRONT BANK CYLINDER	1	2	3	4	5	6
2-AB1-TR	321	322	323	324	325	326
REAR BANK CYLINDER	1	2	3	4	5	6
2-AB1-TR	341	342	343	344	345	346

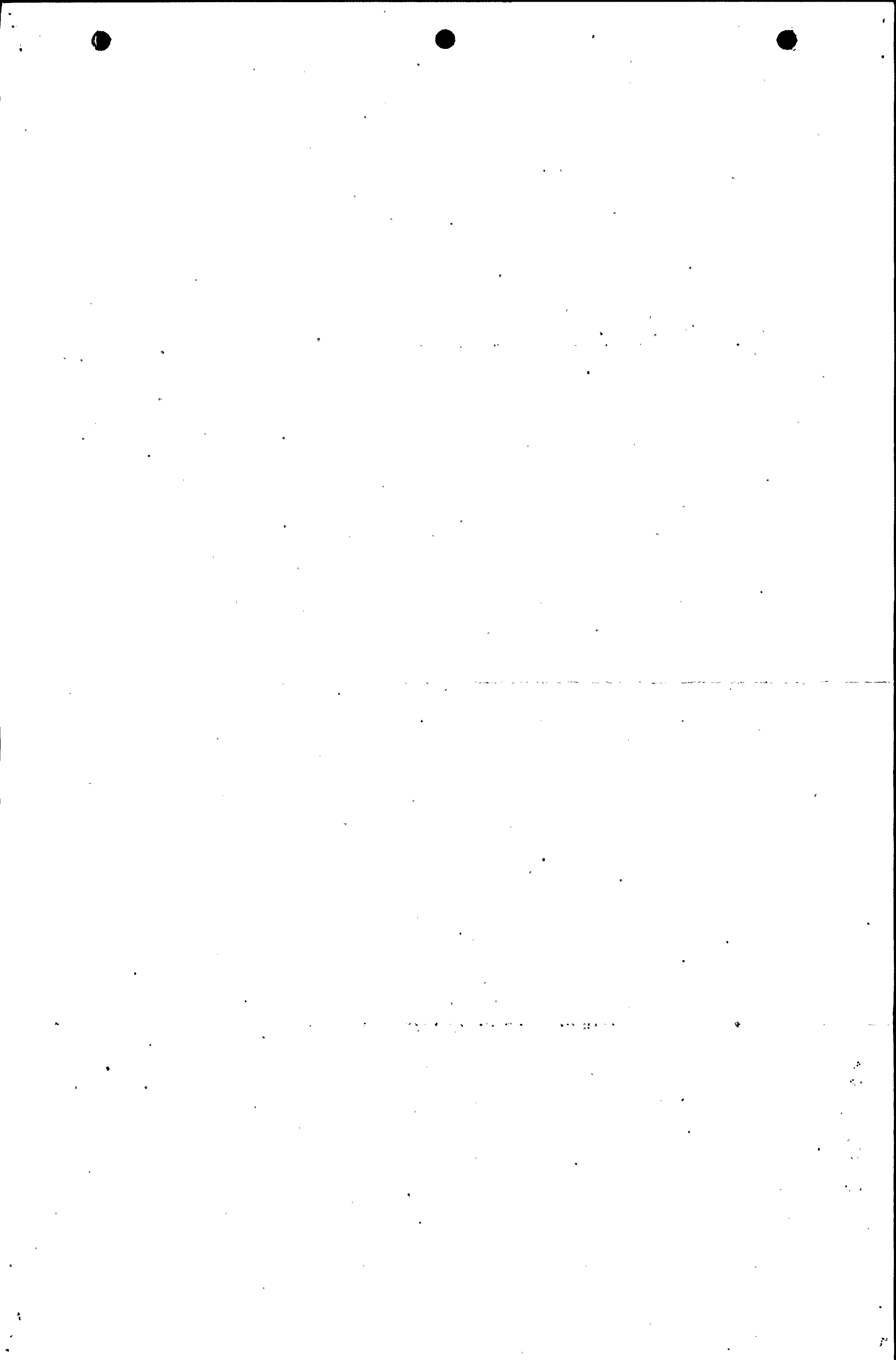
AIR INTAKE AND EXHAUST SYSTEM SKETCH L-8

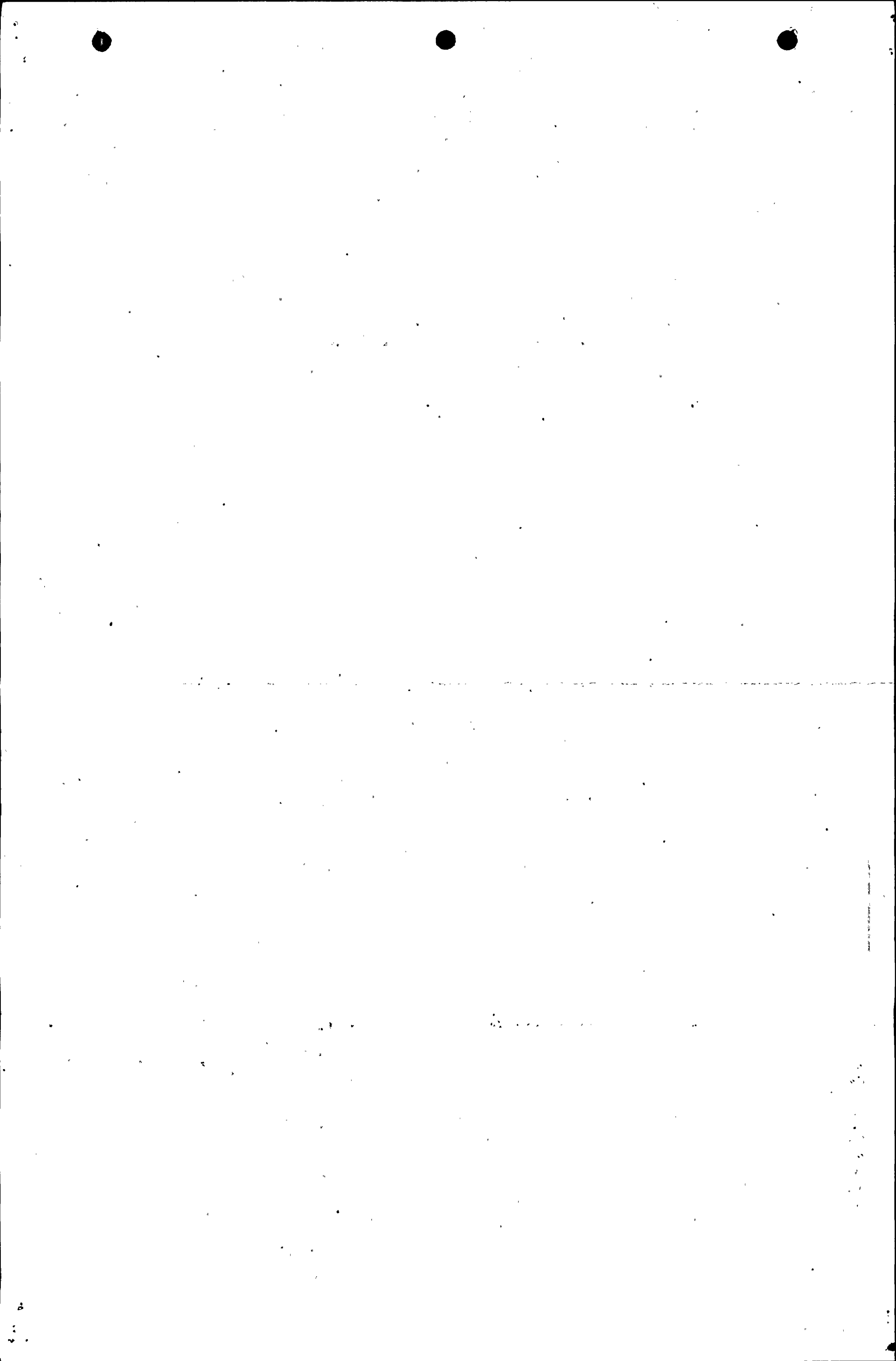
NOTE:
THIS DWG. MADE UNQUOTE FOR UNIT 212 AND SUPERSEDES DWG. 2-5150A-REV 21

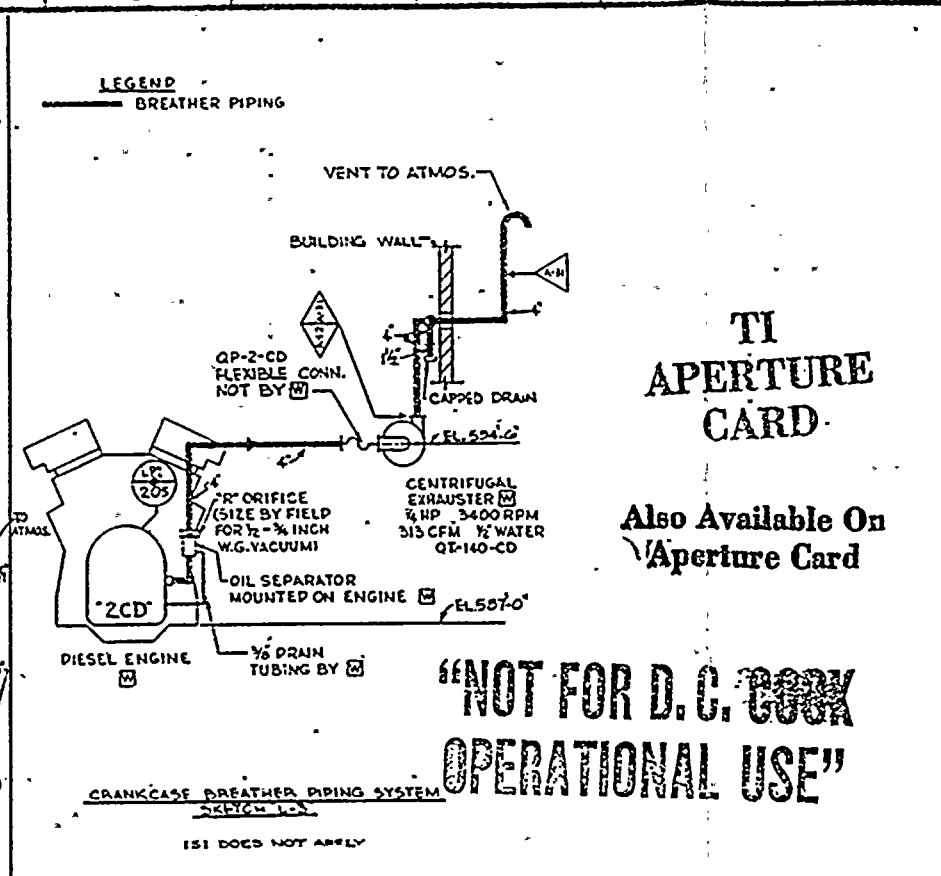
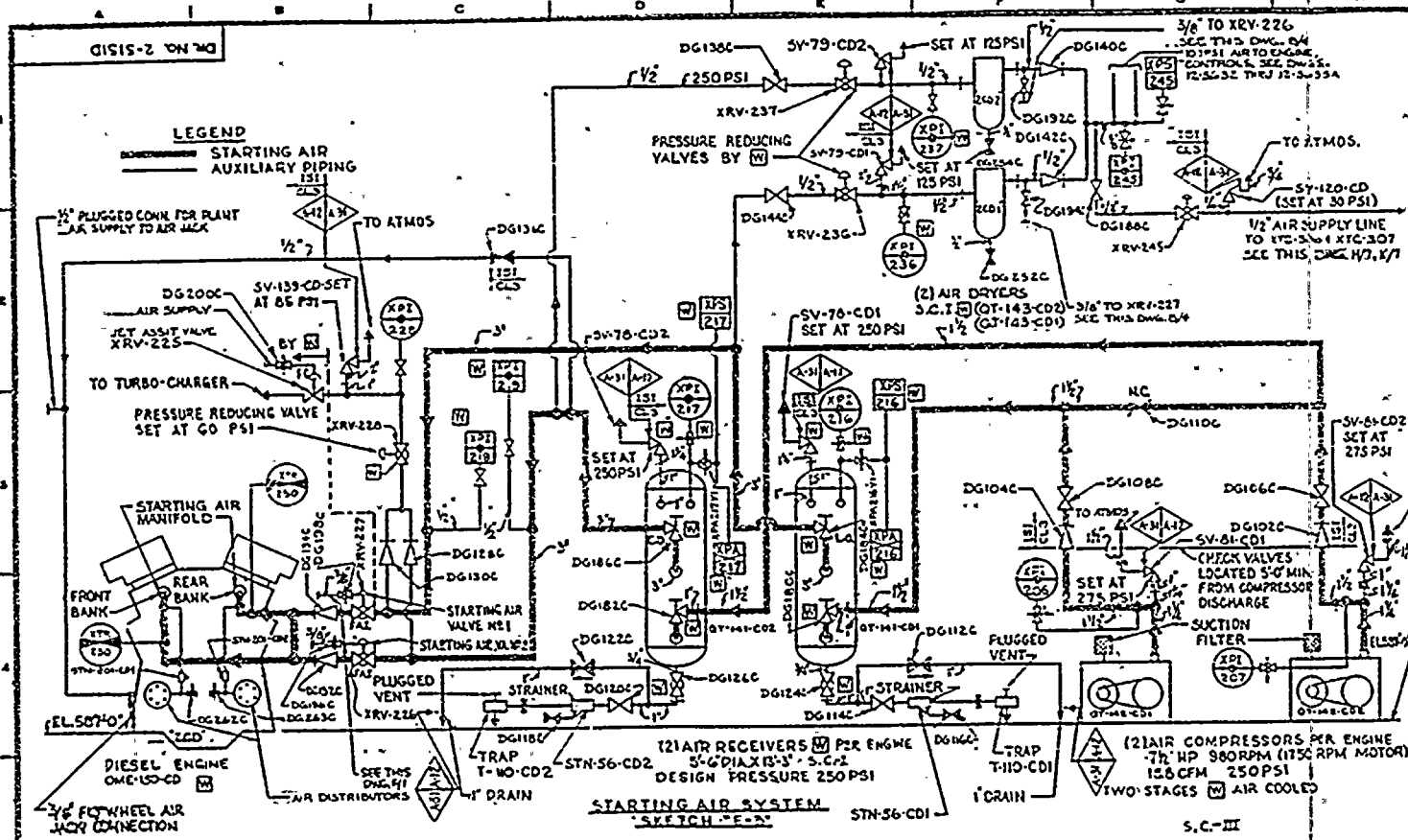
TI APERTURE CARD

