

ASME SECTION XI VALVE TEST PROGRAM

2ND TEN YEAR INSPECTION INTERVAL

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

Revision No: 3

Date: 2-5-90

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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

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INTRODUCTION

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.
- 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 system 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)
- \* Valve Number: Unique valve number (e.g., 2-DCR-310)

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- \* Revision Number: Any change of valve description, function or test requirement.
- \* 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





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\* 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

\* 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 (Test Frequency): One of the following:

P - Every 3 months while system is required to be operable.  
C - Testing will be performed at cold shutdown frequency  
(See Note "F").  
R - Testing will be performed at refueling outage frequency.

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\* 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.
- NO, CSJ Y - Valve is to be tested per code at a cold shutdown frequency with cold shutdown justification provided in notes.
- YES, NOTE Z - 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 performed on a check valve in accordance with GL-89-04, Attachment 1, Item #2 is indicated under relief request notes. This testing is performed in lieu of stroke testing required by Section XI, IWV-3521. This is accomplished by disassembly method in the following manner:

Disassembly Method The valve bonnet is removed, the disc is manually full stroke exercised and the valve internals are visually examined. The results of this examination are documented. This will be performed on a refueling outage frequency. The valve groupings for sample disassembly is in accordance with GL-89-04. This alternative testing to be performed for a particular valve is indicated on the valve summary sheets and relief request notes.

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- F. Scheduling of Valve Testing at Cold Shutdown Frequency. Valves tested at a cold shutdown frequency shall be scheduled using the following criteria:
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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Using the above criteria, the limiting stroke time for each valve is derived as follows:

1. Nominal 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>
		Base Line Time x 2 + 1 Second = Recommended Action Time or Tech. Spec. Limit, whichever is less.
up to 1.24	1.0	= 1 x 2 + 1 = 3 Seconds
1.25 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. Nominal Valve Stroke Time - 3.0 to 10.0 Seconds

2.5 to 10.49	3 to 10	Base Line Time x 1.5 = Action Time
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3. Nominal Valve Stroke Time - 11.0 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)
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\*Excluding those valves designated as rapid valves per Paragraph "H" noted below.



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The stroke time limiting values for the power operated valves will be controlled via plant Technical Data Book.

- H. Stroke Time Measurements for Rapid (Fast) Acting Valves. In accordance with GL-89-04, Attachment 1, Item #6, power operated valves with normal stroke times of 2 seconds or less may be assigned 2 seconds limiting values. If a valve is assigned a 2 second limiting value, it shall be timed only and not trended in accordance with Section XI, IWV-3417a. If the valve exceeds 2 second limit, it will be declared inoperable and corrective actions will be taken in accordance with IWV-3417(b). The major influence in the stroke time testing of rapid acting valves is the operator's response. Therefore, the timing tolerances are influenced by the operator action and trending is not indicative of valve performance. The valve limiting values will be documented in the plant Technical Data Book. The results of these tests will be documented via plant procedures.



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

LIST OF DRAWINGS

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Figure 2

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<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





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VALVE TEST PROGRAM FOR UNIT - 2

LIST OF DRAWINGS

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Figure 2

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<u>SYSTEM</u>	<u>FLOW DIAGRAM NO.</u>	<u>REVISION NO.</u>
Emergency Core Cooling (SIS)	2-5142	28
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



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LIST OF DRAWINGS

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<u>SYSTEM</u>	<u>FLOW DIAGRAM NO.</u>	<u>REVISION NO.</u>
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

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

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1) CATEGORY A-B VALVES

ASME CODE SECTION XI  
PARAGRAPH

EF-1	Exercise valve (full stroke) for operability quarterly (3 months).	(IWV-3411)
EF-2	Exercise valve (full stroke) for operability at a cold shutdown frequency or refueling outage frequency as indicated. Code relief requests and/or cold shutdown justification are provided in the corresponding valve notes.	(IWV-3412)
EF-3	Exercise valve (part stroke) for operability quarterly; exercise (full stroke) at a cold shutdown frequency or refueling outage frequency as indicated. Justification for exercising the valve at cold shutdown frequency is provided in the corresponding valve notes. Code relief request is provided if full stroke test is deferred to coincide with refueling frequency.	(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 quarterly.	(IWV-3415)
EF-8	Exercise valve (with fail-safe actuators) to observe failure mode at a cold shutdown frequency or refueling frequency as indicated.	(IWV-3415)



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

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Figure 3

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(cont'd)

1) CATEGORY A-B VALVES

ASME CODE SECTION XI  
PARAGRAPH

ET-XXX	Exercise power operated valve (full stroke) to its safety position and measure time. The stroke time limiting values of these valves including rapid acting valves will be identified and controlled per plant Technical Data Book and plant procedures. Valves assigned 2 seconds limiting values are subject to relief specified in "Paragraph H, Figure 1."	(IWV-3413&3417)
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2) CATEGORY C VALVES

CF-1	Exercise valve (full stroke) for operability quarterly.	(IWV-3521)
CF-2	Exercise valve (full stroke) for operability at a cold shutdown frequency or refueling outage frequency as indicated. Code relief requests and/or cold shutdown justification are provided in the corresponding valve notes.	(IWV-3521)
CF-3	Exercise valve (part stroke) for operability quarterly; exercise (full stroke) for operability at a cold shutdown frequency or refueling frequency as indicated. Justification for exercising valves at a cold shutdown frequency is provided in the corresponding valve notes. Code relief requests are provided if full stroke testing is deferred to coincide with refueling frequency.	(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)

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

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3) CATEGORY A or AC VALVES

- 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. This is consistent with the NRC position described in GL-89-04, Attachment A, Item #10. Permissible leakage values for each category A or AC valve are listed in Attachment-"A".
- 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: 3

Date: 2-5-90

NOTE 1: FW-118-1 thru -4 (Code Relief): These check valves are normally open during power operation to pass main feedwater flow to the steam generators. Their safety function (close) prevents auxiliary feedwater backflow into the main feedwater system. These valves cannot be exercised during power operation because closing of these valves would require securing feedwater flow to the steam generators. Main feedwater to the steam generators cannot be isolated on a loop basis because three loop operation is not allowed per Donald C. Cook Nuclear Plant Technical Specification 3.4.1.1. For these category "C" check valves, backflow cannot be quantified at cold shutdown due to system configuration. The only practical method to verify valve closure is by disassembly. Due to size, weight and close proximity to physical barriers (whip restraints); valve disassembly at cold shutdown would impose constraints on the manpower and scheduling that may delay essential cold shutdown related activities and the plant start-up. The valves are not equipped with position indicators. There has been no operational or maintenance adverse trend noted. Therefore, the valves will be disassembled (bonnet removed) and verified closed (disc against seat) on a sampling basis (one of four) at refueling outage frequency.



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RELIEF REQUEST NOTES

Flow Diagram No: 2-5105D-2

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NOTE 2: MRV-210, -220, -230 and -240 (Cold Shutdown Justification): 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 hydraulics attached to valve operators. and full stroke tested during hot standby (Mode 3 with RCS temperature  $\geq 541^{\circ}\text{F}$ ) at cold shutdown frequency.

NOTE 3: MS-108-2 and 108-3 (Code Relief): These check valves are located in the steam supply lines to the Auxiliary Feedwater Pump Turbine. These valves are part stroke tested during normal IST feedwater pump testing at least on a quarterly basis at approximately 700 gpm because flow is restricted to a maximum of approximately 700 gpm through the 3" test line used during pump test. The valves will be full stroke tested to open position at a cold shutdown frequency. The valve is not equipped with position indicator. In addition, due to the plant design, the only method available to verify the valve closure is disassembly. The valve will be disassembled (bonnet removed) and verified closed (disc against seat) and visually examined in accordance with GL-89-04, Attachment A, Item #2 on a sampling basis (one of two) once every other refueling frequency.



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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5106-34

Revision No: 3

Date: 2-5-90

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

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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5106A-41

Revision No: 3

Date: 2-5-90

- NOTE 1: FW-132-1, -2, -3, -4 (Cold Shutdown Justification): 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.
- NOTE 2: FW-134 & FW-135 (Cold Shutdown Justification): 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. Passing the design flow of 900 gpm through these valves would require delivering cold auxiliary feedwater to the steam generators. This would result in thermal shock to the steam generator nozzles. Therefore, these valves will be part stroke exercised quarterly and full stroke exercised (passing design flow of 900 gpm through the valves) at cold shutdown frequency.

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RELIEF REQUEST NOTES

Flow Diagram No: 2-5106A-41

Revision No: 3

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- NOTE 3: FW-138-1, -2, -3, -4 (Cold Shutdown Justification): 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.
- NOTE 4: FW-149 and 150 (Comment): 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 (Comment): 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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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5113-36

Revision No: 3

Date: 2-5-90

NOTE 1: ESW-141, -142, -143, -144 (Comment): These valves are full stroke exercised quarterly as required by IWV-3520. In addition, they are disassembled and inspected internally in accordance with IEB 85-03 at refueling outage frequency.

NOTE 2: ESW-145, -240, -243 (Cold Shutdown Justification): 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. Therefore, the valves will be full stroke tested at a cold shutdown frequency. Since the valves are manual, stroke timing is not required.



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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5113-36

Revision No: 3

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NOTE 3: WRV-722, -724, -726, -728 (Code Relief): 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. Code relief is being requested 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 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 using their control scheme that will remove air from the valve operators causing them to direct all ESW flow to the air after coolers. This proposed test for each valve will be performed at refueling frequency. 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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RELIEF REQUEST NOTES

Flow Diagram No: 2-5114A-27

Revision No: 3

Date: 2-5-90

NOTE 1: WCR-900 through -915, -920 through -935, -941 through 948, -951 through -958 and 960 through -967 (Code Relief):  
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: 3

Date: 2-5-90

NOTE 1: DCR-600 & -601 and NS-357 (Code Relief): See "Attachment-A" for permissible seat leakage values.

NOTE-2: NS-357 (Code Relief): 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 in conjunction with Appendix J seat leakage testing at refueling frequency.



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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5128-19

Revision No: 3

Date: 2-5-90

NOTE 1: NSO-021, -022, -023, & -024 (Cold Shutdown Justification): 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. Therefore, the valves will be full stroke exercised and timed at cold shutdown frequency.

Exercising the solenoid operated valves for verification of valve position (valve stem movement) will be performed at refueling frequency by 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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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5128A-34

Revision No: 3

Date: 2-5-90

- NOTE 1: CS-442-1 thru 4 (Code Relief): 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 in conjunction with Appendix J seat leakage testing at refueling frequency.
- NOTE 2: GCR-301, NCR-252, NPX-151, RCR-100 & -101, CS-442-1 through 4, SI-189, PW-275 and N-159 (Code Relief): See Attachment-"A" for permissible seat leakage values.
- NOTE 3: NRV-151, -152, -153 (Cold Shutdown Justification): These pressurizer power operated relief valves are normally closed during power operation. The valves cannot be exercised at power without inducing an RCS pressure transient which could result in reactor trip. The valves will be full stroke exercised and timed at cold shutdown frequency.

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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5128A-34

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NOTE 4: PW-275 (Code Relief): 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 in conjunction with Appendix J seat leakage testing at refueling frequency.

NOTE 5: N-159 (Code Relief): 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 in conjunction with Appendix J seat leakage testing 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: 3

Date: 2-5-90

NOTE 6: NSO-061, -062, -063, -064 (Cold Shutdown Justification): These four one-inch solenoid 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 will be full stroke tested and timed at cold shutdown frequency.

Exercising the solenoid operated valves for verification of valve position (valve stem movement) will be performed at refueling frequency 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.

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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5128A-34

Revision No: 3

Date: 2-5-90

NOTE 7: SI-189 (Code Relief): 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. Therefore, the valve will be part stroke exercised to open position using external source via test connection at a cold shutdown frequency. The valve will be disassembled, manually full stroke tested and visually examined in accordance with GL-89-04, Attachment 1, Item #2 at every third refueling outage frequency. The valve will also be verified closed in conjunction with Appendix J seat leakage testing at refueling frequency.



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RELIEF REQUEST NOTES

Flow Diagram No: 2-5129-32

Revision No: 3

Date: 2-5-90

NOTE 1: CS-292 (Code Relief): 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 will be performed at a refueling frequency 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 (Code Relief): 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 at refueling frequency. The valves will also be verified closed in conjunction with seat leakage testing per IWV-3420 at refueling frequency.

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NOTE 3: CS-321, QCR-300 and -301 (Code Relief): See Attachment "A" for permissible seat leakage values.

NOTE 4: CS-321 (Code Relief): 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 in conjunction with Appendix J seat leakage testing at refueling frequency.

NOTE 5: CS-328L1, -329L1, -328L4, -329L4 (Comment): These check valves function 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" requirements. The valves will be full stroke exercised to open position quarterly.

NOTE 6: QCR-300, -301 (Cold Shutdown Justification): 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, timed and fail safe tested at a cold shutdown frequency and seat leakage tested per Appendix J program at refueling frequency.



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- NOTE 7: QMO-200, -201 (Cold Shutdown Justification): These motor operated gate valves are installed on the CVCS charging line which 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 full stroke tested and timed at cold shutdown frequency.
- NOTE 8: QRV-200 (Code Relief): This air operated valve is used to regulate charging header flow to the reactor coolant system and seal water flow to the reactor coolant pump seals. The valve cannot be full stroke exercised at power operation because it would interrupt the seal injection flow to the reactor coolant pumps which could result in reactor coolant pump seal damage. The valve will be part stroke exercised during power operation and full stroke exercised at a cold shutdown frequency. The valve cannot be stroke timed because there is no local or remote position indicator available and cycle times are directly proportional to "how fast" the operator turns the control knob. Therefore, meaningful stroke times are not achievable. This valve has no fail safe position. The alternative testing proposed is to locally observe the valve during full stroke testing for smooth operation and apparent problems which can affect the valve operation.

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NOTE 9: QRV-251 (Code Relief): This air operated valve is used to regulate charging header flow to the reactor coolant system and seal water flow to the reactor coolant pump seals. The valve cannot be full stroke exercised at power operation because it would interrupt the RCP seal injection flow and would also upset pressurizer level. The valve will be part stroke exercised during power operation and full stroke exercised at a cold shutdown frequency. The valve cannot be stroke timed because there is no local or remote position indicator available and cycle times are directly proportional to "how fast" the operator can turn the control knob. Therefore, meaningful stroke times are not achievable. The control scheme of this valve functions to remove air from the valve operator, which duplicates the fail-safe condition, resulting in the valve going to fail-safe (open) position. Therefore, the alternative testing proposed will consist of locally observing the valve during full stroke testing for smooth operation and apparent problems which can affect the valve operation.

NOTE 10: SI-185 (Code Relief): This normally closed valve functions to transfer the suction source of the charging pumps to the refueling water storage tank. 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 at refueling frequency.

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NOTE 11: CS-299E&W (Comment): See Attachment "A" for permissible seat leakage values.



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Flow Diagram No: 2-5129A-20

Revision No: 3

Date: 2-5-90

- NOTE 1: QCM-250, -350 (Cold Shutdown Justification): 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 and timed at cold shutdown frequency.
- NOTE 2: QCM-250 and -350 (Code Relief): See "Attachment-A" for permissible seat leakage values.
- NOTE 3: QMO-451, -452 (Cold Shutdown Justification): 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 and timed at cold shutdown frequency.



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Flow Diagram No: 2-5135-34

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- NOTE 1: CCM-451, -452, -453, -454, -458 and -459 (Cold Shutdown Justification): These valves cannot be tested during power operation without securing cooling water to the reactor Coolant Pumps (RCPs). Isolation of these valves could cause failure of the RCPs. The valves will be full stroke tested and timed at cold shutdown frequency.
- NOTE 2: CCM-451 through -454, -458, -459  
CCR-455 through -457, -460, -462 and CCW-135 (Code Relief):  
See "Attachment-A" for permissible seat leakage values.
- NOTE 3: CCR-455, -456, and -457 (Cold Shutdown Justification): These valves cannot be tested during power operation without securing cooling water to the reactor support coolers. These valves must remain open to prevent overheating of the concrete around the reactor supports during power operation. The valves will be full stroke tested and timed at cold shutdown frequency.
- NOTE 4: CCW-135 (Code Relief): 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 power operation. The valve will be verified closed in conjunction with Appendix J seat leakage testing at refueling frequency.
- NOTE 5: CRV-470 (Code Relief): This air operated valve is used to regulate component cooling water (CCW) to the letdown heat exchanger. The valve is normally in service during power operation.





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CRV-470 (continued)

This valve is controlled by an auto/manual station with auto input from the letdown heat exchanger outlet temperature sensor (QTC-302). The valve also trips closed from an SI signal via a solenoid valve. The valve will be full stroke exercised quarterly using auto/manual station which will permit rapid cycling of this regulating valve resulting in minimal impact on letdown temperature. Meaningful stroke time data is not available since this valve does not have local or remote position indication.

Fail safe testing this valve closed requires a longer period of time than cycling the valve using the auto/manual station. The valve will be fail safe tested to its closed position at cold shutdown frequency with letdown flow out of service thus avoiding high letdown line temperatures that could cause flashing in the letdown heat exchanger and lifting of safety valves.

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Flow Diagram No: 2-5135A-30

Revision No: 3

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NOTE 1: CMO-411, -412, -413, -414, -415 & -416 (Comment): 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.



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Flow Diagram No: 2-5135B-14

Revision No: 3

Date: 2-5-90

NOTE 1: CCM-430 through -433, CCR-440 and -441; CCW-243-25, -243-72, -244-25 and -244-72 (Code Relief): See "Attachment-A" for permissible seat leakage values.

NOTE 2: CCW-243-25, CCW-243-72, CCW-244-25 and CCW-244-72 (Code Relief): 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 will be confirmed closed in conjunction with Appendix J seat leakage testing at refueling frequency.

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RELIEF REQUEST NOTES

Flow Diagram No: 2-5141-27

Revision No: 3

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NOTE 1: ICR-5, -6, NCR-105 through -110 (Code Relief): See "Attachment-A"  
for permissible seat leakage values.

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Flow Diagram No: 2-5141D-8

Revision No: 3

Date: 2-5-90

NOTE 1: ECR-10 through -29 and NS-283 (Code Relief): See "Attachment-A" for permissible seat leakage values.

NOTE 2: NS-283 (Code Relief): 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 the line is open ended in the containment. This check valve is not equipped with position indicator. The only method available to verify the valve closure is by seat leakage testing. The valve will be full stroke exercised to the open position by a flow test quarterly and will be confirmed closed in conjunction with Appendix J seat leakage testing at refueling frequency.



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Flow Diagram No: 2-5142-28

Revision No: 3

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- NOTE 1: ICM-250 and ICM-251 (Cold Shutdown Justification): 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. The valves will be full stroke tested and timed at cold shutdown frequency.
- NOTE 2: ICM-250, -251, -260 and -265 (Code Relief): See "Attachment-A" for permissible seat leakage values.
- NOTE 3: IMO-261 (Cold Shutdown Justification): This valve cannot be tested when SI pumps are required to be operable. Testing would result in isolation of the common suction line to both SI trains. This valve will be stroke tested and timed at cold shutdown frequency.
- NOTE 4: IMO-262 and -263 (Cold Shutdown Justification): These motor operated valves are located in series in the re-circulation line of the Safety Injection pumps. Exercising either of these valves will make both SI pumps inoperable. These valves will be full-stroke exercised and timed at cold shutdown frequency when SI pumps are not required to be operable.
- NOTE 5: SI-110N, SI-110S and SI-101 (Code Relief): Safety Injection (SI) pump discharge valves, SI-110N and -110S, cannot be exercised during power operation because the SI pumps cannot overcome reactor coolant system 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



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Flow Diagram No: 2-5142-28

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Note 5 (continued)

power operation during pump testing. These valves cannot be exercised during cold shutdown because the SI pumps are required to be inoperable by Technical Specification 3.5.3 to protect against low temperature overpressurization of the reactor. These valves will be full-stroke exercised at refueling frequency.

NOTE 6: SI-142 L1, L2, L3, and L4 (Code Relief): 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 at refueling frequency.



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Flow Diagram No: 2-5143-35

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NOTE 1: SI-151E&W, -152N&S, -158-L1 through L4, -161-L1 through L4, -166-1 through 4, -170L1 through L4, RH-133, -134 and ICM-129 (Comment): See "Attachment-A" for permissible seat leakage values.

NOTE 2: IMO-128 and ICM-129 (Cold Shutdown Justification): 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 and timed prior to placing them into service at cold shutdown frequency.

NOTE 3: IMO-310, -320, -314, -324 (Comment): 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 (Cold Shutdown Justification): 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 and timed at cold shutdown frequency.



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NOTE 5: SI-166-1 through 4 (Code Relief): These check valves function to prevent backflow 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 part stroke exercised at refueling frequency. The valves will be disassembled, manually full stroke exercised and visually examined on a sampling basis (one of four) per GL-89-04, Attachment 1, Item #2, at refueling frequency.

NOTE 6: SI-161, L1, L2, L3, L4 (Code Relief): 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. Full stroke of these valves (individually) cannot be verified at cold shutdown frequency because flow instrumentation is not available downstream of the flow split. These valves will be part stroke exercised at cold shutdown frequency and full stroke will be locally verified using portable instrumentation at refueling frequency.

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- NOTE 7: RH-108E,W (Cold Shutdown Justification): These valves cannot be full stroke exercised quarterly because it would require design modification to existing instrumentation to accommodate the full flow test measurements. The valves will be part stroke exercised quarterly and full stroke exercised at cold shutdown frequency (during RHR operation).
- NOTE 8: SI-148 (Code Relief): 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. The valve cannot be full stroke exercised during cold shutdown since the 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 refueling frequency.
- NOTE 9: SI-151 E, W (Cold Shutdown Justification): 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 cold shutdown frequency.



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NOTE 10: SI-152 N, S (Code Relief): 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 reactor vessel. 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.

NOTE 11: SI-158 L1, L2, L3, L4 (Code Relief): 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. Full stroke of these valves (individually) cannot be verified at cold shutdown frequency because flow instrumentation is not available downstream of the flow split. These valves will be part stroke exercised at cold shutdown frequency. Full stroke will be verified using portable instrumentation at refueling frequency.





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NOTE 12: SI-170 L1, L2, L3, and L4 (Code Relief): 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 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 is by disassembly. The valves are not equipped with position indicators. The valves will be disassembled, manually full stroke exercised and visually examined on a sampling basis (one of four) per GL-89-04, Attachment 1, Item #2, at refueling frequency.

NOTE 13: N-102 (Code Relief): This check valve is located in the nitrogen supply header to the accumulators for blanketing purposes. The valve cannot be full stroke tested to the 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 a position indicator. The valve will be verified closed in conjunction with Appendix J seat leakage testing at refueling frequency.

NOTE 14: GCR-314, ICM-305 and -306, N-102, SI-171, -172 and -194 (Code Relief): See "Attachment-A" for permissible seat leakage values.



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NOTE 15: IMO-340 and -350 (Code Relief): Valves IMO-340 and IMO-350 are located in east and west RHR discharge headers to the suction of charging and SI pumps, respectively. These valves are normally closed during power operation, and would be opened during the recirculation phase of a LOCA to allow the RHR pumps to provide water from the containment recirculation sump to charging and SI pumps. These valves cannot be full stroke exercised during power operation because they are interlocked with valves IMO-262 and -263, located in series, in the SI pump miniflow (recirculation) line to RWST. Closing of IMO-262 and -263 would render both SI pumps inoperable and, thus, places the unit in T/S 3.0.3, which allows one hour to restore the SI pumps to operable status or begin a unit shutdown. The complicated valve and equipment lineup to perform the valve testing in one hour is highly unlikely. Therefore, the valves will be full stroke exercised and timed on a cold shutdown frequency. (For additional details, refer to Code Relief granted by the NRC dated 1-30-89, AEP:NRC:09690.)



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RELIEF REQUEST NOTES

Flow Diagram No: 2-5144-29

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NOTE 1: CTS-138E & W (Code Relief): These check valves are located in the lines which supply water from the RWST to the containment spray pumps. The valves cannot be full stroke exercised during power operation, cold shutdown or refueling without spraying the containment. The valves are part stroke exercised during containment spray pump testing on a quarterly basis. The only practical method available to verify full stroke of these valves is by disassembly. These valves are not equipped with position indicators. The valves will be disassembled, manually full stroke exercised and visually examined on a sampling basis (one of two) per GL-89-04, Attachment 1, Item #2, once every other refueling frequency.

NOTE 2: CTS-103 E & W (Code Relief): These check valves are located in the discharge lines of containment spray pumps to the spray ring headers in the containment. These valves cannot be full stroke exercised during power operation, cold shutdown or refueling without spraying the containment. The valves are part stroke exercised during containment spray pump testing on a quarterly basis. The only practical method available to verify full stroke of these valves is by disassembly. The valves are not equipped with position indicators. The valves will be disassembled, manually full stroke exercised and visually examined on a sampling basis (one of two) per GL-89-04, Attachment 1, Item #2, once every other refueling frequency.



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NOTE 3: CTS-131E & W (Code Relief): These check valves are located in the supply lines to the (upper compartment) containment spray ring headers. These valves are in closed position during normal plant operation. The valves are exposed to containment atmosphere on the downstream side and are isolated from fluid pressure in the upstream side by the closed motor operated valves. The valves cannot be part or full stroke 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 the containment, etc. The only practical method available to exercise these valves is by disassembly. The valves are not equipped with position indicators. The valves will be disassembled, manually full stroke exercised and visually examined on a sampling basis (one of two) per GL-89-04, Attachment 1, Item #2, once every other refueling frequency.

NOTE 4: CTS-127E & W (Code Relief): These check valves are located in the supply lines to the (lower compartment) containment spray ring headers. These valves are in closed position during normal plant operation. The valves are exposed to containment atmosphere on the downstream side and are isolated from fluid pressure in the upstream side by the closed motor operated valves. The valves cannot be part or full stroke 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 the containment, etc. The only practical method available to exercise these valves is by



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Flow Diagram No: 2-5144-29

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Note 4 (continued)

disassembly. The valves are not equipped with position indicators. The valves will be disassembled, manually full stroke exercised and visually examined on a sampling basis (one of two) per GL-89-04, Attachment 1, Item #2, once every other refueling frequency.

NOTE 5: RH-141 & -142 (Code Relief): These check valves are located in the supply lines to the (upper compartment) containment spray ring headers from the RHR Heat Exchangers. These valves are in closed position during normal plant operation. The valves are exposed to containment atmosphere on the downstream side and are isolated from fluid pressure in the upstream side by the closed motor operated valves. The valves cannot be part or full stroke 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 the containment, etc. The only practical method available to exercise these valves is by disassembly. The valves are not equipped with position indicators. The valves will be disassembled, manually full stroke exercised and visually examined on a sampling basis (one of two) per GL-89-04, Attachment 1, Item #2, once every other refueling frequency.

NOTE 6: CTS-109 and -110 (Cold Shutdown Justification): These check valves function as vacuum breakers for spray additive tank. The check valves are closed during normal plant operation to maintain the tank pressurized. The valves will be verified closed quarterly during power operation and will be verified open at cold shutdown frequency.

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NOTE 7: CTS-127E&W, CTS-131E&W, RH-141,-142 (Code Relief): These valves are to be seat leakage tested in accordance with the unique testing methods established in the FSAR because of the configuration at D.C. Cook Plant. The permissible seat leakage values of these valves are listed in Attachment "A".



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Flow Diagram No: 2-5145-20

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NOTE 1: CA-181-N&S (Code Relief): See "Attachment-A" for permissible seat leakage values.

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Revision No: 3

Date: 2-5-90

NOTE 1: R-156 and R-157 (Code Relief): These check valves are installed in parallel lines to the glycol main supply and return lines 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 indicators. The valves will be full stroke exercised in the open direction quarterly and verified closed in conjunction with Appendix J seat leakage testing at refueling frequency.

NOTE 2: R-156 and -157, VCR-10, -11, -20 and -21 (Code Relief):  
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: 3

Date: 2-5-90

NOTE 1: SM-4, -6, -8 and -10, VCR-101 through -107 and VCR-201 through -207  
(Code Relief): 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: 3

Date: 2-5-90

NOTE 1: VRV-325, -315 (Code Relief): These thermostatically controlled 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 normally in an intermediate position based on control room cooling load. These valves can not be full stroke exercised because there is no provision to fully close the valves. The valves will be part stroke exercised from an intermediate position in conjunction with fail safe testing on quarterly basis. 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.

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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5151A-26

Revision No: 3

Date: 2-5-90

NOTE 1: DF-108A, -109A, -114A, -115A, DL-114A, -116A, -126A, -132A, -158A  
(Comment): 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 (Code Relief): 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 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: 3

Date: 2-5-90

- NOTE 1: DG-102A, -104A, -128A, 130A, -146A, -152A and -154A (Comment):  
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 (Code Relief): 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 per Technical Specification 4.8.1.1.2. The valve will be verified operable by observing proper temperatures during diesel testing.
- NOTE 3: XRV-221 and -222 -Starting Air (Code Relief): The starting air valves are installed on parallel air supply lines to the emergency diesel generator (EDG). The valves are not equipped with position indication devices to directly measure valve stroke times. The valves function to provide starting air which rolls the EDG. The valves are functionally redundant to each other. These valves fail "as is," and, therefore, they have no fail safe position. Successful starting of the EDG in accordance with Technical Specification 4.8.1.1.2 (i.e., slow start at least quarterly and fast start once every 184 days within 10 seconds) will verify the valve performance. The valve stroke timing will be verified by

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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5151B-27

Revision No: 3

Date: 2-5-90

Note 3 (continued)

measuring diesel starting times during fast start testing of EDG. The valves on a staggered basis will be valved out one at a time to verify the operability of the opposite valve during slow start of EDG at least quarterly. Position indication will be confirmed during the above testing when only one starting air train is used to start the diesel generators.

NOTE 4: XRV-220-Jet Assist (Code Relief): This valve's function is to facilitate the EDG fast start by providing an air boost to the turbo charger to assist in starting the EDG in its Technical Specification 4.8.1.1.2 time limitation of 10 seconds. The valve is not equipped with position indication devices; therefore, meaningful stroke times are not achievable. The valves will be full stroke and fail safe tested by verifying EDG starting time once per 184 days in accordance with Technical Specification 4.8.1.1.2.

DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5151C-26

Revision No: 3

Date: 2-5-90

- NOTE 1: DL-114C, -116C, -126C, -132C and -158C (Comment): 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 (Code Relief): 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 per Technical Specification 4.8.1.1.2. The valves will be verified operable by observing proper temperatures during diesel testing.



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DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5151D-27

Revision No: 3

Date: 2-5-90

- NOTE 1: DG-102C, -104C, -128C, -130C, -146C, -152C and -154C (Comment): 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 (Code Relief): 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-226 and -227 -Starting Air (Code Relief): The starting air valves are installed on parallel air supply lines to the emergency diesel generator (EDG). The valves are not equipped with position indication devices to directly measure valve stroke times. The valves function to provide starting air which rolls the EDG. The valves are functionally redundant to each other. These valves fail "as is," and, therefore, they have no fail safe position. Successful starting of the EDG in accordance with Technical Specification 4.8.1.1.2 (i.e., slow start at least quarterly and fast start once every 184 days within 10 seconds) will verify the valve performance. The valve stroke timing will be verified by

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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 2-5151D-27

Revision No: 3

Date: 2-5-90

Note 3 (continued)

measuring diesel starting times during fast start testing of EDG. The valves on a staggered basis will be valved out one at a time to verify the operability of the opposite valve during slow start of EDG at least quarterly. Position indication will be confirmed during the above testing when only one starting air train is used to start the diesel generators.

NOTE 4: XRV-225 -Jet Assist (Code Relief): This valve's function is to facilitate the EDG fast start by providing an air boost to the turbo charger to assist in starting the EDG in its Technical Specification 4.8.1.1.2 time limitation of 10 seconds. The valve is not equipped with position indication devices; therefore, meaningful stroke times are not achievable. The valves will be full stroke and fail safe tested by verifying EDG starting time once per 184 days in accordance with Technical Specification 4.8.1.1.2.

DONALD C. COOK NUCLEAR PLANT

VALVE TEST PROGRAM

RELIEF REQUEST NOTES

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

Revision No: 3

Date: 2-5-90

NOTE 1: QCR-919 and -920 (Code Relief): See "Attachment-A" for permissible seat leakage values.

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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

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

Revision No: 3

Date: 2-5-90

- NOTE 1: PA-342 (Code Relief): 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 indicator. Due to the plant design, the only method available to verify the valve closure is leak testing. The valve will be verified closed in conjunction with Appendix J seat leakage testing at refueling frequency.
- NOTE 2: PA-342, PCR-40, XCR-100 through -103 (Code Relief): See "Attachment-A" for permissible seat leakage values.
- NOTE 3: XCR-100, -101, -102, -103 (Cold Shutdown Justification): 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 and timed at cold shutdown frequency.



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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

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

Revision No: 3

Date: 2-5-90

NOTE 1: CS-427S (Cold Shutdown Justification): This valve is located in the emergency boration path. This valve cannot be tested during power operation without inserting large negative reactivity which would result in unit shutdown. The valve will be full stroke exercised at cold shutdown frequency.

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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 12-5136-25 - Unit 2

Revision No: 3

Date: 2-5-90

NOTE 1: SF-152 and -154 (Code Relief): See "Attachment-A" for permissible seat leakage values.



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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 12-5137A-21 - Unit 2

Revision No: 3

Date: 2-5-90

NOTE 1: DCR-201 through -207, -610, -611, -620 and -621, N-160, SF-159 and -160 (Code Relief): See "Attachment-A" for permissible seat leakage values.

NOTE 2: N-160 (Code Relief): 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 indicator. This valve will be verified closed in conjunction with Appendix J seat leakage testing at refueling frequency.



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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 12-5141C-8 - Unit 2

Revision No: 3

Date: 2-5-90

NOTE 1: ECR-416, -417, -496, -497, -535 and -536 (Code Relief):  
See "Attachment-A" for permissible seat leakage values.

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VALVE TEST PROGRAM

RELIEF REQUEST NOTES

Flow Diagram No: 12-5141F-6 - Unit 2

Revision No: 3

Date: 2-5-90

- NOTE 1: ECR-36 (Cold Shutdown Justification): 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 cold shutdown frequency.
- NOTE 2: ECR-31, -32, -33, -35, -36 and SM-1 (Code Relief): See "Attachment-A" for permissible leakage values.
- NOTE 3: SM-1 (Code Relief): 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 verified closed in conjunction with Appendix J seat leakage testing at refueling frequency.





## DONALD C. COOK NUCLEAR PLANT

## ASME SECTION XI VALVE TEST PROGRAM FOR UNIT #2

## ATTACHMENT-A

Revision No: 3

Date: 2-5-90

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, which are applicable (refer to Figure 3, Item #3).

<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

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## ASME SECTION XI VALVE TEST PROGRAM FOR UNIT #2

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<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

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## ASME SECTION XI VALVE TEST PROGRAM FOR UNIT #2

## ATTACHMENT-A

Revision No: 3

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<u>Valve No.</u>	<u>Flow Diagram</u>	<u>Size</u>	<u>Type</u>	<u>Permissible Leakage Values (SCCM)</u>
ECR-15,-25	5141B	0.50	GL	750
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

## DONALD C. COOK NUCLEAR PLANT

## ASME SECTION XI VALVE TEST PROGRAM FOR UNIT #2

## ATTACHMENT-A

Revision No: 3

Date: 2-5-90

<u>Valve No.</u>	<u>Flow Diagram</u>	<u>Size</u>	<u>Type</u>	<u>Permissible Leakage Values (SCCM)</u>
CS-321	5129	3	CK	1800
VCR-10,-11	5146B	4	DA	1200
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: 3

Date: 2-5-90

<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) *	600
ICM-265	5142	4	GA (DD) *	600
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

## DONALD C. COOK NUCLEAR PLANT

## ASME SECTION XI VALVE TEST PROGRAM FOR UNIT #2

## ATTACHMENT-A

Revision No: 3

Date: 2-5-90

<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



## DONALD C. COOK NUCLEAR PLANT

## ASME SECTION XI VALVE TEST PROGRAM FOR UNIT #2

## ATTACHMENT-A

Revision No: 3

Date: 2-5-90

<u>Valve No.</u>	<u>Flow Diagram</u>	<u>Size</u>	<u>Type</u>	<u>Permissible Leakage Values (SCCM)</u>
CCW-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: 3

Date: 2-5-90

<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



## DONALD C. COOK NUCLEAR UNIT

## ASME SECTION XI VALVE TEST PROGRAM FOR UNIT #2

## ATTACHMENT-A

Revision No: 3

Date: 2-5-90

<u>Valve No.</u>	<u>Flow Diagram</u>	<u>Size</u>	<u>Type</u>	<u>Permissible Leakage Values (SCCM)</u>
VCR-102,-202	5147A	14	BF	4200
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

## ASME SECTION XI VALVE TEST PROGRAM FOR UNIT #2

## ATTACHMENT-A

Revision No.: 3

Date: 2-5-90

2. CONTAINMENT SPRAY VALVES (Category A or AC)

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

<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	35.00
CTS-131E	5144	8	CK	35.00
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: 3

Date: 2-5-90

3. PRESSURE ISOLATION VALVES (Category A or AC)

Testing Method: (SLT-1) Seat leakage test the valve per ASME Code Section XI (refer to Figure 3, Item #3).

<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)*	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

\* Double Discs





## DONALD C. COOK NUCLEAR PLANT

## ASME SECTION XI VALVE TEST PROGRAM FOR UNIT #2

## ATTACHMENT-A

Revision No: 3

Date: 2-5-90

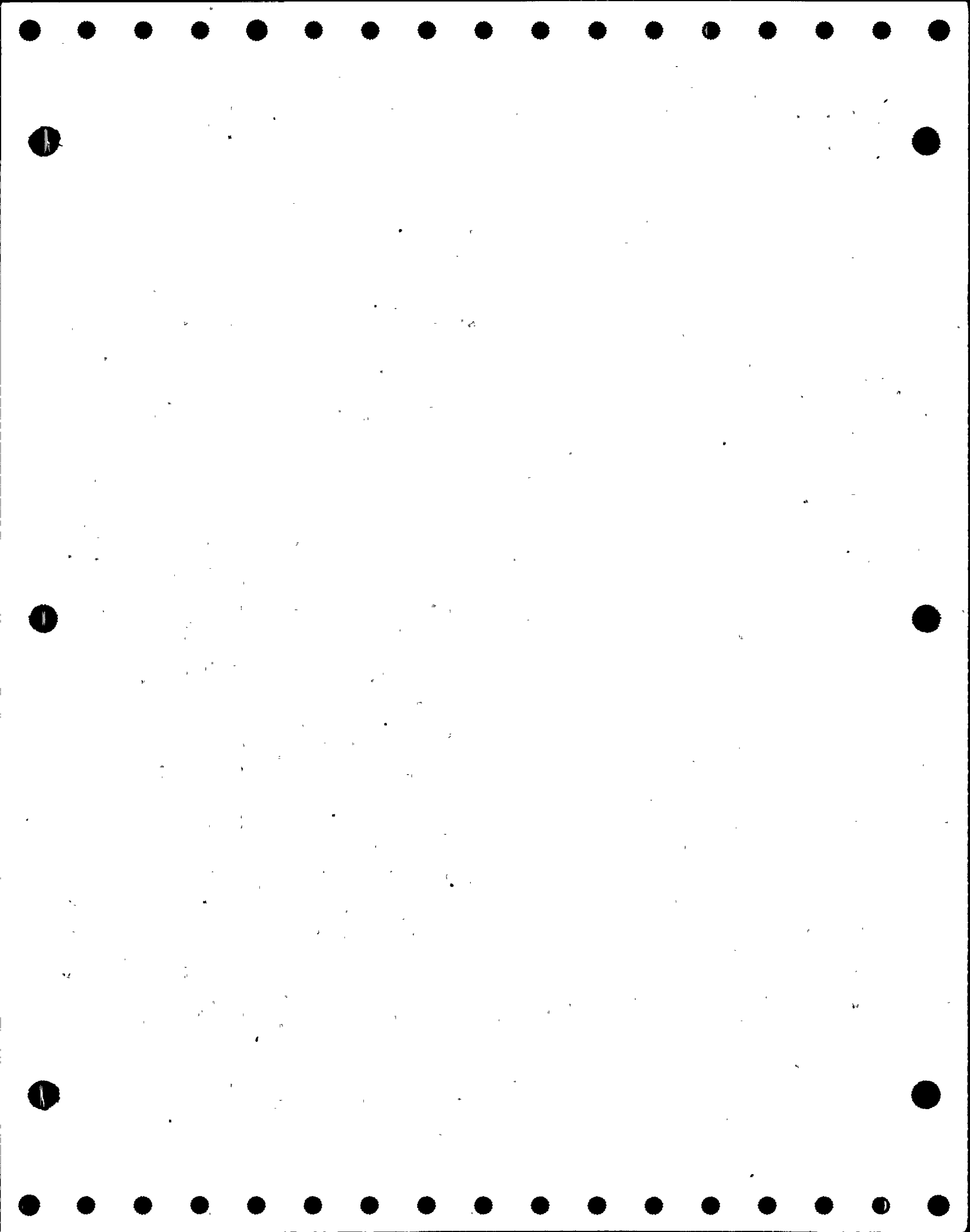
<u>Valve No.</u>	<u>Flow Diagram</u>	<u>Size</u>	<u>Type</u>	<u>Permissible Leakage Values (GPM)</u>
SI-170-L4	5143	10	CK	5.0
SI-158-L1,-L4	5143	6	CK	10.0
SI-158-L2,-L3	5143	6	CK	10.0
SI-151-E	5143	8	CK	5.0
SI-151-W	5143	8	CK	5.0
SI-166-L1	5143	10	CK	5.0
SI-166-L2	5143	10	CK	5.0
SI-166-L3	5143	10	CK	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 SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 12-5115A-41

RUN DATE AND TIME: 15FEB90:16:14

SYSTEM NAME: MAKE UP & PRIMARY-WATER UNIT 2

VALVE				VALVE POSITION				ASME SECTION XI						
NUMBER	REV	TYPE	SIZE	ACT F.D. TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD A/P ICL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)	
2-QCR-919	3	DA	2	A	D/7	O/C	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-QCR-920	3	DA	2	A	D/7	O/C	C	2	A	A	EF-1	EF-2	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1

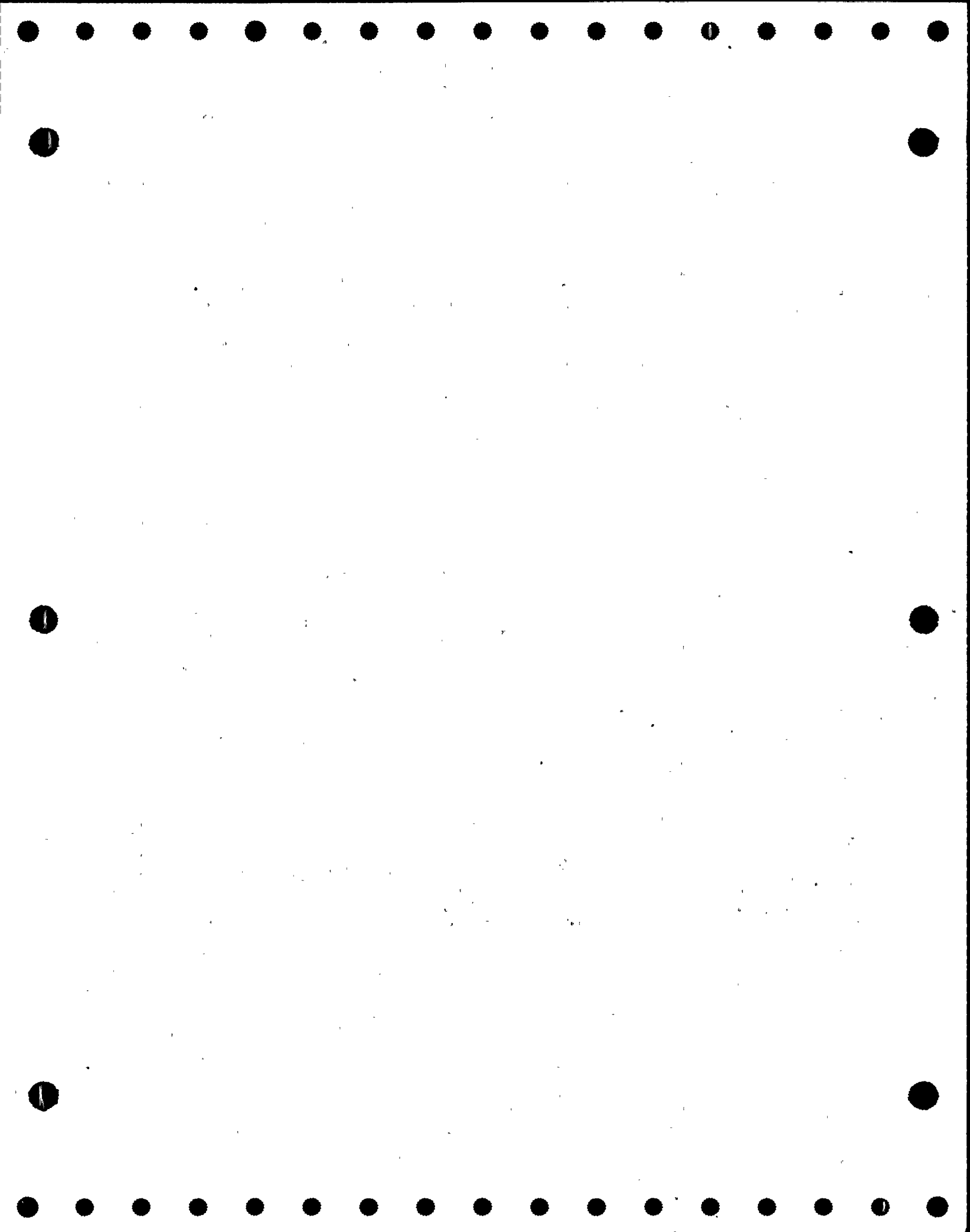


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 12-5120B-22

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-PA-342	3	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	3	GA	2	A	H/7	O/C	C	2	A	A	EF-1 EF-5 EF-7 ET-XXX SLT-1	EF-1 EF-5 EF-7 ET-XXX SLT-2	P - P P R	NO NO NO NO YES, NOTE 2
2-XCR-100	3	GL	1	A	L/3	O	C	2	A	A	EF-1 EF-5 EF-7 ET-XXX SLT-1	EF-2 EF-5 EF-8 ET-XXX SLT-2	C - C C R	NO, CSJ 3 NO NO, CSJ 3 NO, CSJ 3 YES, NOTE 2
2-XCR-101	3	GL	1	A	L/3	O	C	2	A	A	EF-1 EF-5 EF-7 ET-XXX SLT-1	EF-2 EF-5 EF-8 ET-XXX SLT-2	C - C C R	NO, CSJ 3 NO NO, CSJ 3 NO, CSJ 3 YES, NOTE 2
2-XCR-102	3	GL	1	A	L/2	O	C	2	A	A	EF-1 EF-5 EF-7 ET-XXX SLT-1	EF-2 EF-5 EF-8 ET-XXX SLT-2	C - C C R	NO, CSJ 3 NO NO, CSJ 3 NO, CSJ 3 YES, NOTE 2
2-XCR-103	3	GL	1	A	L/2	O	C	2	A	A	EF-1 EF-5 EF-7 ET-XXX SLT-1	EF-2 EF-5 EF-8 ET-XXX SLT-2	C - C C R	NO, CSJ 3 NO NO, CSJ 3 NO, CSJ 3 YES, NOTE 2