Also Available On Aperture Card

"NOT FOR D. C. COOK OPERATIONAL USE"







GENERAL NOTES

LEGEND
AS NOTED

SYMBOLS
BY WORTHINGTON

PIPING AND VALVES FURNISHED BY ARE NOTED.

FOR VALVE, INSTRUMENT, SAMPLING, PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG., AND FOR MARK NUMBER CODES SEE DWG. 5104

NOTE A/B
ENCIRCLED LETTERS ARE SHOWN FOR ORIENTATION OF VALVE IN PIPING. THESE LETTERS REFLECT SIMILAR MARKINGS ON VALVE BODY

NOTE 1
THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER IS "UN" UNLESS OTHERWISE NOTED.

NOTE 2
F.A.Z. INDICATES VALVE FAILURE POSITION - "FAIL AS IS"

ALL DIESEL-GENERATORS INCLUDING THEIR AUXILIARIES, STORAGE TANKS & PIPING ARE SEISMIC CLASS I EXCEPT AS NOTED.

ALL PIPING TO BE CLASS I OR S-I FOR EMBEDDED, EXCEPT AS NOTED.

COOL CLASS NOTES
ALL INSTRUMENTS TO BE CLASS I OR S-I UNLESS OTHERWISE NOTED. THESE INSTRUMENTS SHALL BE CLASS I OR S-I UNLESS OTHERWISE NOTED. THESE INSTRUMENTS SHALL BE CLASS I OR S-I UNLESS OTHERWISE NOTED.

HAND OPERATED VALVE IDENTIFICATION NUMBERS

- ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (EQR) NUMBERS.
- "TAG" NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:
TAG NO. 2-5104-100-W APPEARS AS: 107100W
- INSTRUMENT ROOT VALUE MARKING IS NOT SHOWN ON DRAWING EXCEPT VALVE IDENTIFICATION LIST (EQR) SERVED BY ACCESS TO INSTRUMENT NUMBER. FOR DOUBLE ENDINGS, VALVE IDENTIFICATION LIST (EQR) SERVED BY ACCESS TO INSTRUMENT NUMBER.

FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG.

DATE	NO.	BY
11-27	27	...

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

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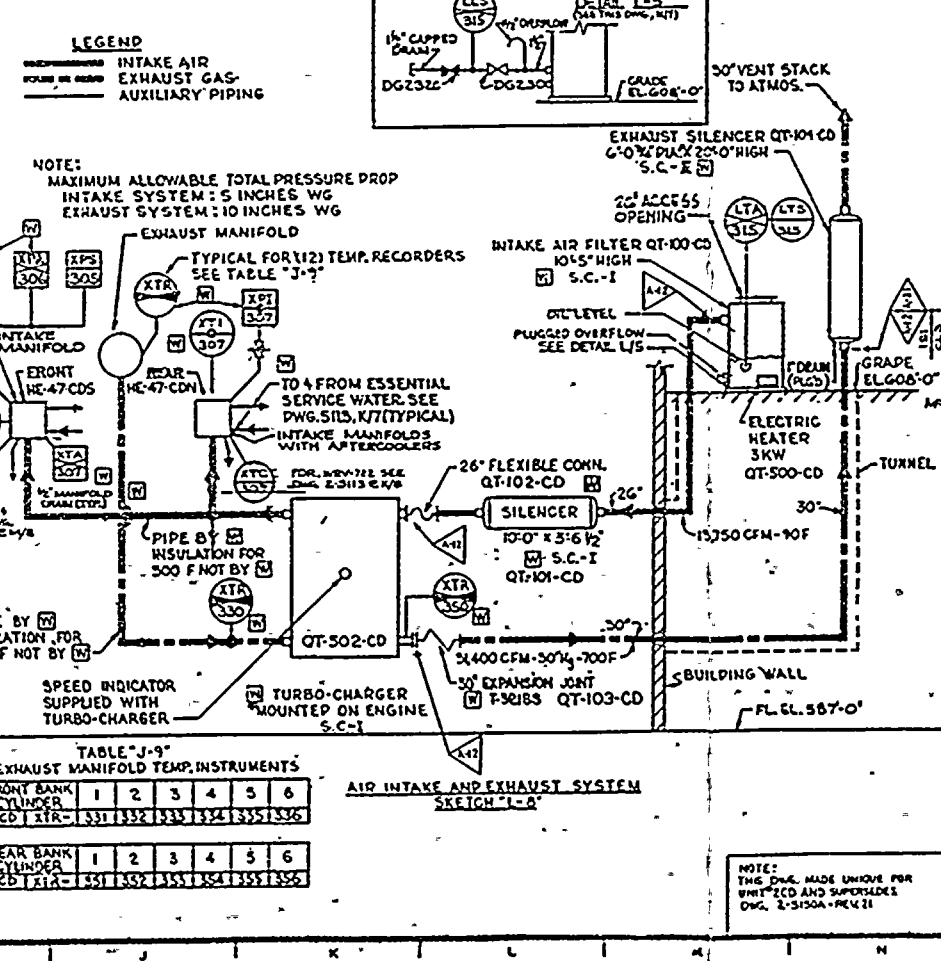
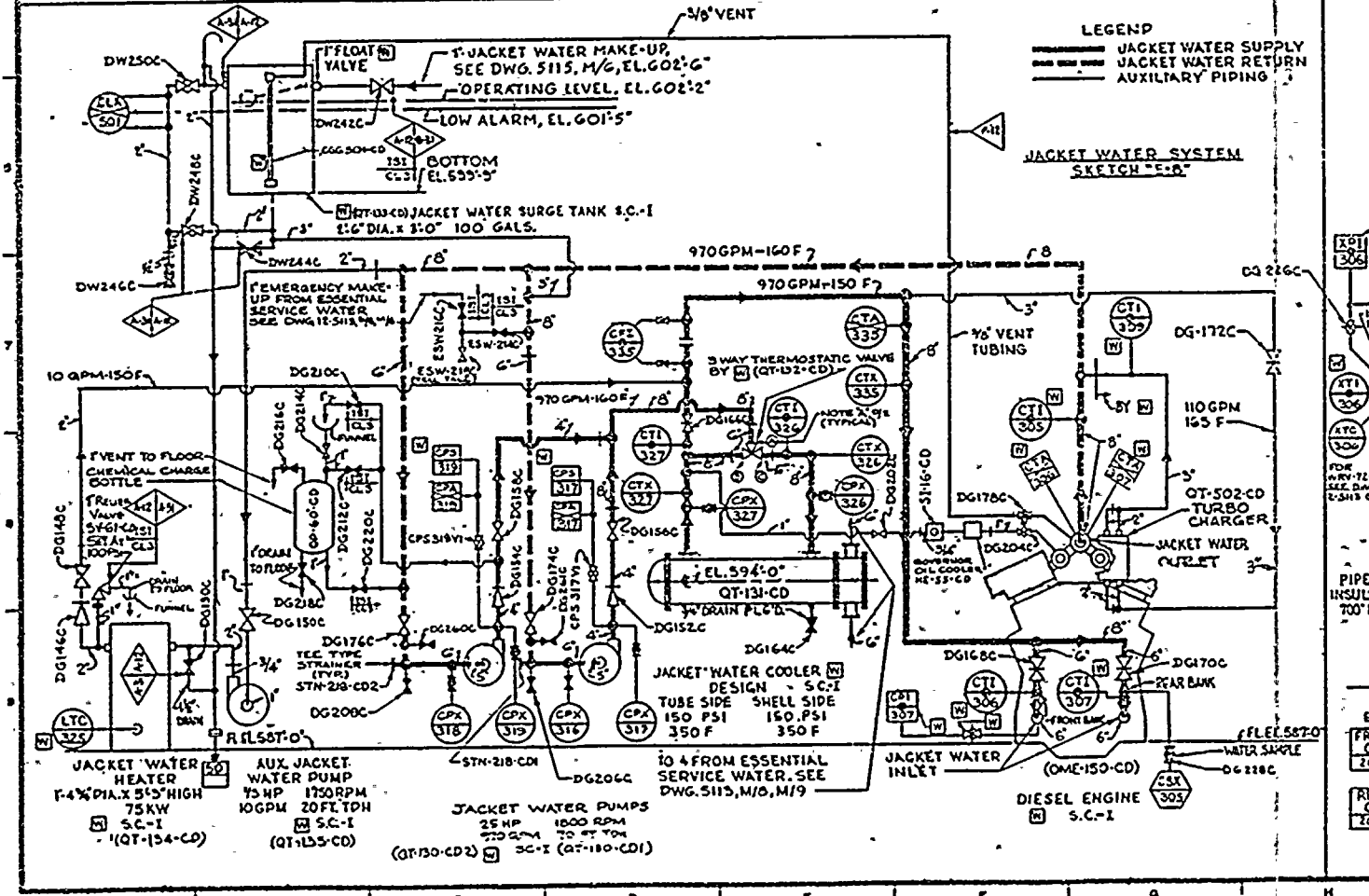
INDIANA & MICHIGAN ELECTRIC CO.
DONALD C. COOK
NUCLEAR PLANT

FLOW DIAGRAM EMERGENCY DIESEL GENERATOR CD

UNIT NO. 2-5151D-27

DATE	NO.	BY
11-27	27	...

NOTE: THIS DWG. MADE UNIQUE FOR UNIT 2CD AND SUPERSEDES DWG. 2-5104-100-21



LEGEND
INTAKE AIR
EXHAUST GAS
AUXILIARY PIPING

NOTE:
MAXIMUM ALLOWABLE TOTAL PRESSURE DROP
INTAKE SYSTEM: 5 INCHES WG
EXHAUST SYSTEM: 10 INCHES WG

EXHAUST SILENCER QT-101-CD
6'-0" DIA. X 20'-0" HIGH
S.C.-I

26" ACCESS OPENING

INTAKE AIR FILTER QT-100-CD
10'-5" HIGH
S.C.-I

EXHAUST MANIFOLD

TO 4 FROM ESSENTIAL SERVICE WATER. SEE DWG. 5115, K/7 (TYPICAL)

INTAKE MANIFOLDS WITH AFTERCOOLERS

FOR NEW 722 SEE DWG. 2-5113 K/8

PIPE BY INSULATION FOR 300 F NOT BY

PIPE BY INSULATION FOR 700 F NOT BY

SPEED INDICATOR SUPPLIED WITH TURBO-CHARGER

TURBO-CHARGER MOUNTED ON ENGINE S.C.-I

26" FLEXIBLE CONN. QT-102-CD
10'-0" X 5'-6 1/2"
S.C.-I

SILENCER QT-101-CD

3400 CFM-30 1/4-700F

30" EXPANSION JOINT P30183 QT-103-CD

50' VENT STACK TO ATMOS.

GRADE EL. 606'-0"

ELECTRIC HEATER 3KW QT-500-CD

TUNNEL

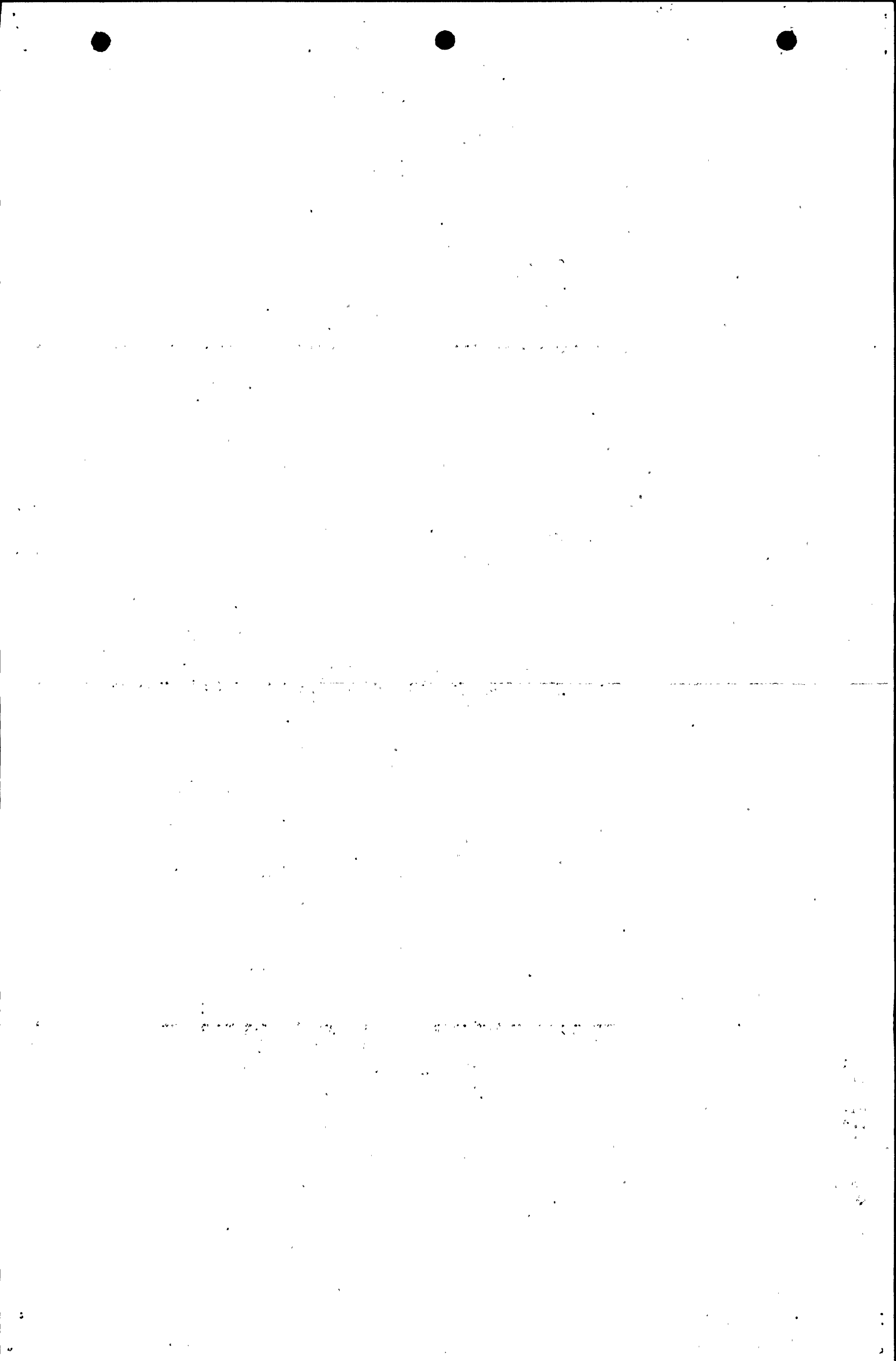
FL. EL. 587'-0"

TABLE "J-9"
EXHAUST MANIFOLD TEMP. INSTRUMENTS

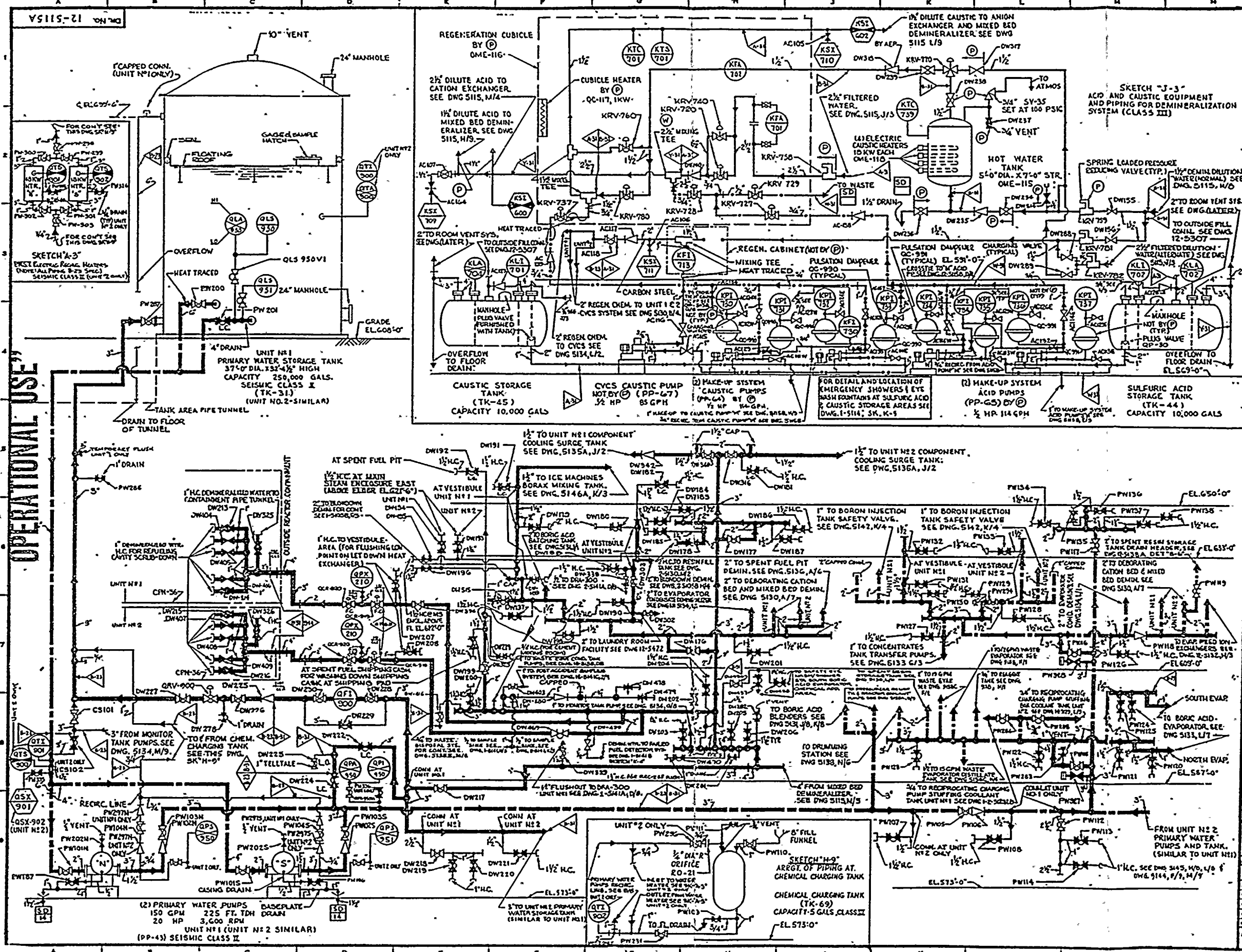
FRONT BANK CYLINDER	1	2	3	4	5	6
2CD I STR	331	332	333	334	335	336

REAR BANK CYLINDER	1	2	3	4	5	6
2CD I STR	331	332	333	334	335	336

NOTE: THIS DWG. MADE UNIQUE FOR UNIT 2CD AND SUPERSEDES DWG. 2-5104-100-21



"NOT FOR D.C. COOK"
OPERATIONAL USE



GENERAL NOTES

LEGEND

- MAKE-UP WATER
- PRIMARY WATER
- REGEN. PIPING
- CONC. ACID
- CONC. CAUSTIC
- AUXILIARY PIPING

SYMBOLS

⊕ PERMUTIT

H.C. HOSE CONNECTIONS FOR VALVE, INSTRUMENT SAMPLING PIPE MATERIAL, AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG. AND FOR MARK NUMBER CODES, SEE DWG. 510-4.

EQUIPMENT SEISMIC CLASS AS NOTED

THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION IS 12-5115-41 UNLESS OTHERWISE NOTED.

HAND OPERATED VALVE IDENTIFICATION NUMBERS

- ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MCR) NUMBERS.
- TAG NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:
TAG NO: 2-NB-1005-W APPEARS AS: 10N1005W
- INSTRUMENT ROOT VALVE MARKS NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:
FOR SINGLE IMPULSE: V
FOR DOUBLE IMPULSE: V2
FOR CONTINUOUS: VCONT

DATE	REV.	APPROVED
12-2-56	41	

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING.