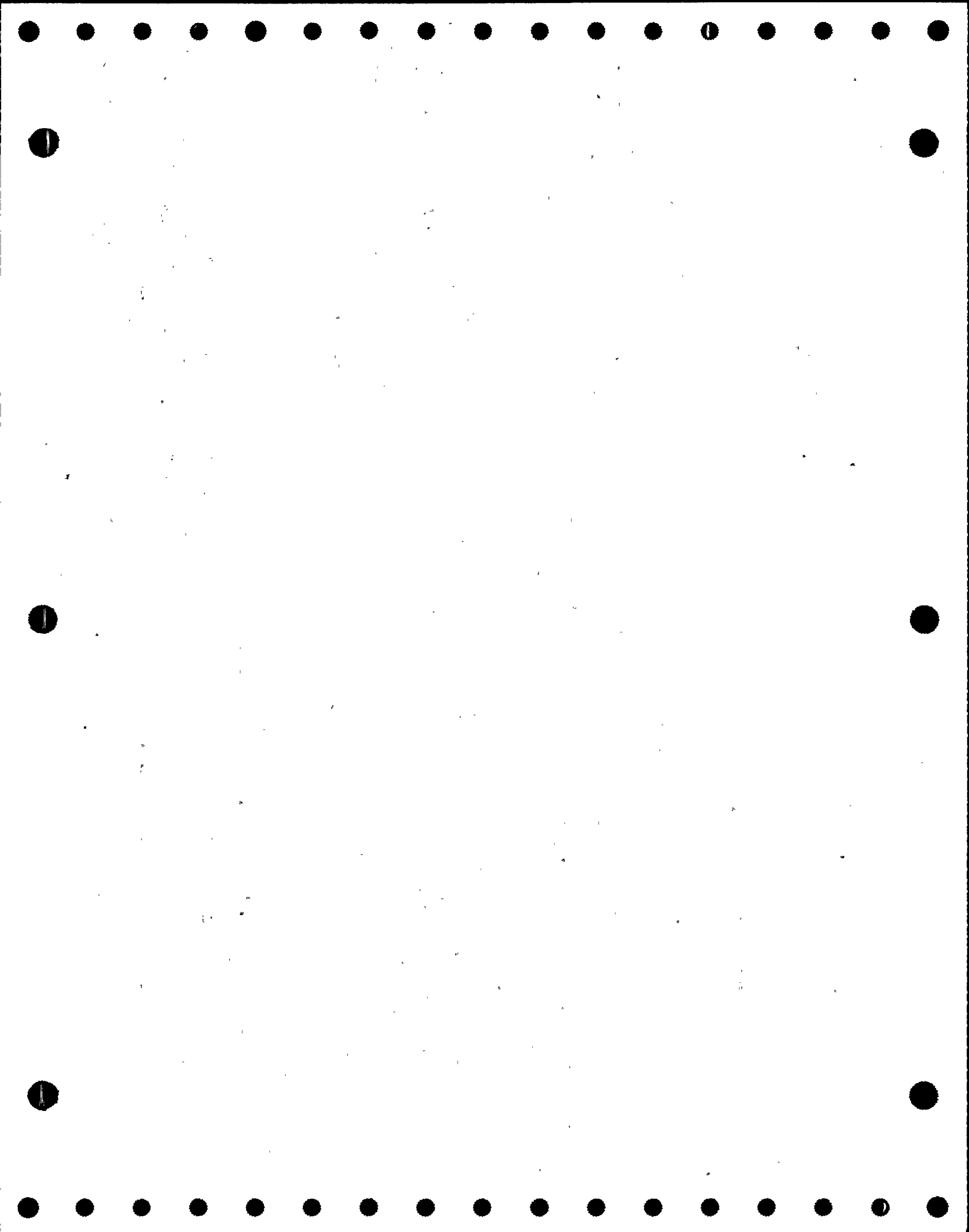


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 12-5131-19

RUN DATE AND TIME: 15FEB90:16:14

SYSTEM NAME: CVCS - BORON MAKE-UP - UNIT 2

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-CS-415-3	3	CK	2	SA	K/6	O/C	0	3	A	C	CF-1	CF-1	P	NO
2-CS-415-4	3	CK	2	SA	L/6	O/C	0	3	A	C	CF-1	CF-1	P	NO
2-CS-426-S	3	CK	1	SA	M/6	O/C	0	3	A	C	CF-1	CF-1	P	NO
2-CS-427-S	3	CK	2	SA	M/5	C	0	3	A	C	CF-1	CF-2	C	NO, CSJ 1
2-QMD-420	3	GA	2	MO	L/5	C	0	3	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-QRV-421	3	GL	2	A	M/6	O/C	0	3	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-1 EF-5 EF-7 ET-XXX	P - P P	NO NO NO NO
2-QRV-422	3	GL	2	A	M/7	O	C	3	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-1 EF-5 EF-7 ET-XXX	P - P P	NO NO NO NO



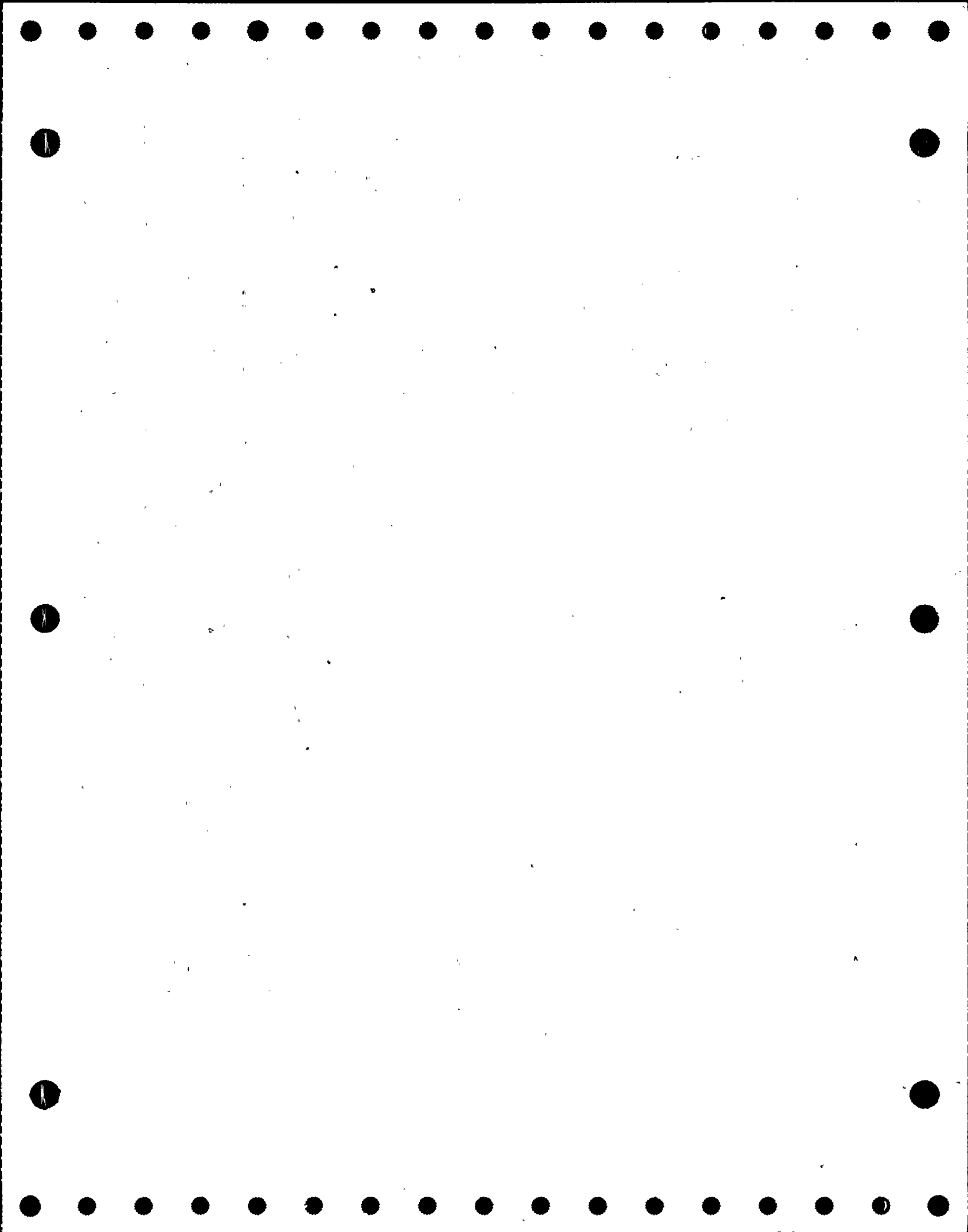
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 12-5136-25

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-SF-152	.3	DA	2.5	M	K/9	C	C	2	P	A	SLT-1	SLT-2	R	YES, NOTE 1
2-SF-154	3	GL	2.5	M	K/9	C	C	2	P	A	SLT-1	SLT-2	R	YES, NOTE 1



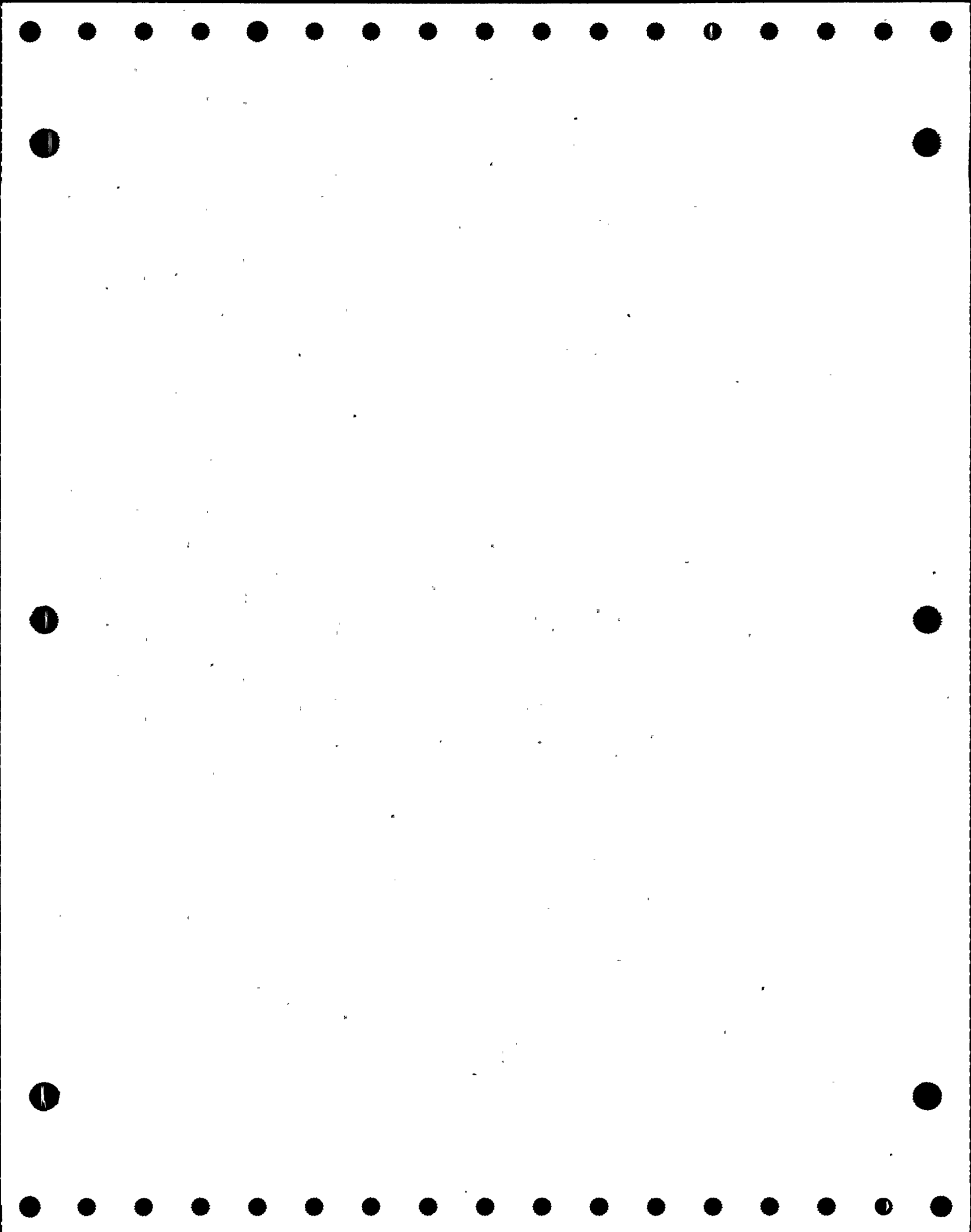


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 12-5137A-21

RUN DATE AND TIME: 15FEB90:16:14

SYSTEM NAME: WDS VENTS & DRAINS-UNIT 2

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-DCR-201	3	DA	1	A	E/4	C	C	2	P	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-DCR-202	3	DA	0.75	A	E/5	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-DCR-203	3	DA	1	A	F/4	C	C	2	P	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-DCR-204	3	DA	0.75	A	F/5	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-DCR-205	3	GL	4	A	E/7	O/C	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1

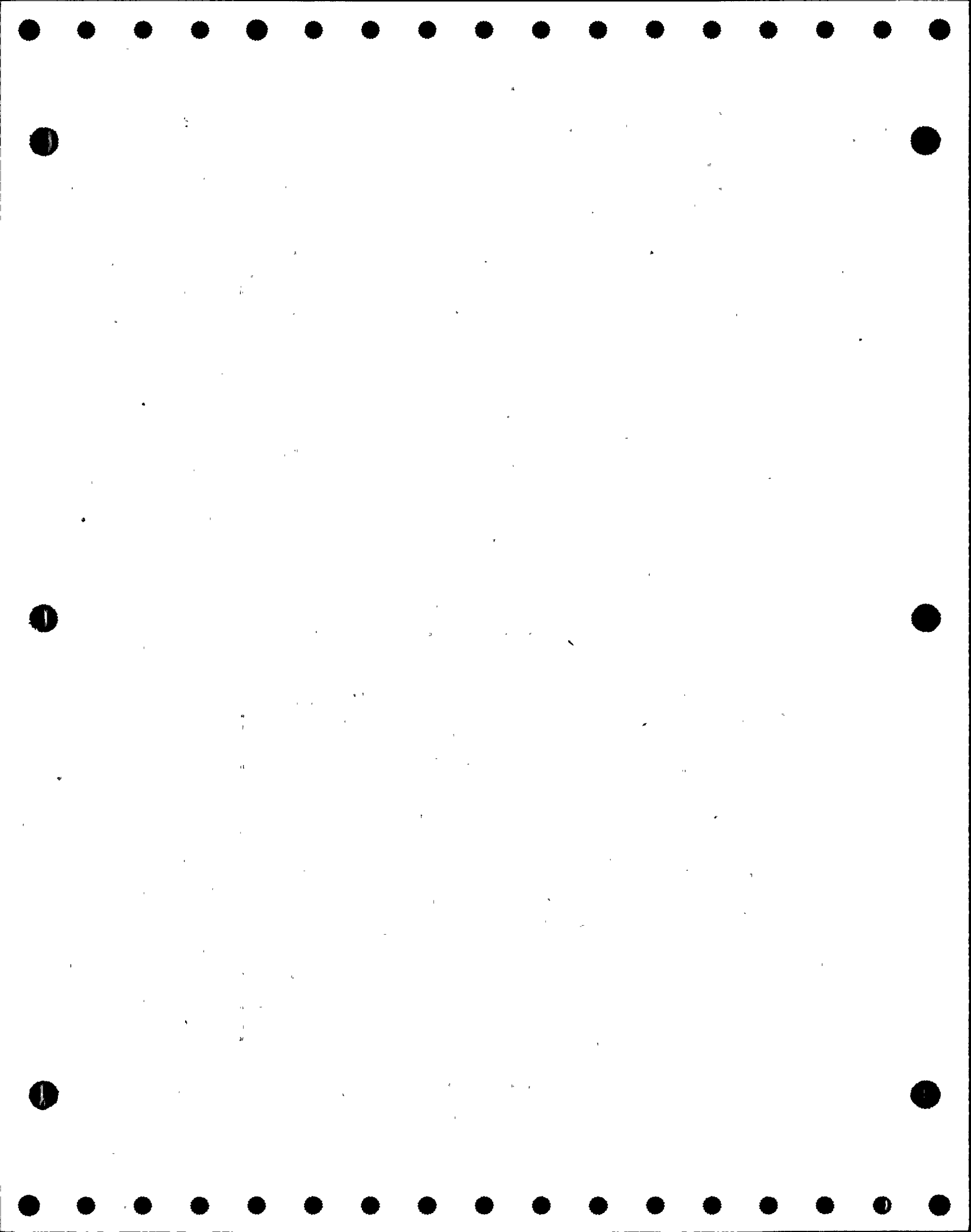


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 12-5137A-21

RUN DATE AND TIME: 15FEB90:16:14

SYSTEM NAME: HDS VENTS & DRAINS

VALVE				VALVE POSITION				ASME SECTION XI						
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNCT	CD A/P ICL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)	
2-DCR-206	3	GL	4	A	E/8	O/C	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-DCR-207	3	DA	1	A	F/4	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-DCR-610	3	DA	2.5	A	M/9	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-DCR-611	3	DA	2.5	A	N/9	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-DCR-620	3	DA	1	A	M/9	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1

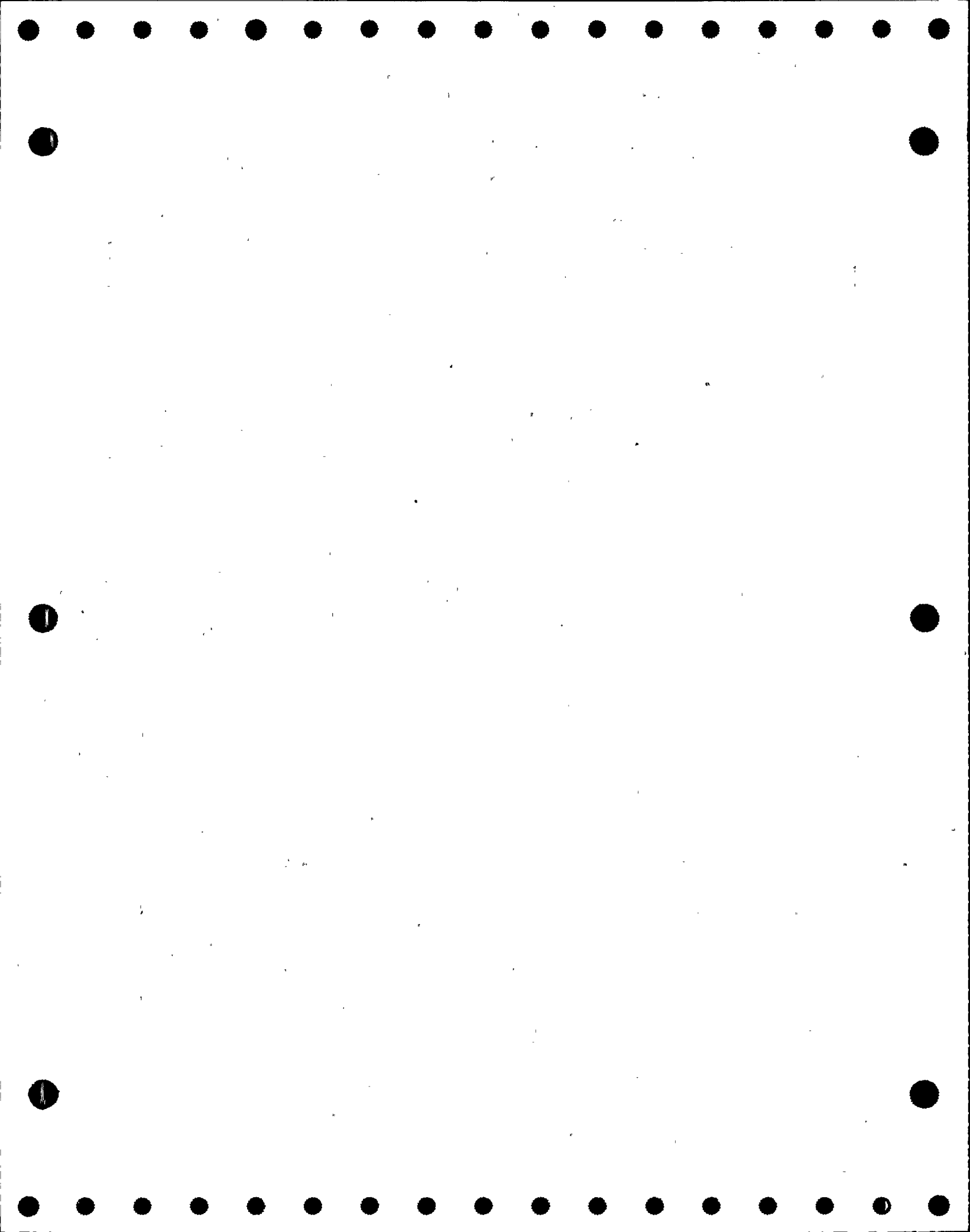


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 12-5137A-21

RUN DATE AND TIME: 15FEB90:16:14

SYSTEM NAME: NDS VENTS & DRAINS

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



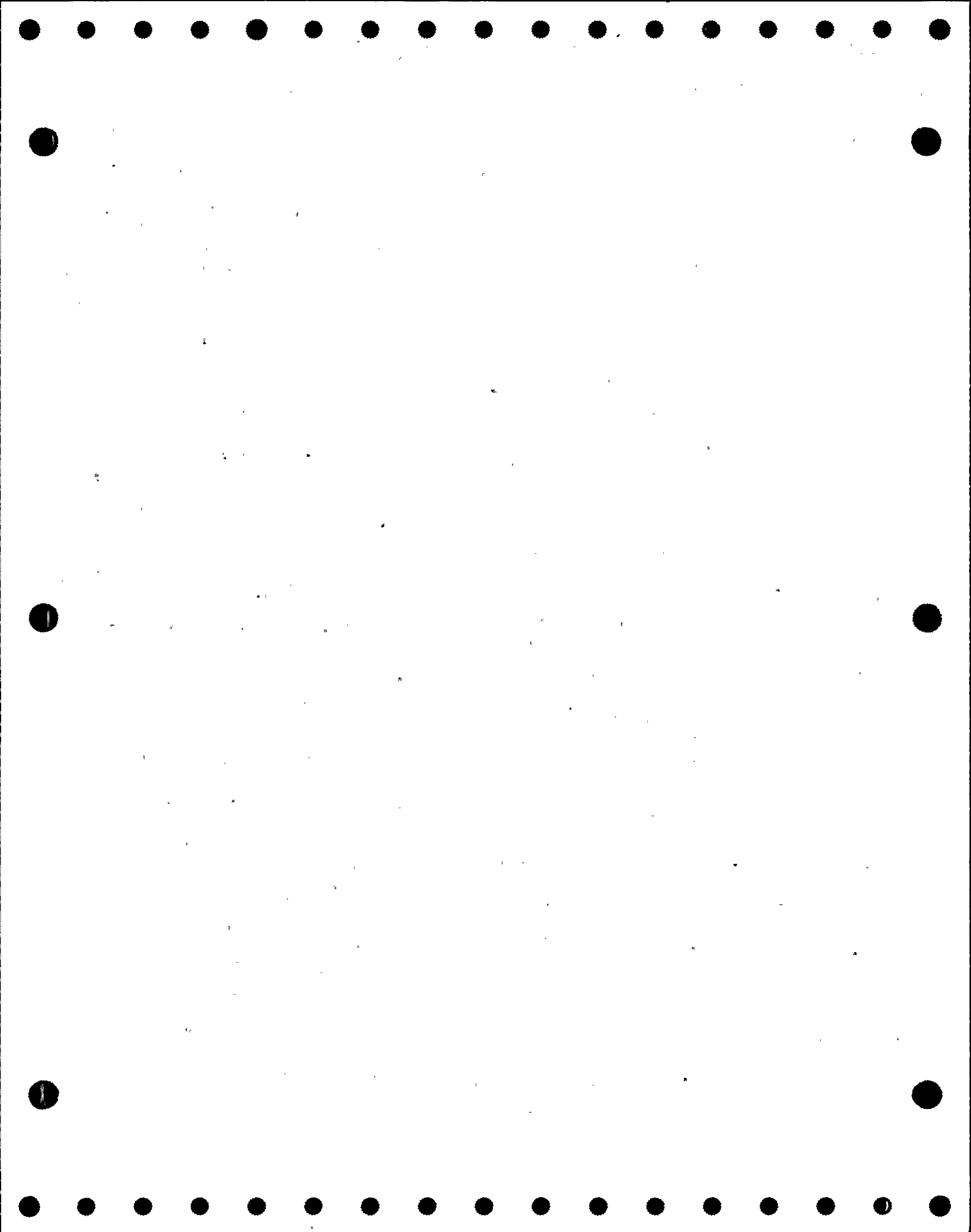
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 12-5141C-8

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-ECR-416	3	GL	0.5	A	M/6	C	C	2	P	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-417	3	GL	0.5	A	M/6	C	C	2	P	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-496	3	GL	0.5	A	M/8	C	C	2	P	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-497	3	GL	0.5	A	M/8	C	C	2	P	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-535	3	GL	0.5	A	M/2	C	C	2	P	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1



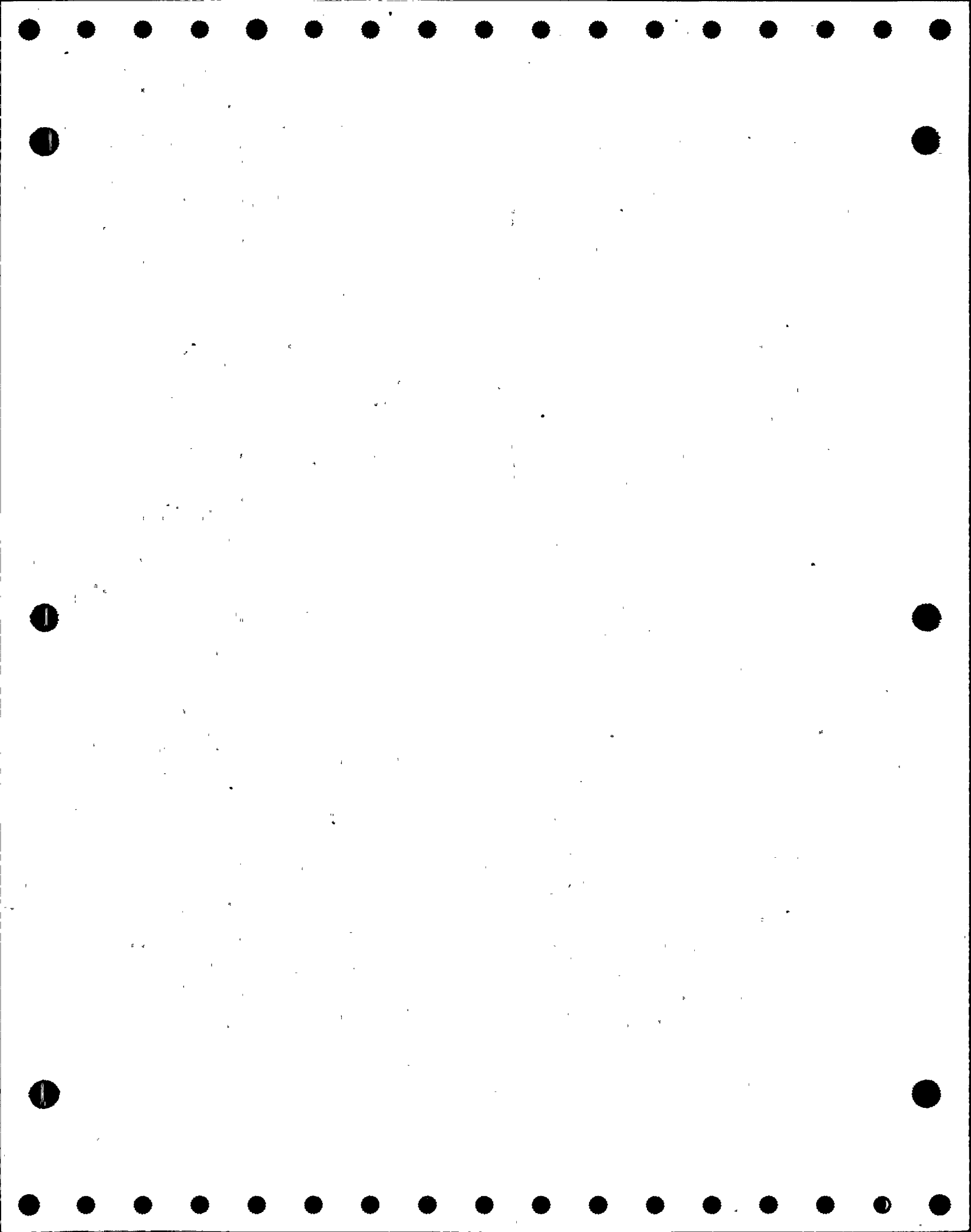


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 12-5141C-8

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF-REQUEST(S)
2-ECR-536	3	GL	0.5	A	L/2	C	C	2	P	A	EF-1 EF-5 EF-7 ET-XXX SLT-1	EF-1 EF-5 EF-7 ET-XXX SLT-2	P - P P R	NO NO NO NO YES, NOTE 1

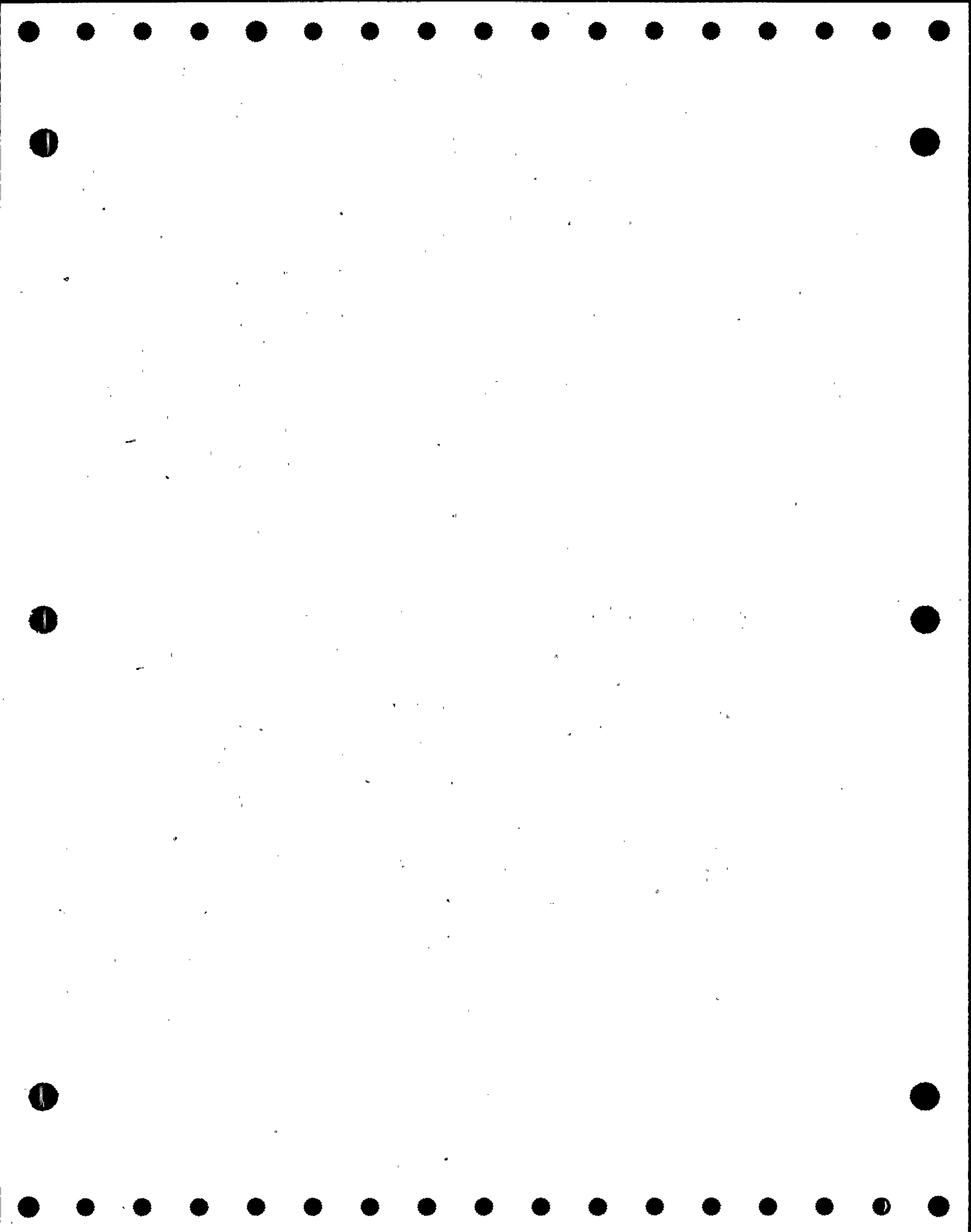


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 12-5141F-6

RUN DATE AND TIME: 15FEB90:16:14

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)	
2-ECR-31	3	GL	1	A	B/3	0	C	2 A A	A	EF-1	EF-1	P	NO	
										EF-5	EF-5	-	NO	
										EF-7	EF-7	P	NO	
										ET-XXX	ET-XXX	P	NO	
										SLT-1	SLT-2	R	YES, NOTE 2	
2-ECR-32	3	GL	1	A	B/5	0	C	2 A A	A	EF-1	EF-1	P	NO	
										EF-5	EF-5	-	NO	
										EF-7	EF-7	P	NO	
										ET-XXX	ET-XXX	P	NO	
										SLT-1	SLT-2	R	YES, NOTE 2	
2-ECR-33	3	GL	0.75	A	B/2	0	C	2 A A	A	EF-1	EF-1	P	NO	
										EF-5	EF-5	-	NO	
										EF-7	EF-7	P	NO	
										ET-XXX	ET-XXX	P	NO	
										SLT-1	SLT-2	R	YES, NOTE 2	
2-ECR-35	3	GL	1	A	B/2	0	C	2 A A	A	EF-1	EF-1	P	NO	
										EF-5	EF-5	-	NO	
										EF-7	EF-7	P	NO	
										ET-XXX	ET-XXX	P	NO	
										SLT-1	SLT-2	R	YES, NOTE 2	
2-ECR-36	3	GL	1	A	B/3	0	C	2 A A	A	EF-1	EF-2	C	NO, CSJ 1	
										EF-5	EF-5	-	NO	
										EF-7	EF-8	C	NO, CSJ 1	
										ET-XXX	ET-XXX	C	YES, CSJ 1	
										SLT-1	SLT-2	R	YES, NOTE 2	



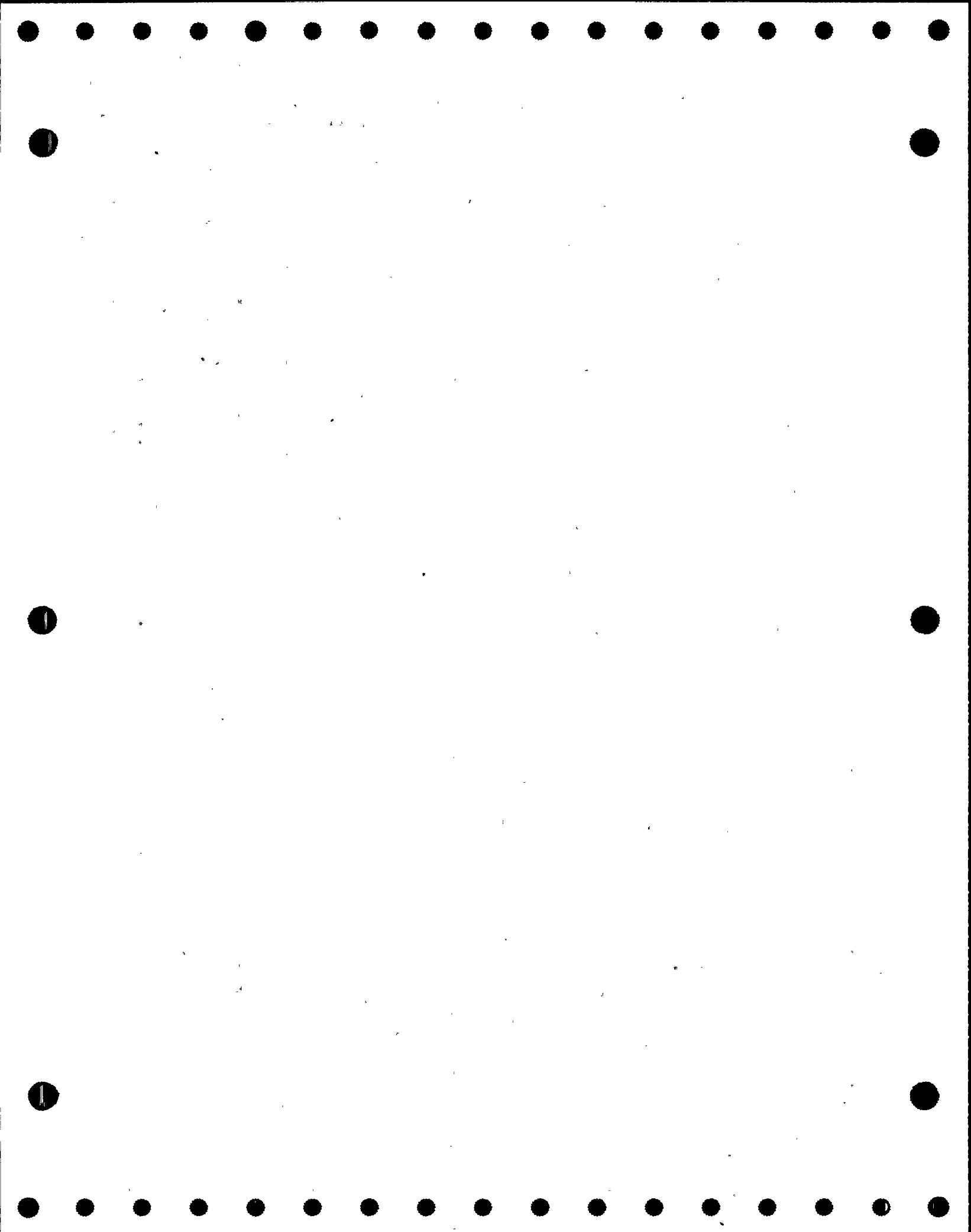
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 12-5141F-6

RUN DATE AND TIME: 15FEB90:16:14

SYSTEM NAME: PAL SAMPLING & INST. PANELS -UNIT 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)

2-SM-1	3	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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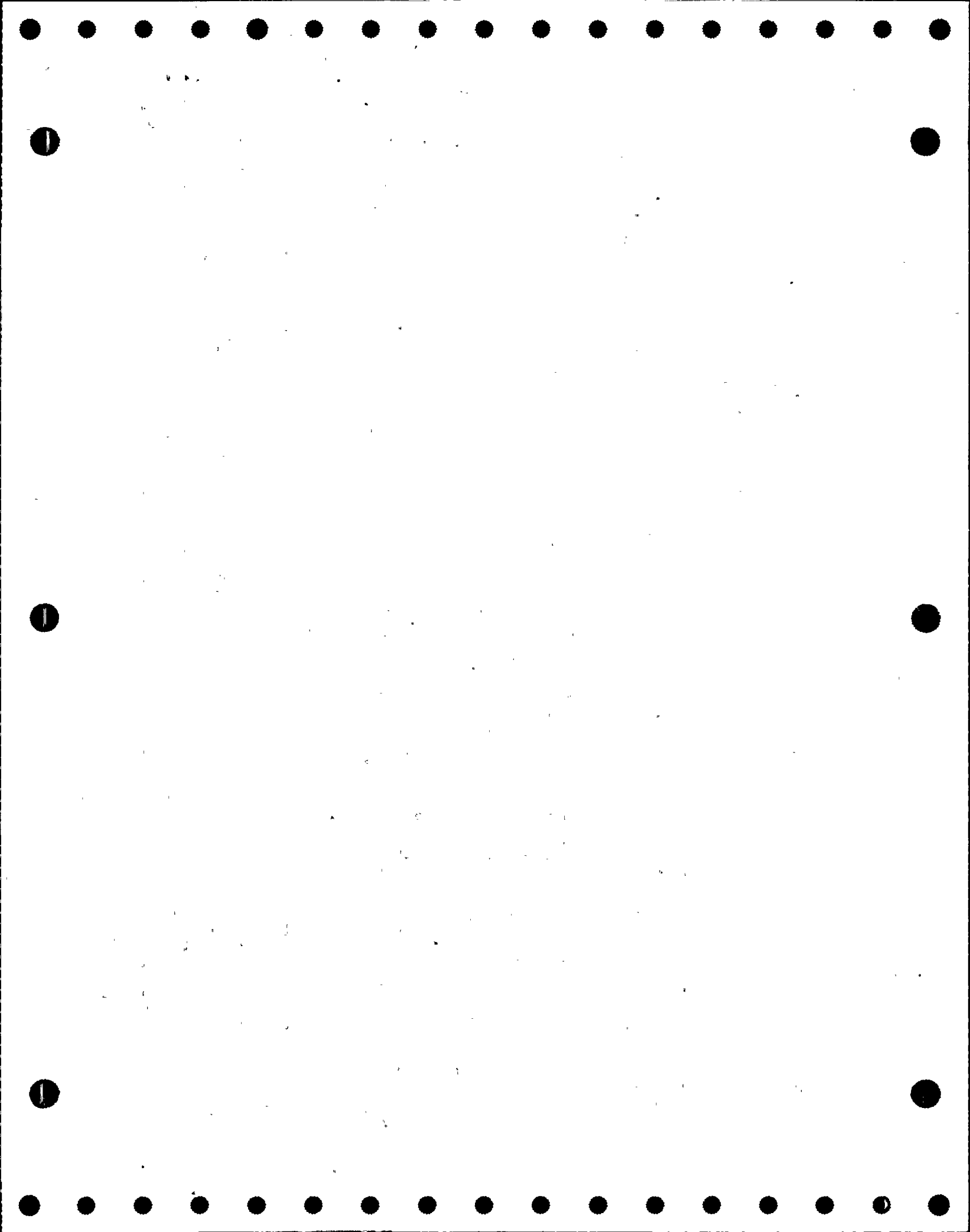
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5105B-42

RUN DATE AND TIME: 15FEB90:16:14

SYSTEM NAME: MAIN STEAM

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-310	3	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-XXX	ET-XXX	P	NO
2-DCR-320	3	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-XXX	ET-XXX	P	NO
2-DCR-330	3	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-XXX	ET-XXX	P	NO
2-DCR-340	3	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-XXX	ET-XXX	P	NO
2-QT-506	3	GL	4	NO	A/8	C	O	3	A	B	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											ET-XXX	ET-XXX	P	NO



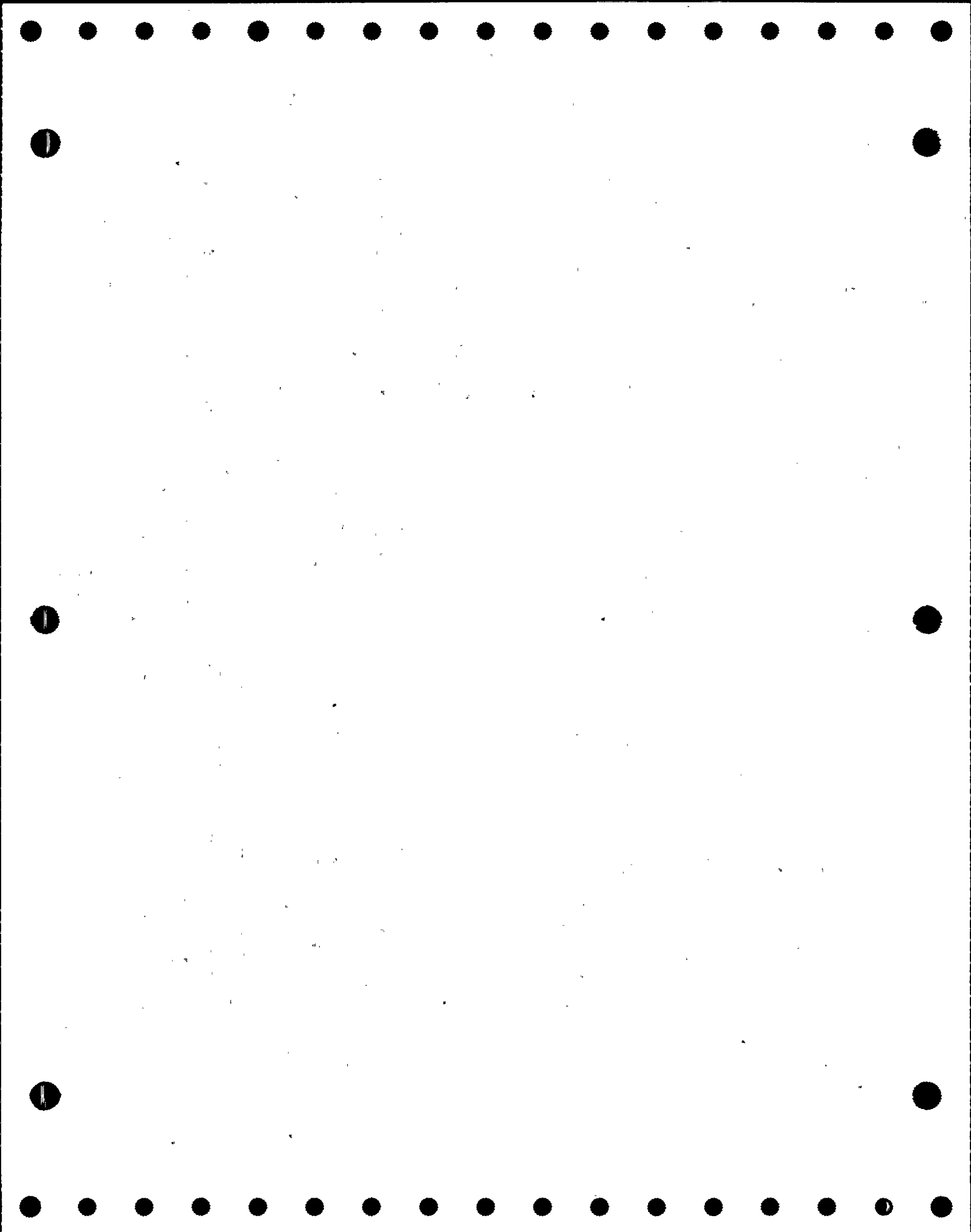


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5105D-2

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-FW-118-1	3	CK	14	SA	B/9	0	C	2	A	C	CF-1	CF-2	R	YES, NOTE 1
2-FW-118-2	3	CK	14	SA	K/8	0	C	2	A	C	CF-1	CF-2	R	YES, NOTE 1
2-FW-118-3	3	CK	14	SA	J/3	0	C	2	A	C	CF-1	CF-2	R	YES, NOTE 1
2-FW-118-4	3	CK	14	SA	C/3	0	C	2	A	C	CF-1	CF-2	R	YES, NOTE 1
2-MCM-221	3	GL	4	MO	K/4	0	O/C	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-MCM-231	3	GL	4	MO	K/4	0	O/C	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-MRV-210	3	GA	28	PO	B/7	0	C	2	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-3 EF-5 EF-8 ET-XXX	P - C C	NO, CSJ 2 NO NO, CSJ 2 NO, CSJ 2
2-MRV-211	3	AG	2	A	A/5	C	0	2	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-1 EF-5 EF-7 ET-XXX	P - P P	NO NO NO NO
2-MRV-212	3	AG	2	A	A/5	C	0	2	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-1 EF-5 EF-7 ET-XXX	P - P P	NO NO NO NO

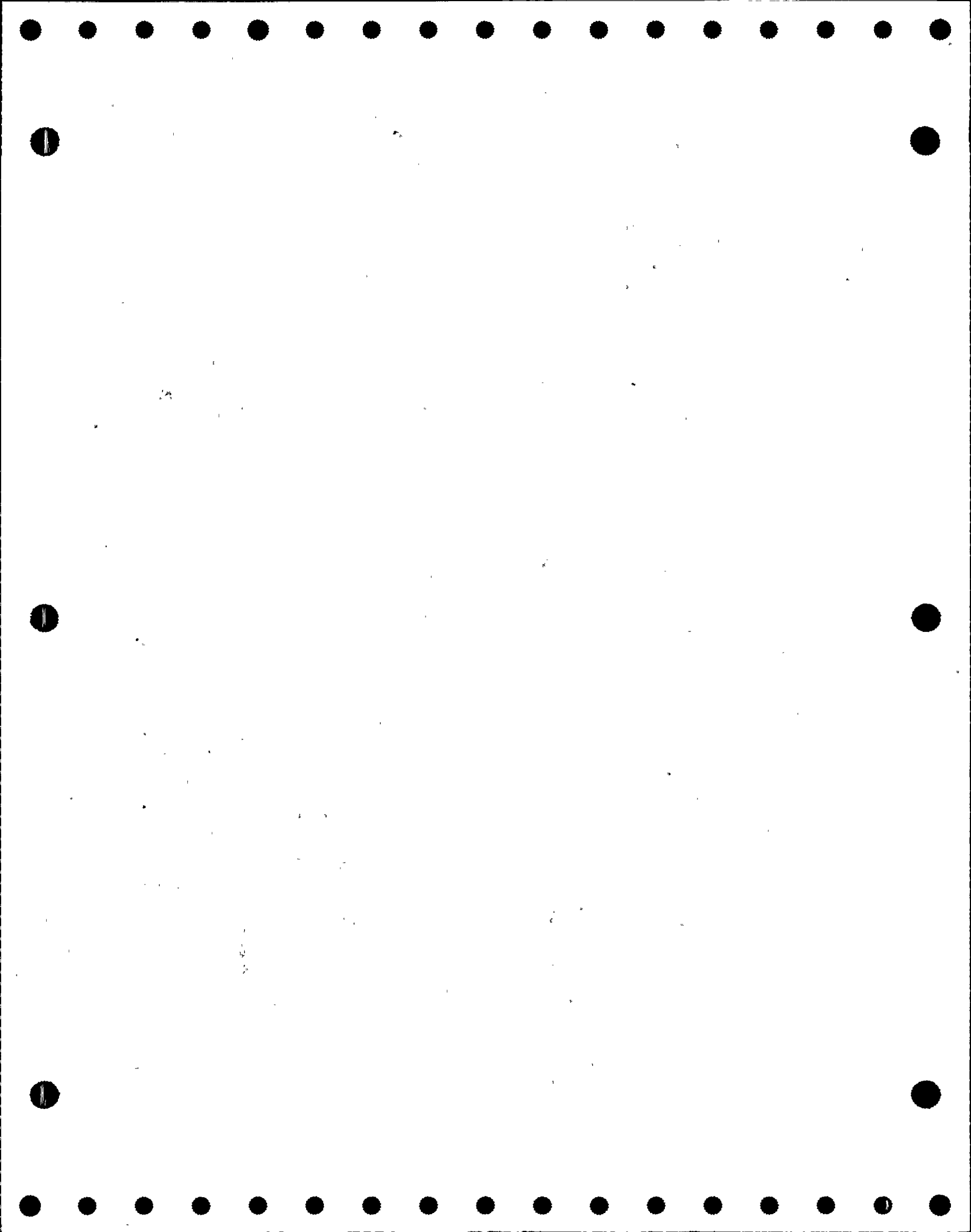


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5105D-2

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-MRV-220	3	GA	28	PO	L/7	O	C	2	A	B	EF-1	EF-3	P	NO, CSJ 2
											EF-5	EF-5	-	NO
											EF-7	EF-8	C	NO, CSJ 2
											ET-XXX	ET-XXX	C	NO, CSJ 2
2-MRV-221	3	AG	2	A	M/5	C	O	2	A	B	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
2-MRV-222	3	AG	2	A	M/5	C	O	2	A	B	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
2-MRV-230	3	GA	28	PO	M/3	O	C	2	A	B	EF-1	EF-3	P	NO, CSJ 2
											EF-5	EF-5	-	NO
											EF-7	EF-8	C	NO, CSJ 2
											ET-XXX	ET-XXX	C	NO, CSJ 2
2-MRV-231	3	AG	2	A	M/1	C	O	2	A	B	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
2-MRV-232	3	AG	2	A	M/1	C	O	2	A	B	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO

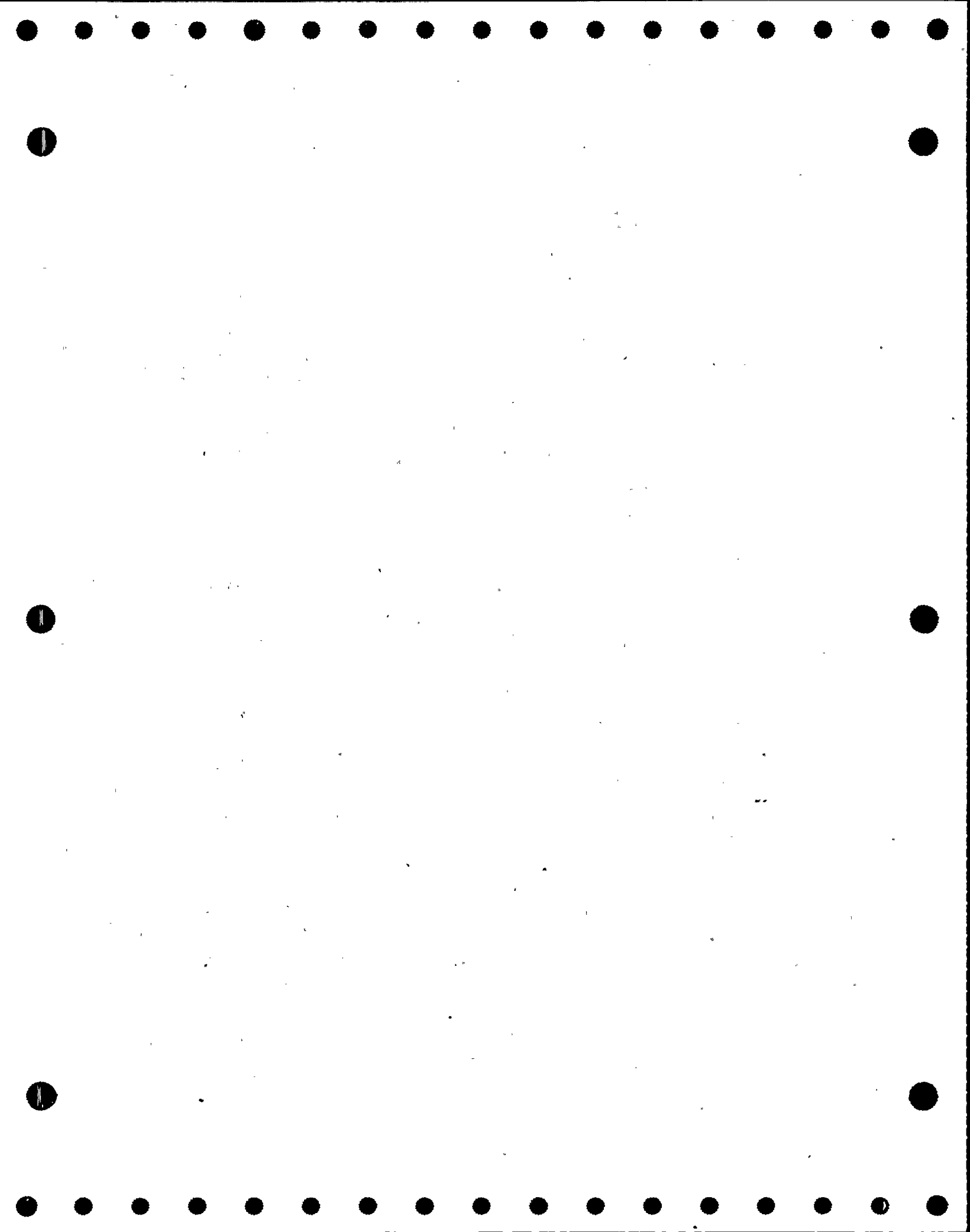


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5105D-2

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-MRV-240	3	GA	28	PO	B/3	O	C	2	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-3 EF-5 EF-8 ET-XXX	P - C C	NO, CSJ 2 NO NO, CSJ 2 NO, CSJ 2
2-MRV-241	3	AG	2	A	A/1	C	O	2	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-1 EF-5 EF-7 ET-XXX	P - P P	NO NO NO NO
2-MRV-242	3	AG	2	A	A/1	C	O	2	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-1 EF-5 EF-7 ET-XXX	P - P P	NO NO NO NO
2-MS-108-2	3	CK	4	SA	K/4	C	O/C	3	A	C	CF-1	CF-2	R	YES, NOTE 3
2-MS-108-3	3	CK	4	SA	K/4	C	O/C	3	A	C	CF-1	CF-2	R	YES, NOTE 3
2-SV-1A-1	3	REL	6	SA	C/5	C	O	2	A	C	TF-1	TF-1	R	NO
2-SV-1A-2	3	REL	6	SA	K/5	C	O	2	A	C	TF-1	TF-1	R	NO
2-SV-1A-3	3	REL	6	SA	K/1	C	O	2	A	C	TF-1	TF-1	R	NO
2-SV-1A-4	3	REL	6	SA	C/1	C	O	2	A	C	TF-1	TF-1	R	NO



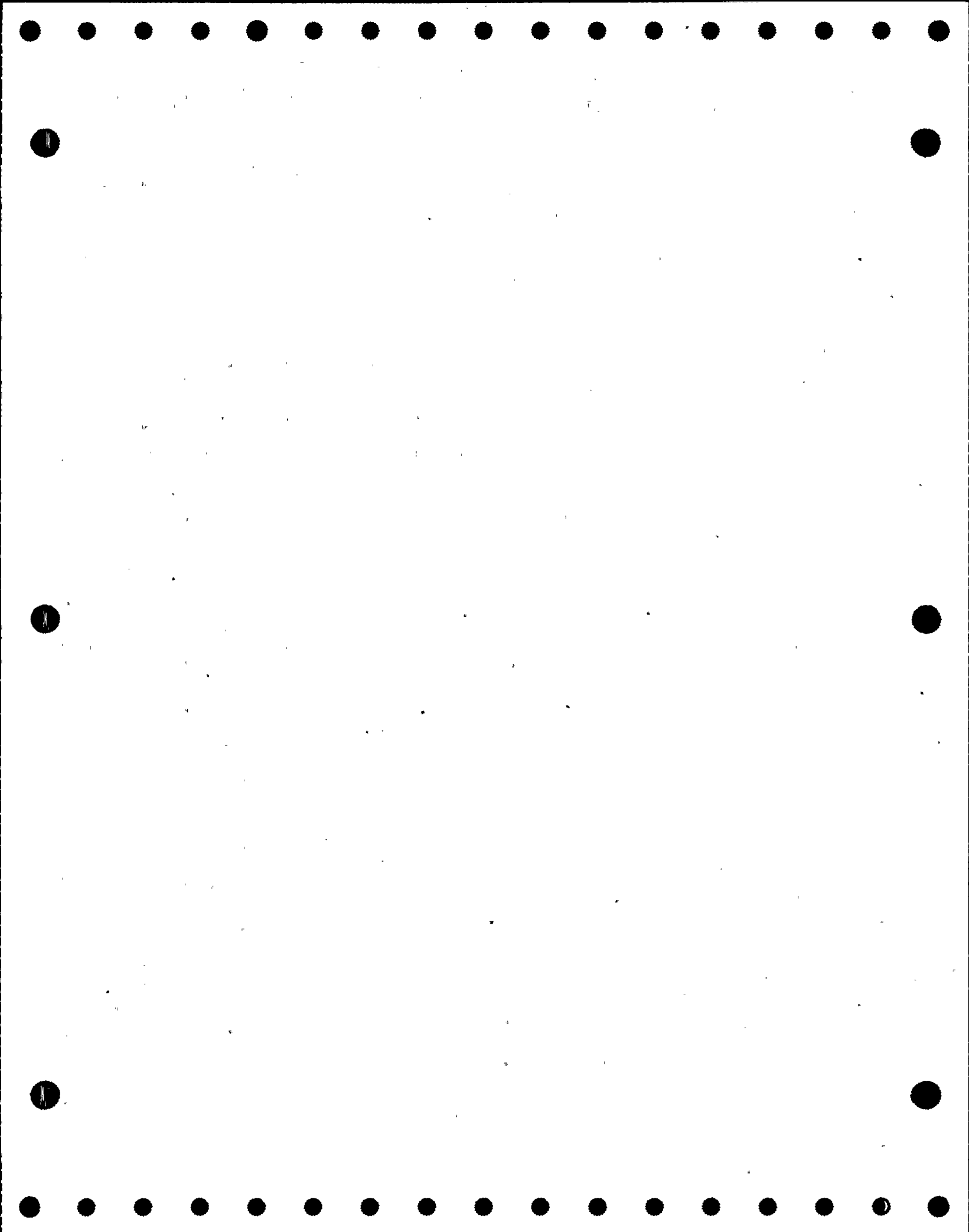
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5105D-2

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)	
2-SV-1B-1	3	REL	6	SA	B/5	C	0	2	A	C	TF-1	TF-1	R NO	
2-SV-1B-2	3	REL	6	SA	L/5	C	0	2	A	C	TF-1	TF-1	R NO	
2-SV-1B-3	3	REL	6	SA	L/1	C	0	2	A	C	TF-1	TF-1	R NO	
2-SV-1B-4	3	REL	6	SA	B/1	C	0	2	A	C	TF-1	TF-1	R NO	
2-SV-2A-1	3	REL	6	SA	B/5	C	0	2	A	C	TF-1	TF-1	R NO	
2-SV-2A-2	3	REL	6	SA	L/5	C	0	2	A	C	TF-1	TF-1	R NO	
2-SV-2A-3	3	REL	6	SA	L/1	C	0	2	A	C	TF-1	TF-1	R NO	
2-SV-2A-4	3	REL	6	SA	B/1	C	0	2	A	C	TF-1	TF-1	R NO	
2-SV-2B-1	3	REL	6	SA	B/5	C	0	2	A	C	TF-1	TF-1	R NO	
2-SV-2B-2	3	REL	6	SA	L/5	C	0	2	A	C	TF-1	TF-1	R NO	
2-SV-2B-3	3	REL	6	SA	L/1	C	0	2	A	C	TF-1	TF-1	R NO	
2-SV-2B-4	3	REL	6	SA	B/1	C	0	2	A	C	TF-1	TF-1	R NO	



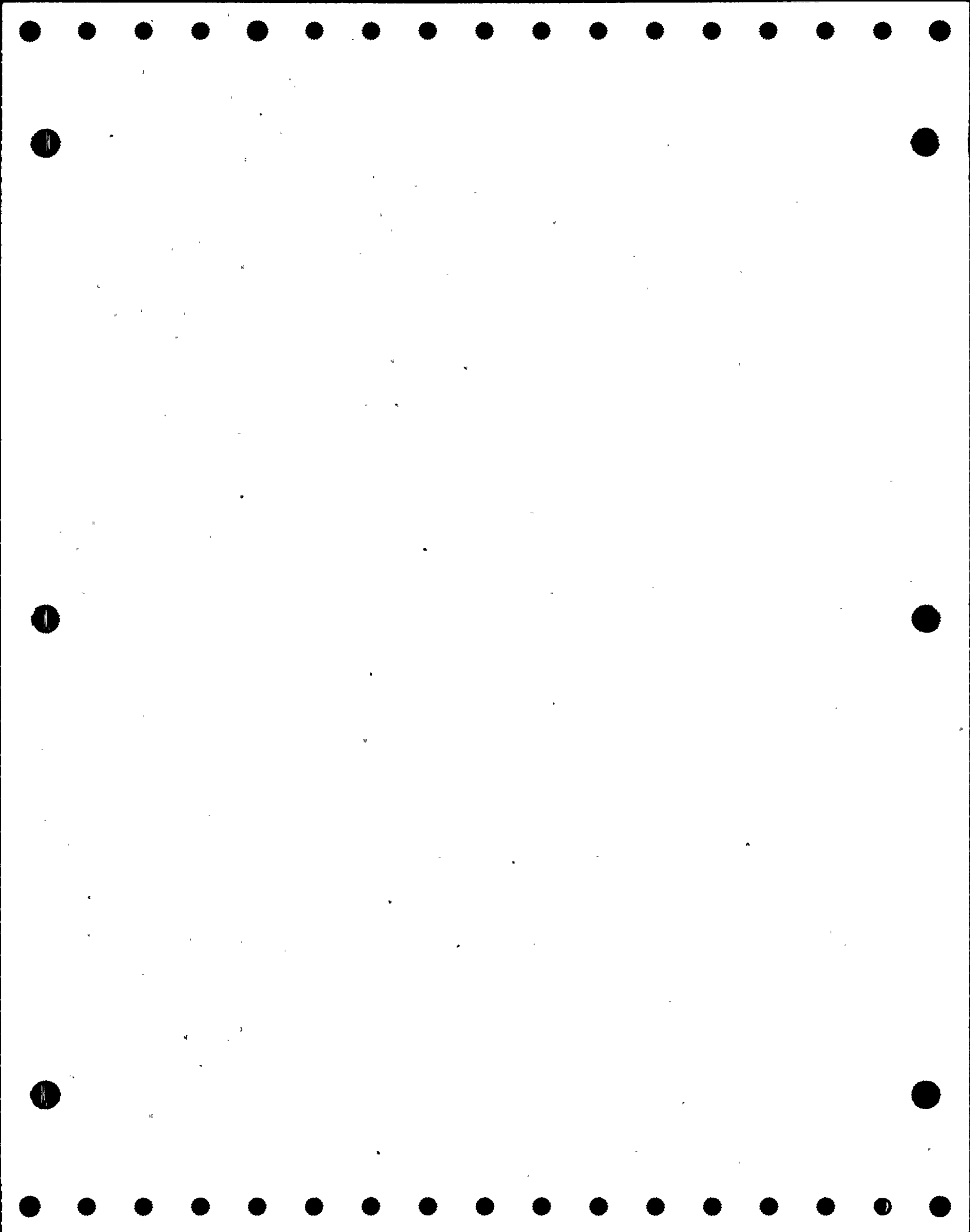


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5105D-2

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-SV-3-1	3	REL	6	SA	B/5	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-3-2	3	REL	6	SA	M/5	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-3-3	3	REL	6	SA	M/1	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-3-4	3	REL	6	SA	B/1	C	0	2	A	C	TF-1	TF-1	R	NO

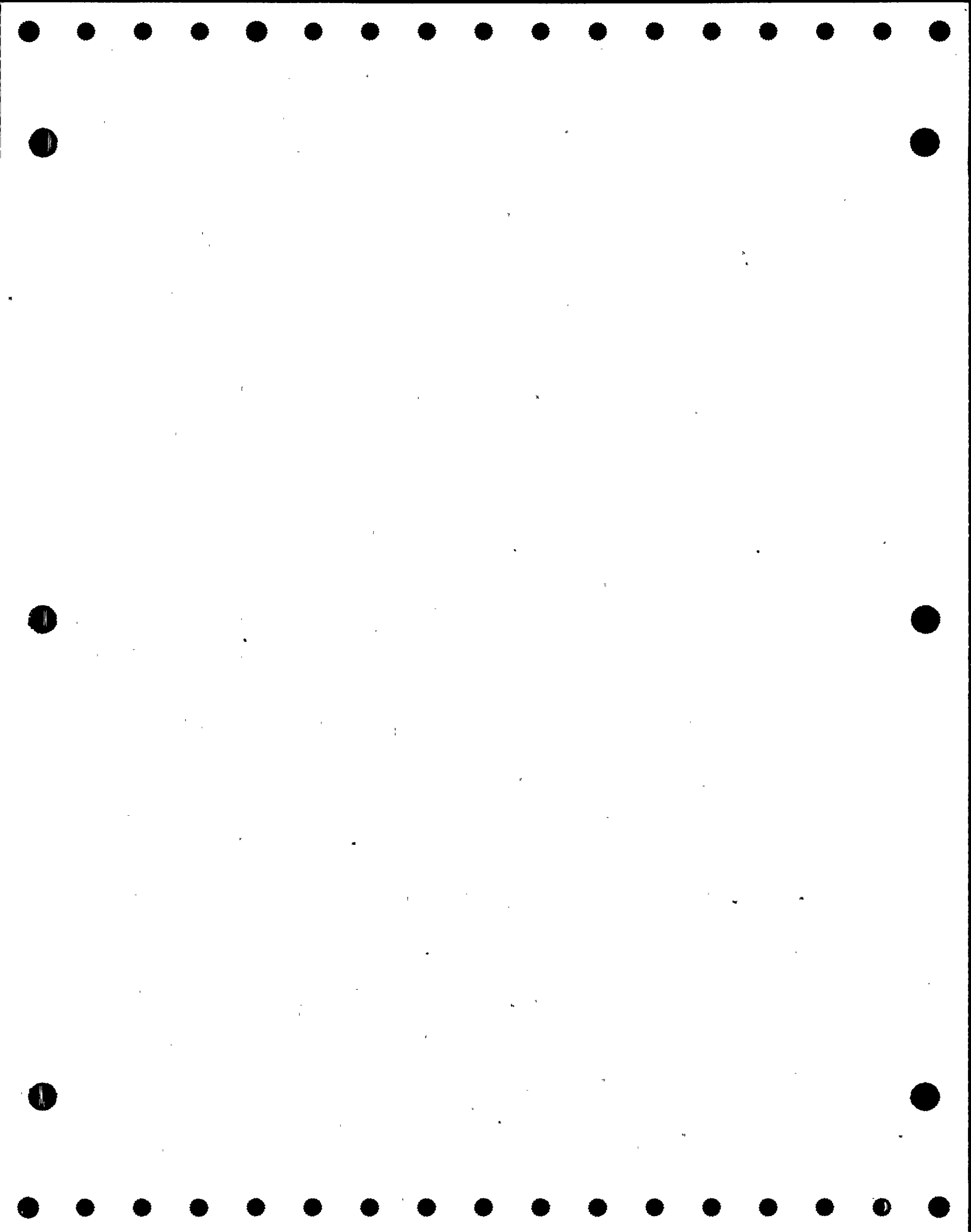


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5106-34

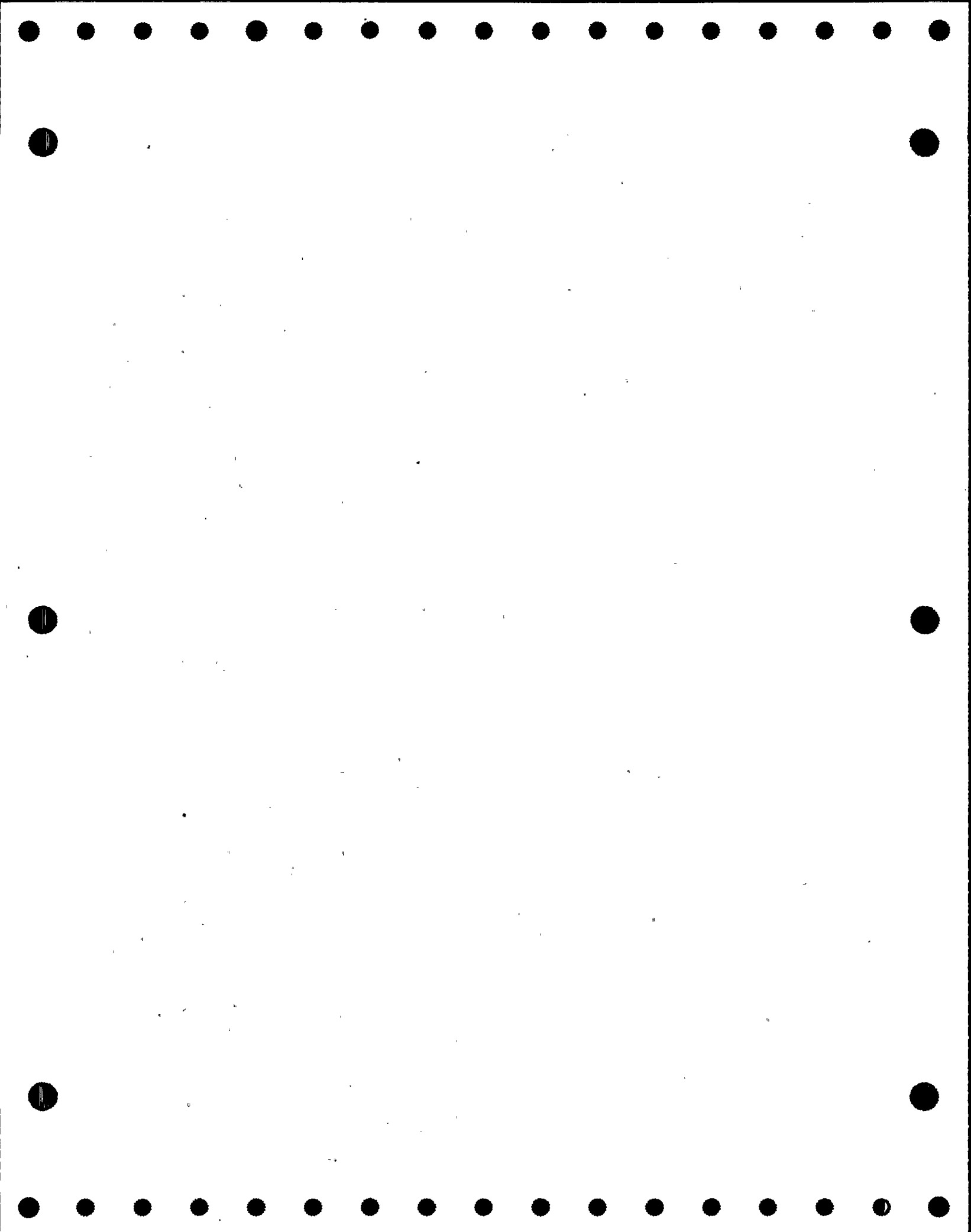
RUN DATE AND TIME: 15FEB90:16:14

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-FM0-201	3	GA	14	MO	G/5	0	C	2 A B	B	EF-1 EF-5 ET-XXX	EF-2 EF-5 ET-XXX	C - C	NO, CSJ 1 NO NO, CSJ 1	
2-FM0-202	3	GA	14	MO	E/9	0	C	2 A B	B	EF-1 EF-5 ET-XXX	EF-2 EF-5 ET-XXX	C - C	NO, CSJ 1 NO NO, CSJ 1	
2-FM0-203	3	GA	14	MO	F/9	0	C	2 A B	B	EF-1 EF-5 ET-XXX	EF-2 EF-5 ET-XXX	C - C	NO, CSJ 1 NO NO, CSJ 1	
2-FM0-204	3	GA	14	MO	H/5	0	C	2 A B	B	EF-1 EF-5 ET-XXX	EF-2 EF-5 ET-XXX	C - C	NO, CSJ 1 NO NO, CSJ 1	
2-FRV-210	3	AG	14	A	G/5	0	C	2 A B	B	EF-1 EF-5 EF-7 ET-XXX	EF-2 EF-5 EF-8 ET-XXX	C - C C	NO, CSJ 1 NO NO, CSJ 1 NO, CSJ 1	
2-FRV-220	3	AG	14	A	E/9	0	C	2 A B	B	EF-1 EF-5 EF-7 ET-XXX	EF-2 EF-5 EF-8 ET-XXX	C - C C	NO, CSJ 1 NO NO, CSJ 1 NO, CSJ 1	
2-FRV-230	3	AG	14	A	F/9	0	C	2 A B	B	EF-1 EF-5 EF-7 ET-XXX	EF-2 EF-5 EF-8 ET-XXX	C - C C	NO, CSJ 1 NO NO, CSJ 1 NO, CSJ 1	







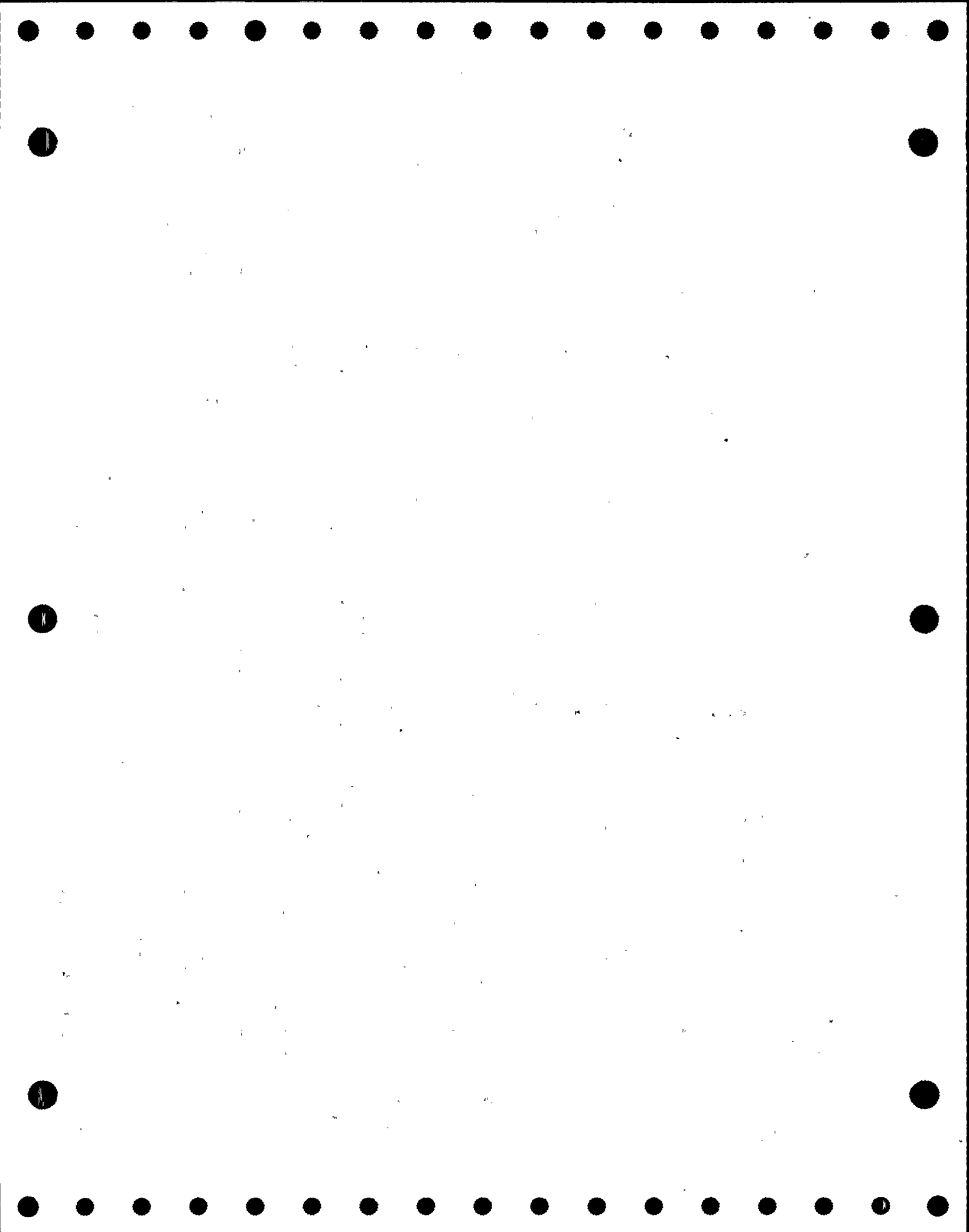
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5106A-41

RUN DATE AND TIME: 15FEB90:16:14

SYSTEM NAME: FEEDWATER

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-FMO-211	3	GL	4	MO	B/4	0	0	3	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO	
2-FMO-212	3	GL	4	MO	B/4	0	0	3	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO	
2-FMO-221	3	GL	4	MO	C/5	0	0	3	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO	
2-FMO-222	3	GL	4	MO	C/5	0	0	3	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO	
2-FMO-231	3	GL	4	MO	C/5	0	0	3	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO	
2-FMO-232	3	GL	4	MO	C/5	0	0	3	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO	
2-FMO-241	3	GL	4	MO	B/4	0	0	3	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO	



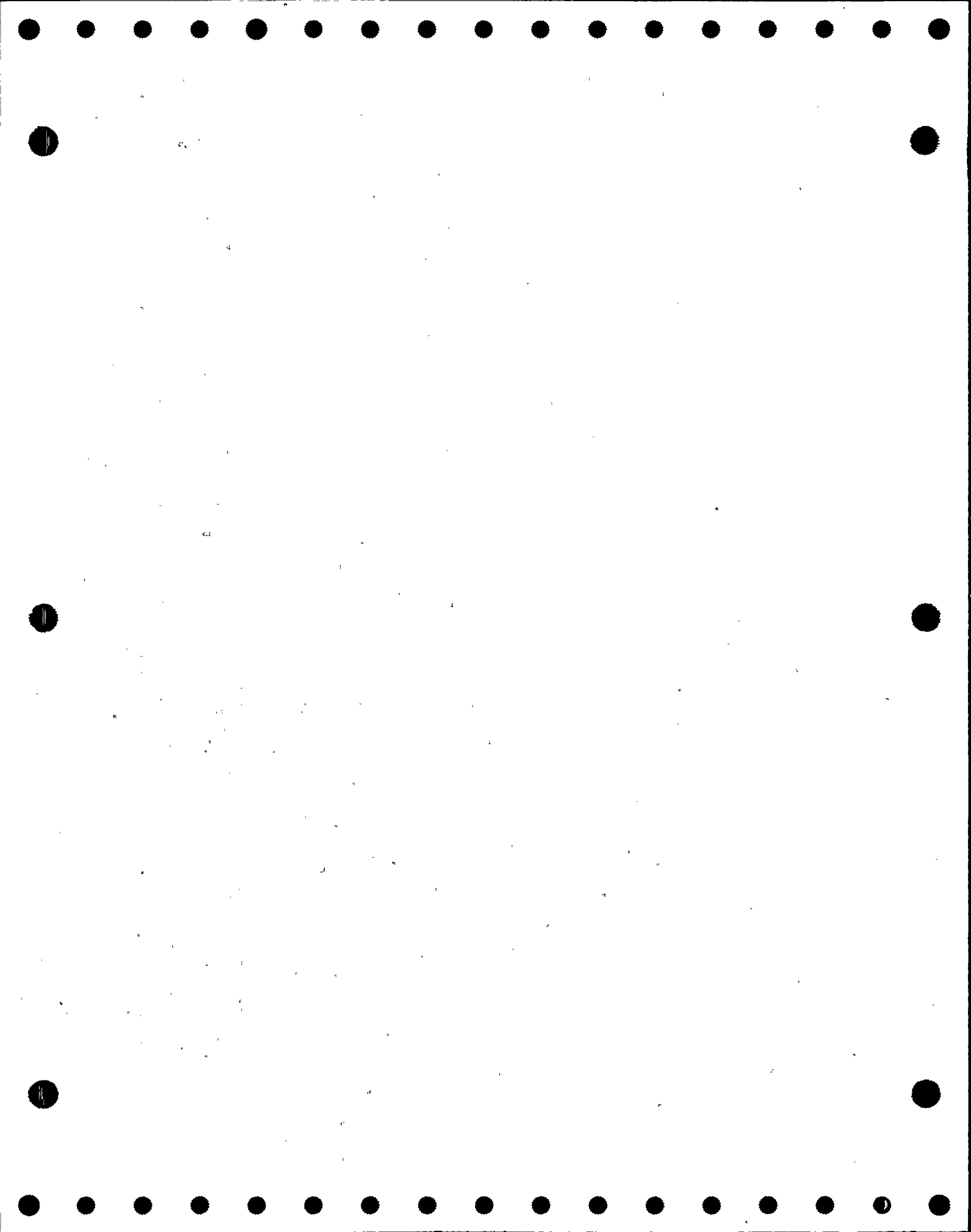


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5106A-41

RUN DATE AND TIME: 15FEB90:16:14

SYSTEM NAME: FEEDWATER

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-FMO-242	3	GL	4	MO	B/4	0	0	3	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-FRV-247	3	GL	1	A	M/9	0	C/O	3	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-1 EF-5 EF-7 ET-XXX	P - P P	NO NO NO NO
2-FRV-257	3	GL	1	A	H/9	0	C/O	3	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-1 EF-5 EF-7 ET-XXX	P - P P	NO NO NO NO
2-FRV-258	3	GL	1	A	E/9	0	C/O	3	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-1 EF-5 EF-7 ET-XXX	P - P P	NO NO NO NO
2-FW-124	3	CK	8	SA	F/7	C	0	3	A	C	CF-1	CF-1	P	NO
2-FW-128	3	CK	6	SA	H/7	C	0	3	A	C	CF-1	CF-1	P	NO
2-FW-132-1	3	CK	4	SA	C/4	C	O/C	2	A	C	CF-1	CF-2	-	NO, CSJ 1
2-FW-132-2	3	CK	4	SA	D/5	C	O/C	2	A	C	CF-1	CF-2	-	NO, CSJ 1

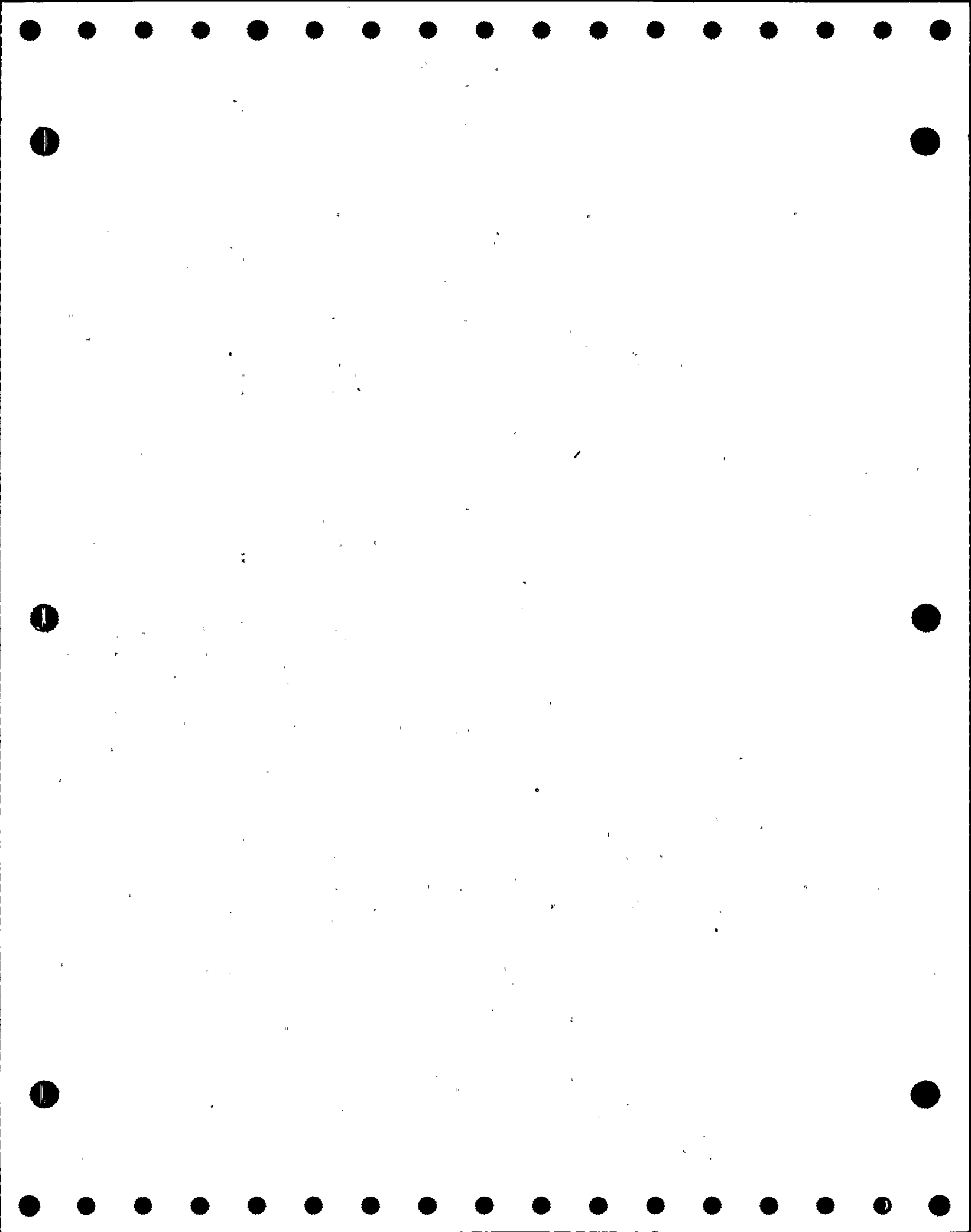


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5106A-41

RUN DATE AND TIME: 15FEB90:16:14

SYSTEM NAME: FEEDWATER

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-FW-132-3	3	CK	4	SA	D/5	C	O/C	2	A	C	CF-1	CF-2	-	NO, CSJ 1
2-FW-132-4	3	CK	4	SA	C/4	C	O/C	2	A	C	CF-1	CF-2	-	NO, CSJ 1
2-FW-134	3	CK	10	SA	B/9	C	0	3	A	C	CF-1	CF-3	C	NO, CSJ 2
2-FW-135	3	CK	8	SA	E/8	C	0	3	A	C	CF-1	CF-3	C	NO, CSJ 2
2-FW-138-1	3	CK	4	SA	C/4	C	O/C	2	A	C	CF-1	CF-2	-	NO, CSJ 3
2-FW-138-2	3	CK	4	SA	D/5	C	O/C	2	A	C	CF-1	CF-2	-	NO, CSJ 3
2-FW-138-3	3	CK	4	SA	D/5	C	O/C	2	A	C	CF-1	CF-2	-	NO, CSJ 3
2-FW-138-4	3	CK	4	SA	C/4	C	O/C	2	A	C	CF-1	CF-2	-	NO, CSJ 3
2-FW-149	3	CK	0.75	SA	D/2	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 4
2-FW-150	3	CK	0.75	SA	D/3	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 4
2-FW-153	3	CK	1	SA	H/9	C	O/C	3	A	C	CF-1	CF-1	P	NO, NOTE 5
2-FW-159	3	CK	6	SA	L/7	C	0	3	A	C	CF-1	CF-1	P	NO