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INDIANA & MICHIGAN ELECTRIC CO.
DONALD C. COOK
NUCLEAR PLANT

FLOW DIAGRAM MAKE-UP WATER & PRIMARY WATER SYSTEMS UNIT NO. 1 & 2

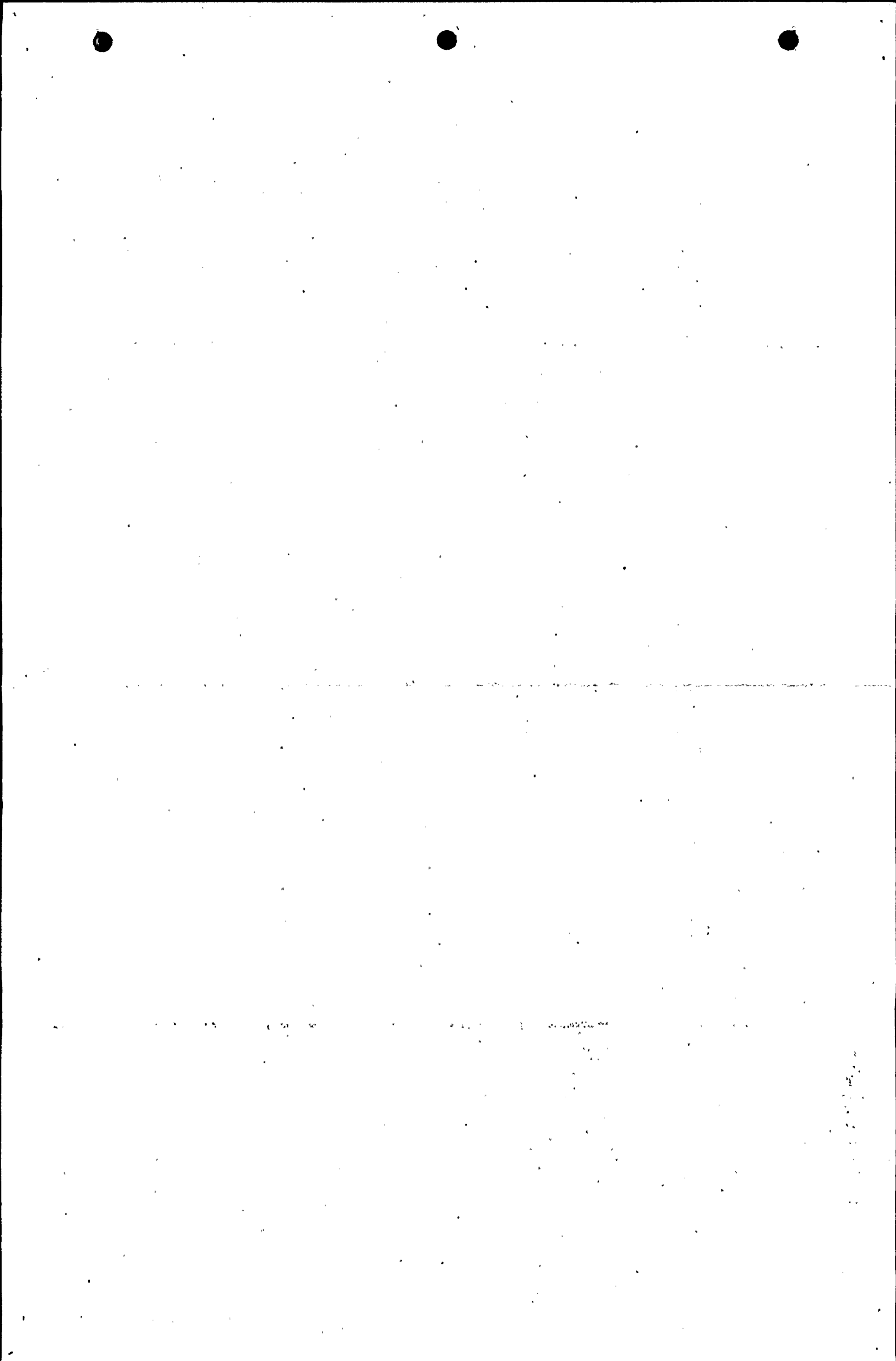
EXCEPTIONS ARE NOTED

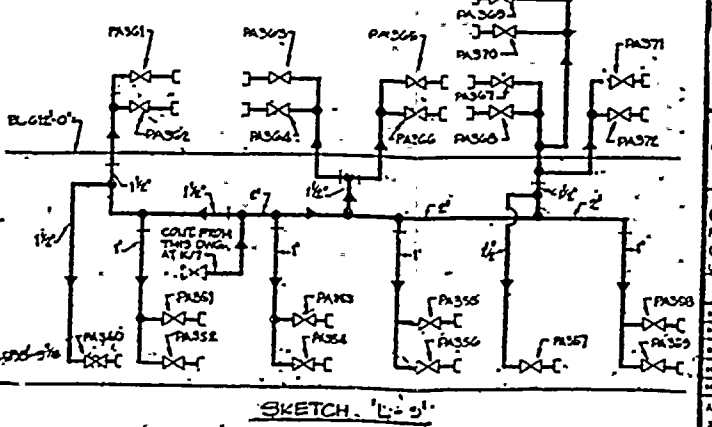
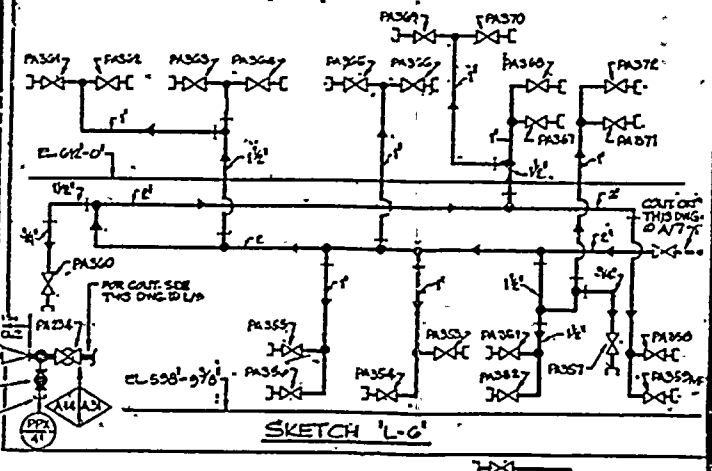
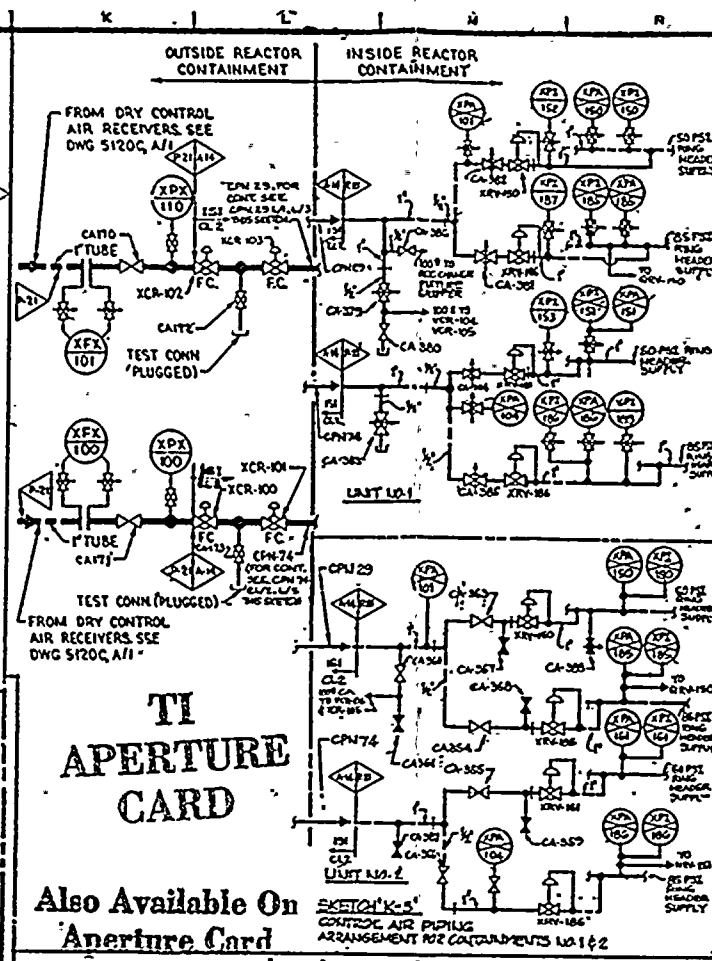
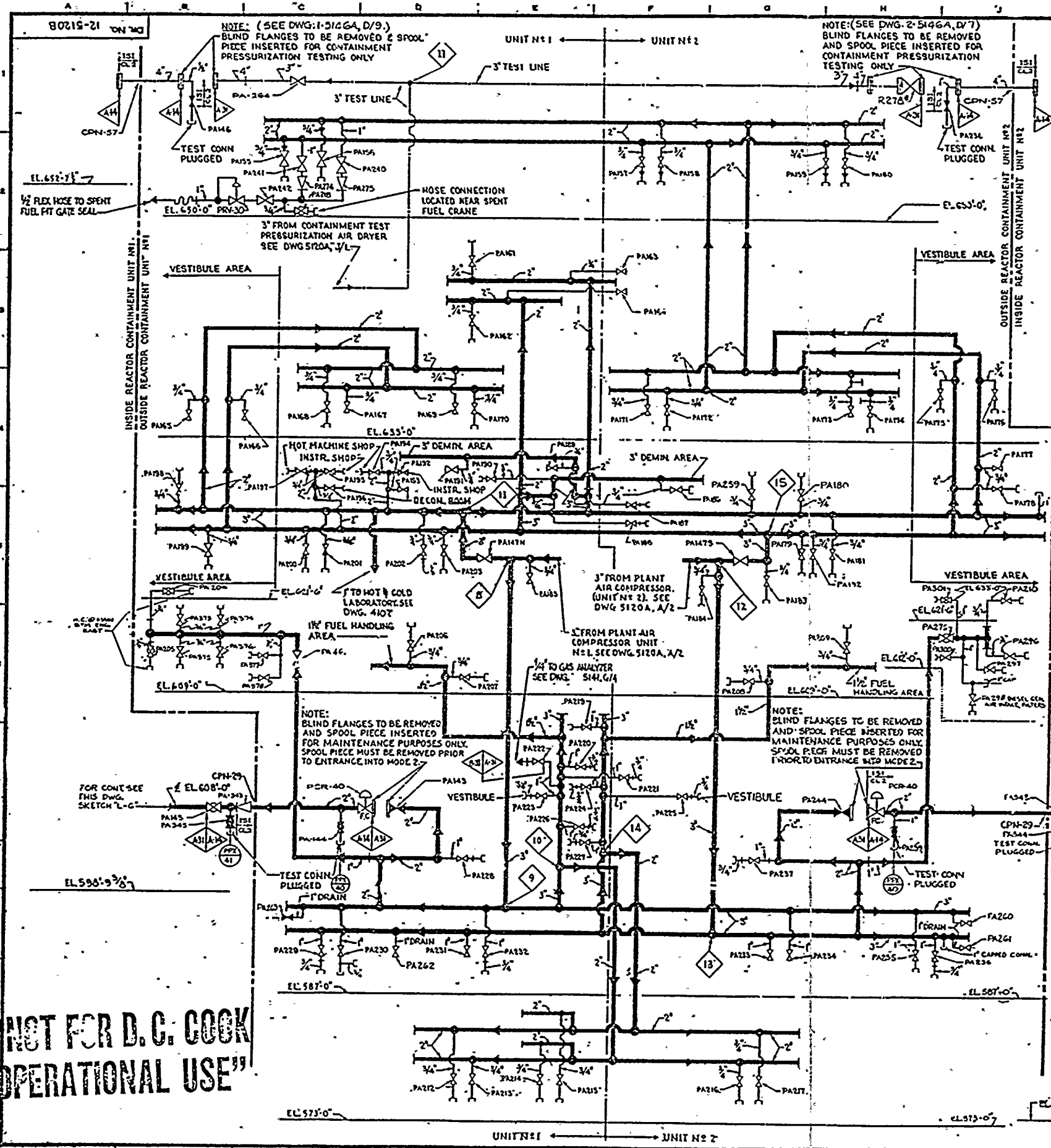
Dr. No. 12-5115A-41

TI
APERTURE
CARD

Also Available On
Aperture Card

8710130278-29





GENERAL NOTES

LEGEND

- PLANT AIR
- DEHUMIDIFIED CONTROL AIR PIPING
- CONTAINMENT TEST PRESSURIZATION AIR PIPING
- AUXILIARY PIPING

SYMBOLS

- HOSE CONN.
- TYPICAL FOR 3/4" CONN'S EXCEPT AS NOTED

FOR VALVE, INSTRUMENT, SAMPLING, PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG. AND FOR MARK NUMBER CODES, SEE DWG. 5104

ALL PIPING TO BE A-31 UNLESS OTHERWISE NOTED

NO EQUIPMENT SHOWN FOR SEISMIC CLASS DESIGNATION

FOR CODE CLASS 2 WORKS IN COMPARTMENT 2, THE FIRST FLOOR VALVE IS INCLUDED IN THE FIRST FLOOR VALVE LIST. VALVES IN OTHER COMPARTMENTS ARE NOT SHOWN ON DIAGRAMS ON WHICH THEY OCCUR AND ARE NOT TO BE DUPLICATED.

THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER IS 'T' UNLESS OTHERWISE NOTED.

HAND OPERATED VALVE IDENTIFICATION NUMBERS

ONLY VALVE NUMBERS APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MCR) NUMBERS.

TAG NUMBERS OCCUPY DRAWING USE AS FOLLOWS:

TAG NO: 2-N54-1005-W APPEARS AS: 100505W

INSTRUMENT ROOT VALVE MARK 'R' IS NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER FOR SINGLE PULSIVE (FOR DOUBLE PULSIVE, V220W12TR14)

FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG.

DATE: 10-23-76 22 REV. 1111

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING.