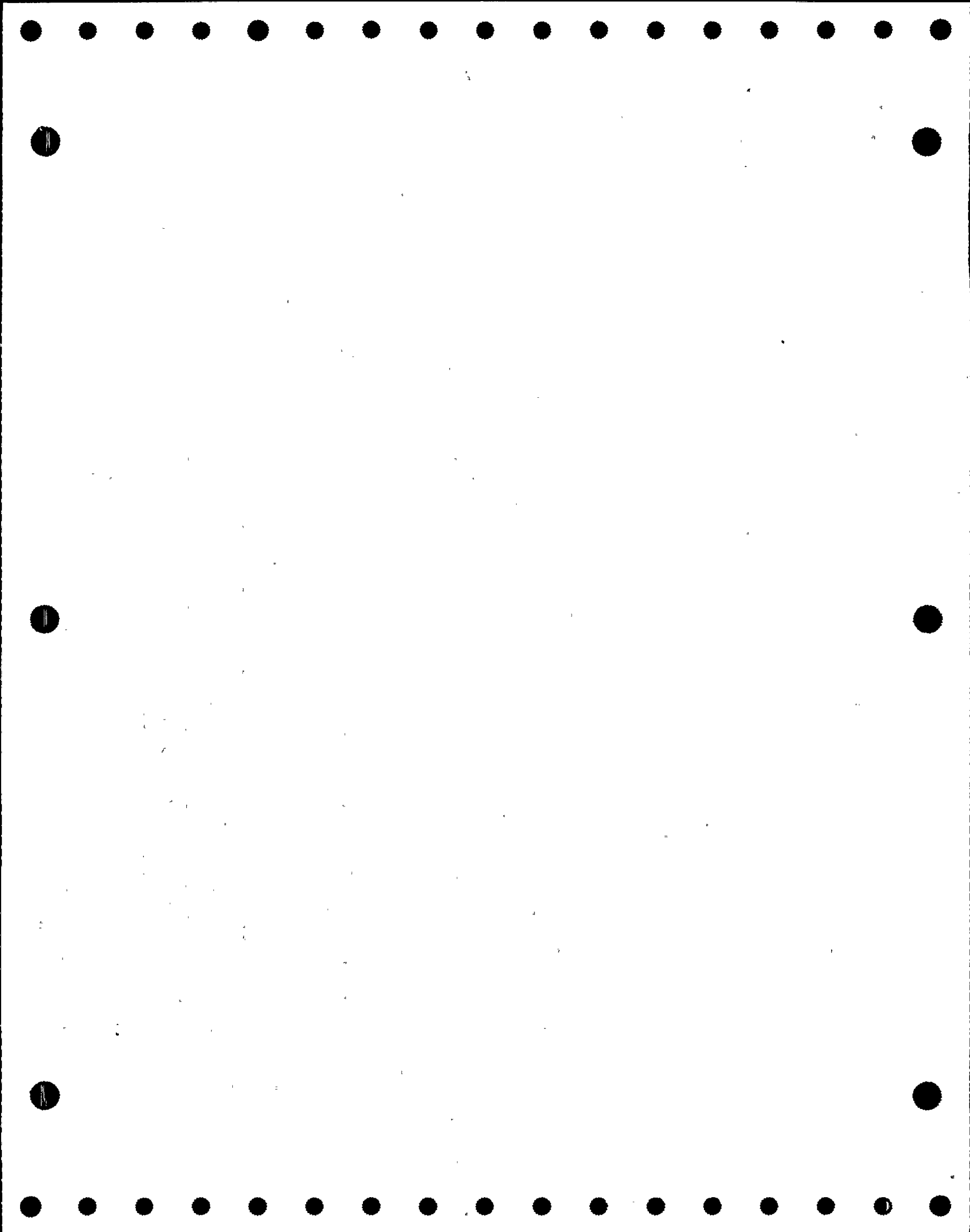


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5106A-41

RUN DATE AND TIME: 15FEB90:16:14

SYSTEM NAME: FEEDWATER

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-FW-160	3	CK	1	SA	M/9	C	O/C	3	A	C	CF-1	CF-1	P	NO, NOTE 5
2-FW-161	3	CK	8	SA	J/7	C	O	3	A	C	CF-1	CF-1	P	NO
2-SV-140-1	3	REL	0.75	SA	E/1	C	O	3	A	C	TF-1	TF-1	R	NO
2-SV-140-2	3	REL	0.75	SA	D/1	C	O	3	A	C	TF-1	TF-1	R	NO
2-SV-169-A	3	REL	0.75	SA	K/9	C	O	3	A	C	TF-1	TF-1	R	NO
2-SV-169-B	3	REL	0.75	SA	G/9	C	O	3	A	C	TF-1	TF-1	R	NO



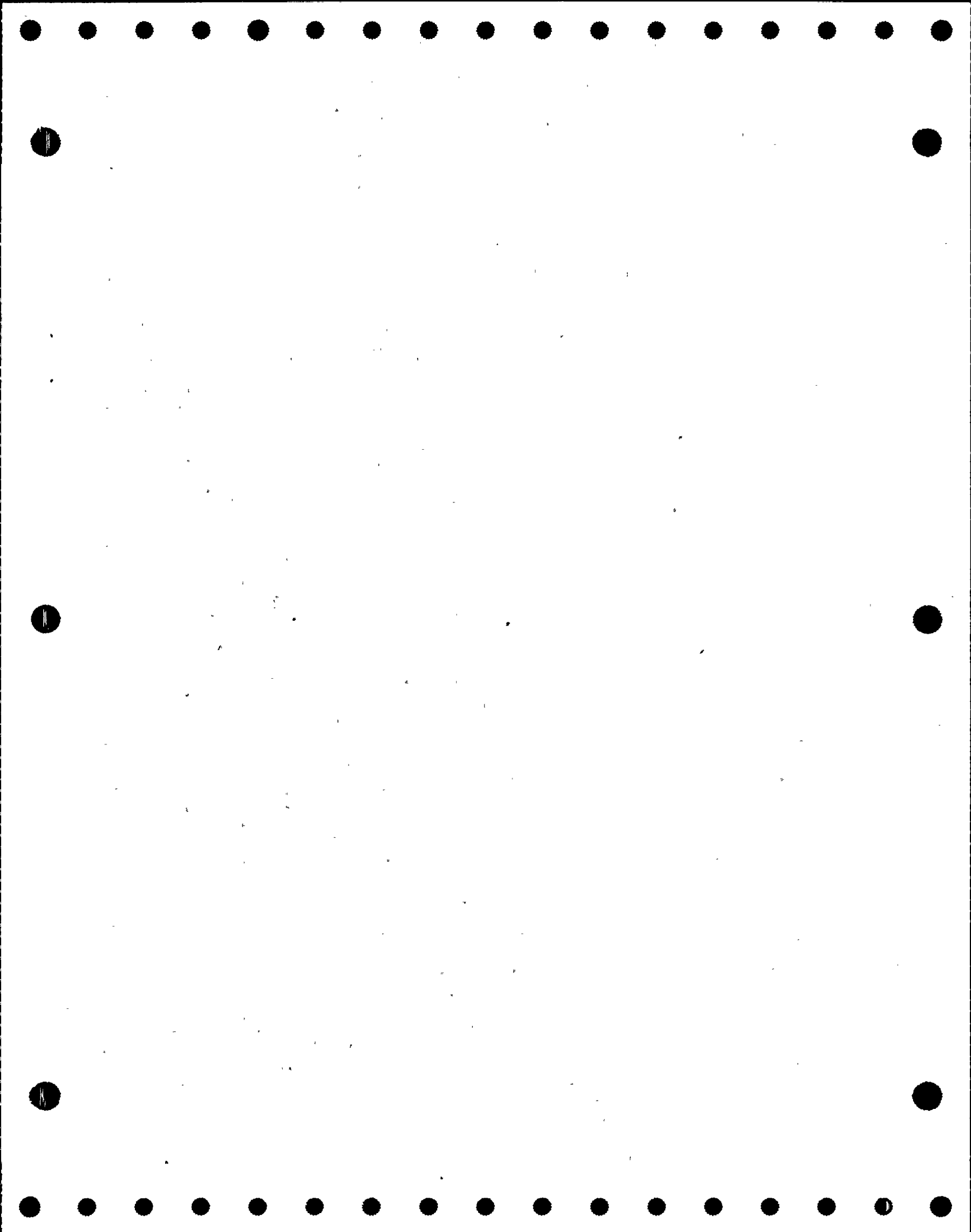
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5113-36

RUN DATE AND TIME: 15FEB90:16:14

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   CL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)	
2-ESW-102-2E	3	CK	20	SA	H/8	C	0	3 A C	C	CF-1	CF-1	P	NO	
2-ESW-102-2H	3	CK	20	SA	H/8	C	0	3 A C	C	CF-1	CF-1	P	NO	
2-ESW-141	3	CK	6	SA	K/6	C	0	3 A C	C	CF-1	CF-1	P	NO, NOTE 1	
2-ESW-142	3	CK	6	SA	L/6	C	0	3 A C	C	CF-1	CF-1	P	NO, NOTE 1	
2-ESW-143	3	CK	6	SA	M/6	C	0	3 A C	C	CF-1	CF-1	P	NO, NOTE 1	
2-ESW-144	3	CK	6	SA	M/6	C	0	3 A C	C	CF-1	CF-1	P	NO, NOTE 1	
2-ESW-145	3	BF	4	M	J/6	C	0	3 A B	B	EF-1	EF-2	C	NO, CSJ 2	
2-ESW-168-N	3	BF	3	M	H/1	C	0	3 A B	B	EF-1	EF-1	P	NO	
2-ESW-168-S	3	BF	3	M	H/1	C	0	3 A B	B	EF-1	EF-1	P	NO	
2-ESW-169-N	3	BF	3	M	G/1	O	C	3 A B	B	EF-1	EF-1	P	NO	
2-ESW-169-S	3	BF	3	M	G/1	O	C	3 A B	B	EF-1	EF-1	P	NO	
2-ESW-170-N	3	BF	3	M	F/1	O	C	3 A B	B	EF-1	EF-1	P	NO	



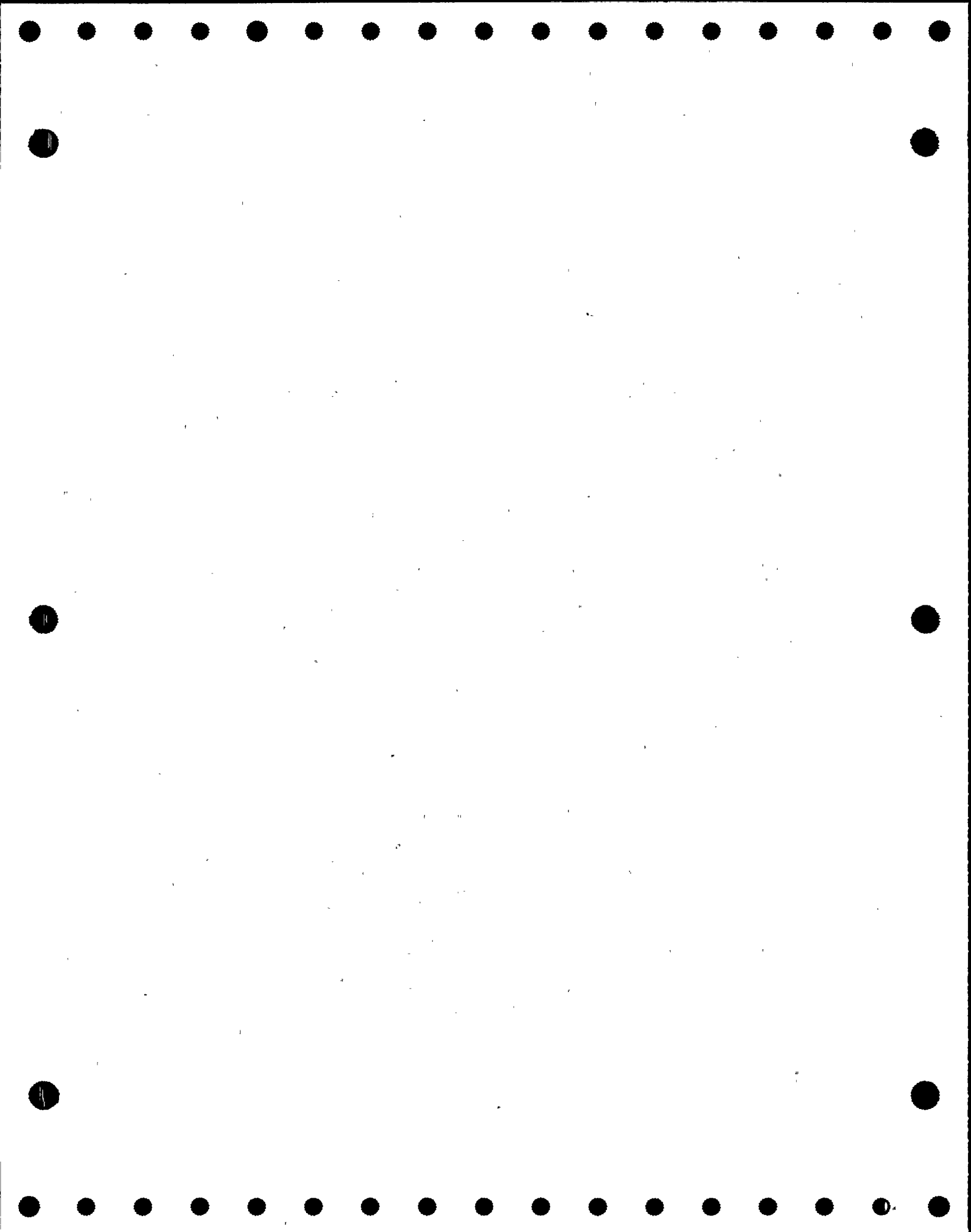


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5113-36

RUN DATE AND TIME: 15FEB90:16:14

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   CL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)	
2-ESW-170-S	3	BF	3	M	F/1	O	C	3 A B		EF-1	EF-1	P	NO	
2-ESW-171-N	3	BF	3	M	F/1	C	O	3 A B		EF-1	EF-1	P	NO	
2-ESW-171-S	3	BF	3	M	F/1	C	O	3 A B		EF-1	EF-1	P	NO	
2-ESW-240	3	BF	6	M	M/5	C	O	3 A B		EF-1	EF-2	C	NO, CSJ 2	
2-ESW-243	3	BF	4	M	J/7	C	O	3 A B		EF-1	EF-2	C	NO, CSJ 2	
2-SV-14-2E	3	REL	1	SA	L/1	C	O	3 A C		TF-1	TF-1	R	NO	
2-SV-14-2H	3	REL	1	SA	M/1	C	O	3 A C		TF-1	TF-1	R	NO	
2-SV-15-2E	3	REL	0.75	SA	G/3	C	O	3 A C		TF-1	TF-1	R	NO	
2-SV-15-2H	3	REL	0.75	SA	J/4	C	O	3 A C		TF-1	TF-1	R	NO	
2-SV-16-AB	3	REL	1	SA	L/8	C	O	3 A C		TF-1	TF-1	R	NO	
2-SV-16-CD	3	REL	1	SA	L/8	C	O	3 A C		TF-1	TF-1	R	NO	
2-MMO-703-2E	3	BF	20	MO	H/8	C	O	3 A B		EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO	

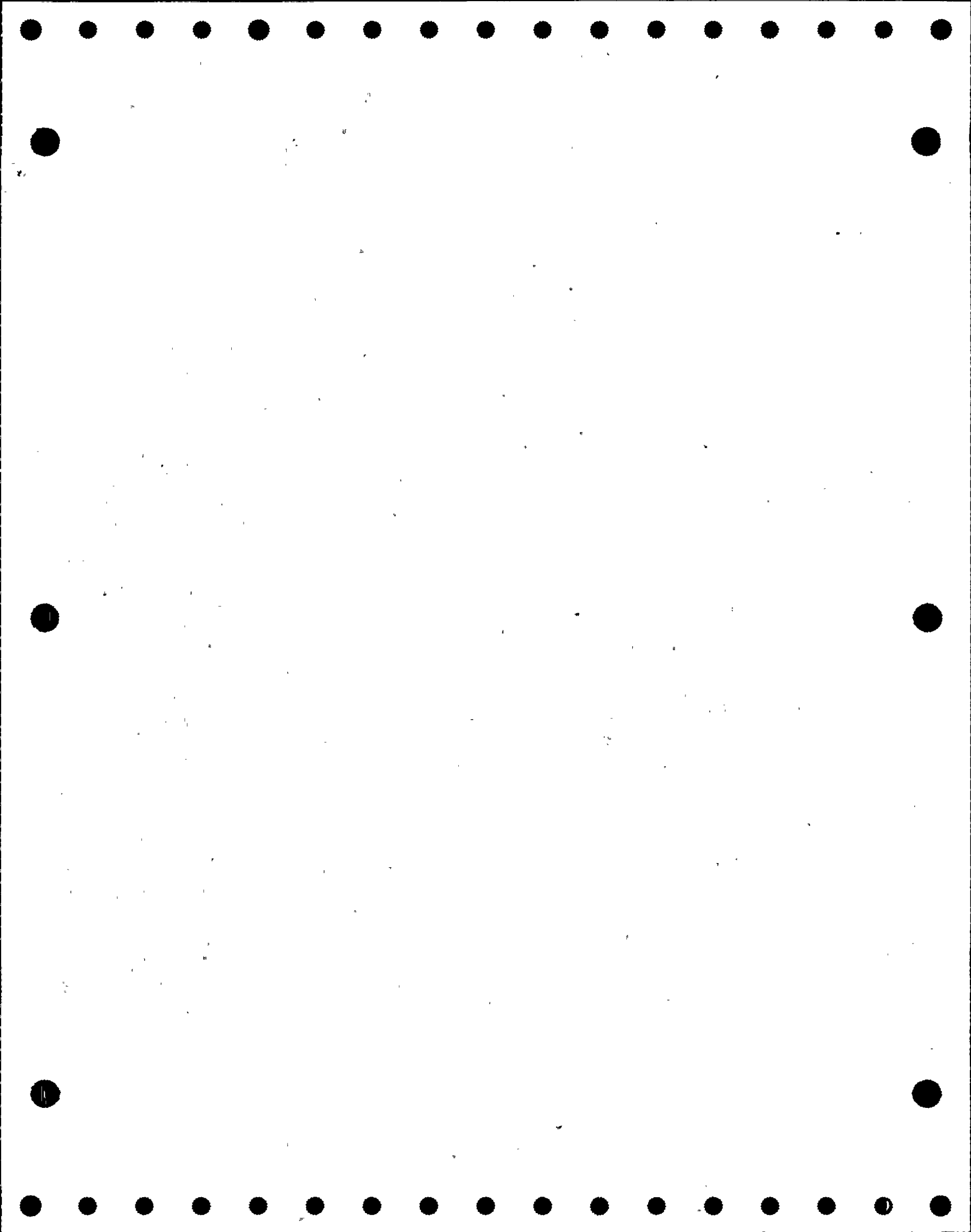


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5113-36

RUN DATE AND TIME: 15FEB90:16:14

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 CL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)		
2-WM0-704-2H	3	BF	20	MO	H/8	C	0	3	A B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO		
2-WM0-706	3	BF	20	MO	G/8	0	0/C	3	A B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO		
2-WM0-708	3	BF	20	MO	G/6	0	0/C	3	A B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO		
2-WM0-714	3	BF	12	MO	M/5	C	0	3	A B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO		
2-WM0-718	3	BF	12	MO	N/5	C	0	3	A B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO		
2-WM0-722	3	BF	6	MO	M/6	C	0	3	A B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO		
2-WM0-724	3	BF	6	MO	M/6	C	0	3	A B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO		

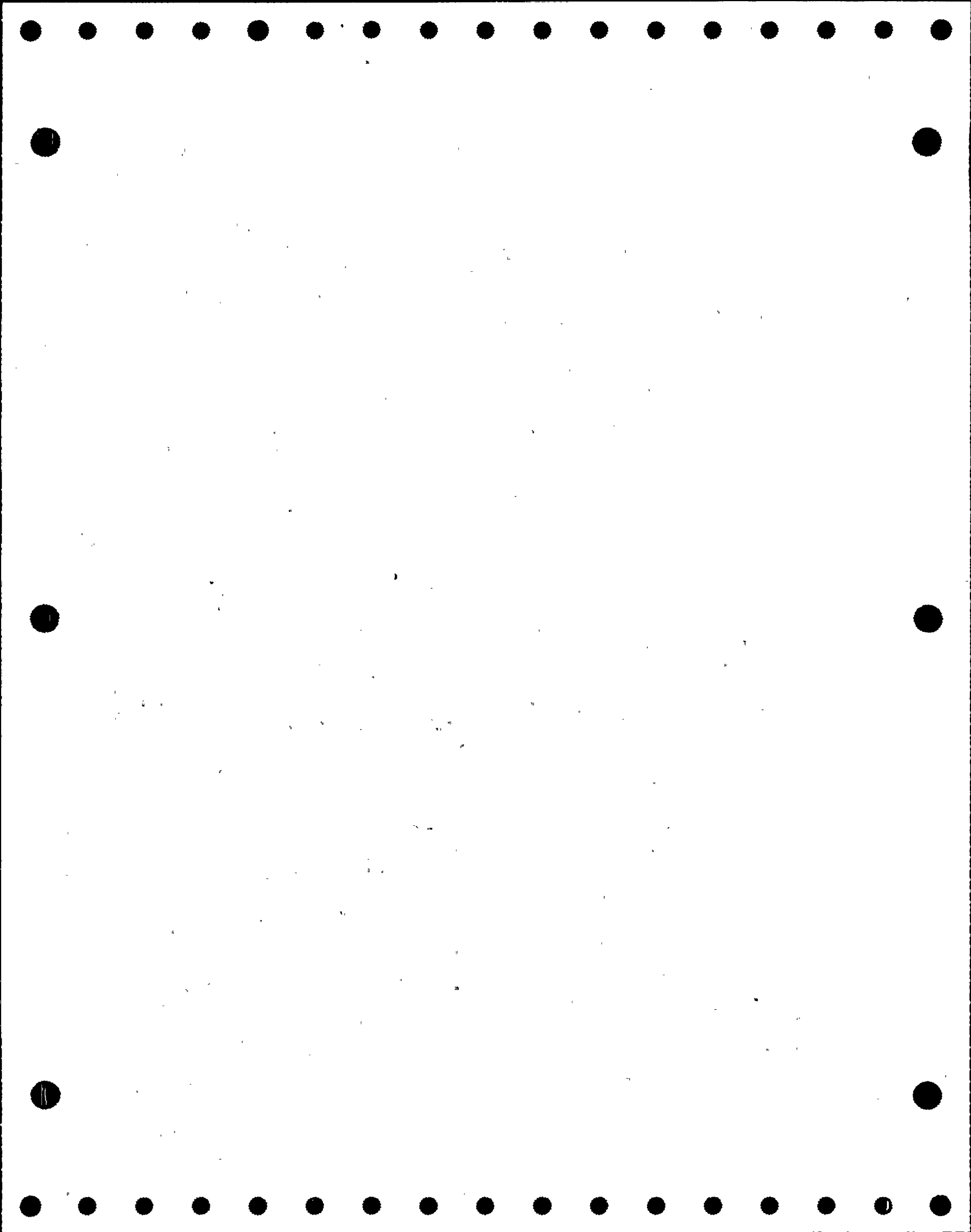


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5113-36

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)	
2-WM0-726	3	BF	6	M0	K/6	C	0	3	A B	EF-1	EF-1	P	NO	
										EF-5	EF-5	-	NO	
										ET-XXX	ET-XXX	P	NO	
2-WM0-728	3	BF	6	M0	L/6	C	0	3	A B	EF-1	EF-1	P	NO	
										EF-5	EF-5	-	NO	
										ET-XXX	ET-XXX	P	NO	
2-WM0-734	3	BF	16	M0	H/3	O/C	0	3	A B	EF-1	EF-1	P	NO	
										EF-5	EF-5	-	NO	
										ET-XXX	ET-XXX	P	NO	
2-WM0-738	3	BF	16	M0	K/3	O/C	0	3	A B	EF-1	EF-1	P	NO	
										EF-5	EF-5	-	NO	
										ET-XXX	ET-XXX	P	NO	
2-WM0-744	3	BF	4	M0	J/6	C	0	3	A B	EF-1	EF-1	P	NO	
										EF-5	EF-5	-	NO	
										ET-XXX	ET-XXX	P	NO	
2-WM0-753	3	BF	6	M0	M/5	C	0	3	A B	EF-1	EF-1	P	NO	
										EF-5	EF-5	-	NO	
										ET-XXX	ET-XXX	P	NO	
2-WM0-754	3	BF	4	M0	K/6	C	0	3	A B	EF-1	EF-1	P	NO	
										EF-5	EF-5	-	NO	
										ET-XXX	ET-XXX	P	NO	



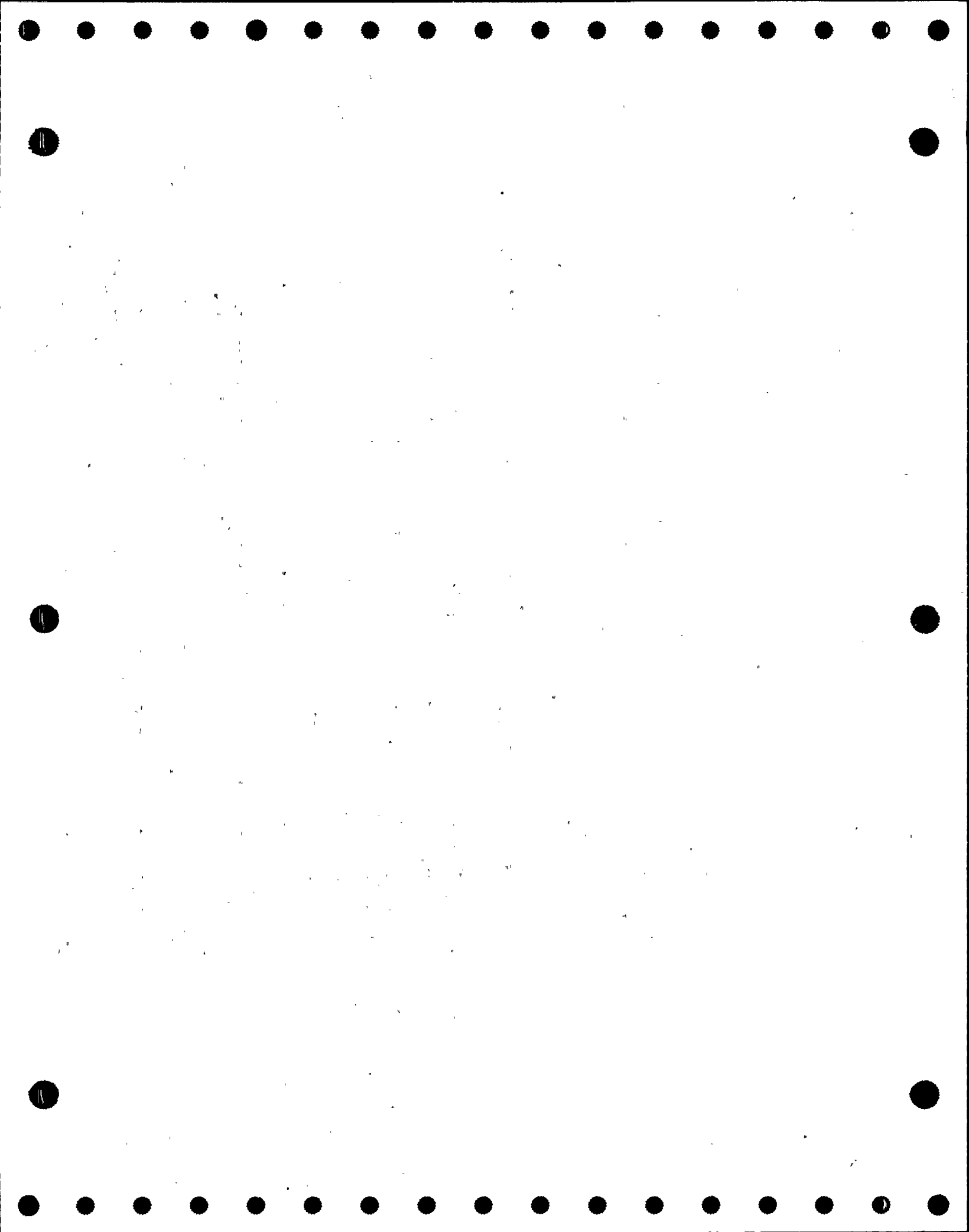
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5113-36

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-HRV-722-CD	3	3W	4	A	K/8	0	0	3	A	B	EF-1 EF-7 ET-XXX	NOTE 3 EF-8 NOTE 3	P R -	YES, NOTE 3 YES, NOTE 3 YES, NOTE 3
2-HRV-724-CD	3	3W	4	A	M/8	0	0	3	A	B	EF-1 EF-7 ET-XXX	NOTE 3 EF-8 NOTE 3	P R -	YES, NOTE 3 YES, NOTE 3 YES, NOTE 3
2-HRV-726-AB	3	3W	4	A	K/8	0	0	3	A	B	EF-1 EF-7 ET-XXX	NOTE 3 EF-8 NOTE 3	P R -	YES, NOTE 3 YES, NOTE 3 YES, NOTE 3
2-HRV-728-AB	3	3W	4	A	M/8	0	0	3	A	B	EF-1 EF-7 ET-XXX	NOTE 3 EF-8 NOTE 1	P R -	YES, NOTE 3 YES, NOTE 3 YES, NOTE 3



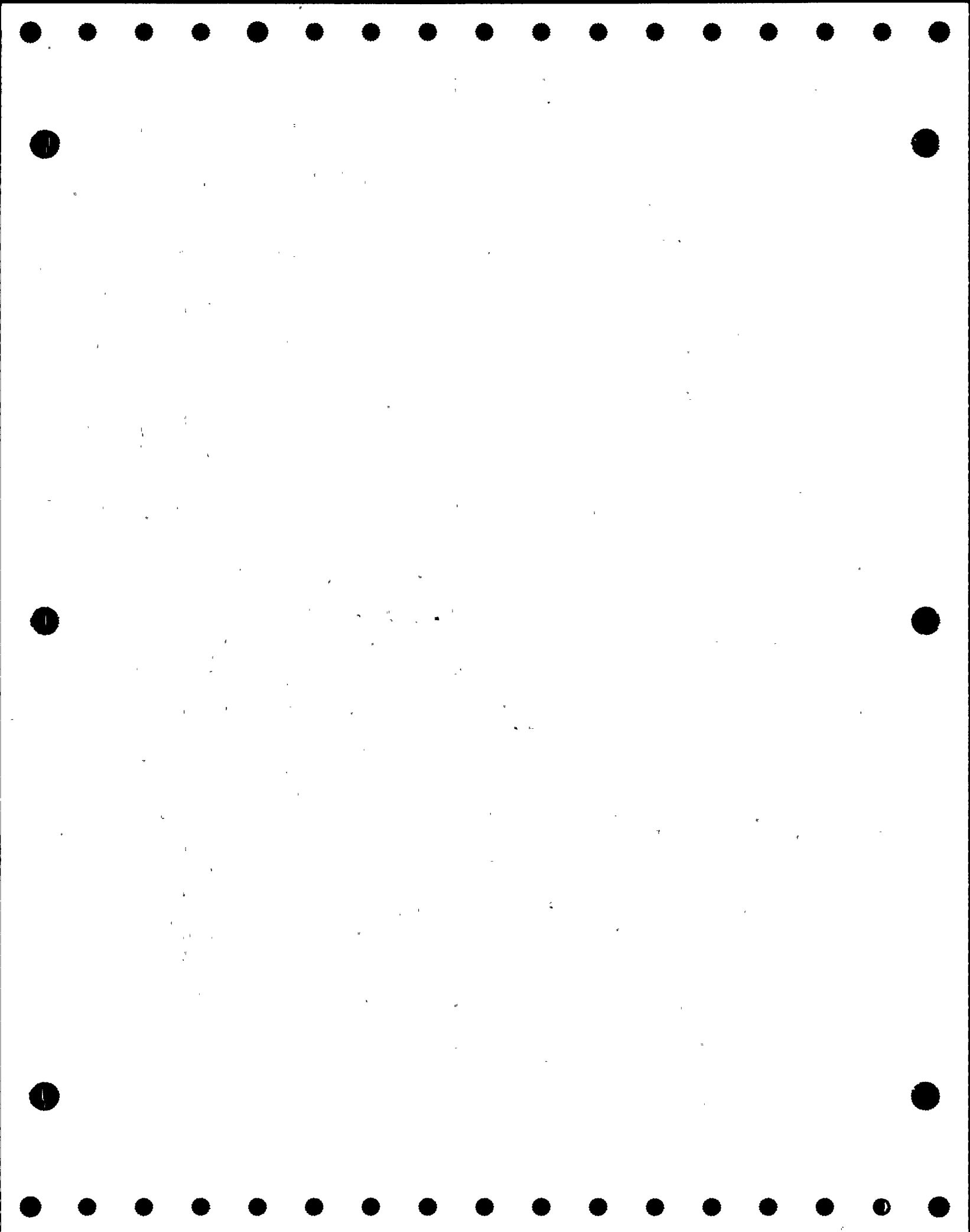


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-WCR-900-1	3	DA	6	A	J/9	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-WCR-901-1	3	DA	6	A	K/9	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-WCR-902-1	3	DA	6	A	J/4	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-WCR-903-1	3	DA	6	A	K/4	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-WCR-904-2	3	DA	6	A	J/9	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1

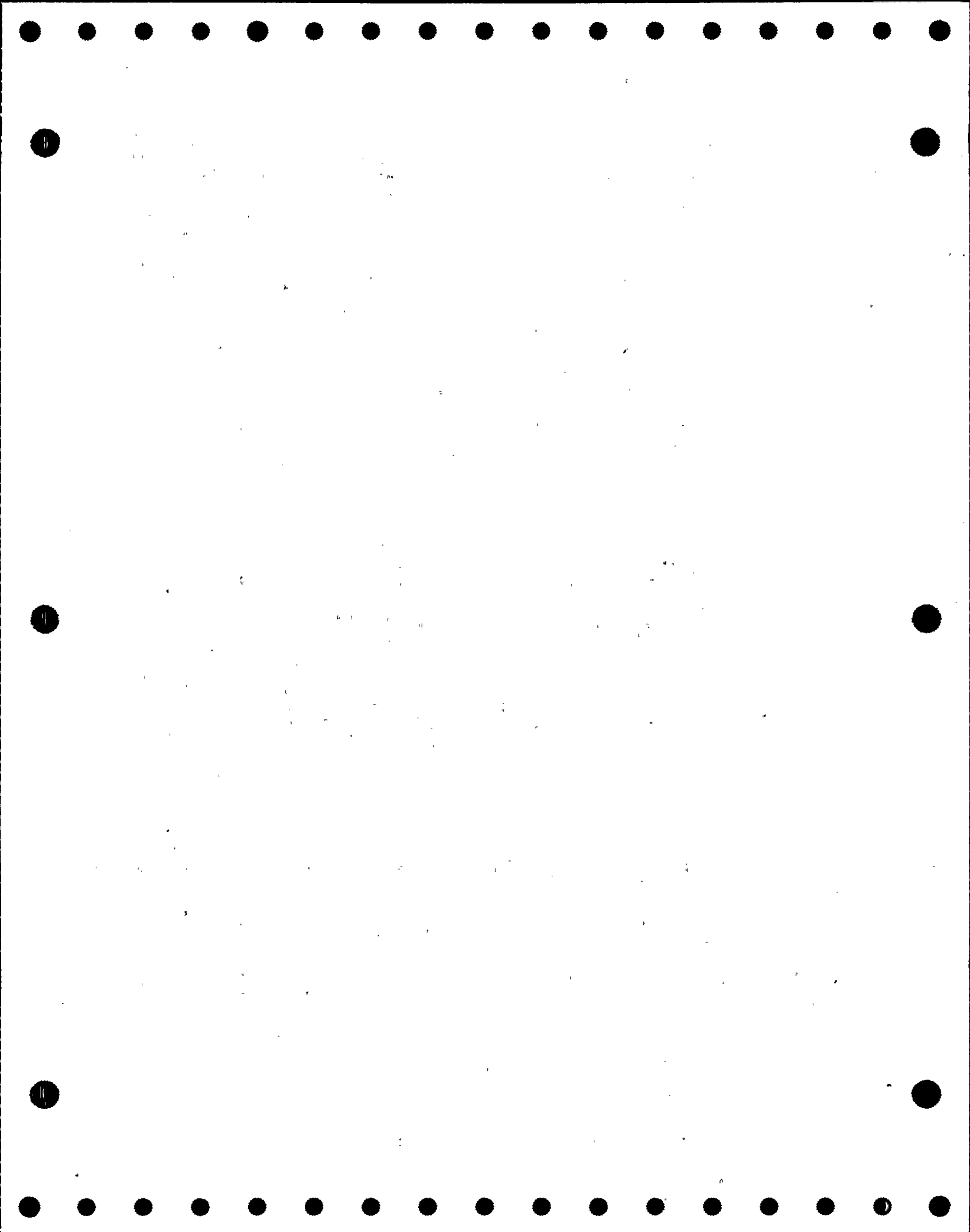


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-WCR-905-2	3	DA	6	A	K/9	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-WCR-906-2	3	DA	6	A	J/4	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-WCR-907	3	DA	6	A	K/4	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-WCR-908-3	3	DA	6	A	J/9	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-WCR-909-3	3	DA	6	A	K/9	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1

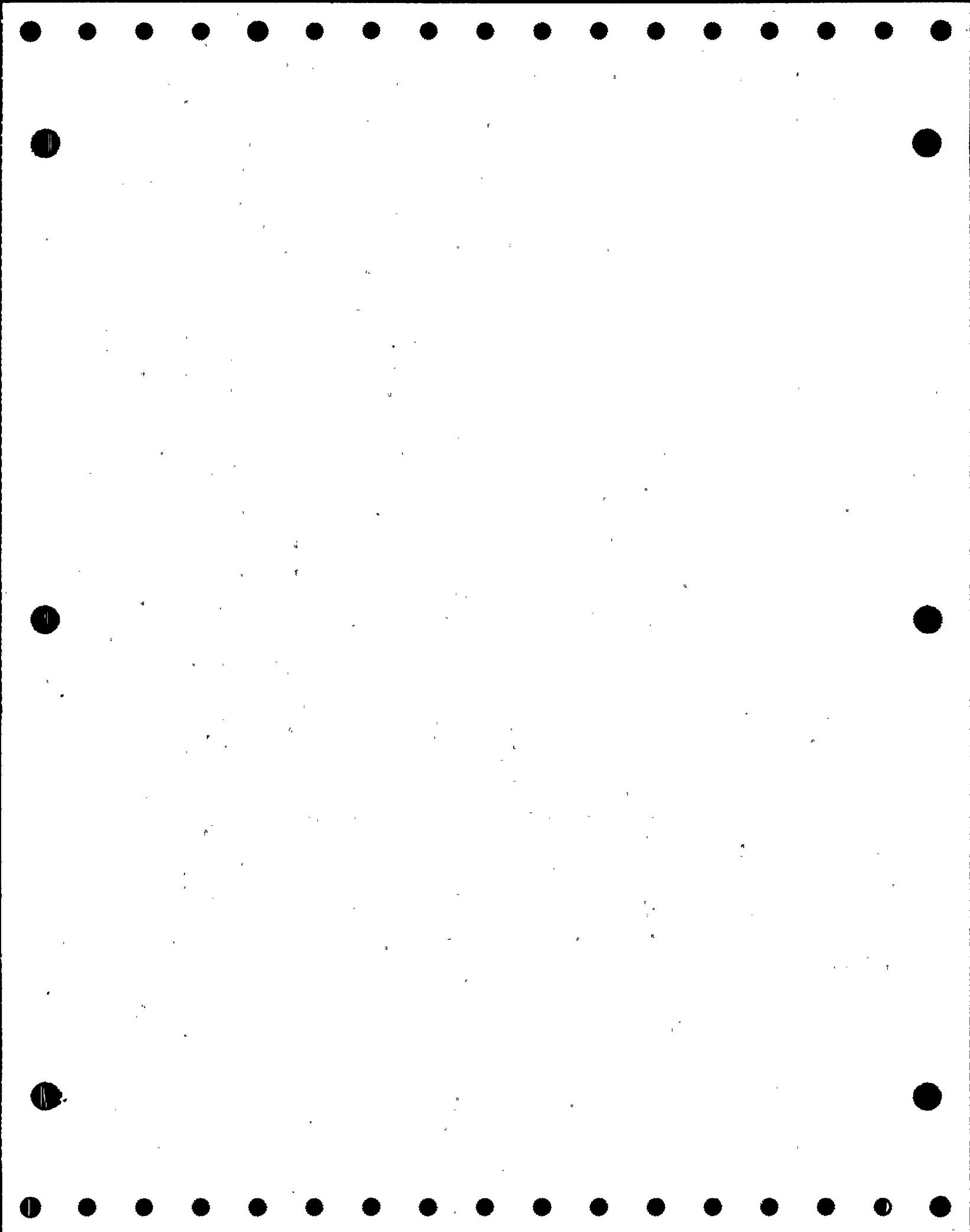


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-MCR-910-3	3	DA	6	A	J/4	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-911-3	3	DA	6	A	K/4	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-912-4	3	DA	6	A	J/9	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-913-4	3	DA	6	A	K/9	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-914-4	3	DA	6	A	J/4	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1



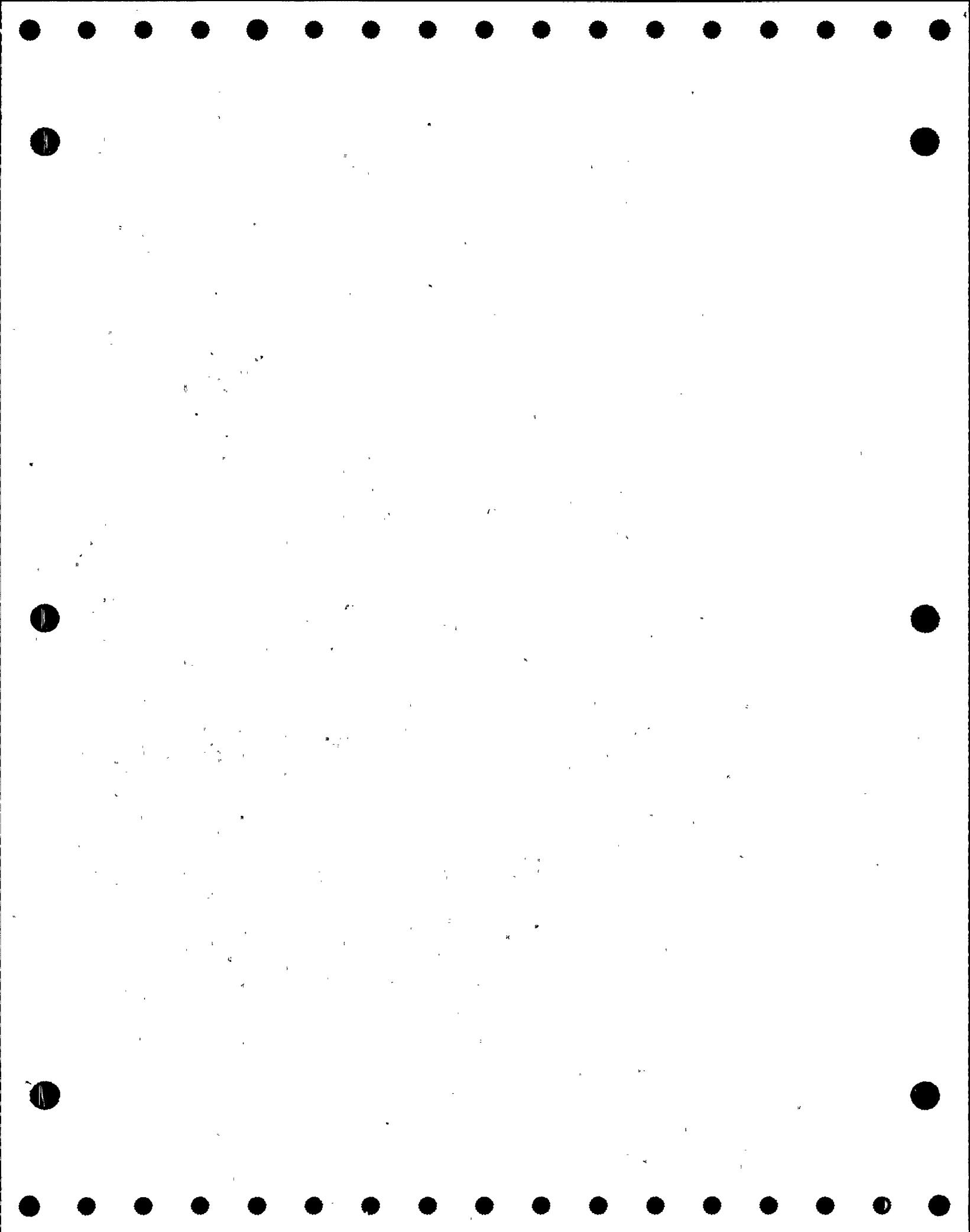
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)	
2-MCR-915-4	3	DA	6	A	K/4	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-920-1	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-921-1	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-922-1	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-923-1	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1



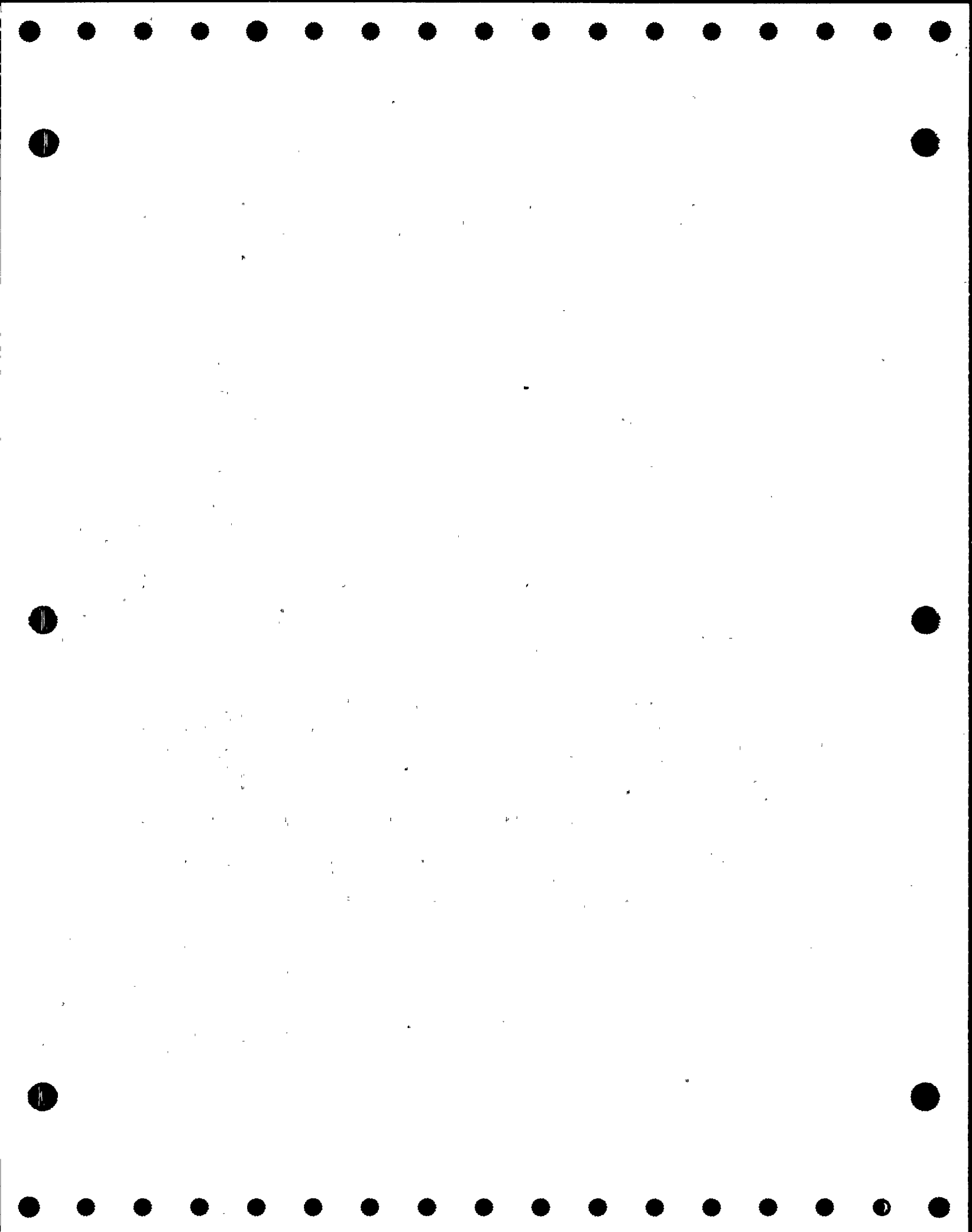


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-WCR-924-2	3	DA	3	A	J/6	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-WCR-925-2	3	DA	3	A	K/6	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-WCR-926-2	3	DA	3	A	K/2	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-WCR-927-2	3	DA	3	A	J/2	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-WCR-928-3	3	DA	3	A	J/6	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1

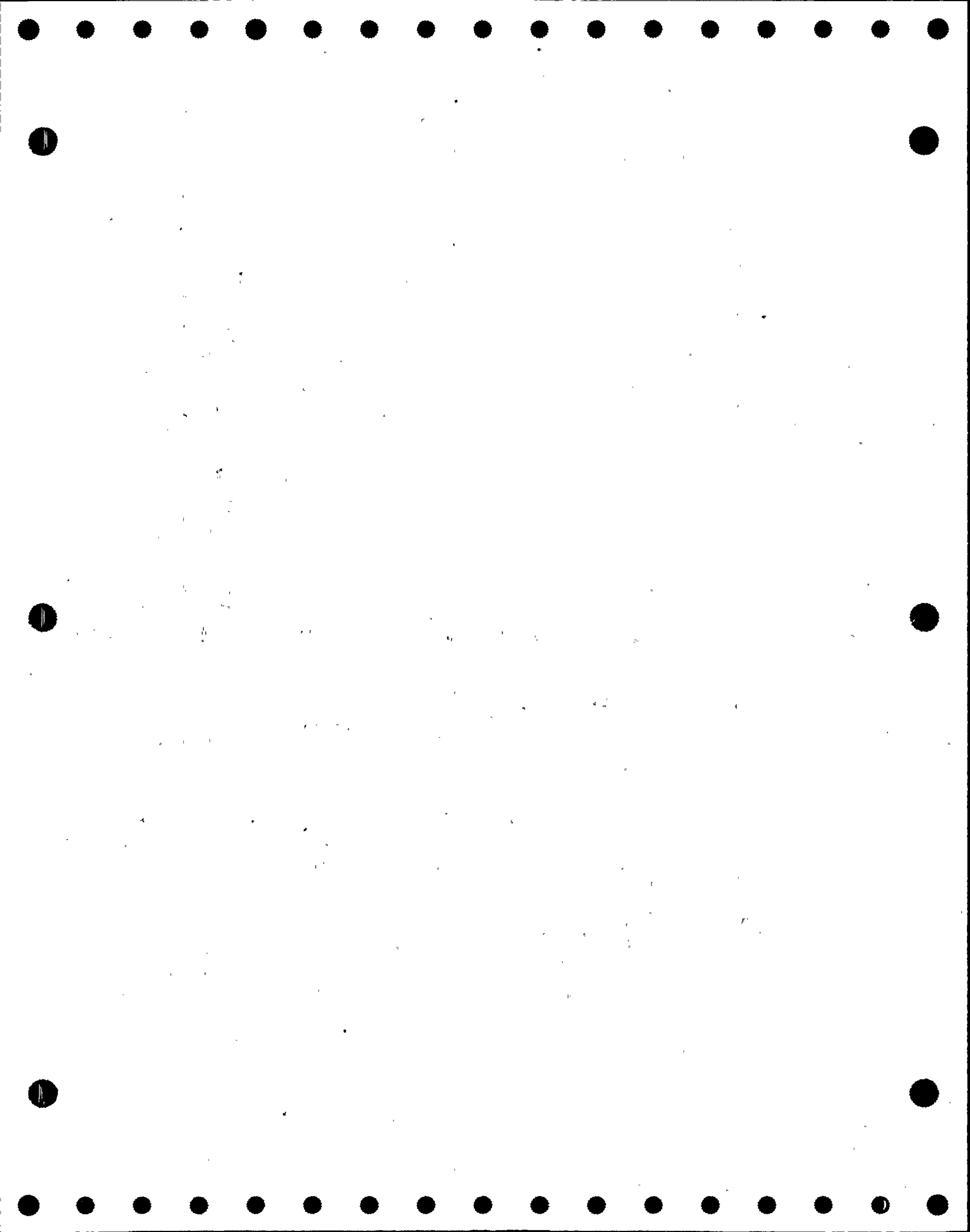


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 15FEB90:16:14

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-929-3	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-930-3	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-931-3	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-932-4	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-933	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1

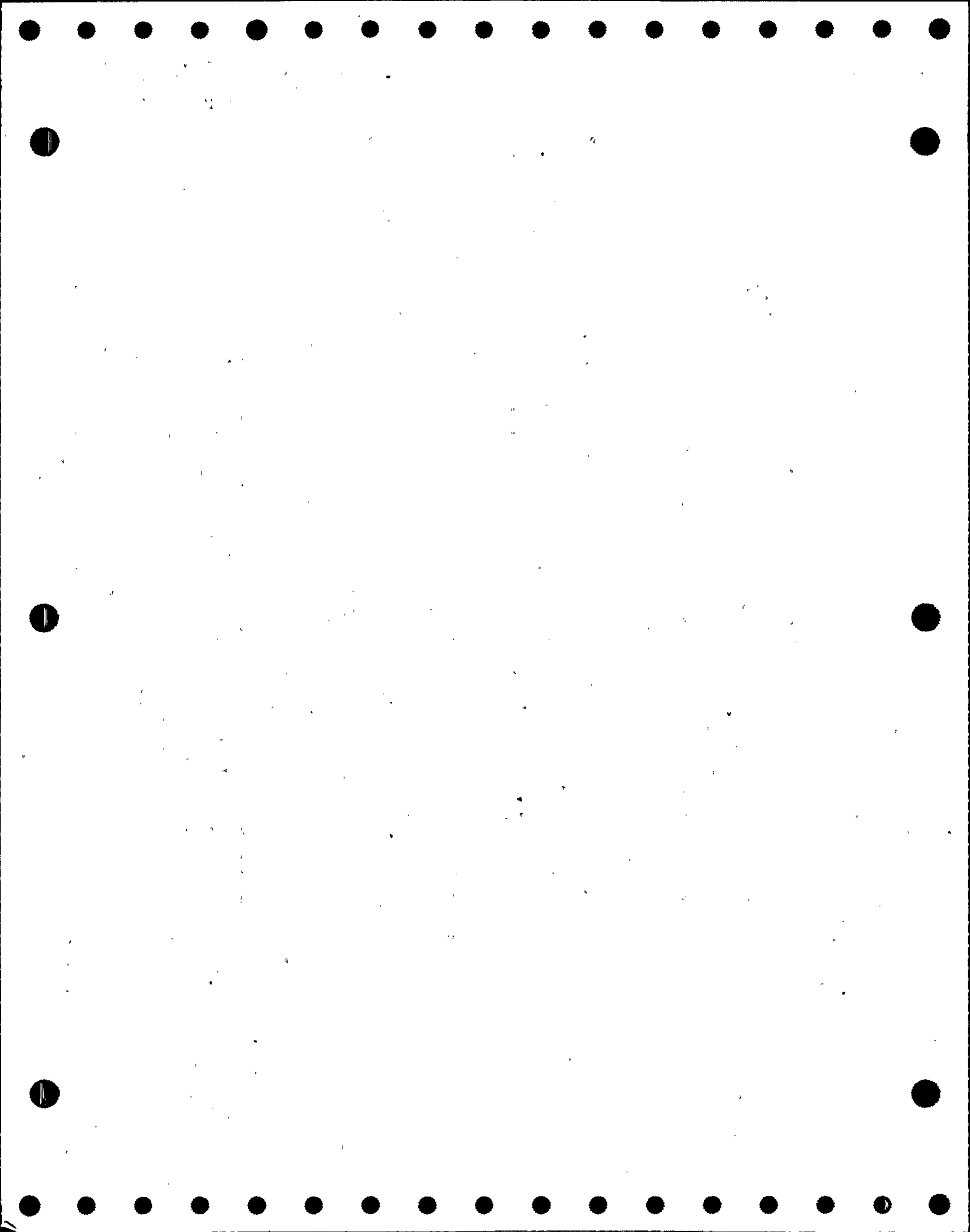


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)	
2-MCR-934	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-935	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-941-1	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-942-2	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-943-3	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1



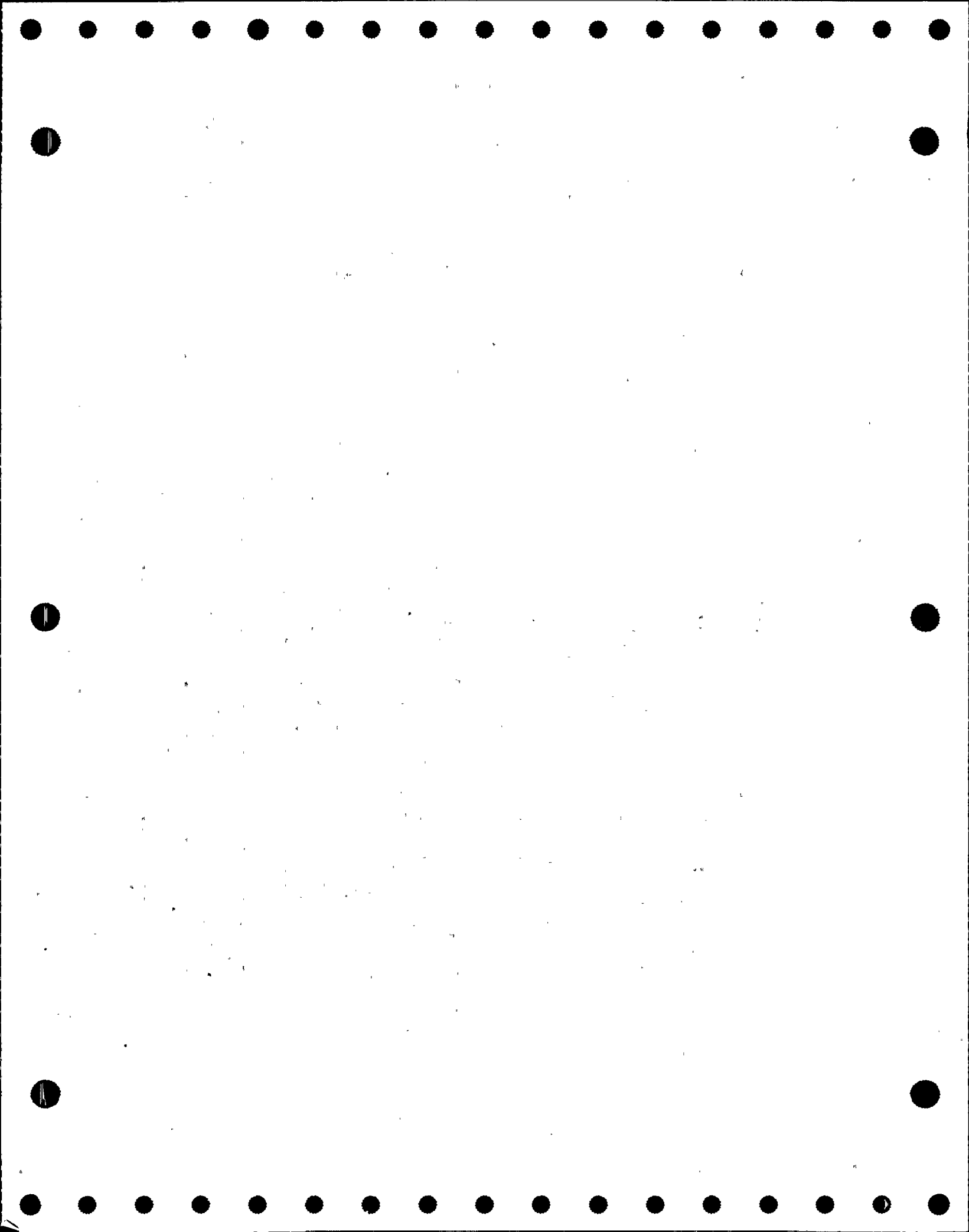
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-MCR-944-4	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-945	3	DA	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-946-2	3	DA	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-947-3	3	DA	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-948-4	3	DA	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1



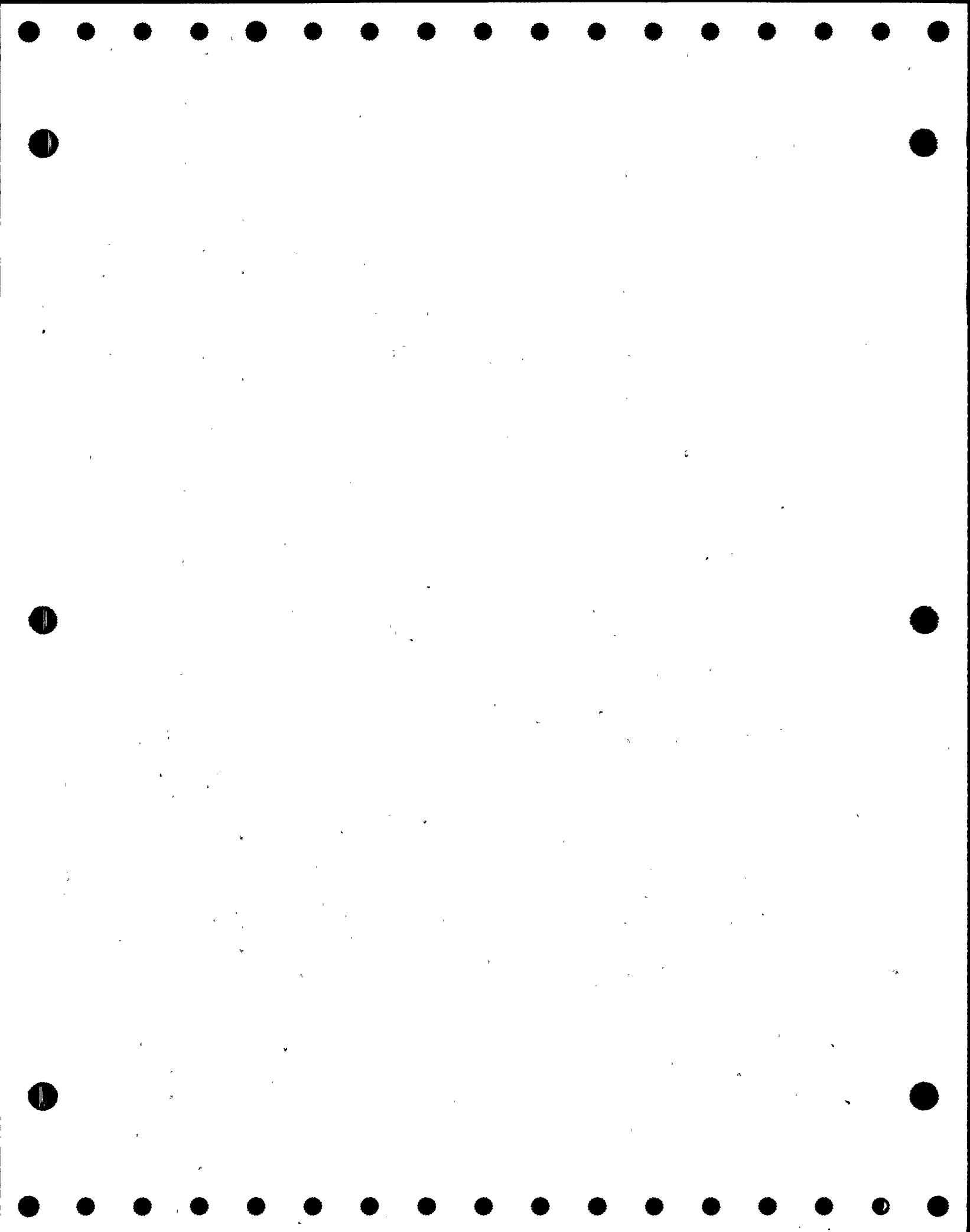


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 15FEB90:16:14

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-951	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-952-2	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-953-3	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-954-4	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-955	3	DA	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1

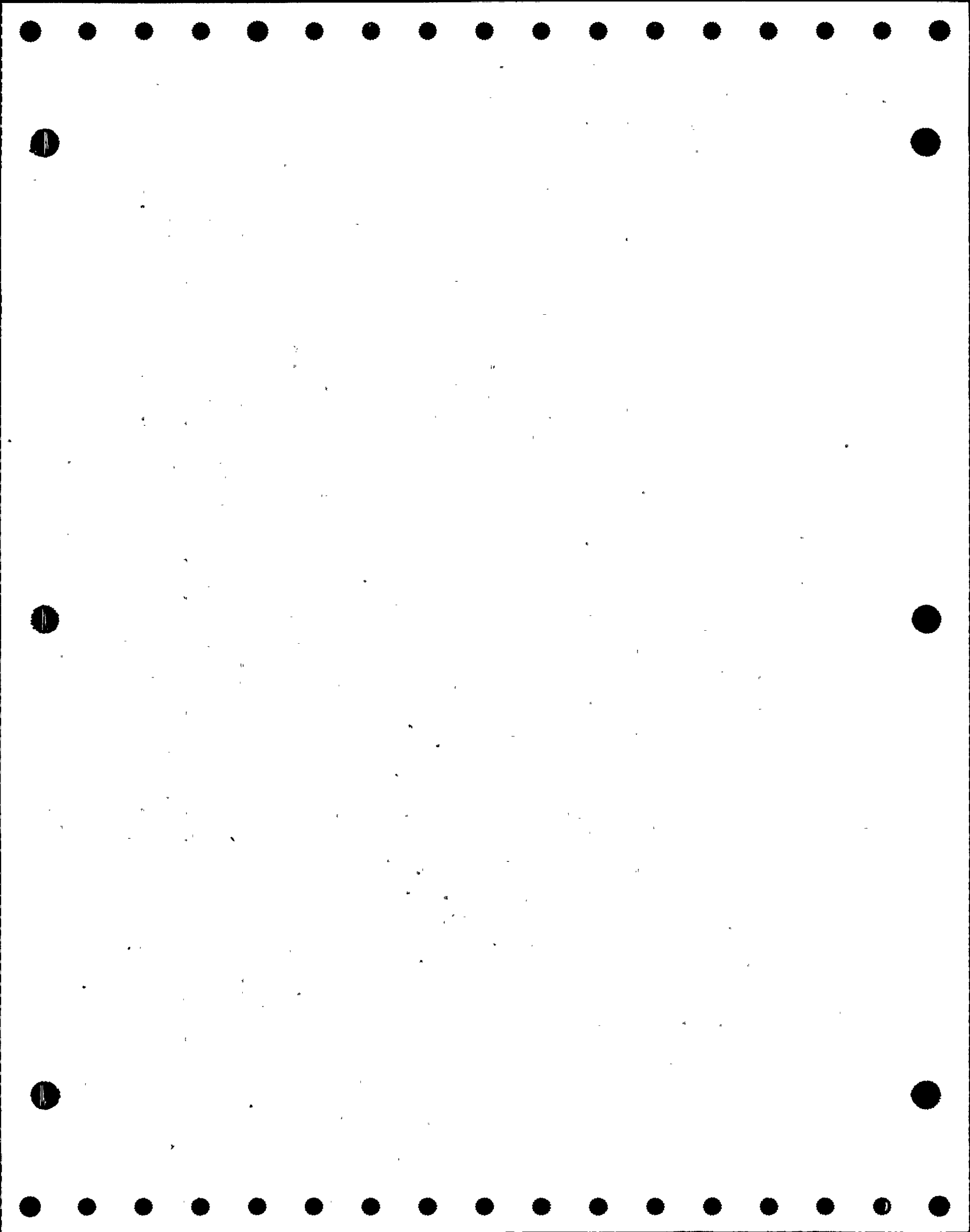


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-WCR-956-2	3	DA	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-WCR-957-3	3	DA	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-WCR-958-4	3	DA	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-WCR-960	3	DA	2	A	J/7	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-WCR-961	3	DA	2	A	J/7	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1

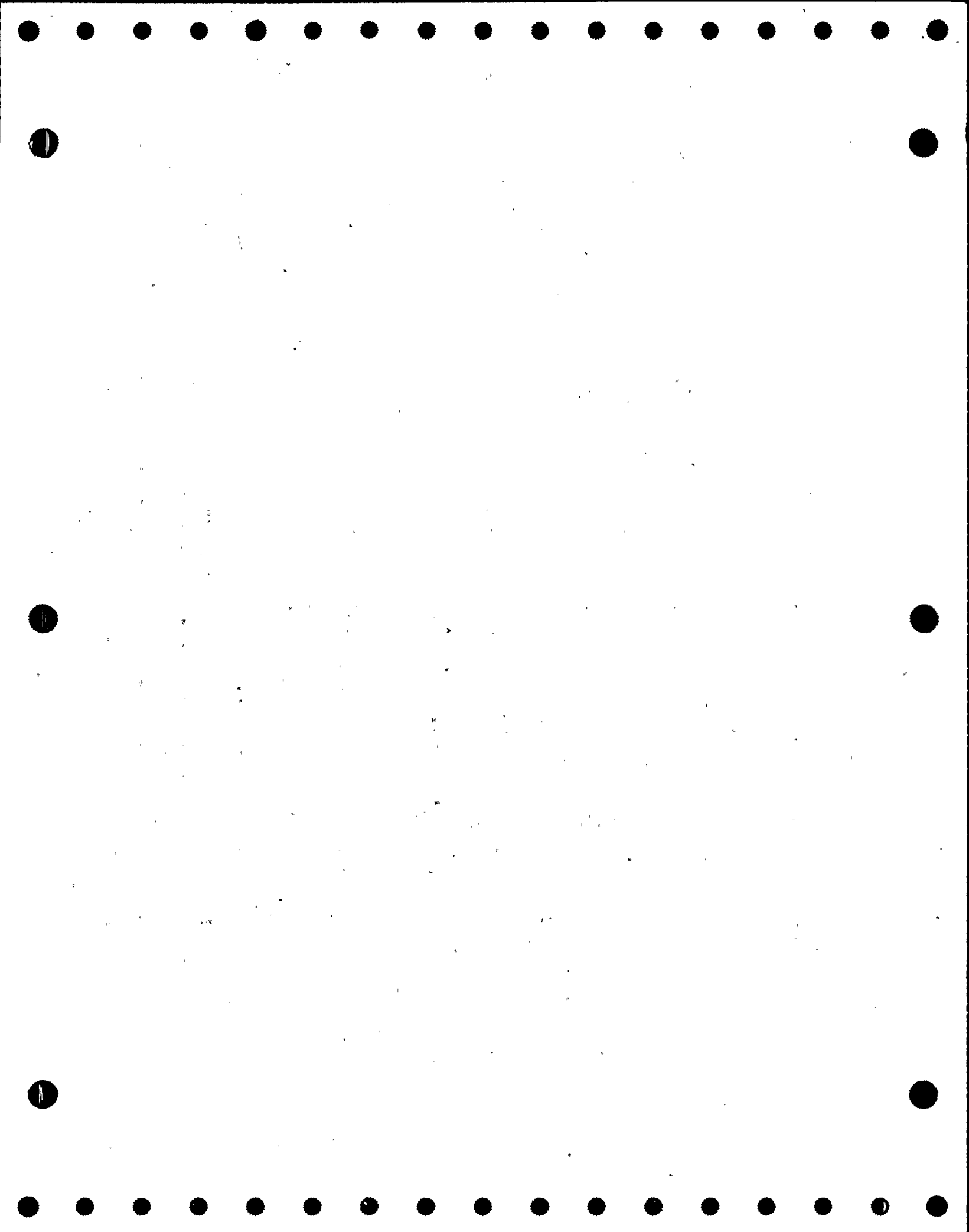


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-MCR-962	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-963	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-964-3	3	DA	2	A	J/7	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-965-3	3	DA	2	A	J/7	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-MCR-966-3	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1



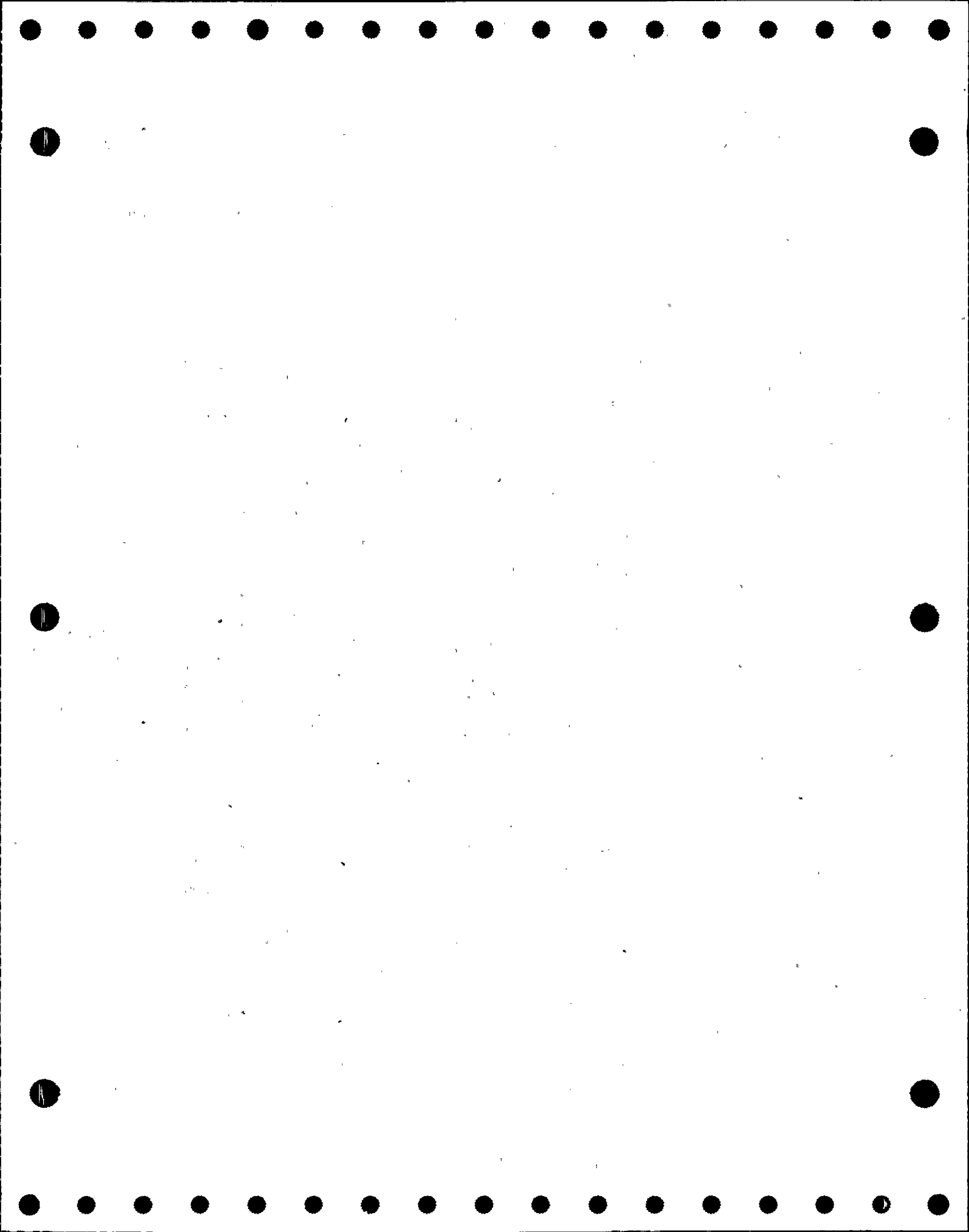
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5114A-27

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-MCR-967-3	3	DA	2	A	J/3	0	C	2	A	A	EF-1 EF-5 EF-7 ET-XXX SLT-1	EF-1 EF-5 EF-7 ET-XXX SLT-2	P - P P R	NO NO NO NO YES, NOTE 1



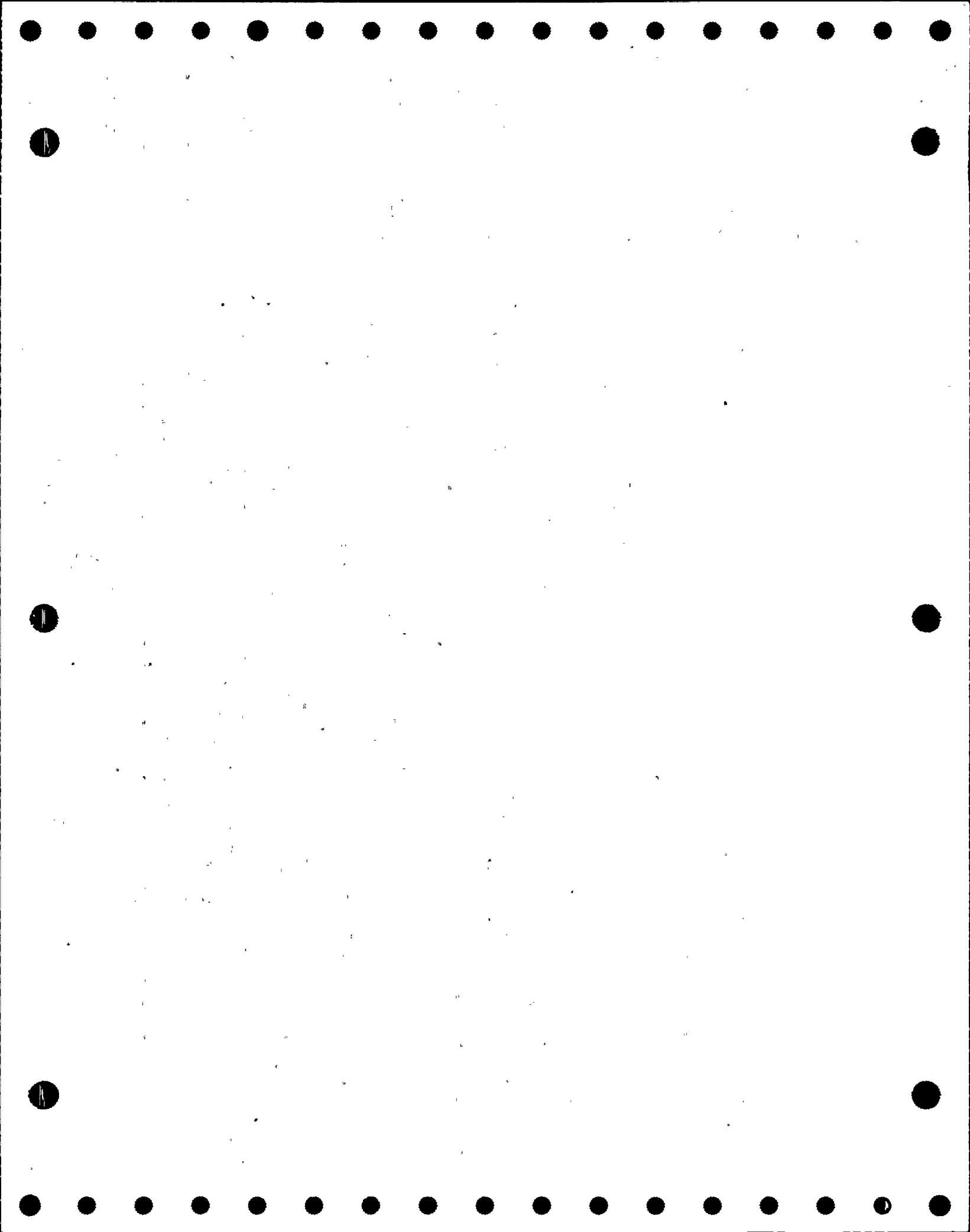


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5124-20

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-DCR-600	3	DA	3	A	N/6	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-DCR-601	3	DA	3	A	N/6	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-NS-357	3	CK	0.5	SA	K/9	C	O/C	2	A	AC	CF-1	CF-2	R	YES, NOTE 2
											SLT-1	SLT-2	R	YES, NOTE 1

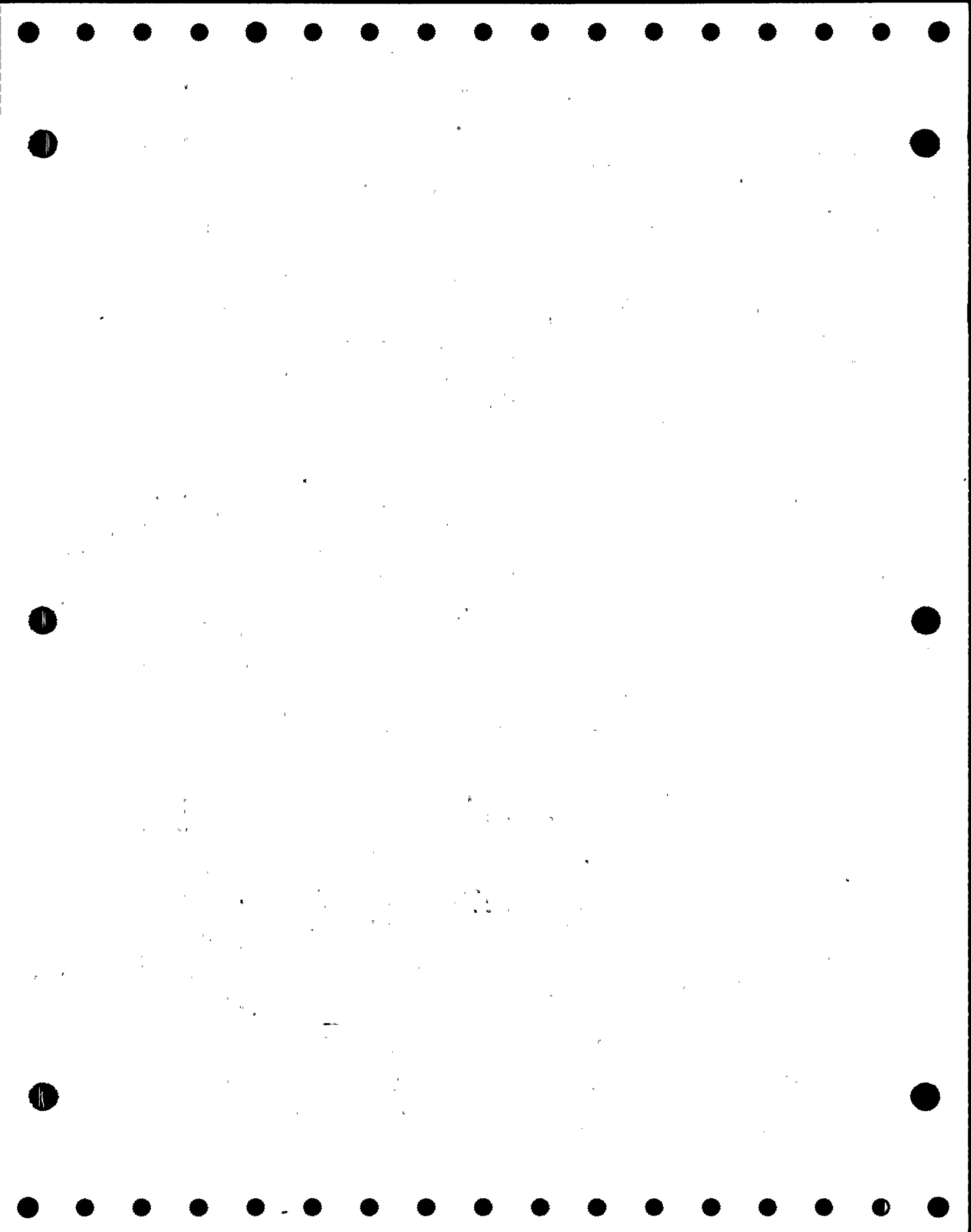


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5128-19

RUN DATE AND TIME: 15FEB90:16:14

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	3	GL	1	SO	J/6	C	O/C	2	A	B	EF-1	EF-2	C	NO, CSJ 1
											EF-5	EF-5	-	NO, CSJ 1
											EF-7	EF-8	C	NO, CSJ 1
											ET-XXX	ET-XXX	C	NO, CSJ 1
2-NSO-022	3	GL	1	SO	J/6	C	O/C	2	A	B	EF-1	EF-2	C	NO, CSJ 1
											EF-5	EF-5	-	NO, CSJ 1
											EF-7	EF-8	C	NO, CSJ 1
											ET-XXX	ET-XXX	C	NO, CSJ 1
2-NSO-023	3	GL	1	SO	J/6	C	O/C	2	A	B	EF-1	EF-2	C	NO, CSJ 1
											EF-5	EF-5	-	NO, CSJ 1
											EF-7	EF-8	C	NO, CSJ 1
											ET-XXX	ET-XXX	C	NO, CSJ 1
2-NSO-024	3	GL	1	SO	J/6	C	O/C	2	A	B	EF-1	EF-2	C	NO, CSJ 1
											EF-5	EF-5	-	NO, CSJ 1
											EF-7	EF-8	C	NO, CSJ 1
											ET-XXX	ET-XXX	C	NO, CSJ 1

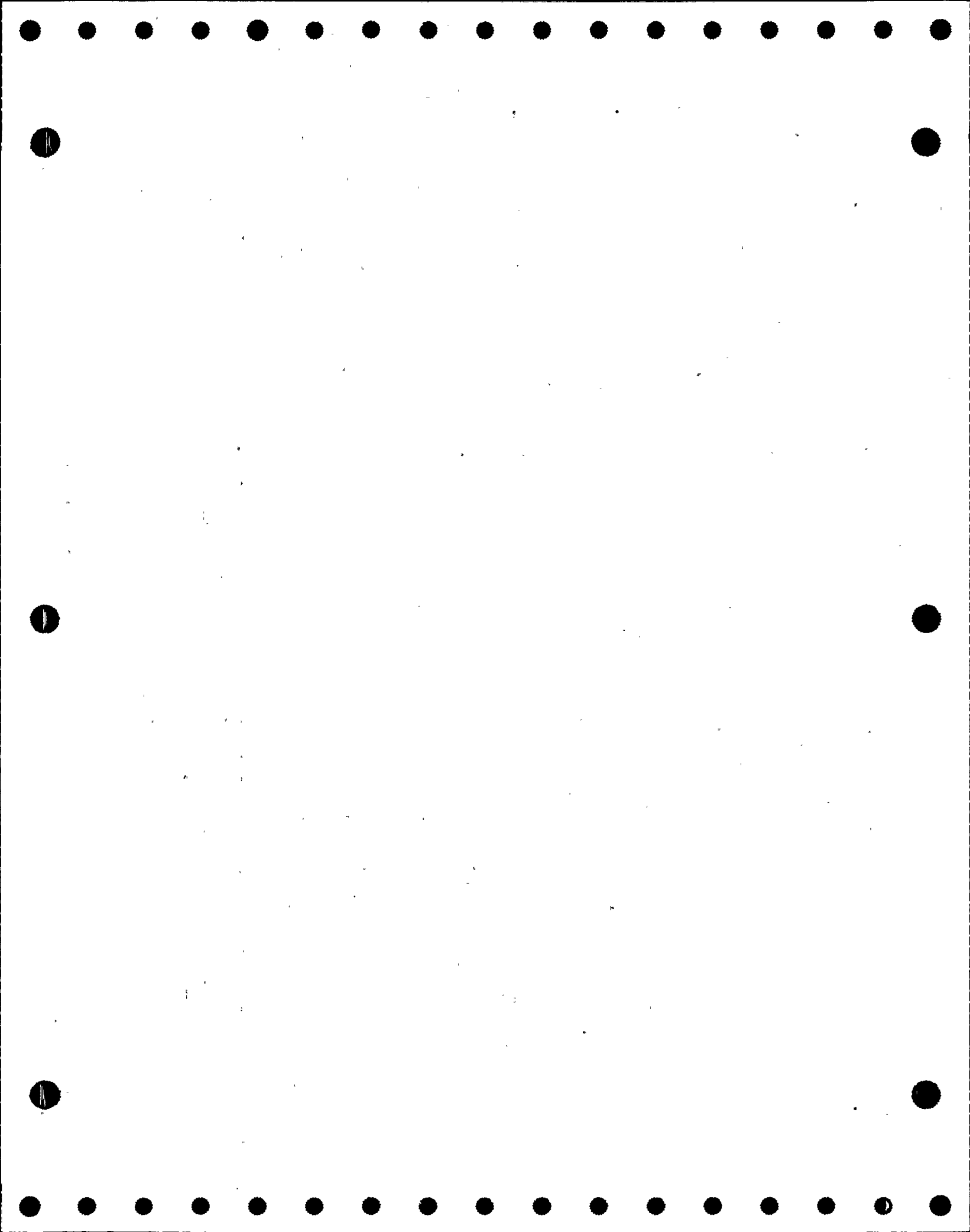


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5128A-34

RUN DATE AND TIME: 15FEB90:16:14

SYSTEM NAME: REACTOR COOLANT

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-CS-442-1	3	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	3	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	3	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	3	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	3	DA	0.75	A	B/8	0	C	2	A	A	EF-1 EF-5 EF-7 ET-XXX SLT-1	EF-1 EF-5 EF-7 ET-XXX SLT-2	P - P P R	NO NO NO NO YES, NOTE 2
2-N-159	3	CK	0.75	SA	C/8	O/C	C	2	A	AC	CF-1 SLT-1	CF-2 SLT-2	R R	YES, NOTE 5 YES, NOTE 2
2-NCR-252	3	GL	3	A	B/9	C	C	2	P	A	EF-1 EF-5 EF-7 ET-XXX SLT-1	EF-1 EF-5 EF-7 ET-XXX SLT-2	P - P P R	NO NO NO NO YES, NOTE 2
2-NM0-151	3	GA	3	MO	K/7	0	C	1	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO



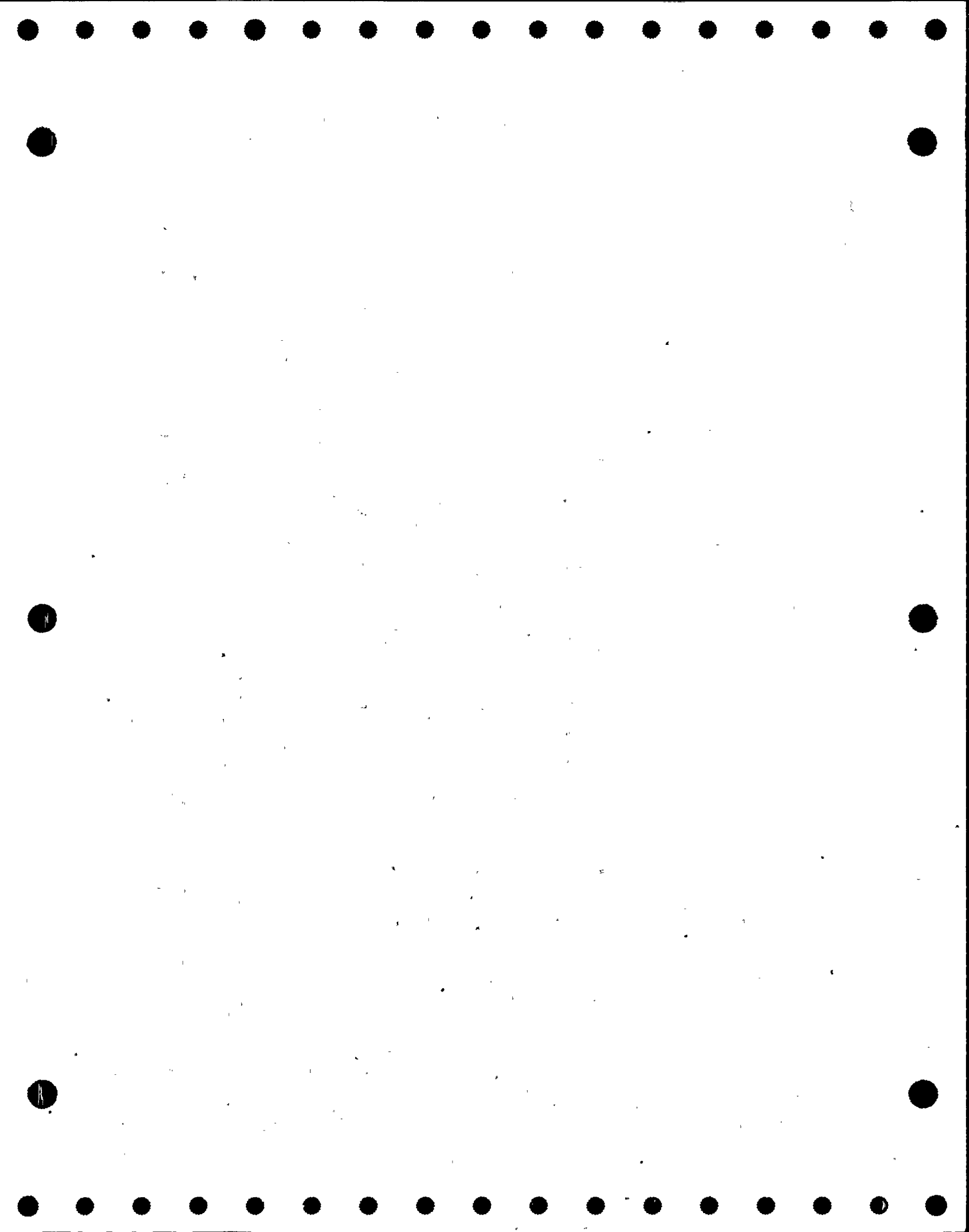
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5128A-34