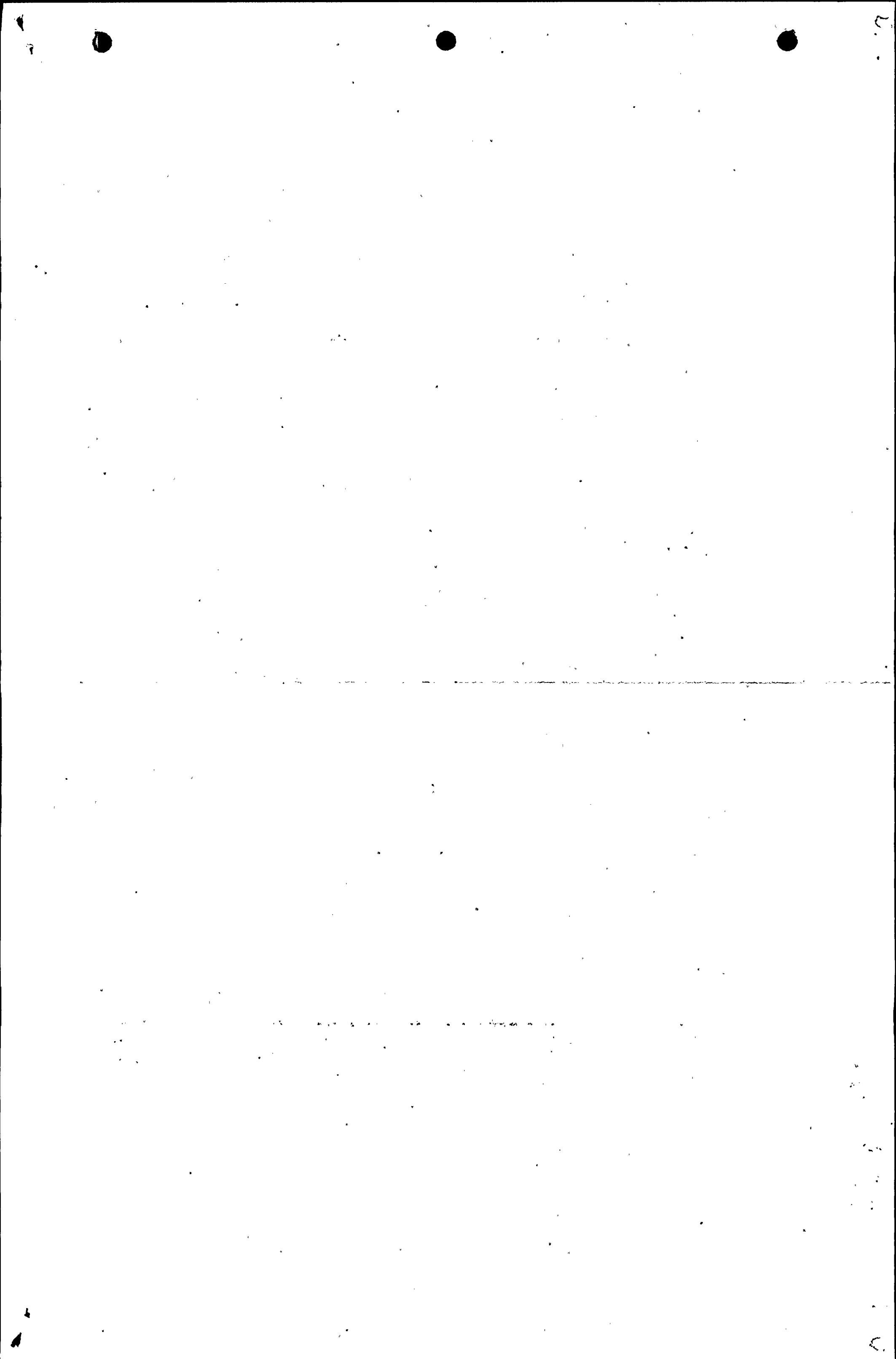
INDIANA & MICHIGAN ELECTRIC CO.
DONALD C. COOK
NUCLEAR PLANT

FLOW DIAGRAM COMPRESSED AIR SYSTEM
PLANT AIR BLDG. BLDG. 8 CONTAINMENT CONTROL AIR FOR CONTAINMENT UNITS NO. 1 & 2

DWG. NO. 12-5120B-22

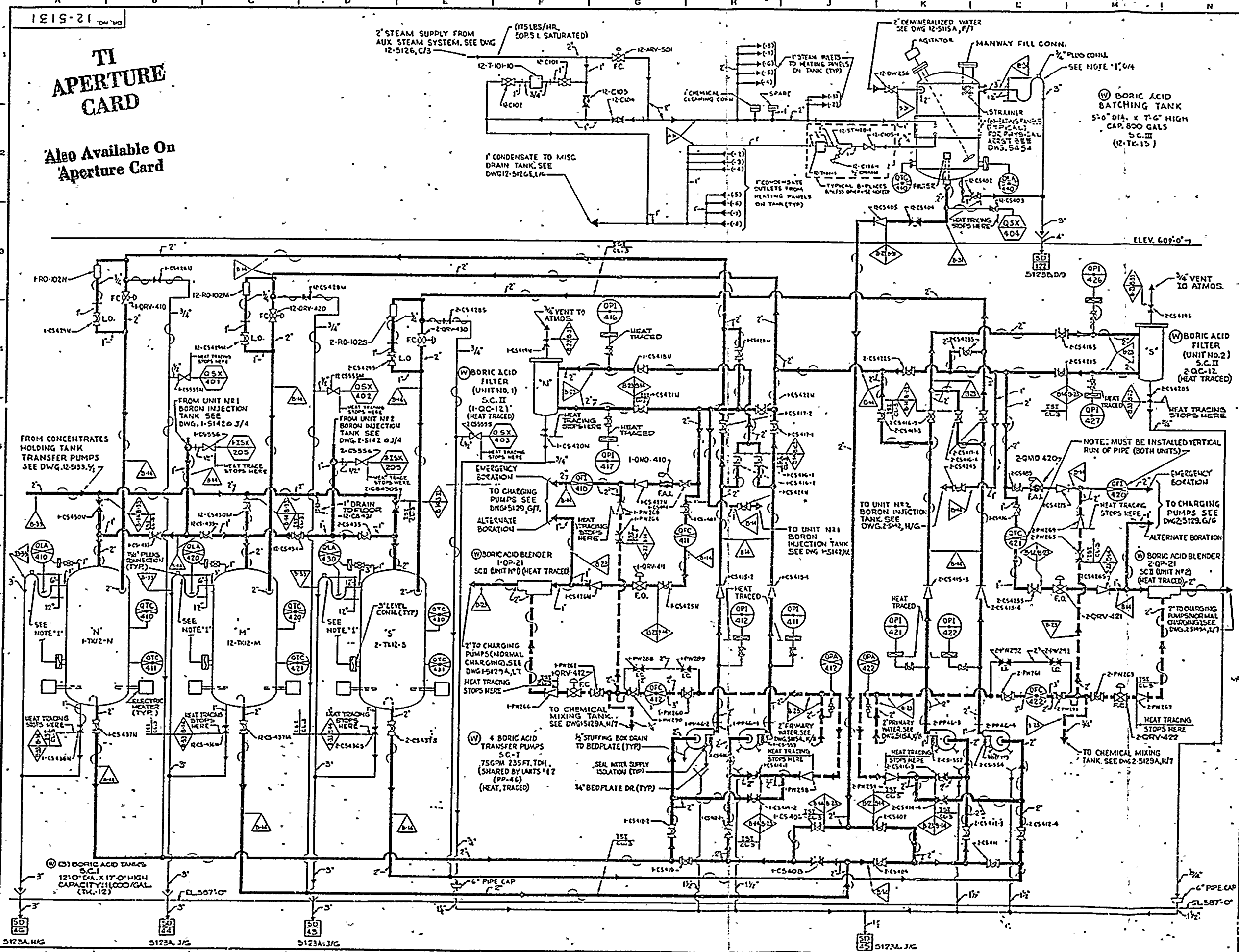
AMERICAN ELECTRIC POWER SERVICE CORP.
BROOKHAVEN

"NOT FOR D.C. COOK OPERATIONAL USE"



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Also Available On Aperture Card



GENERAL NOTES

LEGEND

- BORATED WATER
- PRIMARY WATER
- AUXILIARY PIPING
- SYMBOLS
- DIAPHRAGM SEAL

FOR VALVE, INSTRUMENT SAMPLING, PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG., AND FOR MARK NUMBER, CODES, SEE DWG'S 12-5103 & 5104.

BY WESTINGHOUSE

ALL VALVES AND INSTRUMENTATION SUPPLIED BY (W) EXCEPT AS NOTED.

EQUIPMENT SUPPLIED BY (W) AS NOTED.

NOTE "1": A/G, C/G, D/C, L/I OVERFLOW LOOP SEALS TO BE FILLED WITH DEMINERALIZED WATER. WHENEVER TANKS ARE OVERFLOWED, LOOP SEALS ARE TO BE FLUSHED TO PREVENT BORIC ACID CRYSTALLIZATION.

SEISMIC CLASSIFICATION OF EQUIPMENT AS NOTED

NOTES

FOR CLASS'S INSTRUMENT CONNECTIONS, THE 1ST STANDARD EXTENDS TO AND INCLUDES THE FIRST ROOT VALVE

THE UNIT IDENTIFICATION NUMBER FOR EACH COMPONENT IDENTIFICATION NUMBER IS "12" UNLESS OTHERWISE NOTED

HAND OPERATED VALVE IDENTIFICATION NUMBERS

1. ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MER) NUMBERS.

2. TAG NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:
TAG NO: 2-45W-VI05-W APPEARS AS: NSW05W

3. INSTRUMENT ROOT VALVE MARK N'S NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:
FOR SINGLE IMPULSE, VI
FOR DOUBLE IMPULSE, VI05W

FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG

1-2-77 19 *Fluor* *APD*

DATE NO APPROVED

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

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INDIANA & MICHIGAN ELECTRIC CO.
DONALD C. COOK
NUCLEAR PLANT 1

FLOW DIAGRAM
CVCS-BORON
MAKE-UP
UNITS NO 1 & 2

DWG. NO. 12-5131-195

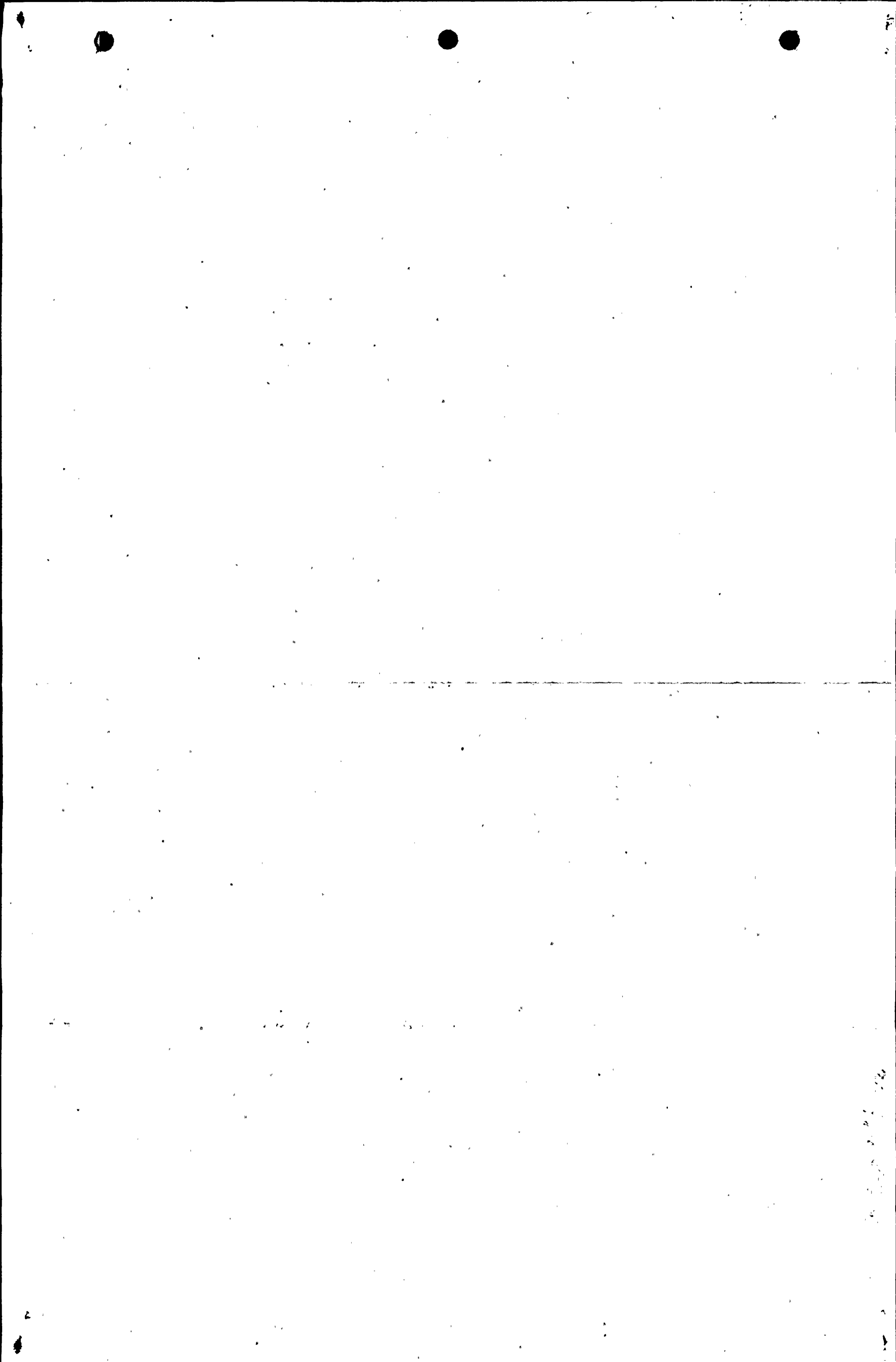
DATE 1-2-77

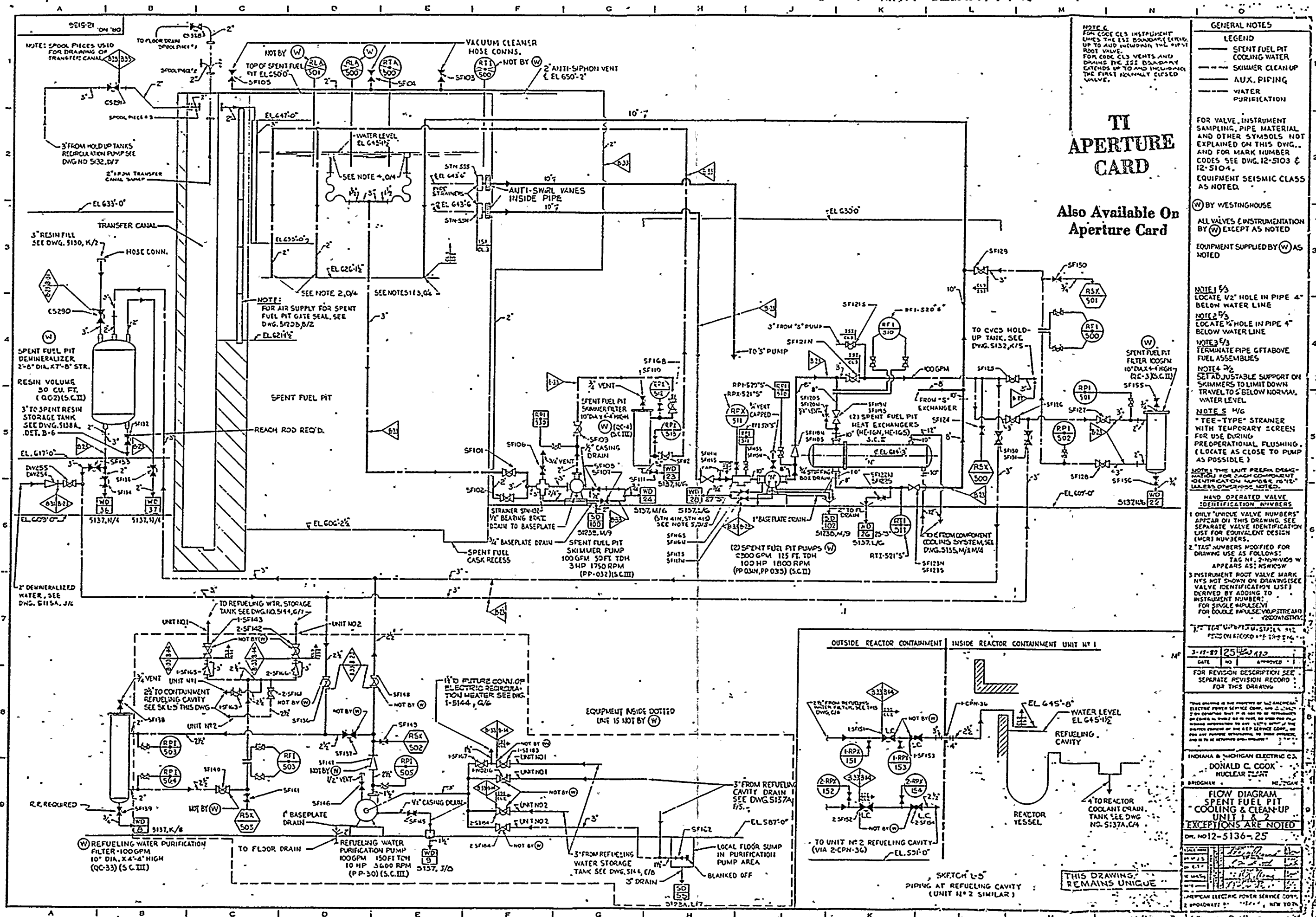
BY *Fluor*

CHECKED BY *APD*

APPROVED BY *Fluor*

AMERICAN ELECTRIC POWER SERVICE COOP.
2 BROADWAY





TI APERTURE CARD

NOTE: FOR CODE CLS INSTRUMENT LINES THE 151 BOARD EXTENDS UP TO AND INCLUDES THE 151P1 ROOT VALVE. FOR CODE CLS VENTS AND DRAINS THE 151 BOARD EXTENDS UP TO AND INCLUDES THE FIRST NORMALLY CLOSED VALVE.

Also Available On Aperture Card

GENERAL NOTES

LEGEND

- SPENT FUEL PIT
- COOLING WATER
- SKIMMER CLEAN-UP
- AUX. PIPING
- WATER PURIFICATION

FOR VALVE, INSTRUMENT SAMPLING, PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG... AND FOR MARK NUMBER CODES SEE DWG. 12-5103 & 12-5104.

EQUIPMENT SEISMIC CLASS AS NOTED.

BY WESTINGHOUSE

ALL VALVES & INSTRUMENTATION BY (W) EXCEPT AS NOTED

EQUIPMENT SUPPLIED BY (W) AS NOTED

NOTE 1/3 LOCATE 1/2" HOLE IN PIPE 4" BELOW WATER LINE

NOTE 2/3 LOCATE 1/4" HOLE IN PIPE 4" BELOW WATER LINE

NOTE 3/3 TERMINATE PIPE 6" ABOVE FUEL ASSEMBLIES

NOTE 4/3 SET ADJUSTABLE SUPPORT ON SKIMMERS TO LIMIT DOWN TRAVEL TO 2" BELOW NORMAL WATER LEVEL

NOTE 5/3 "TEE-TYPE" STRAINER WITH TEMPORARY SCREEN FOR USE DURING PREOPERATIONAL FLUSHING. (LOCATE AS CLOSE TO PUMP AS POSSIBLE.)

NOTE 6/3 THE UNIT PREFIX DESIGNATIONS FOR EACH COMPONENT IDENTIFICATION NUMBER TO 12" VALUES OTHER THAN NOTED.

HAND OPERATED VALVE IDENTIFICATION NUMBERS

1 ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MCR) NUMBERS.