RUN DATE AND TIME: 15FEB90:16:14

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-NM0-152	3	GA	3	MO	K/7	0	C	1	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-NM0-153	3	GA	3	MO	K/6	0	C	1	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-NPX-151	3	GL	0.5	M	N/8	C	C	2	P	A	SLT-1	SLT-2	R	YES, NOTE 2
2-NRV-151	3	GL	3	A	K/7	C	C/O	1	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-2 EF-5 EF-8 ET-XXX	- - - -	NO, CSJ 3 NO NO, CSJ 3 NO, CSJ 3
2-NRV-152	3	GL	3	A	K/7	C	C/O	1	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-2 EF-5 EF-8 ET-XXX	- - - -	NO, CSJ 3 NO NO, CSJ 3 NO, CSJ 3
2-NRV-153	3	GL	3	A	K/6	C	C/O	1	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-2 EF-5 EF-8 ET-XXX	- - - -	NO, CSJ 3 NO NO, CSJ 3 NO, CSJ 3
2-NS0-061	3	GL	1	SO	M/6	C	O/C	2	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-2 EF-5 EF-8 ET-XXX	C - C C	NO, CSJ 6 NO, CSJ 6 NO, CSJ 6 NO, CSJ 6



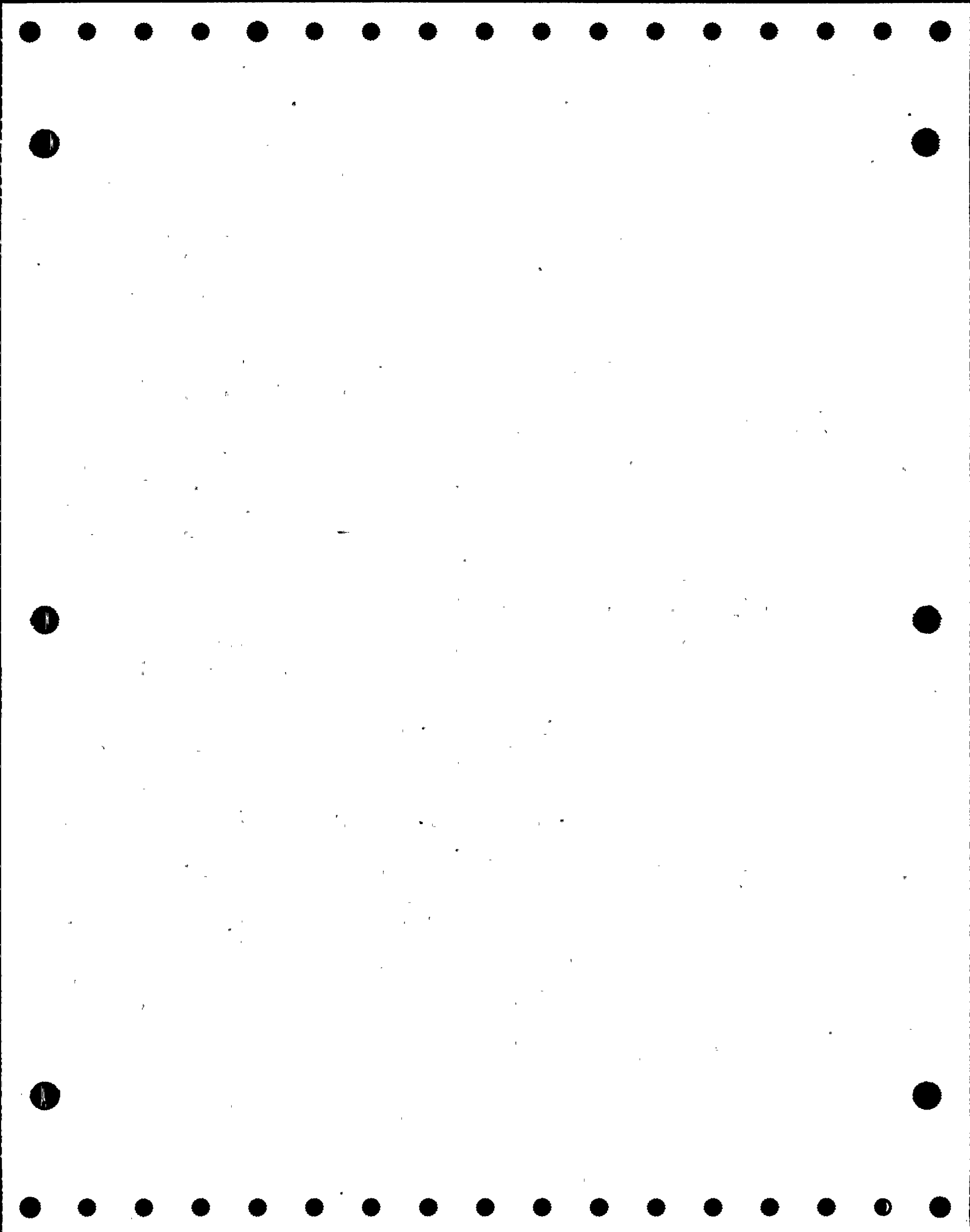


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5128A-34

RUN DATE AND TIME: 15FEB90:16:14

SYSTEM NAME: REACTOR COOLANT

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-NSO-062	3	GL	1	SO	M/6	C	O/C	2	A	B	EF-1	EF-2	C	NO, CSJ 6
											EF-5	EF-5	-	NO, CSJ 6
											EF-7	EF-8	C	NO, CSJ 6
											ET-XXX	ET-XXX	C	NO, CSJ 6
2-NSO-063	3	GL	1	SO	M/6	C	O/C	2	A	B	EF-1	EF-2	C	NO, CSJ 6
											EF-5	EF-5	-	NO, CSJ 6
											EF-7	EF-8	C	NO, CSJ 6
											ET-XXX	ET-XXX	C	NO, CSJ 6
2-NSO-064	3	GL	1	SO	M/6	C	O/C	2	A	B	EF-1	EF-2	C	NO, CSJ 6
											EF-5	EF-5	-	NO, CSJ 6
											EF-7	EF-8	C	NO, CSJ 6
											ET-XXX	ET-XXX	C	NO, CSJ 6
2-PW-275	3	CK	3	SA	B/9	O/C	C	2	A	AC	CF-1	CF-2	R	YES, NOTE 4
											SLT-1	SLT-2	R	YES, NOTE 2
2-RCR-100	3	GL	0.375	A	B/7	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
2-RCR-101	3	GL	0.375	A	B/7	O	C	2	A	A	SLT-1	SLT-2	R	YES, NOTE 2
											EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
2-RCR-101	3	GL	0.375	A	B/7	O	C	2	A	A	ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 2
											EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO

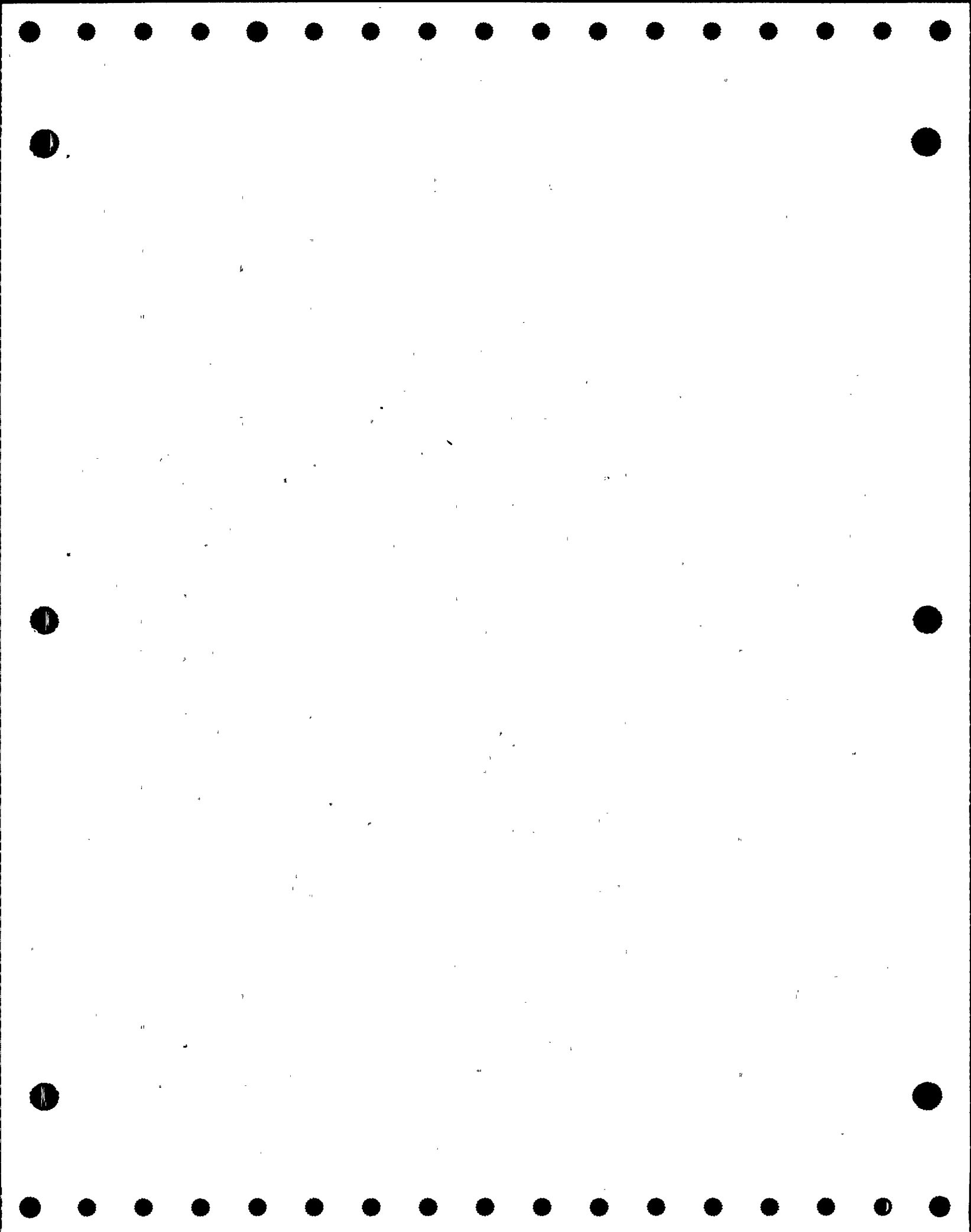


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5128A-34

RUN DATE AND TIME: 15FEB90:16:14

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-SI-189	3	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	3	REL	6	SA	K/6	C	0	1	A	C	TF-1	TF-1	R	NO
2-SV-45B	3	REL	6	SA	J/6	C	0	1	A	C	TF-1	TF-1	R	NO
2-SV-45C	3	REL	6	SA	H/6	C	0	1	A	C	TF-1	TF-1	R	NO
2-SV-50	3	REL	2	SA	G/3	C	0	3	A	C	TF-1	TF-1	R	NO

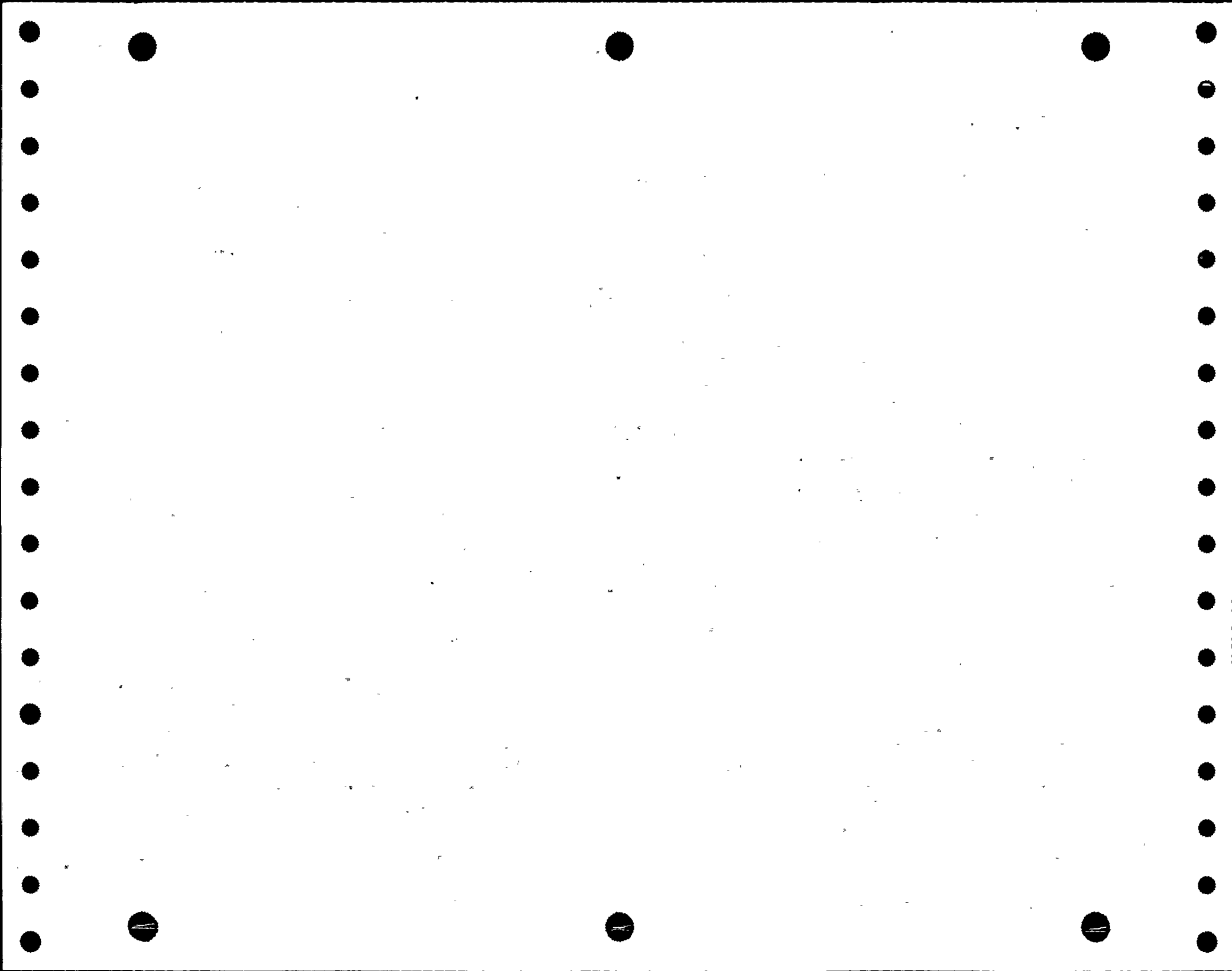


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5129-32

RUN DATE AND TIME: 15FEB90:16:14

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-CS-292	3	CK	2	SA	H/6	C	O/C	2	A	C	CF-1	CF-2	C	YES, NOTE 1
2-CS-297-E	3	CK	2	SA	H/7	O/C	0	2	A	C	CF-1	CF-1	P	NO
2-CS-297-W	3	CK	2	SA	F/7	O/C	0	2	A	C	CF-1	CF-1	P	NO
2-CS-299-E	3	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 11
2-CS-299-W	3	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 11
2-CS-321	3	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	3	CK	3	SA	B/2	O/C	0	1	A	C	CF-1	CF-1	P	NO, NOTE 5
2-CS-328-L4	3	CK	3	SA	B/3	C/O	0	1	A	C	CF-1	CF-1	P	NO, NOTE 5
2-CS-329-L1	3	CK	3	SA	B/2	O/C	0	1	A	C	CF-1	CF-1	P	NO, NOTE 5
2-CS-329-L4	3	CK	3	SA	B/3	C/O	0	1	A	C	CF-1	CF-1	P	NO, NOTE 5
2-IMO-360	3	GA	4	MO	J/6	C	0	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO



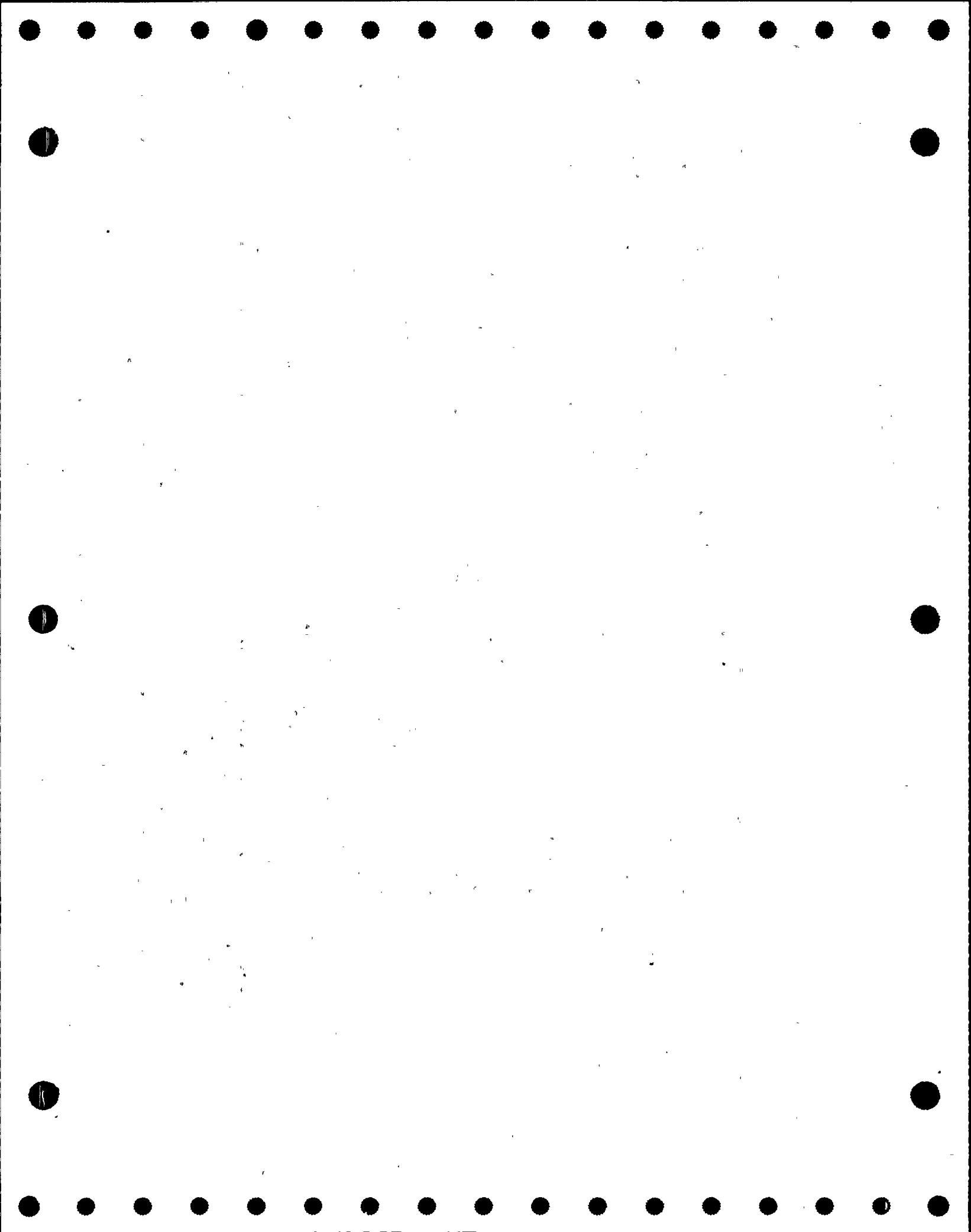
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5129-32

RUN DATE AND TIME: 15FEB90:16:14

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-IMO-910	3	GA	8	MO	L/5	C	O	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-IMO-911	3	GA	8	MO	L/6	C	O	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-QCR-300	3	GL	2	A	E/1	O	C	2	A	A	EF-1 EF-5 EF-7 ET-XXX SLT-1	EF-2 EF-5 EF-8 ET-XXX SLT-2	C - C C R	NO, CSJ 6 NO NO, CSJ 6 NO, CSJ 6 YES, NOTE 3
2-QCR-301	3	GL	2	A	E/1	O	C	2	A	A	EF-1 EF-5 EF-7 ET-XXX SLT-1	EF-2 EF-5 EF-8 ET-XXX SLT-2	C - C C R	NO, CSJ 6 NO NO, CSJ 6 NO, CSJ 6 YES, NOTE 3
2-QMO-200	3	GA	3	MO	J/3	O	O/C	2	A	B	EF-1 EF-5 ET-XXX	EF-2 EF-5 ET-XXX	C - C	NO, CSJ 7 NO NO, CSJ 7
2-QMO-201	3	GA	3	MO	J/3	O	O/C	2	A	B	EF-1 EF-5 ET-XXX	EF-2 EF-5 ET-XXX	C - C	NO, CSJ 7 NO NO, CSJ 7
2-QMO-225	3	GA	2	MO	J/7	O	O/C	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO



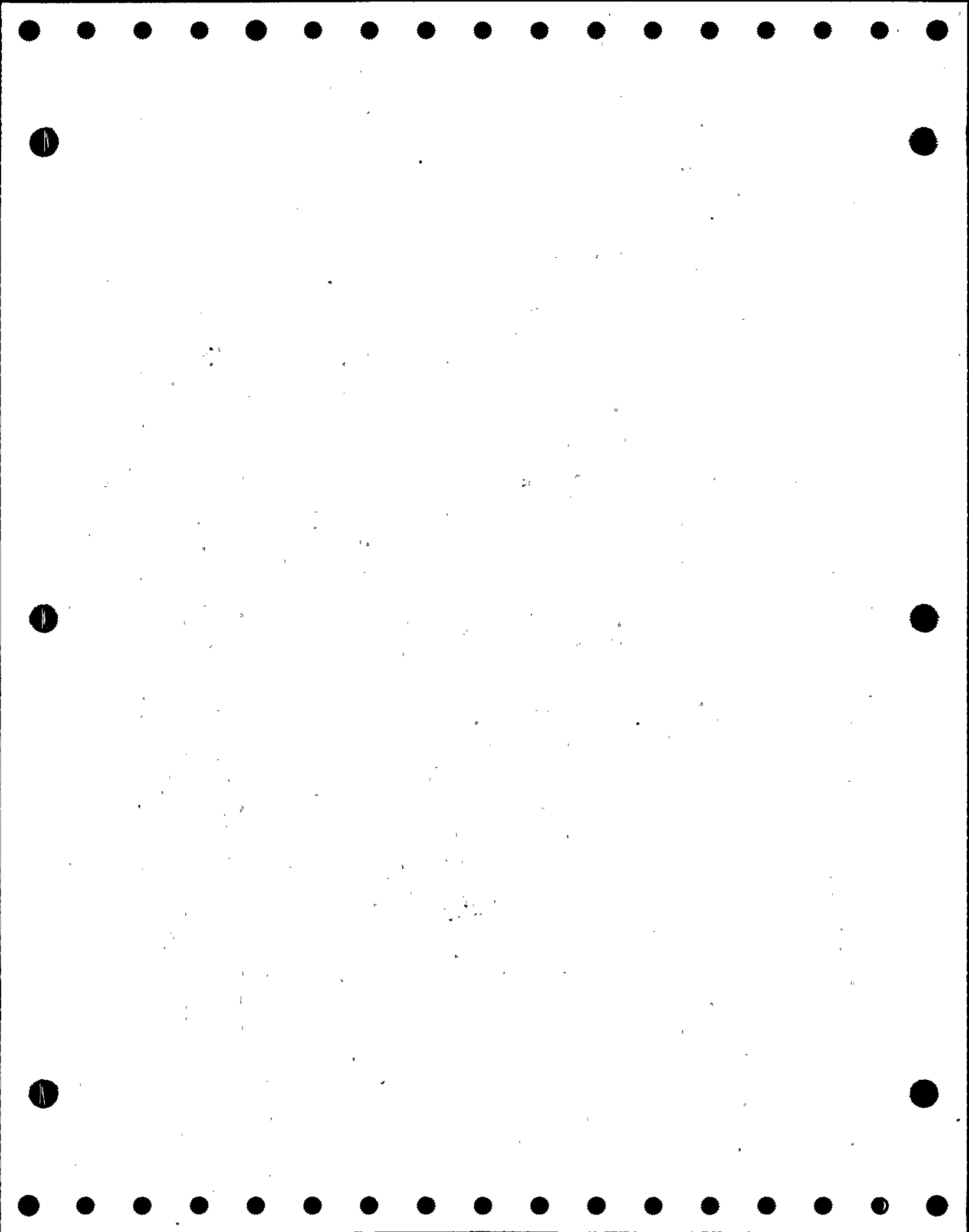


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5129-32

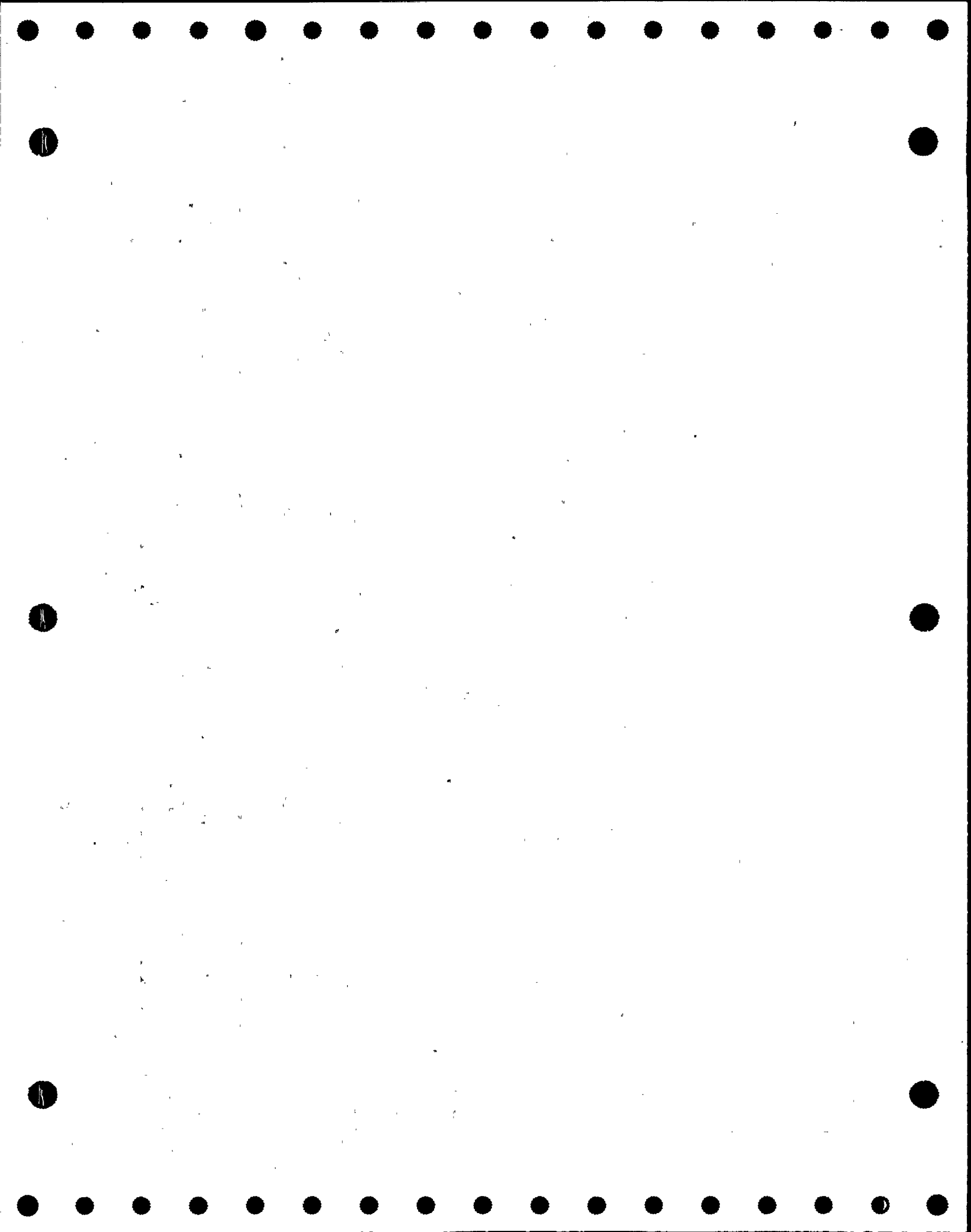
RUN DATE AND TIME: 15FEB90:16:14

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-QMO-226	3	GA	2	MO	G/7	0	0/C	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-QRV-200	3	GL	3	A	H/3	0	0	2	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-3 EF-5 NOTE 8 NOTE 8	P - - -	NO, NOTE 8 YES, NOTE 8 YES, NOTE 8 YES, NOTE 8
2-QRV-251	3	GL	3	A	H/5	0	0	2	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-3 EF-5 EF-8 NOTE 9	P - - -	NO, NOTE 9 YES, NOTE 9 YES, NOTE 9 YES, NOTE 9
2-QRV-61	3	GL	3	A	C/2	C	0	2	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-1 EF-5 EF-7 ET-XXX	P - P P	NO NO NO NO
2-QRV-62	3	GL	3	A	C/2	O/C	0	2	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-1 EF-5 EF-7 ET-XXX	P - P P	NO NO NO NO
2-SI-185	3	CK	8	SA	K/5	C	0	2	A	C	CF-1	CF-2	R	YES, NOTE 10
2-SV-51	3	REL	2	SA	E/2	C	0	2	A	C	TF-1	TF-1	R	NO





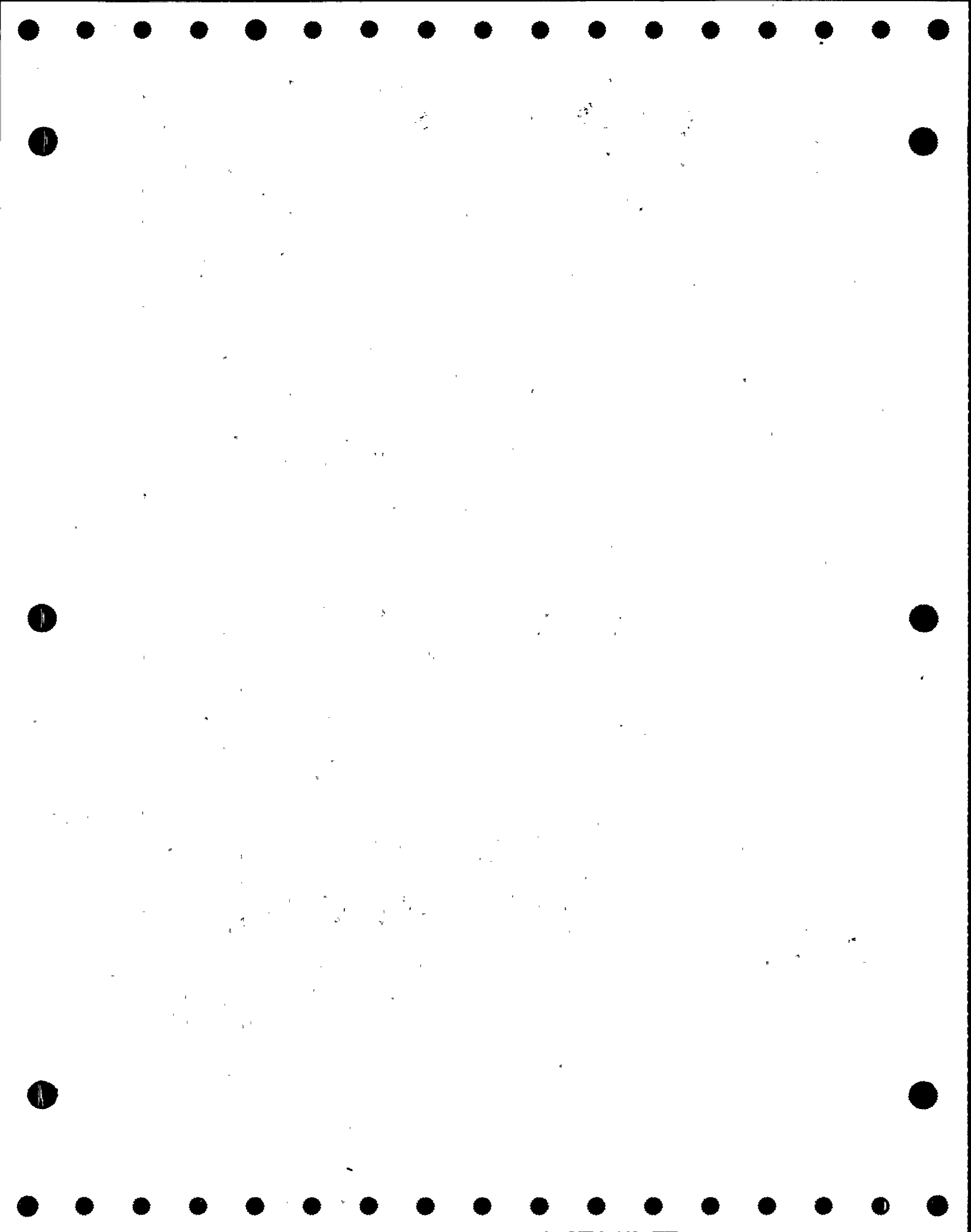


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5129A-20

RUN DATE AND TIME: 15FEB90:16:14

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	3	GA	4	MO	C/8	0	C	2	A	A	EF-1 EF-5 ET-XXX SLT-1	EF-2 EF-5 ET-XXX SLT-2	C - C R	NO, CSJ 1 NO NO, CSJ 1 YES, NOTE 2
2-QCM-350	3	GA	4	MO	D/8	0	C	2	A	A	EF-1 EF-5 ET-XXX SLT-1	EF-2 EF-5 ET-XXX SLT-2	C - C R	NO, CSJ 1 NO NO, CSJ 1 YES, NOTE 2
2-QMO-451	3	GA	4	MO	J/5	0	C	2	A	B	EF-1 EF-5 ET-XXX	EF-2 EF-5 ET-XXX	C - C	NO, CSJ 3 NO NO, CSJ 3
2-QMO-452	3	GA	4	MO	J/5	0	C	2	A	B	EF-1 EF-5 ET-XXX	EF-2 EF-5 ET-XXX	C - C	NO, CSJ 3 NO NO, CSJ 3
2-QRV-400	3	GL	2	A	K/4	C	0	2	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-1 EF-5 EF-7 ET-XXX	P - P P	NO NO NO NO
2-SV-53	3	REL	3	SA	H/2	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-54	3	REL	2	SA	E/4	C	0	2	A	C	TF-1	TF-1	R	NO



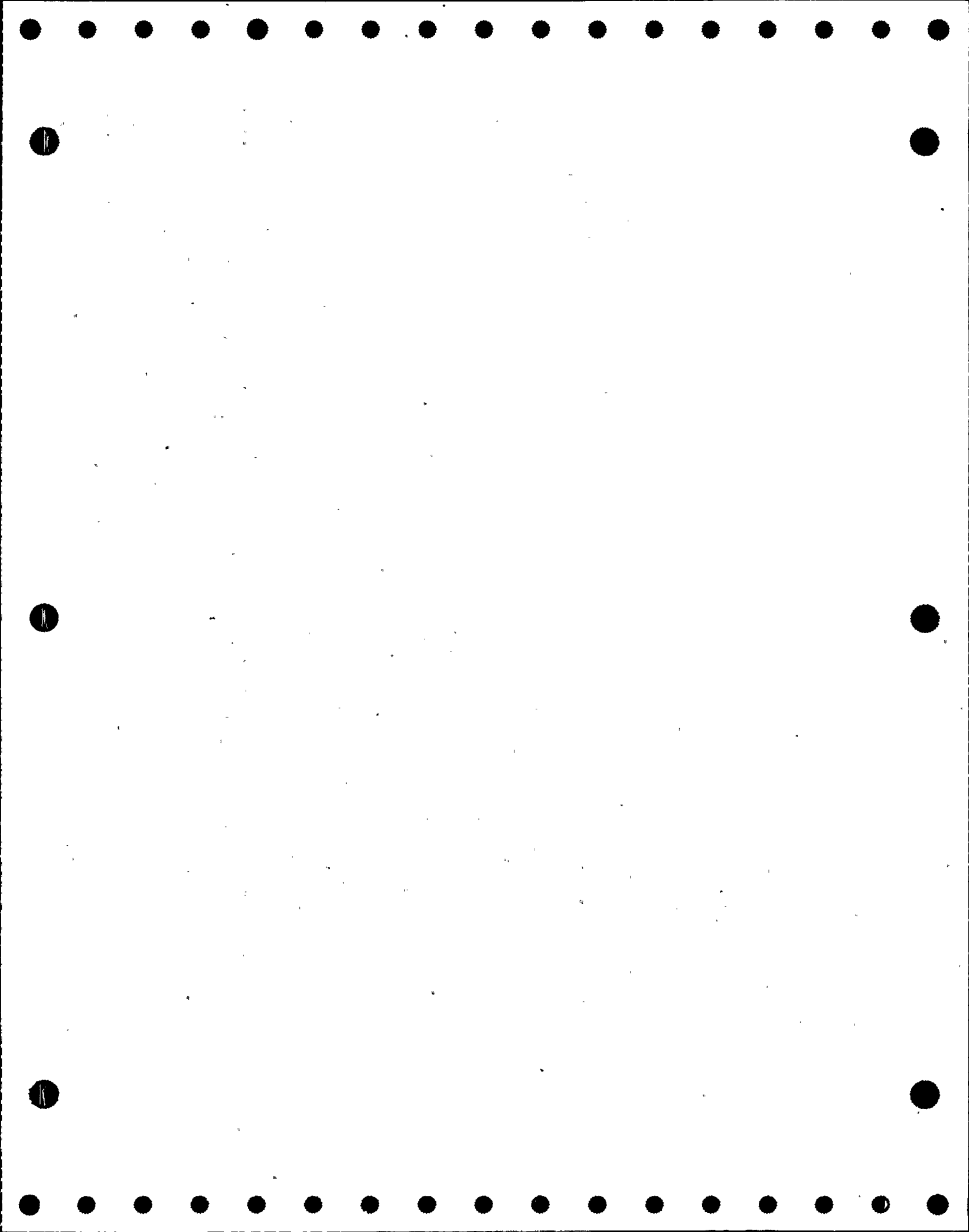
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5135-34

RUN DATE AND TIME: 15FEB90:16:14

SYSTEM NAME: COMPONENT COOLING

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-CCM-451	3	BF	8	MO	E/4	0	C	2	A	A	EF-1	EF-2	C	NO, CSJ 1
											EF-5	EF-5	-	NO
											ET-XXX	ET-XXX	C	NO, CSJ 1
											SLT-1	SLT-2	R	YES, NOTE 2
2-CCM-452	3	BF	8	MO	E/5	0	C	2	A	A	EF-1	EF-2	C	NO, CSJ 1
											EF-5	EF-5	-	NO
											ET-XXX	ET-XXX	C	NO, CSJ 1
											SLT-1	SLT-2	R	YES, NOTE 2
2-CCM-453	3	GL	4	MO	E/4	0	C	2	A	A	EF-1	EF-2	C	NO, CSJ 1
											EF-5	EF-5	-	NO
											ET-XXX	ET-XXX	C	NO, CSJ 1
											SLT-1	SLT-2	R	YES, NOTE 2
2-CCM-454	3	GL	4	MO	E/5	0	C	2	A	A	EF-1	EF-2	C	NO, CSJ 1
											EF-5	EF-5	-	NO
											ET-XXX	ET-XXX	C	NO, CSJ 1
											SLT-1	SLT-2	R	YES, NOTE 2
2-CCM-458	3	BF	8	MO	A/2	0	C	2	A	A	EF-1	EF-2	C	NO, CSJ 1
											EF-5	EF-5	-	NO
											ET-XXX	ET-XXX	C	NO, CSJ 1
											SLT-1	SLT-2	R	YES, NOTE 2
2-CCM-459	3	BF	8	MO	B/2	0	C	2	A	A	EF-1	EF-2	C	NO, CSJ 1
											EF-5	EF-5	-	NO
											ET-XXX	ET-XXX	C	NO, CSJ 1
											SLT-1	SLT-2	R	YES, NOTE 2



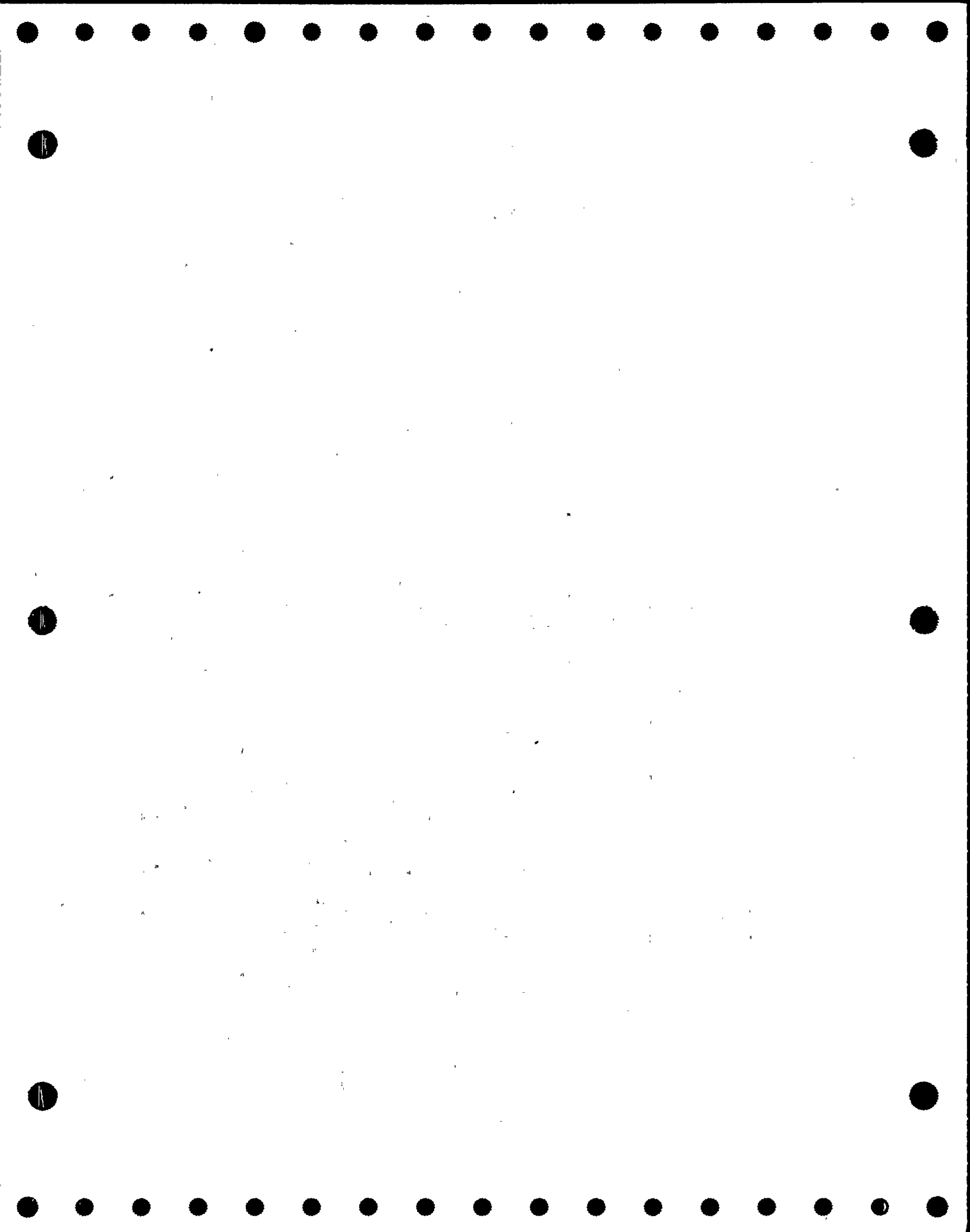


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5135-34

RUN DATE AND TIME: 15FEB90:16:14

SYSTEM NAME: COMPONENT COOLING

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-CCR-455	3	GL	2	A	B/3	0	C	2	A	A	EF-1	EF-2	C	NO, CSJ 3
											EF-5	EF-5	-	NO
											EF-7	EF-8	C	NO, CSJ 3
											ET-XXX	ET-XXX	C	NO, CSJ 3
											SLT-1	SLT-2	R	YES, NOTE 2
2-CCR-456	3	GL	2	A	D/4	0	C	2	A	A	EF-1	EF-2	C	NO, CSJ 3
											EF-5	EF-5	-	NO
											EF-7	EF-8	C	NO, CSJ 3
											ET-XXX	ET-XXX	C	NO, CSJ 3
											SLT-1	SLT-2	R	YES, NOTE 2
2-CCR-457	3	GL	2	A	D/4	0	C	2	A	A	EF-1	EF-2	C	NO, CSJ 3
											EF-5	EF-5	-	NO
											EF-7	EF-8	C	NO, CSJ 3
											ET-XXX	ET-XXX	C	NO, CSJ 3
											SLT-1	SLT-2	R	YES, NOTE 2
2-CCR-460	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 2
2-CCR-462	3	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-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 2

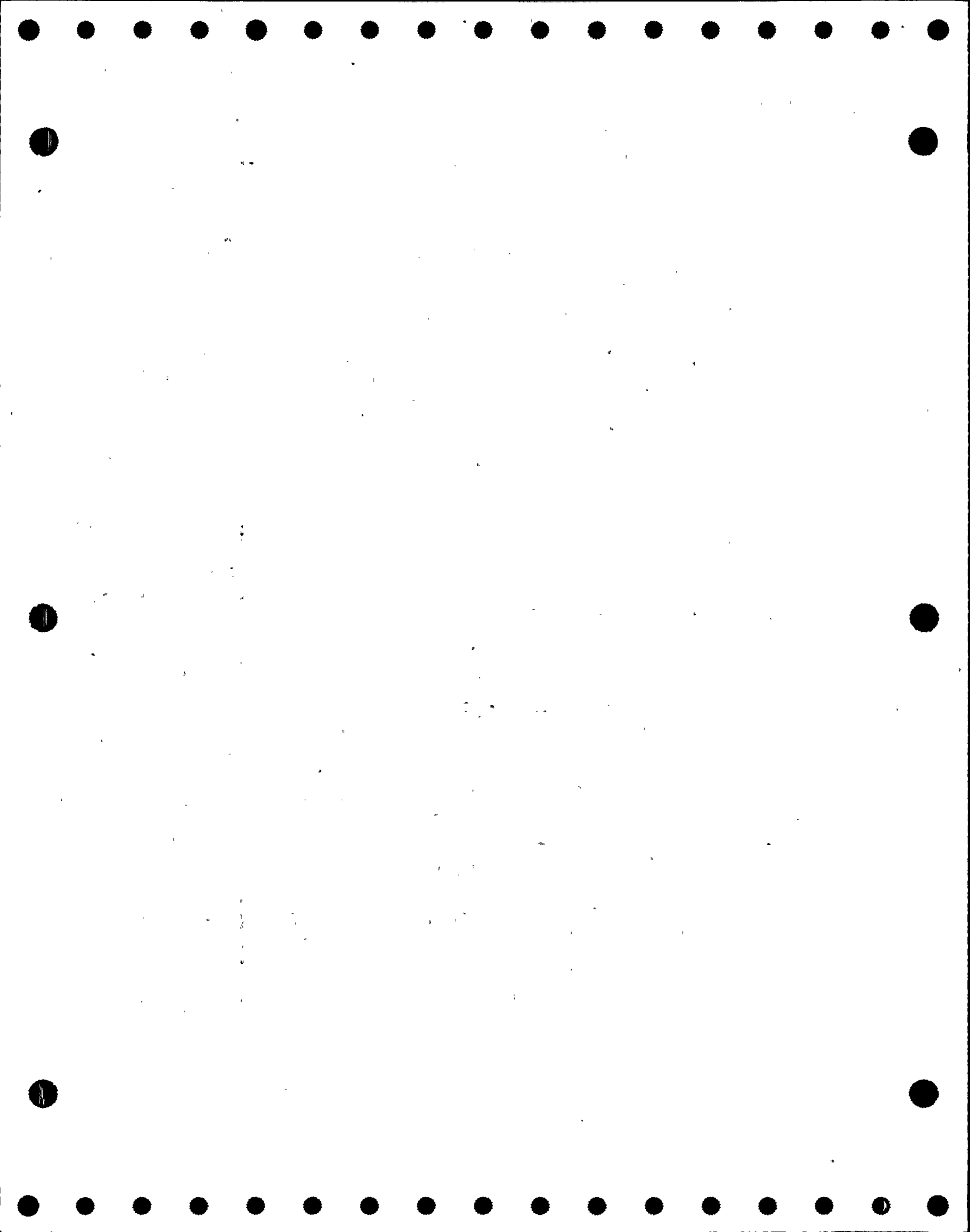


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5135-34

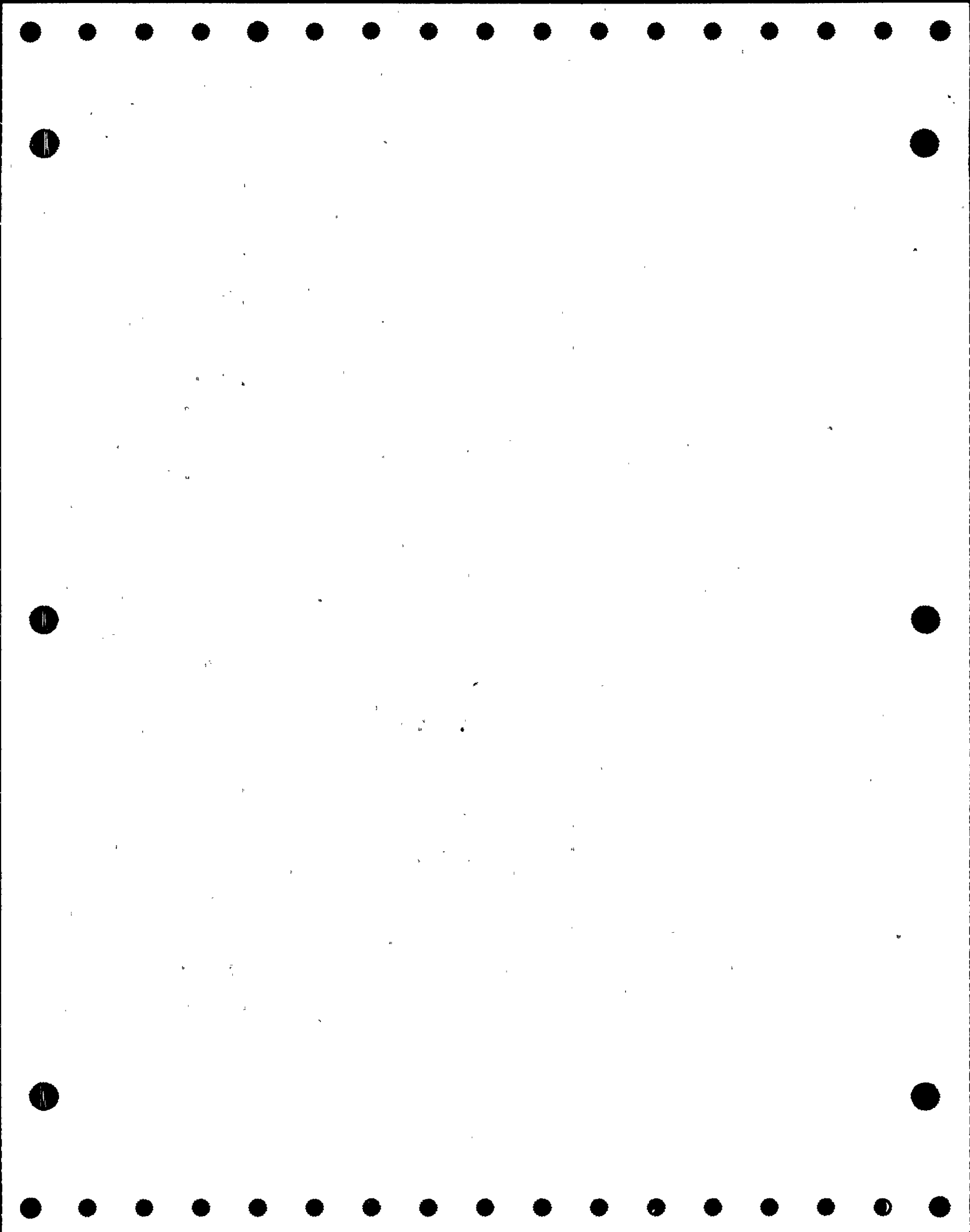
RUN DATE AND TIME: 15FEB90:16:14

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-CCH-135	3	CK	2.5	SA	B/3	O	C	2	A	AC	CF-1 SLT-1	CF-2 SLT-2	R R	YES, NOTE 4 YES, NOTE 2
2-CRV-445	3	BL	6	A	L/5	O	C/O	3	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-1 EF-5 EF-7 ET-XXX	P - P P	NO NO NO NO
2-CRV-470	3	GL	6	A	G/1	O	C	3	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-1 NOTE 5 NOTE 5 NOTE 5	P - - -	NO, NOTE 5 YES, NOTE 5 YES, NOTE 5 YES, NOTE 5
2-CRV-485	3	BF	10	A	B/7	O	C	3	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-1 EF-5 EF-7 ET-XXX	P - P P	NO NO NO NO
2-SV-122	3	REL	1	SA	D/3	C	O	3	A	C	TF-1	TF-1	R	NO
2-SV-62-1	3	REL	1	SA	D/3	C	O	3	A	C	TF-1	TF-1	R	NO
2-SV-62-2	3	REL	1	SA	D/3	C	O	3	A	C	TF-1	TF-1	R	NO
2-SV-62-3	3	REL	1	SA	D/3	C	O	3	A	C	TF-1	TF-1	R	NO
2-SV-62-4	3	REL	1	SA	D/3	C	O	3	A	C	TF-1	TF-1	R	NO







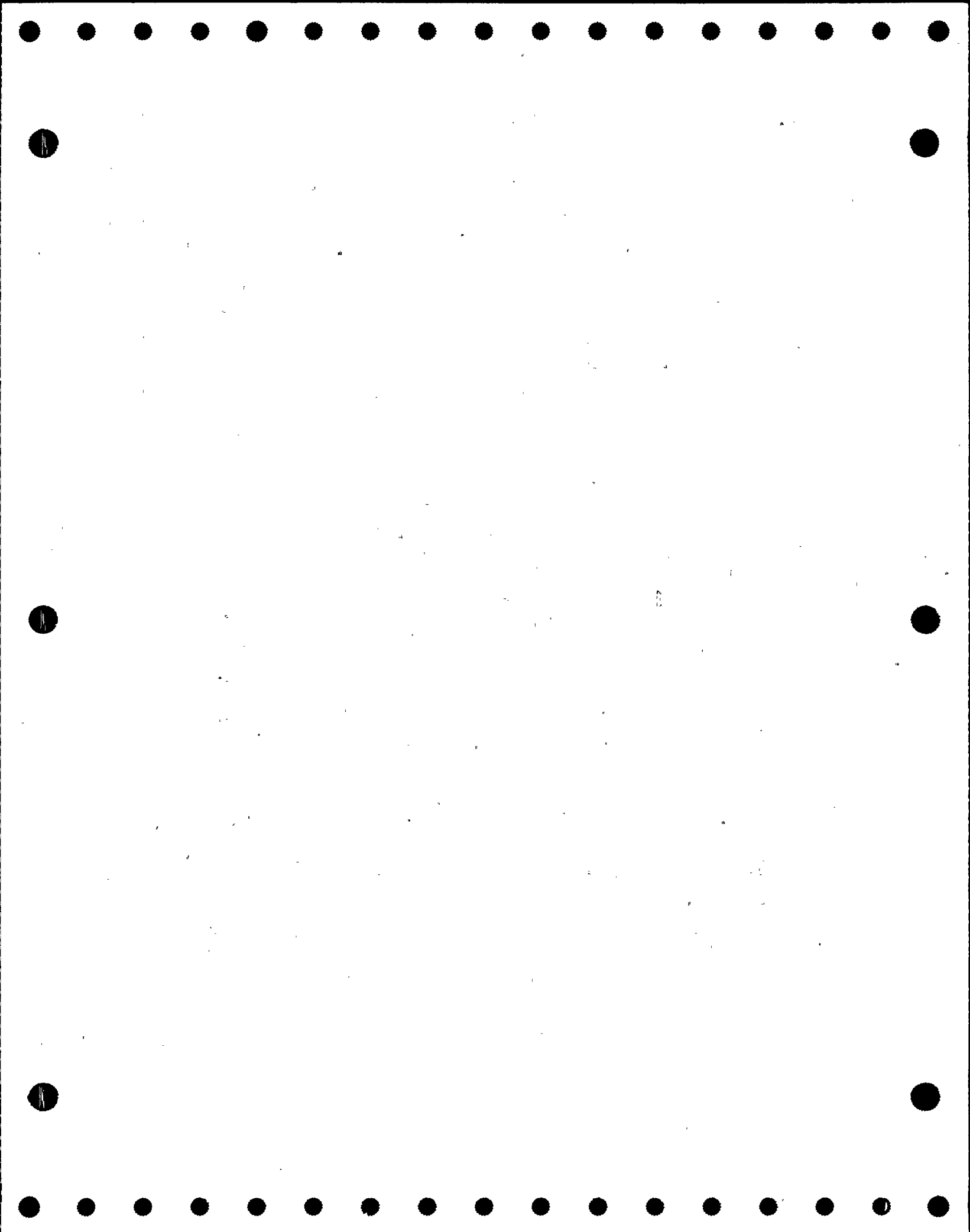
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5135A-30

RUN DATE AND TIME: 15FEB90:16:14

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)	
2-CCH-176-E	3	CK	16	SA	L/4	C/O	0	3	A	C	CF-1	CF-1	P	NO
2-CCH-176-H	3	CK	16	SA	K/4	C/O	0	3	A	C	CF-1	CF-1	P	NO
2-CMO-410	3	BF	16	MO	H/4	C/O	0	3	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-CMO-411	3	BF	18	MO	H/5	0	C	3	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO, NOTE 1
2-CMO-412	3	BF	16	MO	L/3	0	C	3	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO, NOTE 1
2-CMO-413	3	BF	18	MO	L/5	0	C	3	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO, NOTE 1
2-CMO-414	3	BF	16	MO	K/3	0	C	3	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO, NOTE 1
2-CMO-415	3	BF	16	MO	H/5	0	C	3	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO, NOTE 1



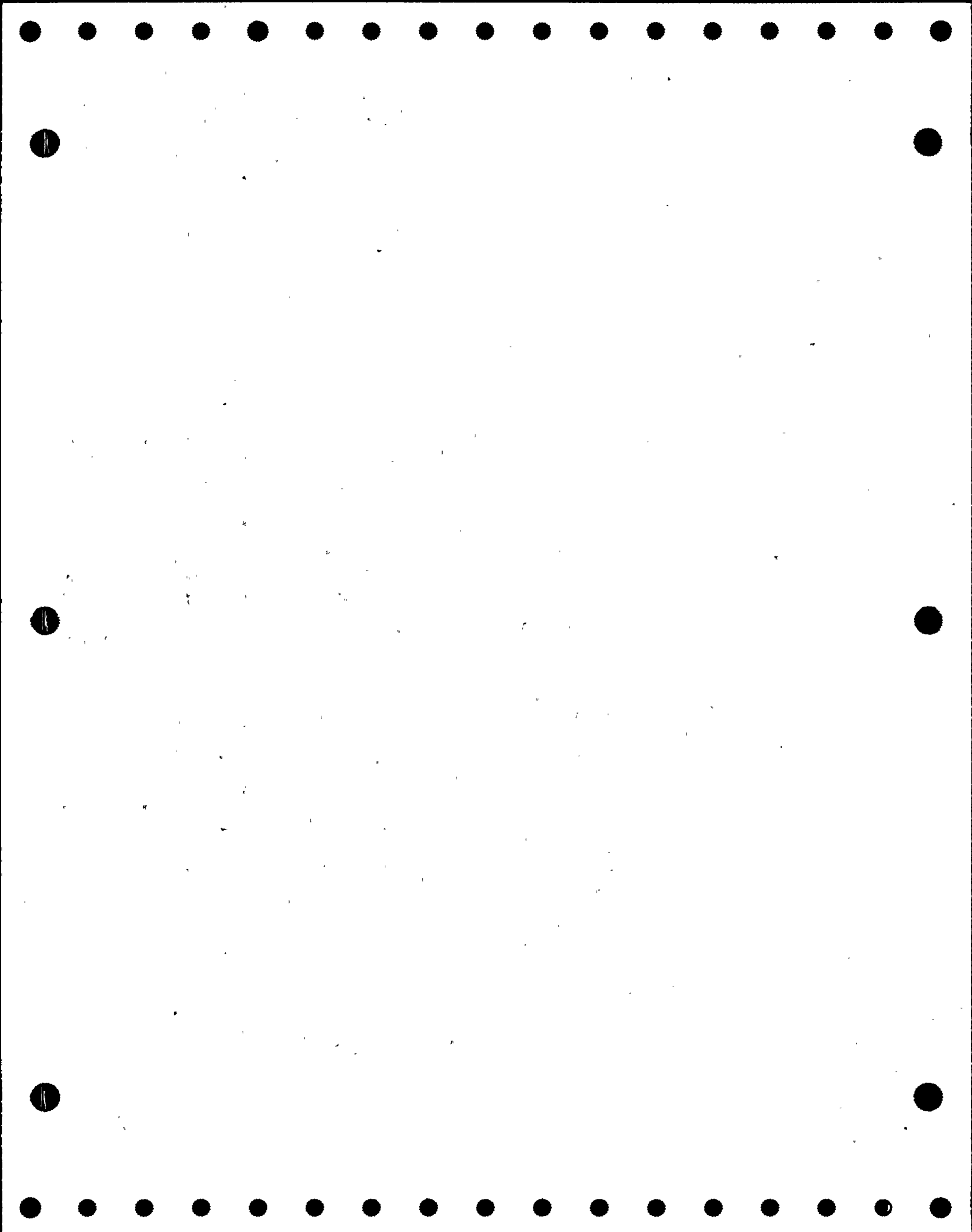


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5135A-30

RUN DATE AND TIME: 15FEB90:16:14

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)	
2-CMO-416	3	BF	16	MO	G/5	O	C	3	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO, NOTE 1
2-CMO-419	3	BF	14	MO	E/5	C	O	3	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-CMO-420	3	BF	16	MO	H/4	C/O	O	3	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-CMO-429	3	BF	14	MO	E/5	C	O	3	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-CRV-412	3	GL	4	A	K/1	O	C	3	A	B	EF-1 EF-5 EF-7 ET-XXX	EF-1 EF-5 EF-7 ET-XXX	P - P P	NO NO NO NO
2-SV-60	3	REL	3	SA	L/1	C	O	3	A	C	TF-1	TF-1	R	NO
2-SV-72	3	REL	1	SA	E/5	C	O	3	A	C	TF-1	TF-1	R	NO

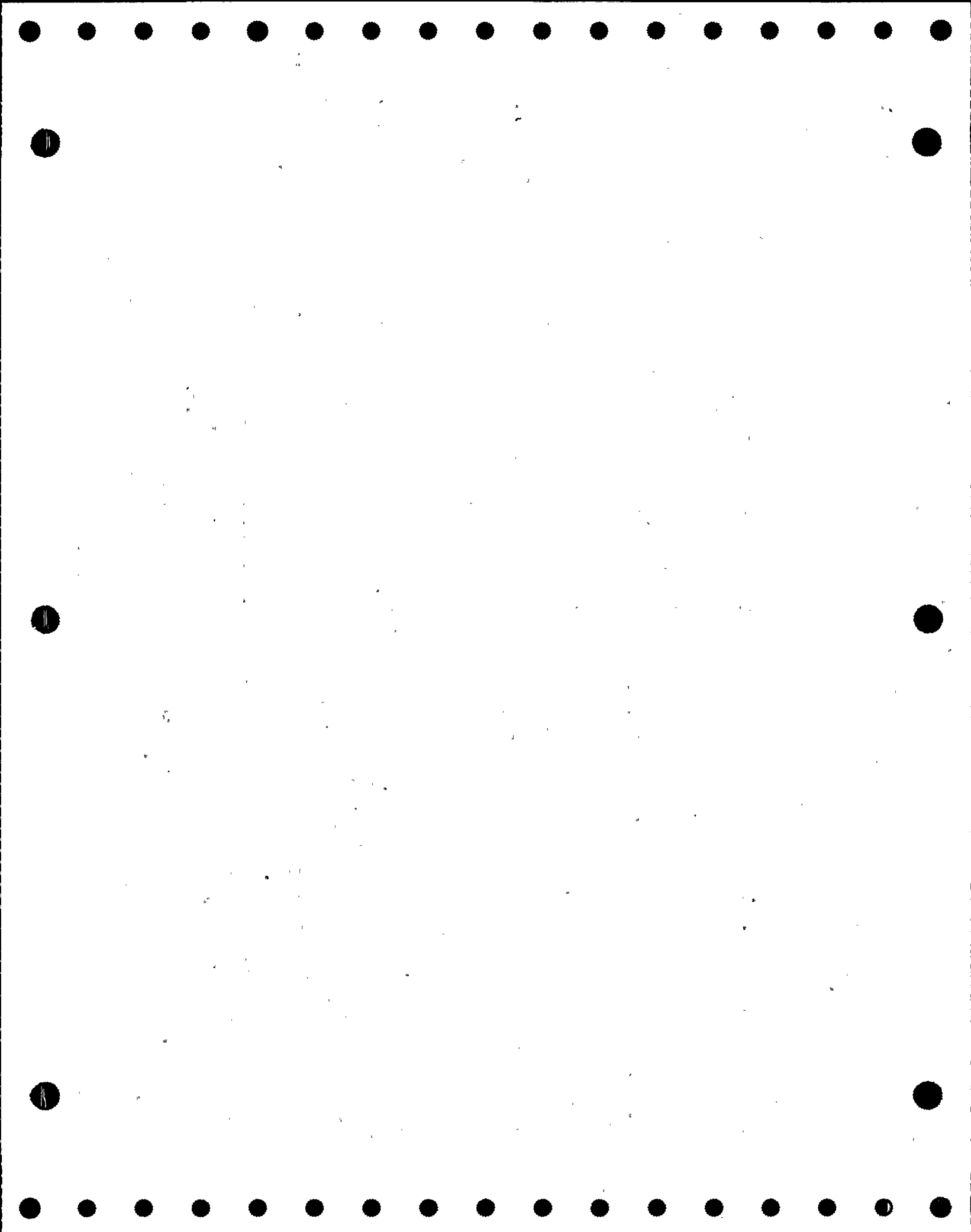


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5135B-14

RUN DATE AND TIME: 15FEB90:16:14

SYSTEM NAME: COMPONENT COOLING

VALVE				VALVE POSITION				ASME SECTION XI						
NUMBER	REV	TYPE	SIZE	ACT TYPE	F.D. COORD	POWER OPER	SAFETY FUNC	CD ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-CCM-430	3	GL	1.5	MO	D/6	C	O/C	2	A	A	EF-1 EF-5 ET-XXX SLT-1	EF-1 EF-5 ET-XXX SLT-2	P - P R	NO NO NO YES, NOTE 1
2-CCM-431	3	GL	1.5	MO	D/6	C	O/C	2	A	A	EF-1 EF-5 ET-XXX SLT-1	EF-1 EF-5 ET-XXX SLT-2	P - P R	NO NO NO YES, NOTE 1
2-CCM-432	3	GL	1.5	MO	D/6	C	O/C	2	A	A	EF-1 EF-5 ET-XXX SLT-1	EF-1 EF-5 ET-XXX SLT-2	P - P R	NO NO NO YES, NOTE 1
2-CCM-433	3	GL	1.5	MO	D/6	C	O/C	2	A	A	EF-1 EF-5 ET-XXX SLT-1	EF-1 EF-5 ET-XXX SLT-2	P - P R	NO NO NO YES, NOTE 1
2-CCR-440	3	GL	1.5	A	D/6	O	C	2	A	A	EF-1 EF-5 EF-7 ET-XXX SLT-1	EF-1 EF-5 EF-7 ET-XXX SLT-2	P - P P R	NO NO NO NO YES, NOTE 1
2-CCR-441	3	GL	1.5	A	D/6	O	C	2	A	A	EF-1 EF-5 EF-7 ET-XXX SLT-1	EF-1 EF-5 EF-7 ET-XXX SLT-2	P - P P R	NO NO NO NO YES, NOTE 1

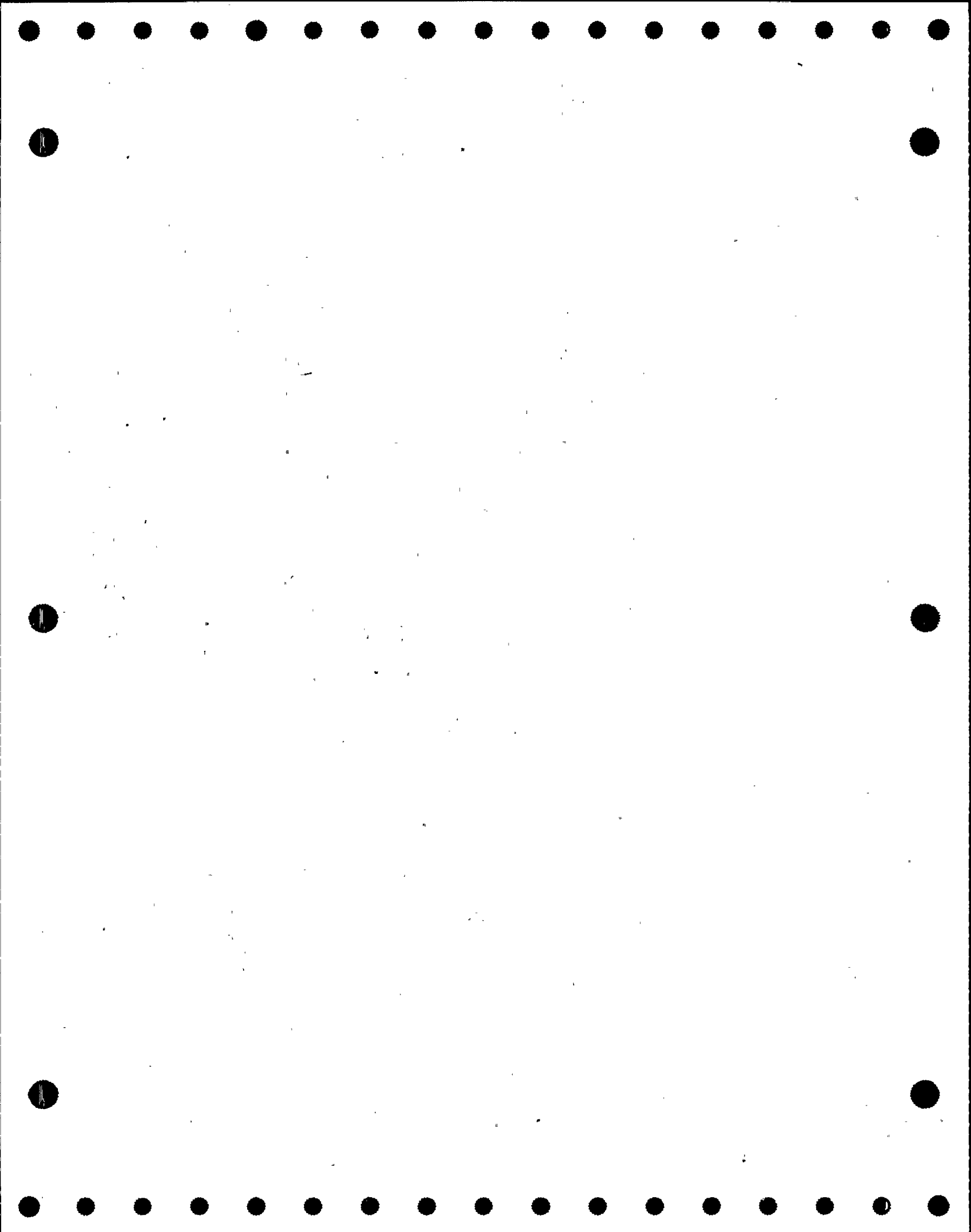


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5135B-14

RUN DATE AND TIME: 15FEB90:16:14

SYSTEM NAME: COMPONENT COOLING

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-CCH-243-25	3	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	3	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	3	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	3	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	3	REL	1.5	SA	B/6	C	0	3	A	C	TF-1	TF-1	R	NO
2-SV-122-72B	3	REL	1.5	SA	B/6	C	0	3	A	C	TF-1	TF-1	R	NO



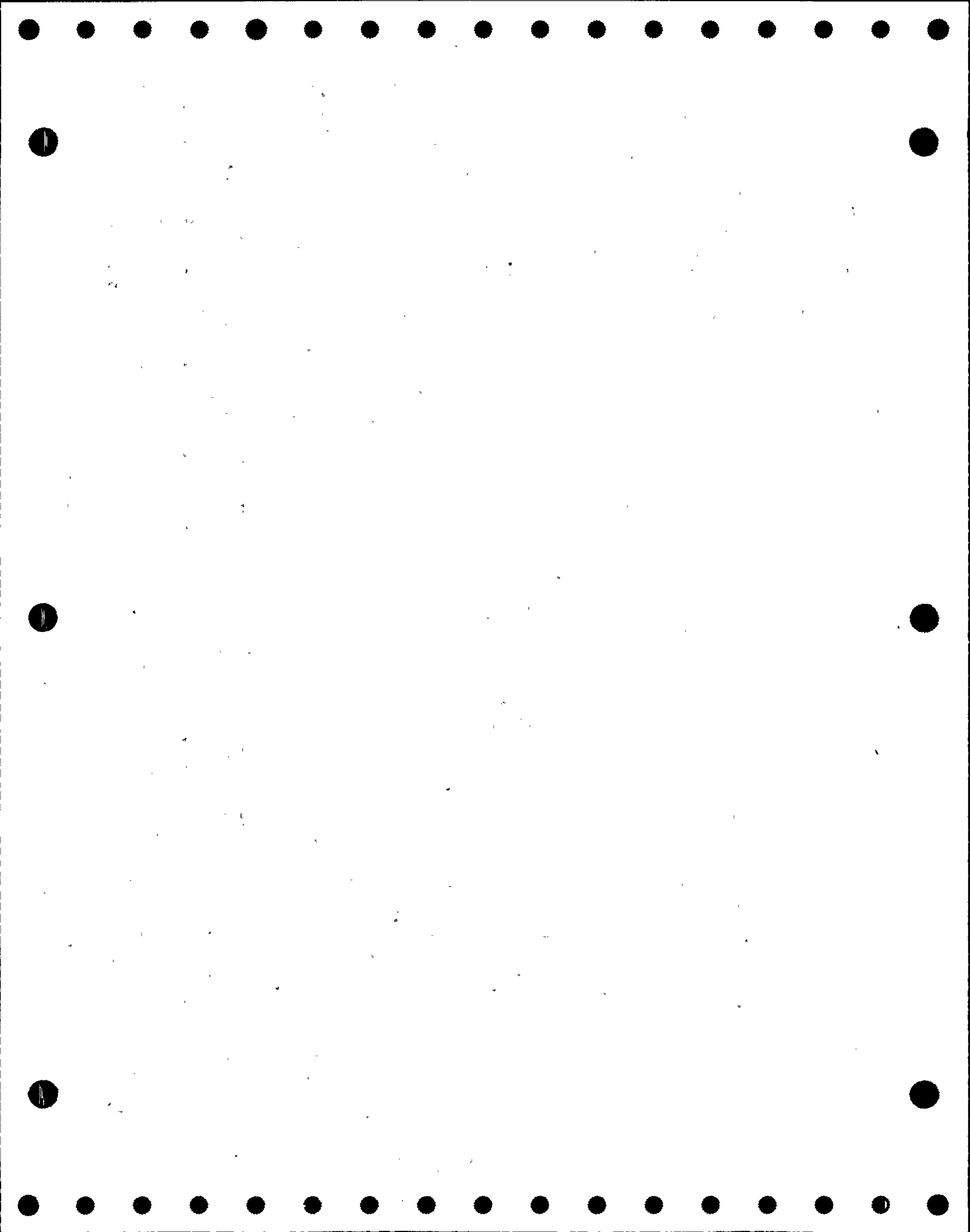
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5141-27

RUN DATE AND TIME: 15FEB90:16:14

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 CL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)	
2-ICR-5	3	GL	0.5	A	C/5	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ICR-6	3	GL	0.5	A	D/5	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-NCR-105	3	GL	0.5	A	C/7	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-NCR-106	3	GL	0.5	A	C/7	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-NCR-107	3	GL	0.5	A	D/6	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1



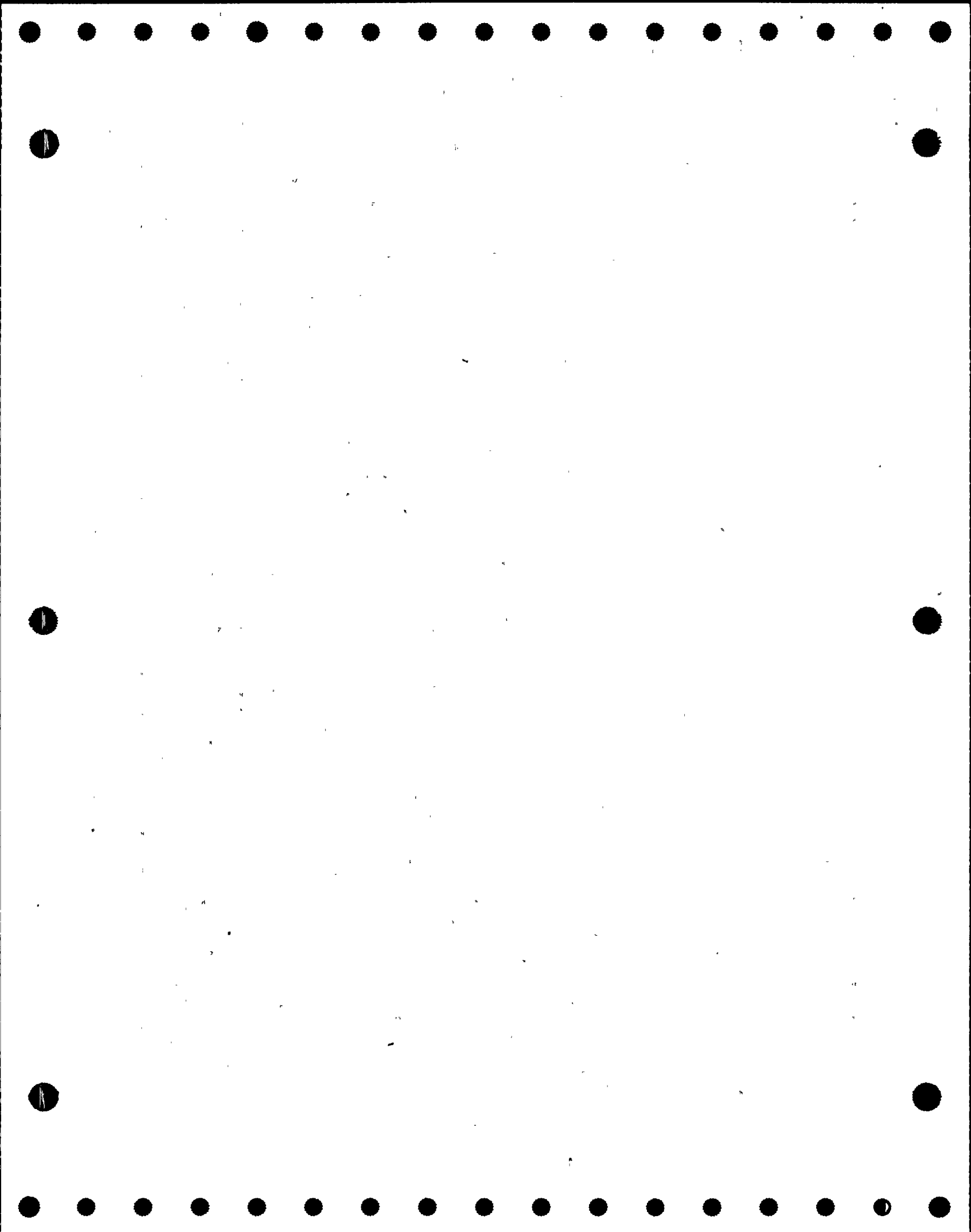


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5141-27

RUN DATE AND TIME: 15FEB90:16:14

SYSTEM NAME: NUCLEAR SAMPLING

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-NCR-108	3	GL	0.5	A	D/6	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-NCR-109	3	GL	0.5	A	D/5	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-NCR-110	3	GL	0.5	A	D/6	0	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1

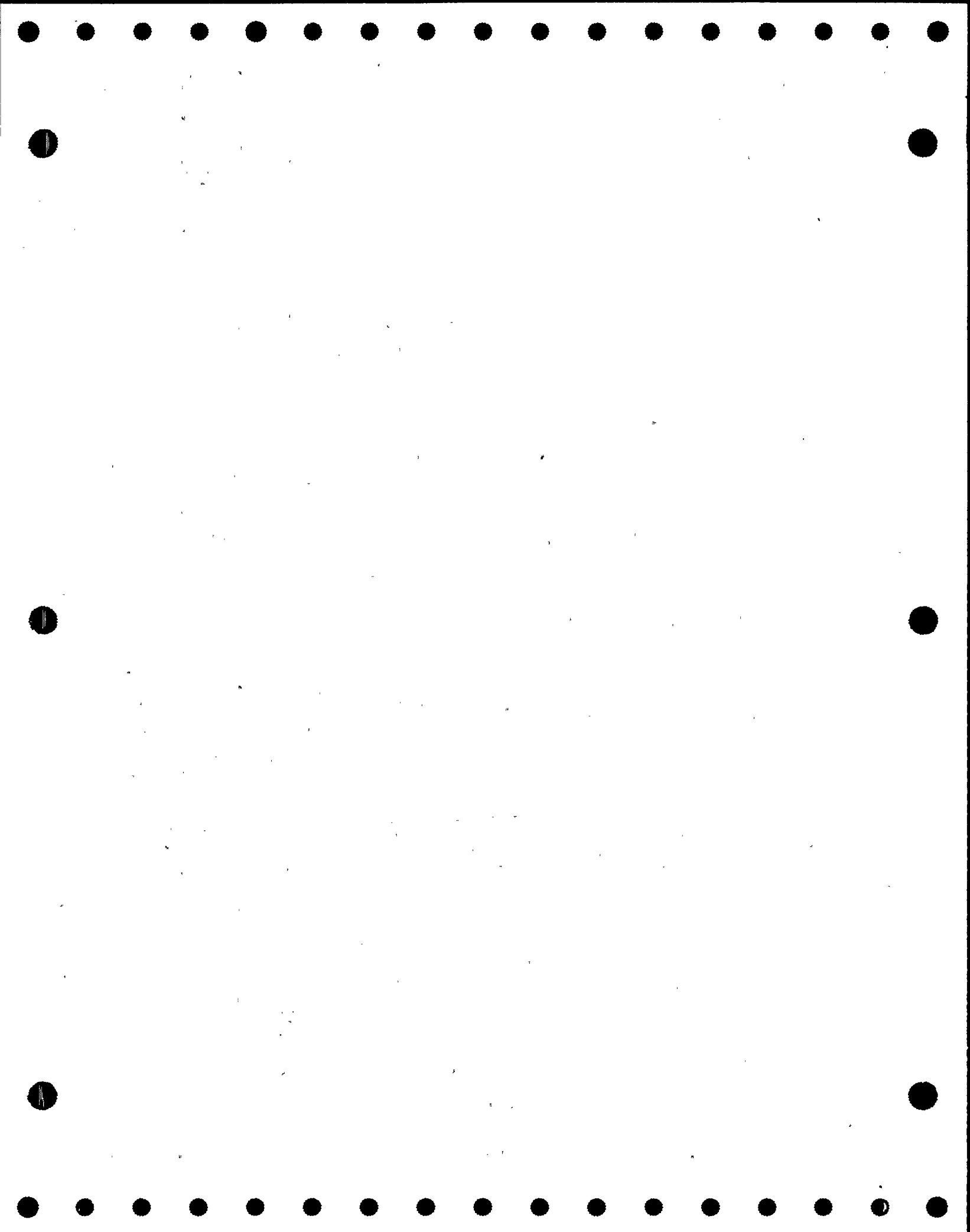


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5141A-30

RUN DATE AND TIME: 15FEB90:16:14

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 CL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)	
2-DCR-301	3	GL	0.5	A	B/2	0	C	2	A B	EF-1	EF-1	P	NO	
										EF-5	EF-5	-	NO	
										EF-7	EF-7	P	NO	
										ET-XXX	ET-XXX	P	NO	
2-DCR-302	3	GL	0.5	A	B/3	0	C	2	A B	EF-1	EF-1	P	NO	
										EF-5	EF-5	-	NO	
										EF-7	EF-7	P	NO	
										ET-XXX	ET-XXX	P	NO	
2-DCR-303	3	GL	0.5	A	B/3	0	C	2	A B	EF-1	EF-1	P	NO	
										EF-5	EF-5	-	NO	
										EF-7	EF-7	P	NO	
										ET-XXX	ET-XXX	P	NO	
2-DCR-304	3	GL	0.5	A	B/3	0	C	2	A B	EF-1	EF-1	P	NO	
										EF-5	EF-5	-	NO	
										EF-7	EF-7	P	NO	
										ET-XXX	ET-XXX	P	NO	
2-MCR-251	3	GL	0.5	A	B/2	0	C	2	A B	EF-1	EF-1	P	NO	
										EF-5	EF-5	-	NO	
										EF-7	EF-7	P	NO	
										ET-XXX	ET-XXX	P	NO	
2-MCR-252	3	GL	0.5	A	B/2	0	C	2	A B	EF-1	EF-1	P	NO	
										EF-5	EF-5	-	NO	
										EF-7	EF-7	P	NO	
										ET-XXX	ET-XXX	P	NO	

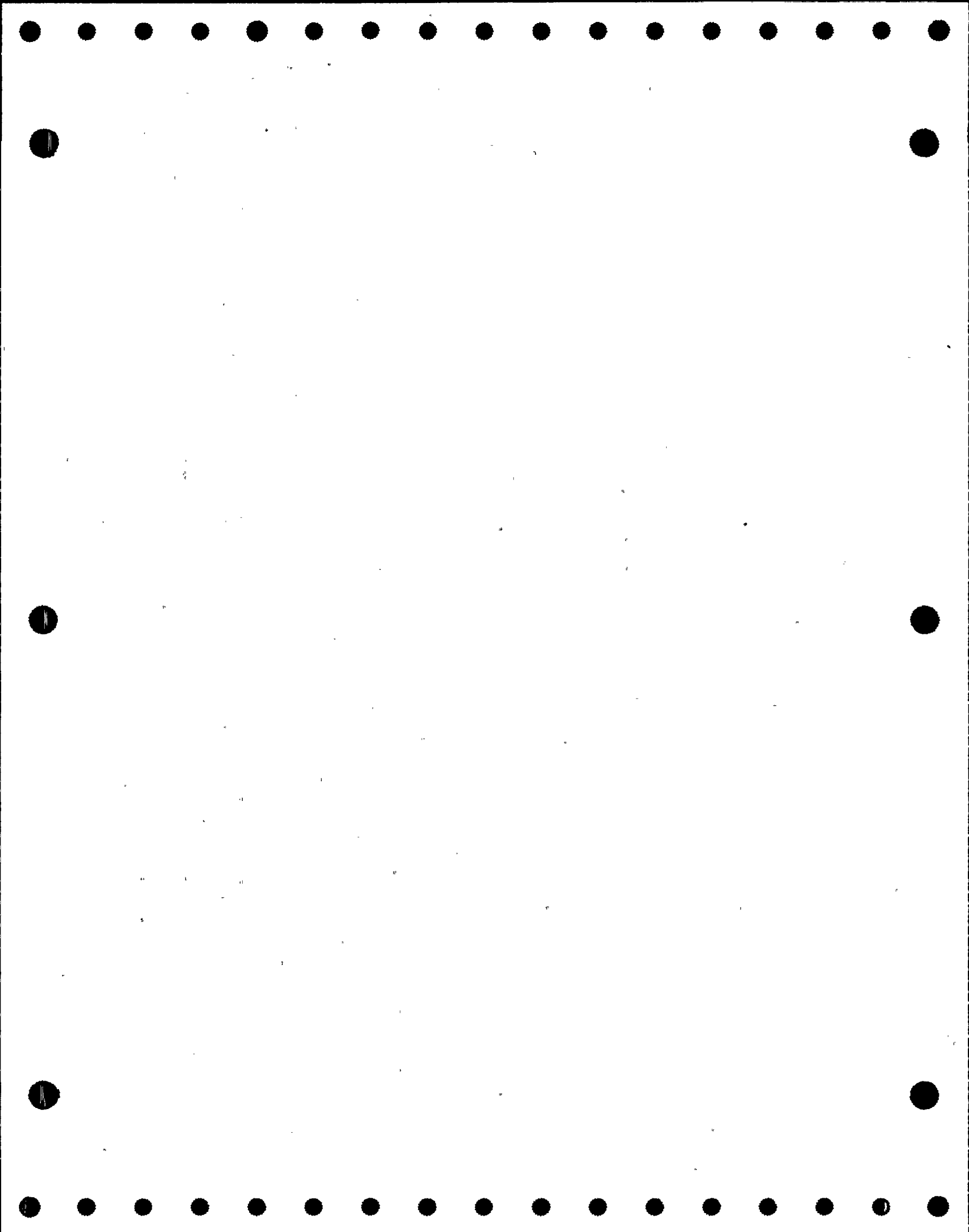


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5141A-30

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)	
2-MCR-253	3	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	
										ET-XXX	ET-XXX	P	NO	
2-MCR-254	3	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	
										ET-XXX	ET-XXX	P	NO	



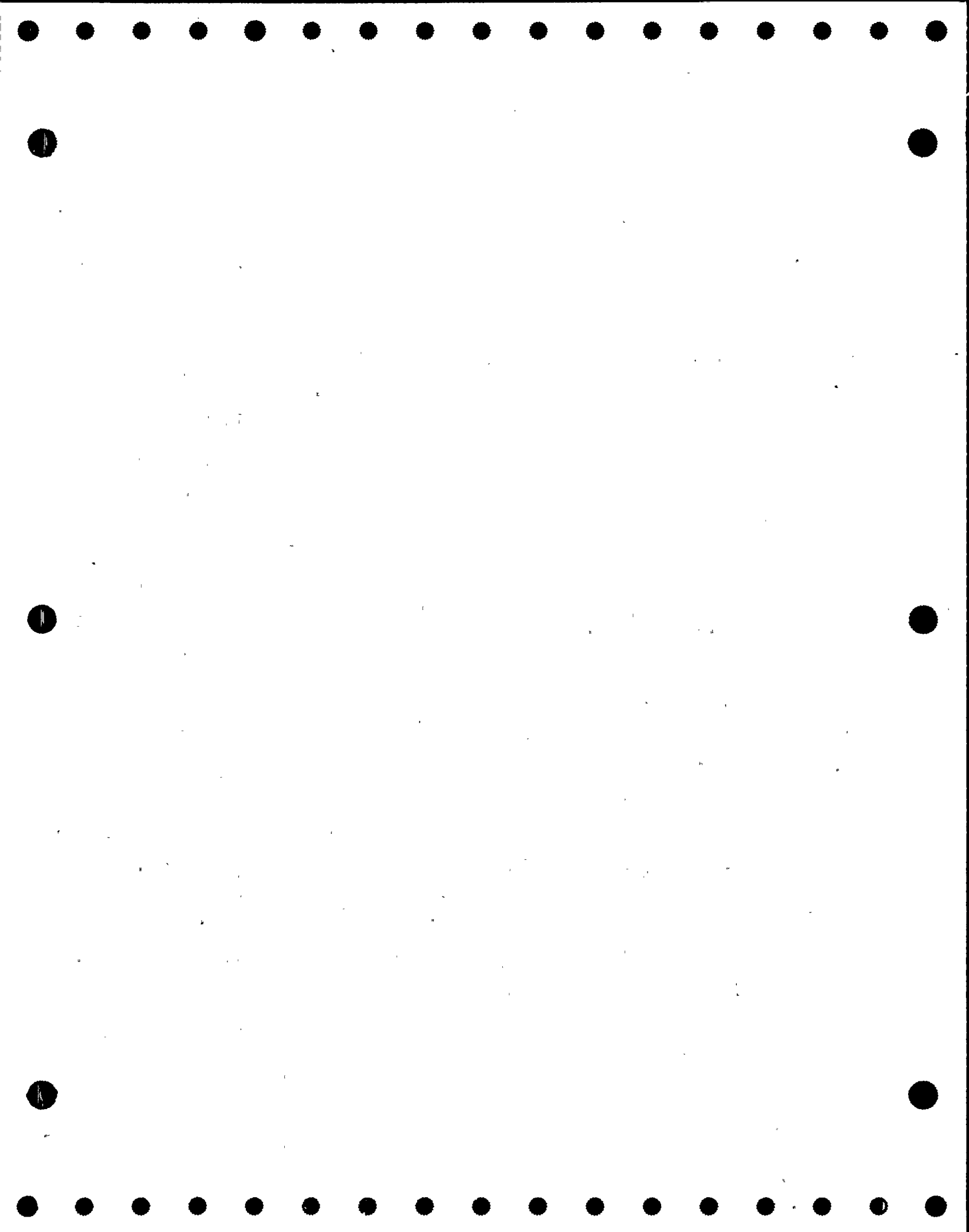
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5141D-8