2 TAG NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:

- TAG NO. 2-N5W-V05 W APPEARS AS: N5WV05W

3 INSTRUMENT ROOT VALVE MARKING IS NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:

- FOR SINGLE ELEMENT FOR DOUBLE FLOW: V05P2STREAM
- FOR DOUBLE FLOW: V05P2STREAM

DATE: 25 APR 67

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

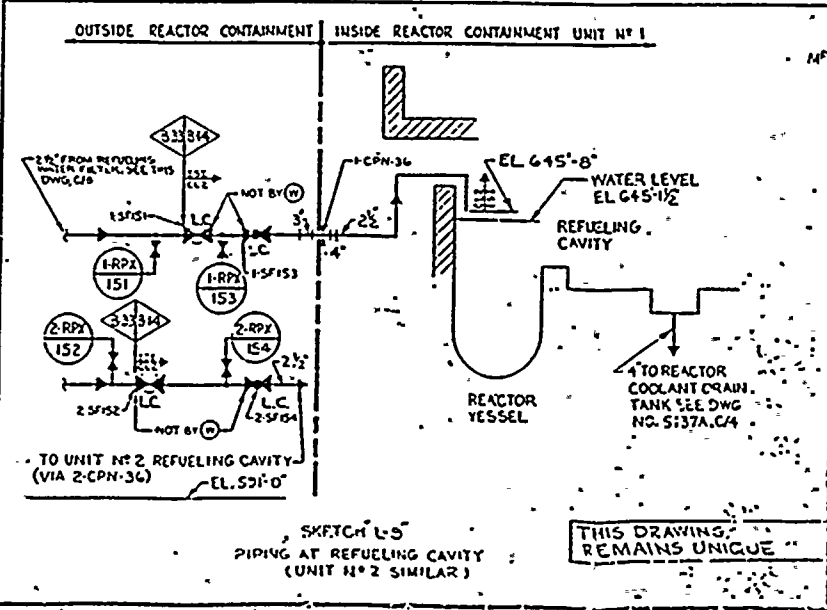
INDIANA & MICHIGAN ELECTRIC CO.
DONALD C. COOK
NUCLEAR PLANT

FLOW DIAGRAM SPENT FUEL PIT COOLING & CLEAN-UP UNIT #1 & 2

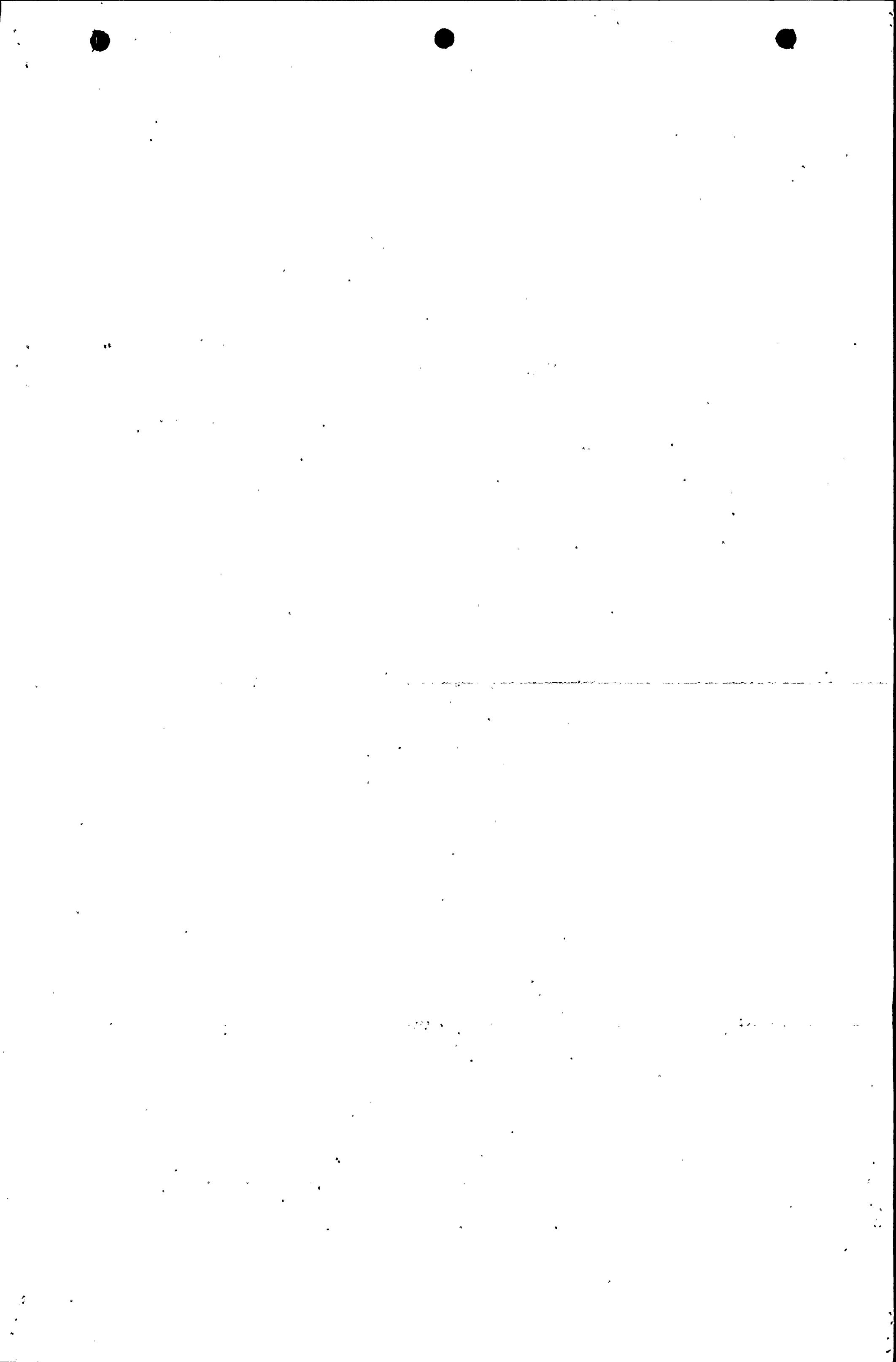
EXCEPTIONS ARE NOTED

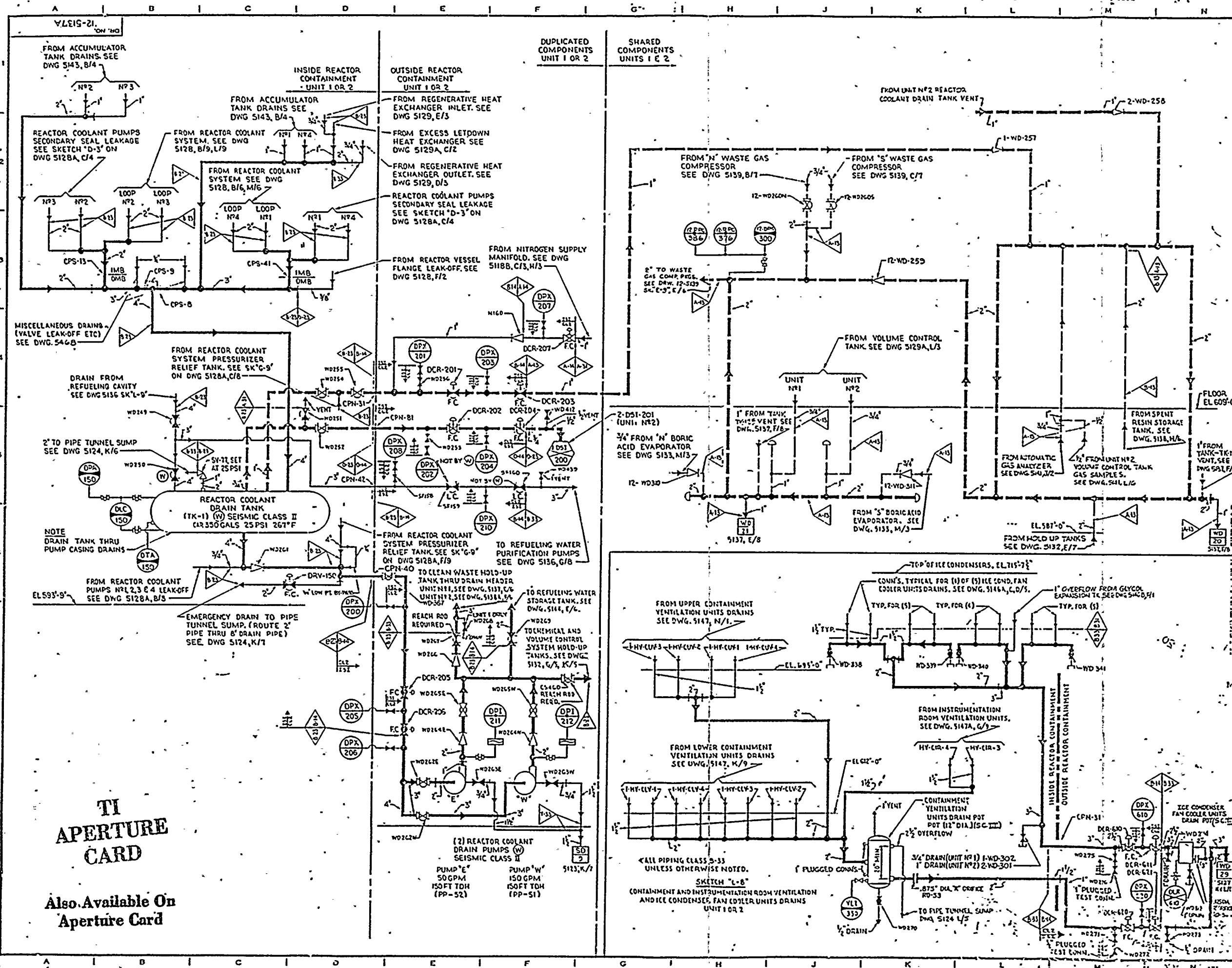
DWG. NO 12-5136-25

DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE
SCALE	
PROJECT	
DRAWING NO.	



THIS DRAWING REMAINS UNIQUE





GENERAL NOTES

LEGEND

VENT PIPING

DRAIN PIPING

SYMBOLS

DIAPHRAGM SEAL

FOR VALVE, INSTRUMENT SAMPLING, PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG. AND FOR MARK NUMBER CODES, SEE DWGS. 12-5103 & 12-5104.

BY WESTINGHOUSE

ALL INSTRUMENTATION BY (W)

ALL VALVES BY (W) EXCEPT AS NOTED. ALSO NOTE THAT IN DRAIN EVENT LINES (W) SUPPLIES ONLY THE FIRST SHUT-OFF VALVE NEAREST ORIGIN.

EQUIPMENT SUPPLIED BY (W) AS NOTED

NOTE: "S" EQUIPMENT SEISMIC CLASS AS NOTED

THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER IS EITHER "2" UNLESS OTHERWISE NOTED

HAND OPERATED VALVE IDENTIFICATION NUMBERS

1. ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MCR) NUMBERS.

2. TAG NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:
TAG NO: 2-N5W-V05-W APPEAR AS 2-N5W-V05

3. INSTRUMENT ROOT VALVE MARK NO'S NOT SHOWN ON DRAWING. SEE VALVE IDENTIFICATION LIST DERIVED BY ADDING TO INSTRUMENT NUMBER:
FOR SINGLE HANDLE: V FOR COUPLER, MPA, SC, VENT, STREAM, VZ, COMING

FOR "UNIQUE" TAG NO'S (12-5103 & 12-5104) SEE SEPARATE LIST FOR THIS DWG.

DATE: 7-28-56
APPROVED: [Signature]

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

INDIANA & MICHIGAN ELECTRIC CO.
DONALD C. COOK
NUCLEAR PLANT #1
BIRMINGHAM, MICHIGAN

FLOW DIAGRAM
WDJ VENTS & DRAINS
UNITS 1 & 2
EXCEPTIONS ARE NOTED

12-5137A-21

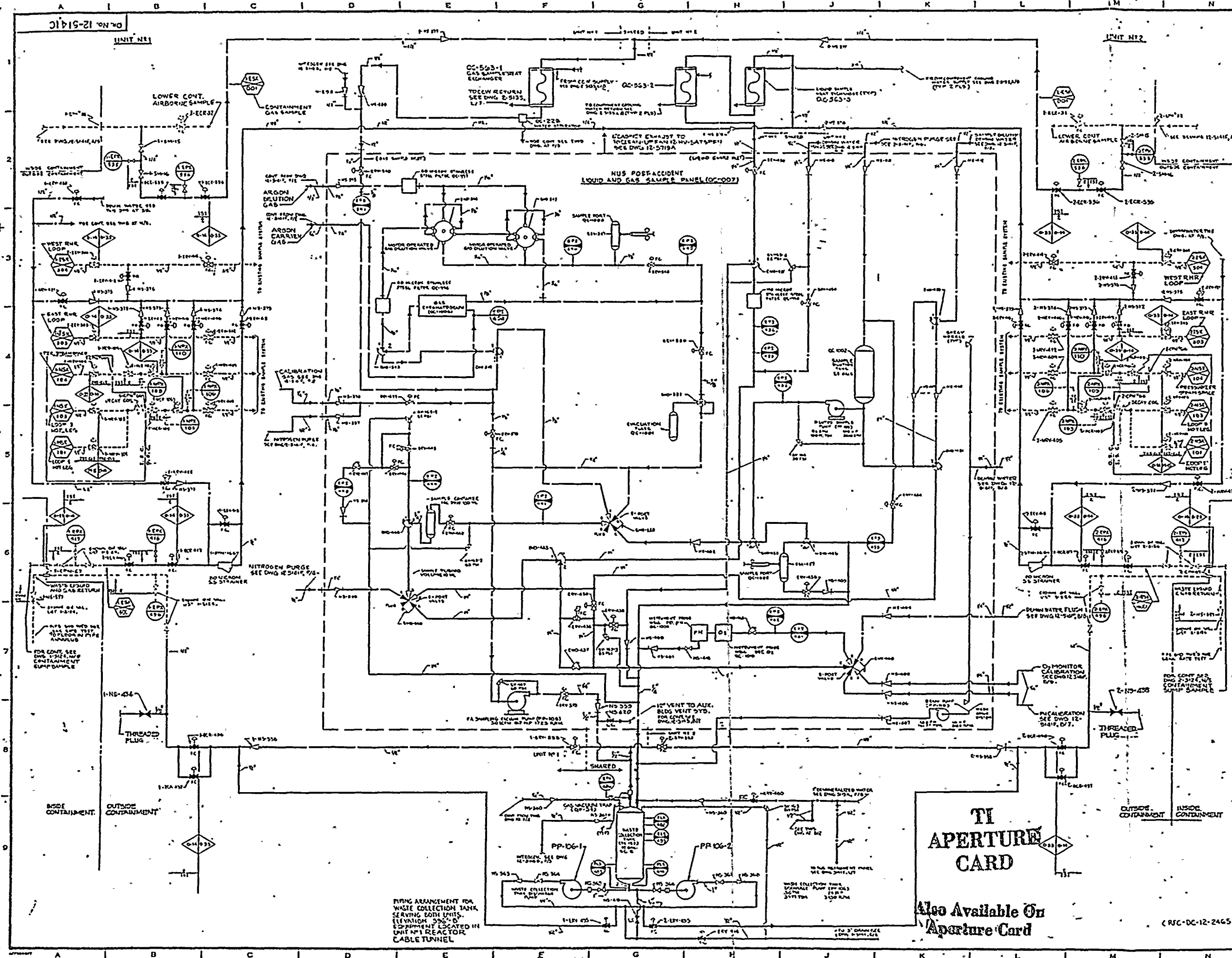
AMERICAN ELECTRIC POWER SERVICE CO.
BIRMINGHAM, ALA.

TI APERTURE CARD

Also Available On Aperture Card

COPY





GENERAL NOTES

- LEGEND**
- LIQUID PIPING
 - DOWN-WATER PIPING
 - GAS PIPING
 - AIR/VENT PIPING
 - PIPING (VALVES SHOWN ON OTHER FLOW DIAGRAMS SEE TABLE BELOW)

- NOTES:**
1. THE FLOW DIAGRAM AS PER EPC-DC-11-2461 AND NUREG-0737
 2. FOR DETAILS OF LOWER CONTAINMENT SAMPLING SEE FLOW DIAGRAM 12-5141C-8 AND 12-5141C-9
 3. THE NUS LIQUID AND GAS SAMPLER PANEL IS SHOWN BY BOTH UNITS
 4. ALL EQUIPMENT AND PIPING IS SHOWN EXCEPT AS NOTED
 5. VALVES AND PIPING SHOWN IN PHANTOM DRAWING ON FLOW DIAG 12-5141C-8 AND 12-5141C-9
 6. PRESSURE REDUCING VALVE TO BE SHOWN IN PHANTOM DRAWING
 7. 3 POSITION VALVE OPERATED BY AIR, POSITION MARKS OPERATED WHITE

SAMPLE COLLECTION SYSTEM	CODE
NSW-101	1-241
NSW-102	2-241
NSW-103	3-241
NSW-104	4-241
NSW-105	5-241
NSW-106	6-241
NSW-107	7-241
NSW-108	8-241
NSW-109	9-241
NSW-110	10-241
NSW-111	11-241
NSW-112	12-241
NSW-113	13-241
NSW-114	14-241
NSW-115	15-241
NSW-116	16-241
NSW-117	17-241
NSW-118	18-241
NSW-119	19-241
NSW-120	20-241
NSW-121	21-241
NSW-122	22-241
NSW-123	23-241
NSW-124	24-241
NSW-125	25-241
NSW-126	26-241
NSW-127	27-241
NSW-128	28-241
NSW-129	29-241
NSW-130	30-241
NSW-131	31-241
NSW-132	32-241
NSW-133	33-241
NSW-134	34-241
NSW-135	35-241
NSW-136	36-241
NSW-137	37-241
NSW-138	38-241
NSW-139	39-241
NSW-140	40-241
NSW-141	41-241
NSW-142	42-241
NSW-143	43-241
NSW-144	44-241
NSW-145	45-241
NSW-146	46-241
NSW-147	47-241
NSW-148	48-241
NSW-149	49-241
NSW-150	50-241

NOTE: THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION IS 12 UNLESS OTHERWISE NOTED

HAND OPERATED VALVE IDENTIFICATION NUMBERS
 ONLY UNIQUE VALVE NUMBERS APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (UCR) NUMBERS.
 TAG NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:
 TAG NO. 2 NSW-1105-W APPEARS AS: NSW1105-W
 INSTRUMENT ROOT VALVE MARKS ARE NOT SHOWN ON DRAWING. SEE VALVE IDENTIFICATION LIST DERIVED BY ADDING TO INSTRUMENT NUMBER FOR SINGLE IMPULSE AND FOR DOUBLE IMPULSE UPSTREAM AND DOWNSTREAM.

DATE	NO.	APPROVED
1-22-87	B	[Signature]

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

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INDIANA & MICHIGAN ELECTRIC CO.
 DONALD C. COOK
 NUCLEAR PLANT
 BRIDGMAN MICHIGAN

7 FLOW DIAGRAM
 POST-ACCIDENT LIQUID
 AND GAS SAMPLING
 UNIT NO. 1 & 2

SCALE	DATE	BY	CHECKED
AS SHOWN	1-22-87	[Signature]	[Signature]
DATE	BY	CHECKED	APPROVED
1-22-87	[Signature]	[Signature]	[Signature]

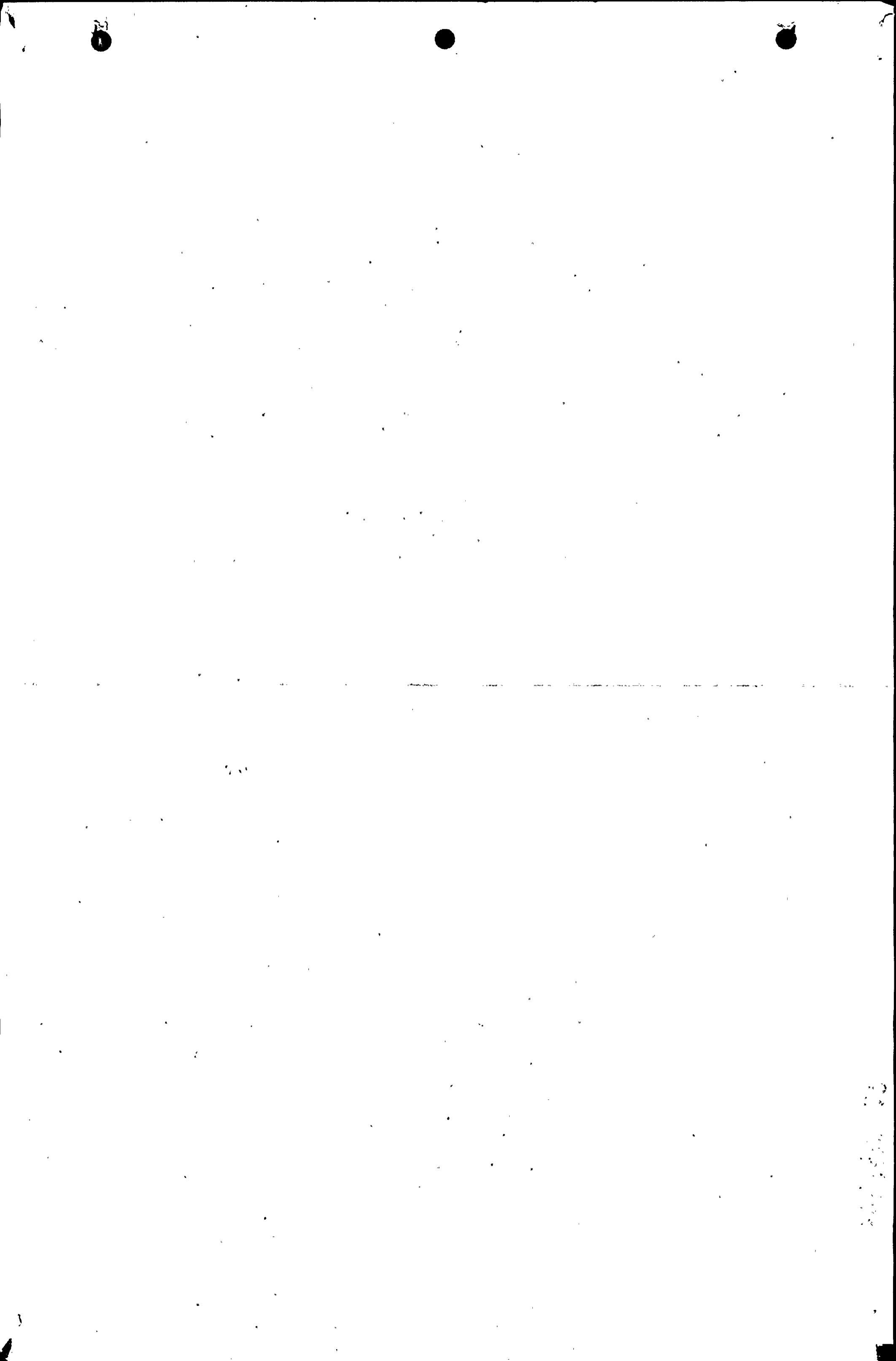
AMERICAN ELECTRIC POWER SERVICE CORP.

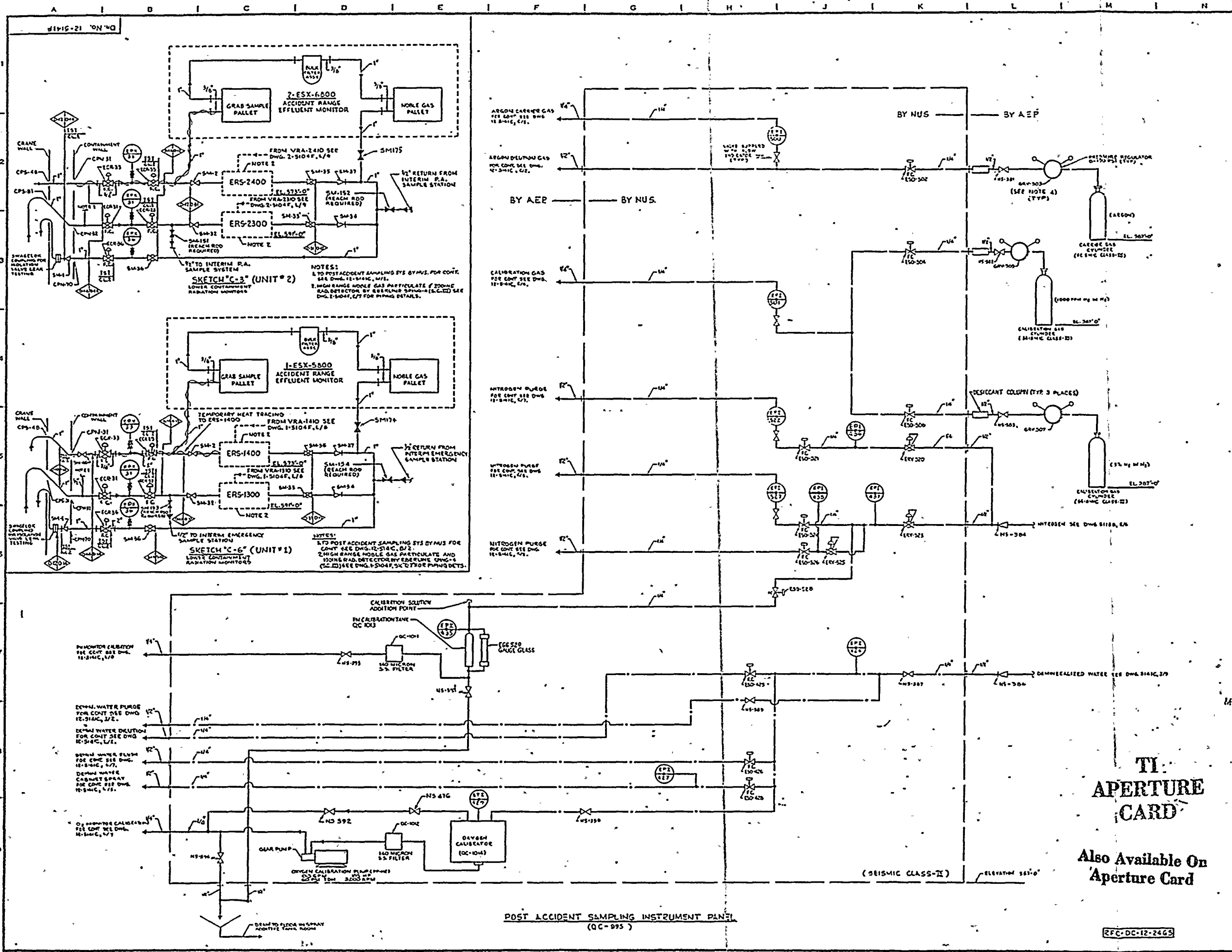
TI APERTURE CARD

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(EPC-DC-12-2465)

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GENERAL NOTES

LEGEND

LIQUID PIPING

DIMM WATER

GAS

AVAILARY

NOTES:

1. ALL EQUIPMENT IS SEISMIC CLASS-II EXCEPT AS NOTED.

2. THIS INSTRUMENT PANEL AS PER (QC-DC-12-2465) (PART 001) SHALL BE CALIBRATED AND CHECKED AT THE LOCATION OF THE VALVE WITH THE UP AND DOWNSTREAM PRESSURE GAUGES AND SAFETY VALVE.

THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER IS "12" UNLESS OTHERWISE NOTED.

HAND OPERATED VALVE IDENTIFICATION NUMBERS:

1. ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (NCR) NUMBERS.
2. TAG NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:
TAG NO: 2-NSW-V105-W APPEARS AS: V105W
3. INSTRUMENT ROOT VALVE MARKING IS NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST); DERIVED BY ADDING TO INSTRUMENT NUMBER:
FOR SINGLE TAP: S1
FOR DOUBLE TAP: S1-V105W
FOR DOUBLE TAP: S1-V105W-V2 DOWNSTREAM

1-29-87 6 1/24 1/24

DATE 10/11/87

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INDIANA & MICHIGAN ELECTRIC CO.
DONALD C. COOK
NUCLEAR PLANT

BRIDGMAN MICHIGAN

FLOW DIAGRAM
POST ACCIDENT LIQUID
SAMPLING INSTRUMENT
PANEL

DR. NO. 12-5141F-6

DATE	BY	CHKD
10/11/87	[Signature]	[Signature]
10/11/87	[Signature]	[Signature]
10/11/87	[Signature]	[Signature]

AMERICAN ELECTRIC POWER SERVICE CO.

TI APERTURE CARD

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RFQ-DC-12-2465

POST ACCIDENT SAMPLING INSTRUMENT PANEL (QC-995)