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-ECR-10	3	GL	0.5	A	C/8	C	O/C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-11	3	GL	0.5	A	A/2	C	O/C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-12	3	GL	0.5	A	A/2	C	O/C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-13	3	GL	0.5	A	A/1	C	O/C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-14	3	GL	0.5	A	A/3	C	O/C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1



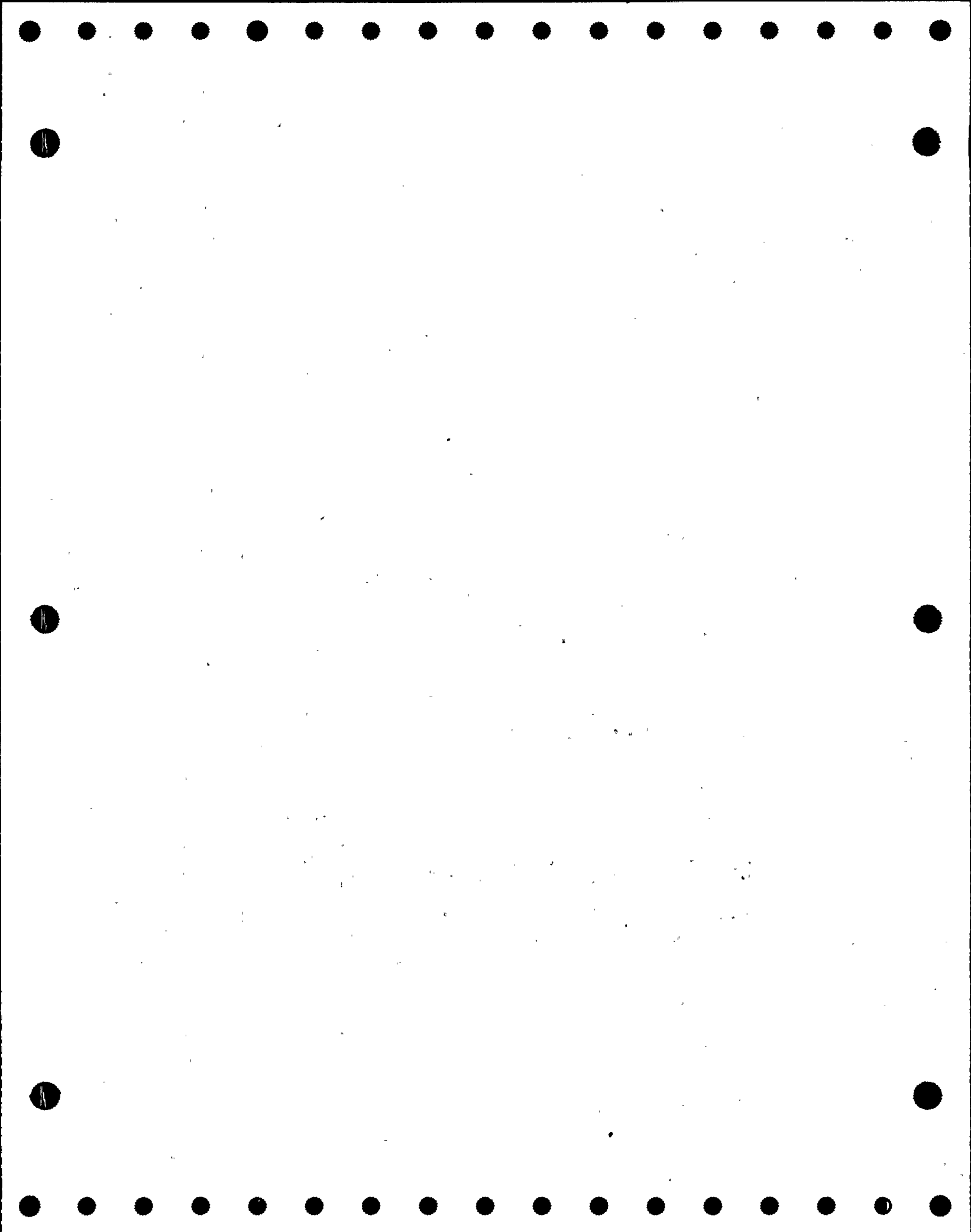


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5141D-8

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-ECR-15	3	GL	0.5	A	A/1	C	O/C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-16	3	GL	0.5	A	A/3	C	O/C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-17	3	GL	0.5	A	A/3	C	O/C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-18	3	GL	0.5	A	A/4	C	O/C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-19	3	GL	0.5	A	A/4	C	O/C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1

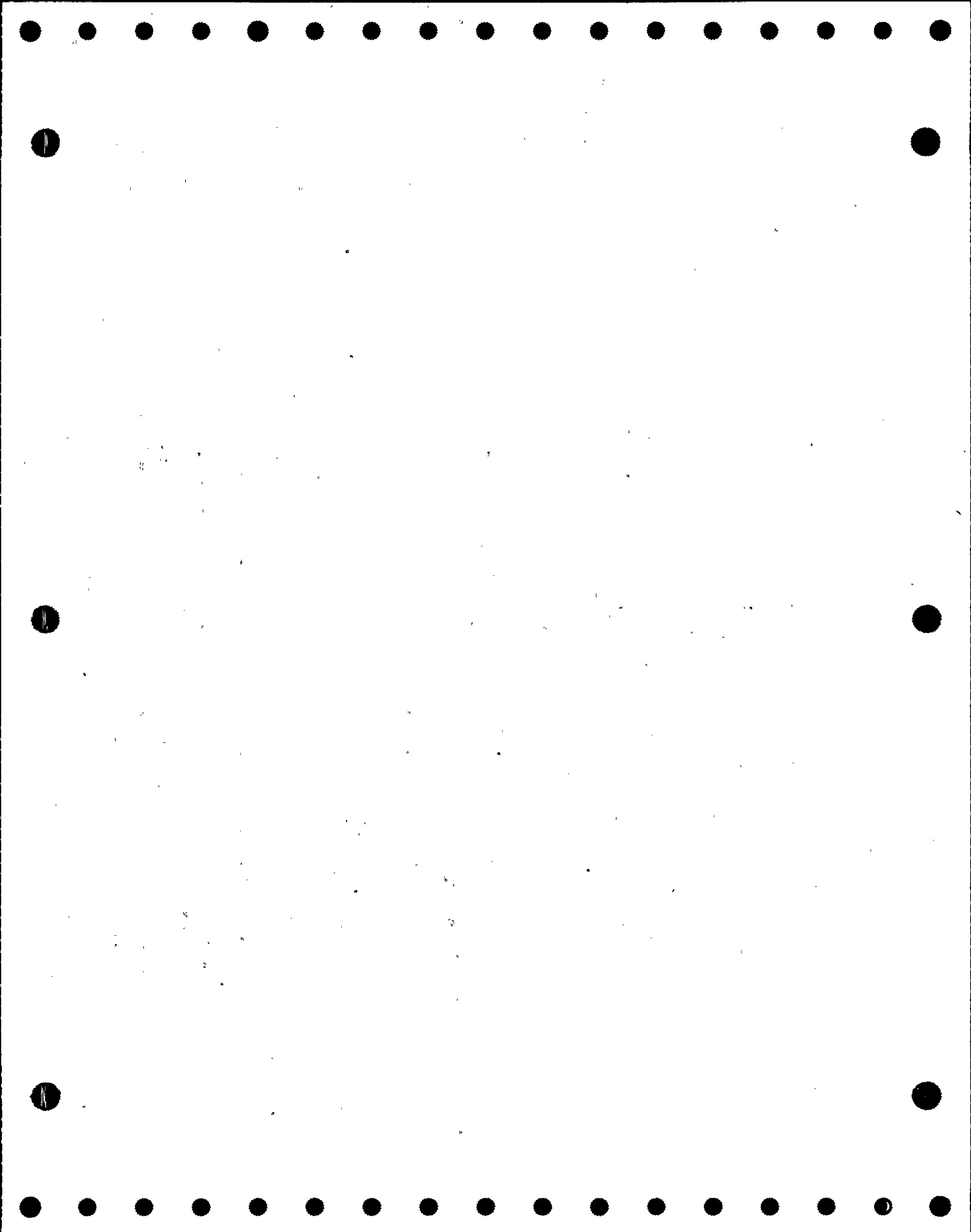


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5141D-8

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-ECR-20	3	GL	0.5	A	C/8	C	O/C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-21	3	GL	0.5	A	B/2	C	O/C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-22	3	GL	0.5	A	B/2	C	O/C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-23	3	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
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-24	3	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
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1

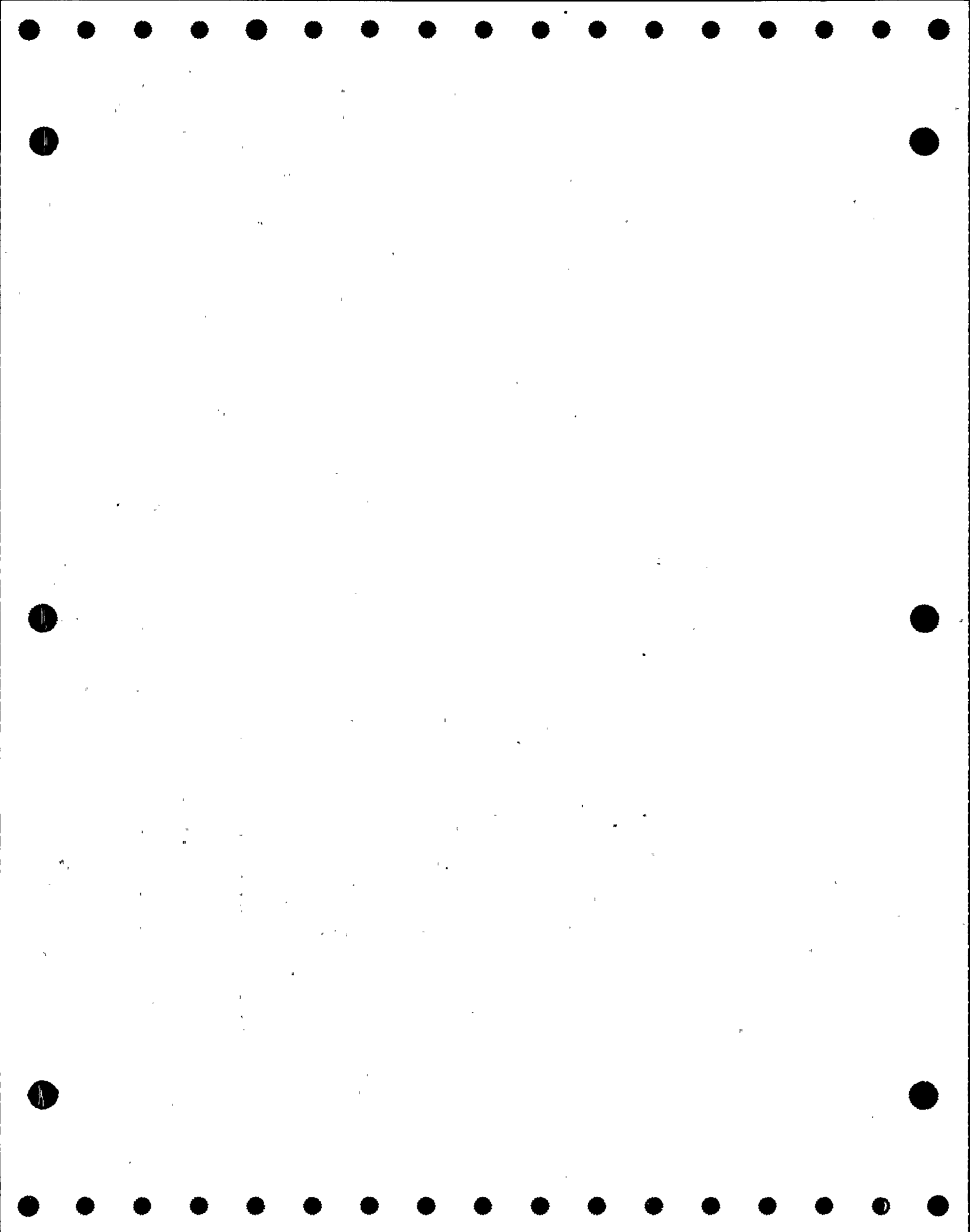


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5141D-8

RUN DATE AND TIME: 15FEB90:16:14

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-25	3	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
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-26	3	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
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-27	3	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
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-28	3	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
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-ECR-29	3	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
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1



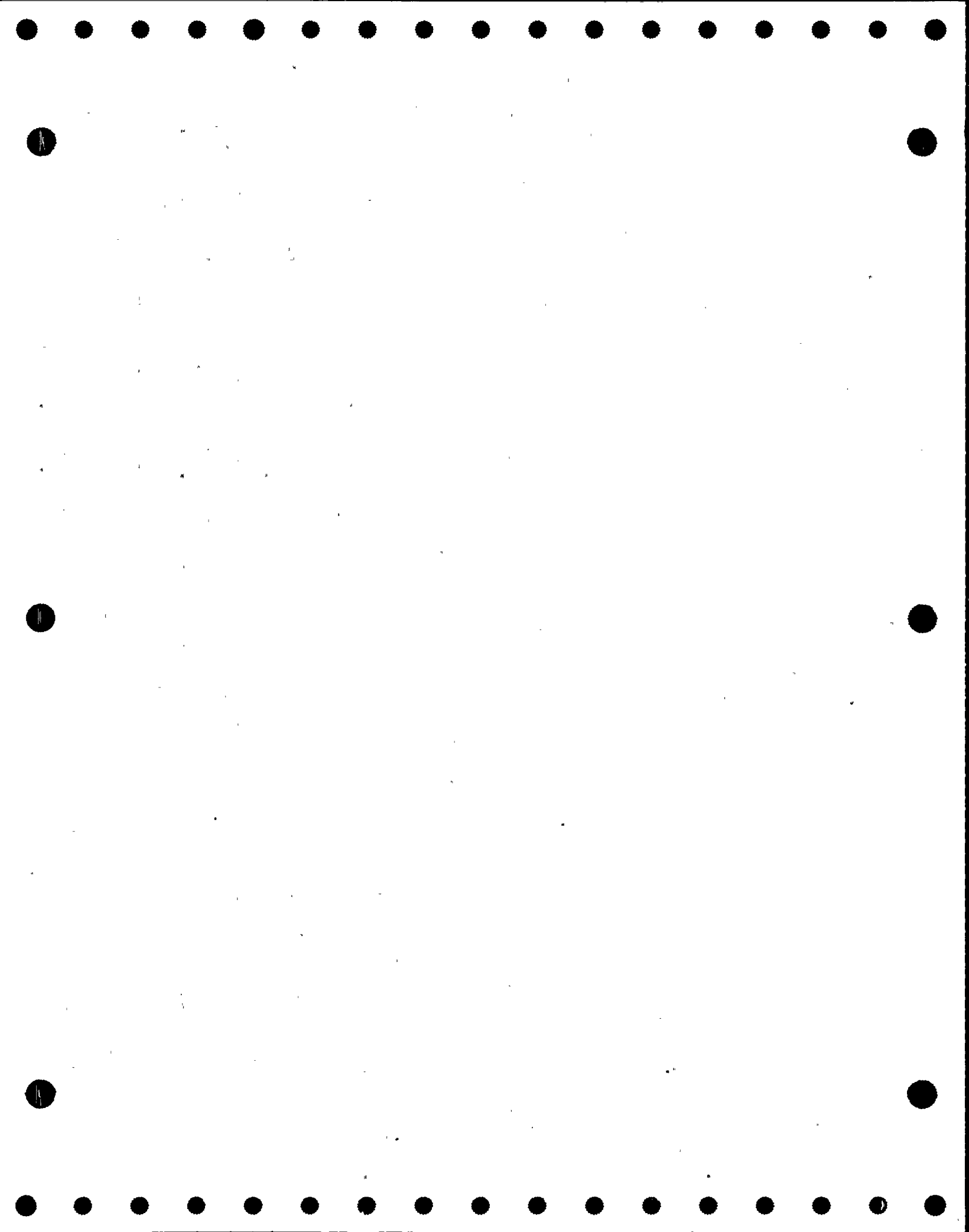
DONALD C. COOK NUCLEAR PLANT  
SECOND TEN YEAR INTERVAL  
VALVE SUMMARY SHEET - UNIT 2  
FLOW DIAGRAM: 2-5141D-8

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)	
2-NS-283	3	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	



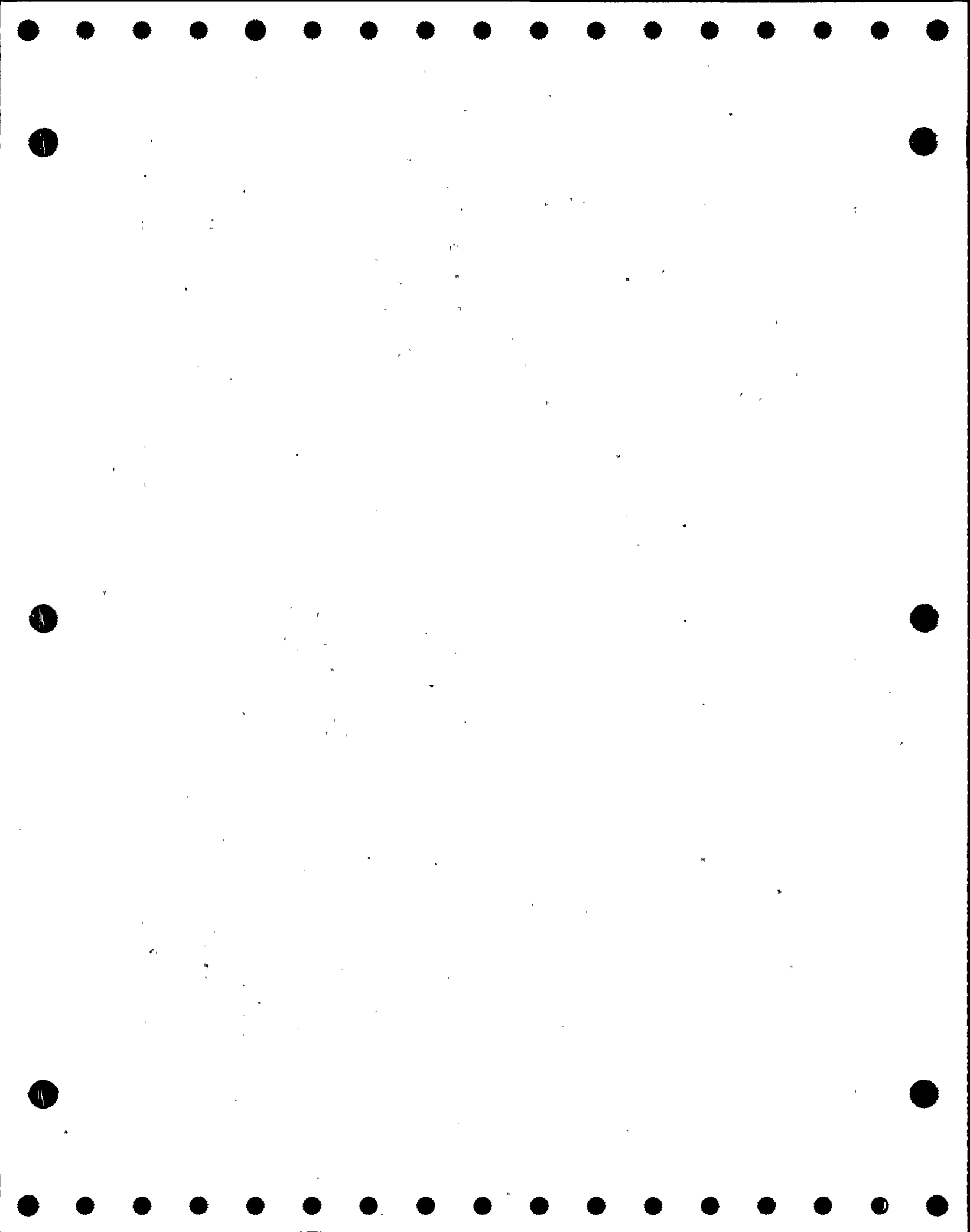


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5142-28

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-ICM-250	3	GA	4	MO	H/2	C	O/C	2	A	A	EF-1	EF-2	C	NO, CSJ 1
											EF-5	EF-5	-	NO
											ET-XXX	ET-XXX	C	NO, CSJ 1
											SLT-1	SLT-2	R	YES, NOTE 2
2-ICM-251	3	GA	4	MO	H/3	C	O/C	2	A	A	EF-1	EF-2	C	NO, CSJ 1
											EF-5	EF-5	-	NO
											ET-XXX	ET-XXX	C	NO, CSJ 1
											SLT-1	SLT-2	R	YES, NOTE 2
2-ICM-260	3	GA	4	MO	C/9	O	O/C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 2
2-ICM-265	3	GA	4	MO	C/8	O	O/C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 2
2-IMO-255	3	GA	4	MO	J/7	C	O	2	A	B	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											ET-XXX	ET-XXX	P	NO
2-IMO-256	3	GA	4	MO	J/6	C	O	2	A	B	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											ET-XXX	ET-XXX	P	NO
2-IMO-261	3	GA	8	MO	H/8	O	O/C	2	A	B	EF-1	EF-2	C	NO, CSJ 3
											EF-5	EF-5	-	NO
											ET-XXX	ET-XXX	C	NO, CSJ 3

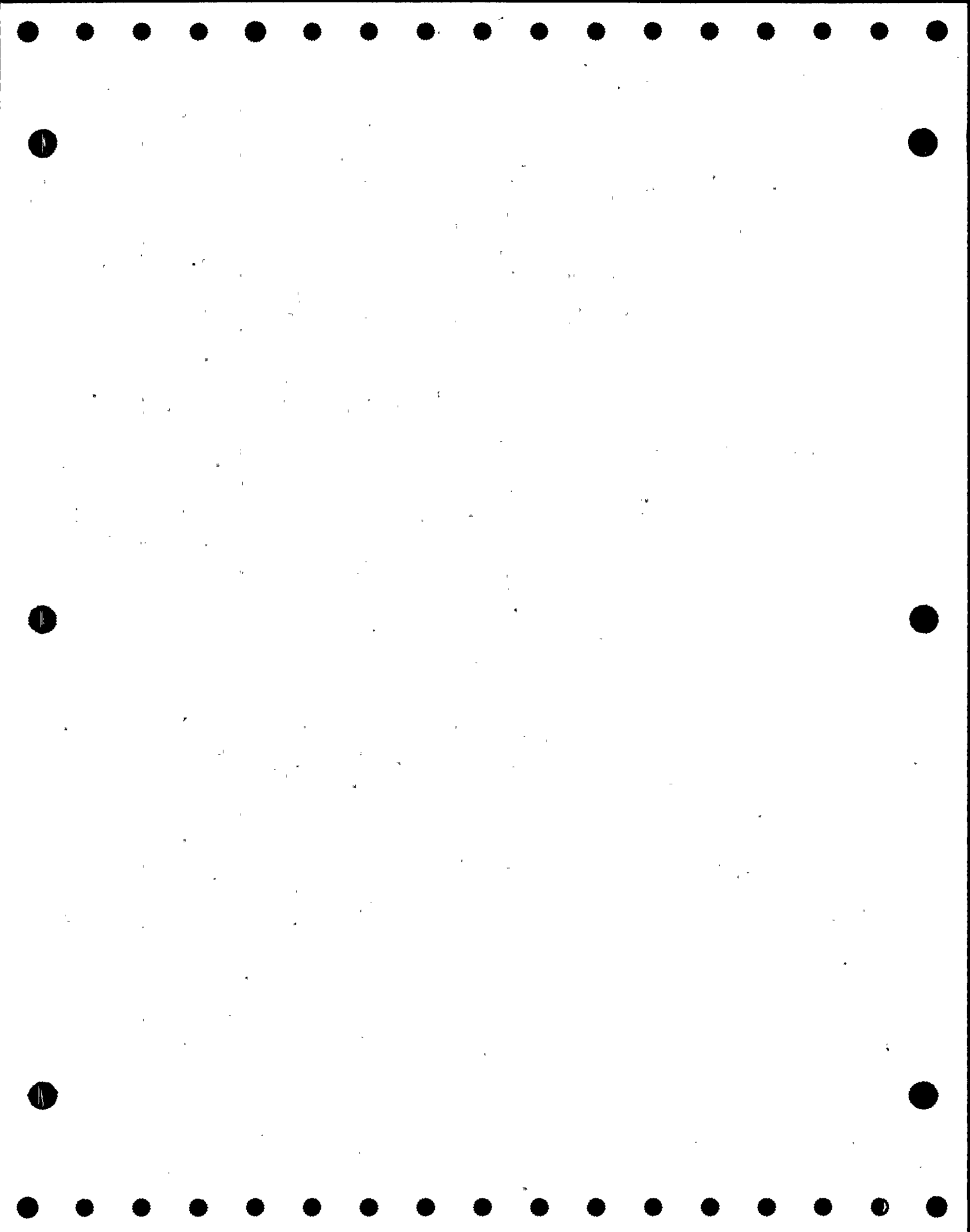


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5142-28

RUN DATE AND TIME: 15FEB90:16:14

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   CL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)	
2-IMO-262	3	GL	2	MO	L/8	O	O/C	2 A B		EF-1 EF-5 ET-XXX	EF-2 EF-5 ET-XXX	C - C	NO, CSJ 4 NO NO, CSJ 4	
2-IMO-263	3	GL	2	MO	L/8	O	O/C	2 A B		EF-1 EF-5 ET-XXX	EF-2 EF-5 ET-XXX	C - C	NO, CSJ 4 NO NO, CSJ 4	
2-IMO-270	3	GA	4	MO	E/9	O	O/C	2 A B		EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO	
2-IMO-275	3	GA	4	MO	E/8	O	O/C	2 A B		EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO	
2-IMO-361	3	GA	4	MO	G/9	C	C/O	2 A B		EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO	
2-IMO-362	3	GA	4	MO	G/9	C	C/O	2 A B		EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO	
2-IRV-251	3	GL	1	A	H/5	O	C	2 A B		EF-1 EF-5 EF-7 ET-XXX	EF-1 EF-5 EF-7 ET-XXX	P - P P	NO NO NO NO	

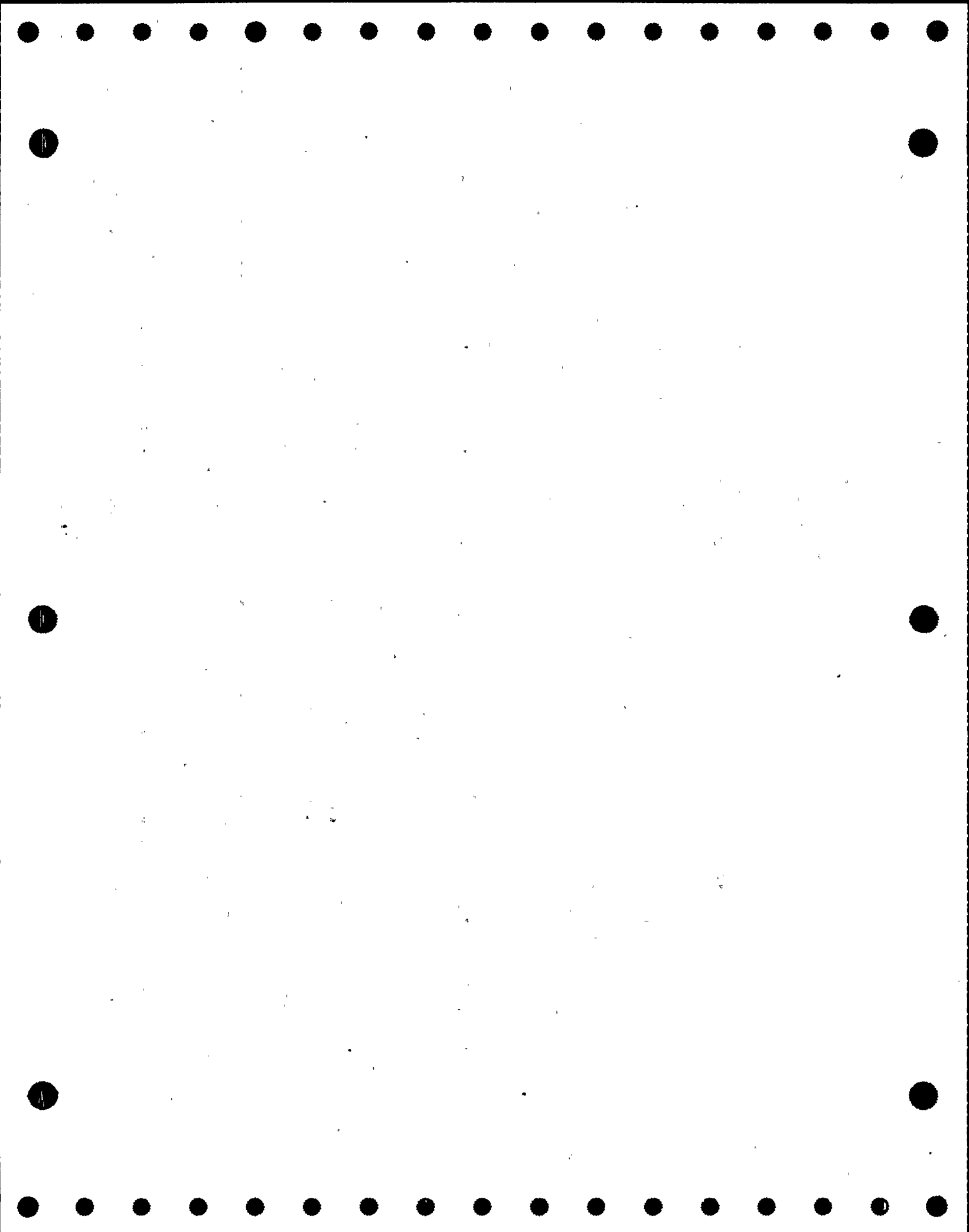


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5142-28

RUN DATE AND TIME: 15FEB90:16:14

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 CL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)	
2-IRV-252	3	GL	1	A	J/5	O	C	3	A B	EF-1 EF-5 EF-7 ET-XXX	EF-1 EF-5 EF-7 ET-XXX	P - P P	NO NO NO NO	
2-IRV-255	3	GL	1	A	H/6	O	C	2	A B	EF-1 EF-5 EF-7 ET-XXX	EF-1 EF-5 EF-7 ET-XXX	P - P P	NO NO NO NO	
2-SI-101	3	CK	8	SA	M/8	C	O	2	A C	CF-1	CF-3	R	YES, NOTE 5	
2-SI-104-N	3	CK	0.75	SA	E/9	C	O	2	A C	CF-1	CF-1	P	NO	
2-SI-104-S	3	CK	0.75	SA	J/9	C	O	2	A C	CF-1	CF-1	P	NO	
2-SI-110-N	3	CK	4	SA	E/9	C	O	2	A C	CF-1	CF-2	R	YES, NOTE 5	
2-SI-110-S	3	CK	4	SA	H/9	C	O	2	A C	CF-1	CF-2	R	YES, NOTE 5	
2-SI-126	3	CK	1	SA	H/6	O	C	2	A C	CF-1	CF-1	P	NO	
2-SI-142-L1	3	CK	1.5	SA	C/1	C	O	1	A C	CF-1	CF-2	R	YES, NOTE 6	
2-SI-142-L2	3	CK	1.5	SA	C/2	C	O	1	A C	CF-1	CF-2	R	YES, NOTE 6	



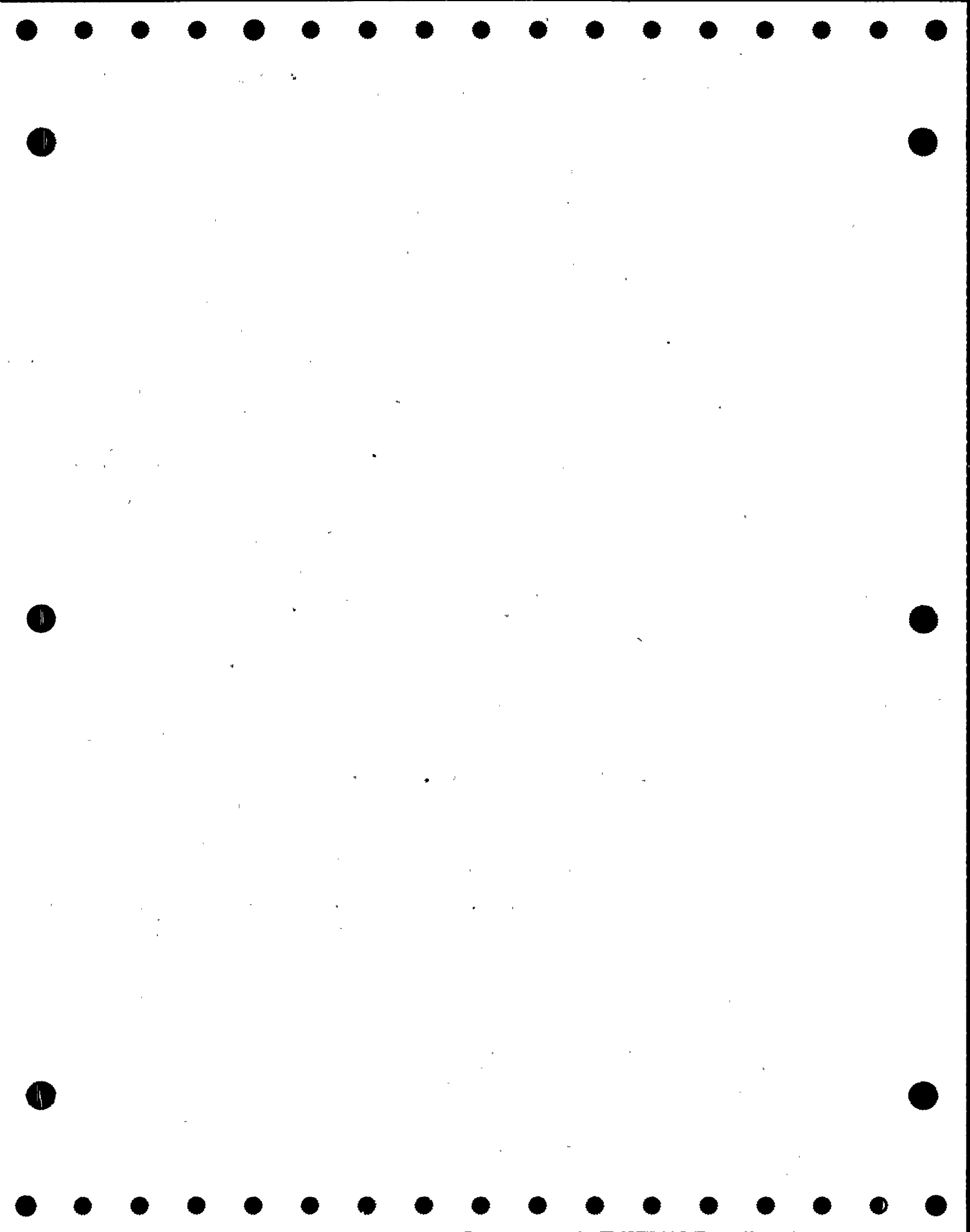
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5142-28

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-SI-142-L3	3	CK	1.5	SA	C/2	C	0	1	A	C	CF-1	CF-2	R	YES, NOTE 6
2-SI-142-L4	3	CK	1.5	SA	C/1	C	0	1	A	C	CF-1	CF-2	R	YES, NOTE 6
2-SV-96	3	REL	0.75	SA	J/8	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-97	3	REL	0.75	SA	J/4	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-98-N	3	REL	0.75	SA	C/9	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-98-S	3	REL	0.75	SA	E/8	C	0	2	A	C	TF-1	TF-1	R	NO



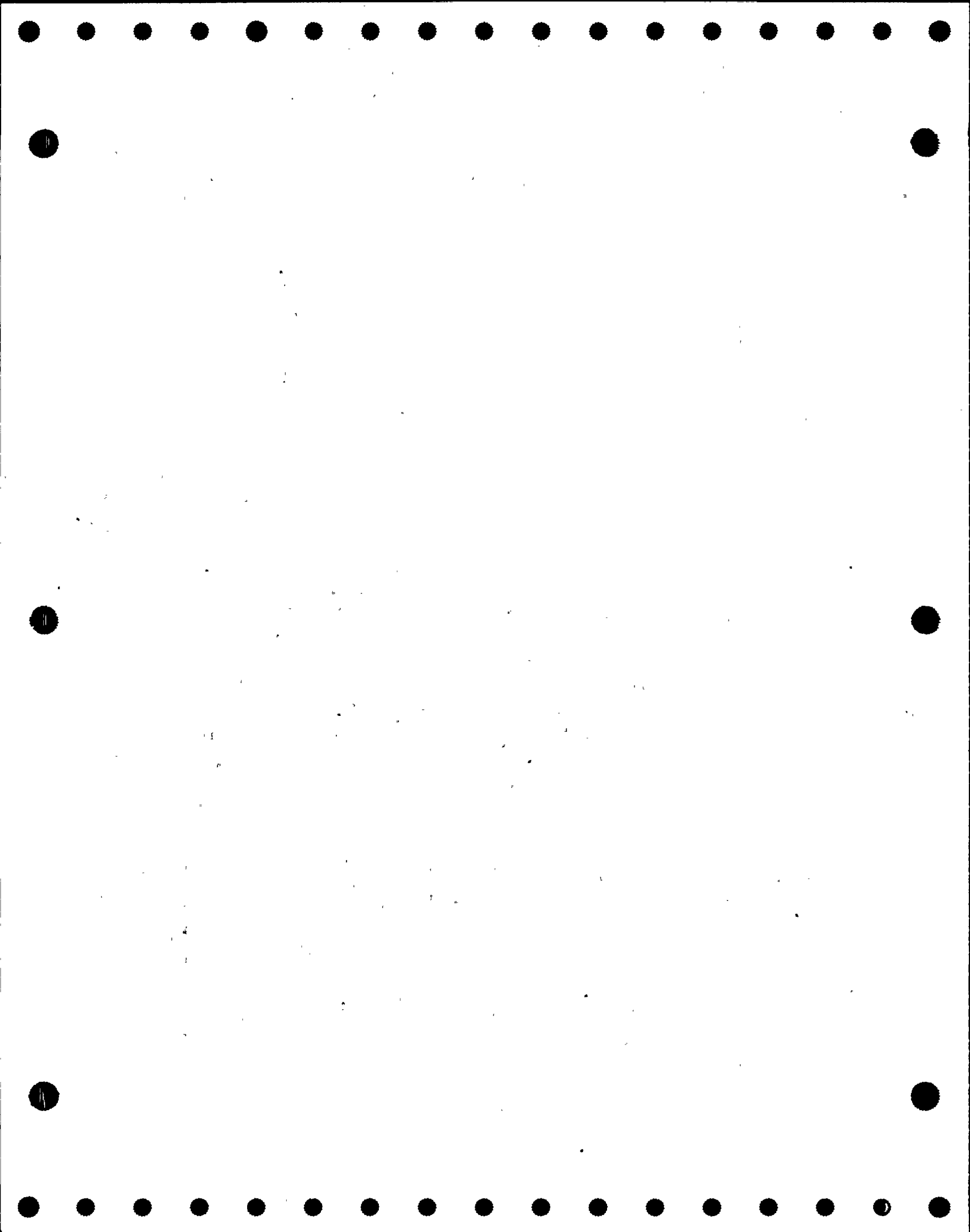


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5143-35

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-GCR-314	3	GL	1	A	G/2	O	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 14
2-ICM-129	3	GA	14	MO	E/8	C	C	1	P	A	EF-1	EF-2	C	NO, CSJ 2
											EF-5	EF-5	-	NO
											ET-XXX	ET-XXX	C	NO, CSJ 2
											SLT-1	SLT-1	R	NO, NOTE 1
2-ICM-305	3	GA	18	MO	D/9	C	O	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 14
2-ICM-306	3	GA	18	MO	D/9	C	O	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 14
2-IMO-128	3	GA	14	MO	B/8	C	C	1	P	B	EF-1	EF-2	C	NO, CSJ 2
											EF-5	EF-5	-	NO
											ET-XXX	ET-XXX	C	NO, CSJ 2
2-IMO-310	3	GA	14	MO	H/9	O	C	2	A	B	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											ET-XXX	ET-XXX	P	NO, NOTE 3

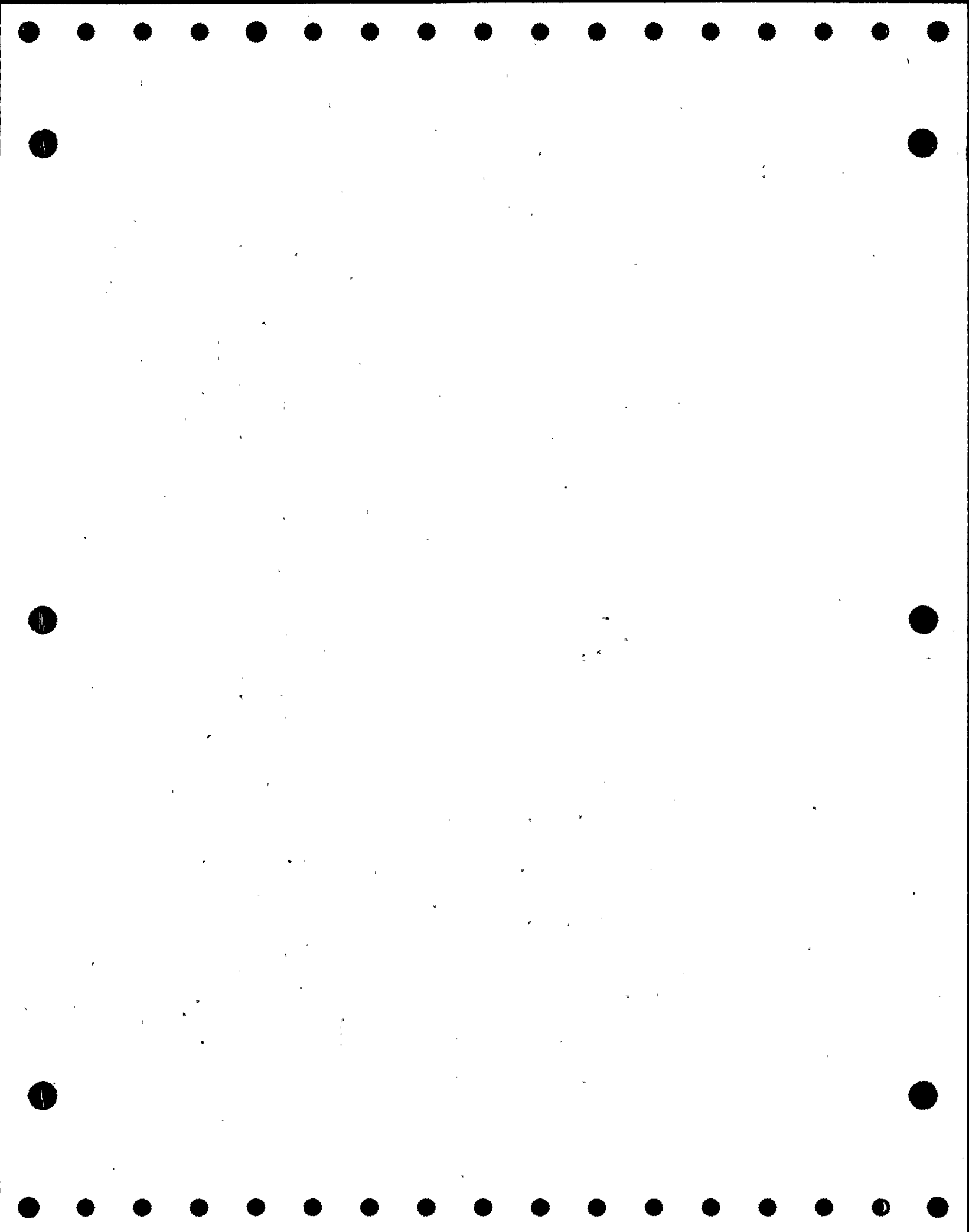


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5143-35

RUN DATE AND TIME: 15FEB90:16:14

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   CL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)	
2-IMO-312	3	GL	2	MO	J/5	O	O/C	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-IMO-314	3	GA	8	MO	K/6	O	C	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO, NOTE 3
2-IMO-315	3	GA	8	MO	C/7	C	C/O	1	A	B	EF-1 EF-5 ET-XXX	EF-2 EF-5 ET-XXX	C - C	NO, CSJ 4 NO NO, CSJ 4
2-IMO-316	3	GA	8	MO	C/7	O	O/C	2	A	B	EF-1 EF-5 ET-XXX	EF-2 EF-5 ET-XXX	C - C	NO, CSJ 4 NO NO, CSJ 4
2-IMO-320	3	GA	14	MO	L/9	O	C	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO, NOTE 3
2-IMO-322	3	GL	2	MO	M/5	O	O/C	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-IMO-324	3	GA	8	MO	M/6	O	C	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO, NOTE 3

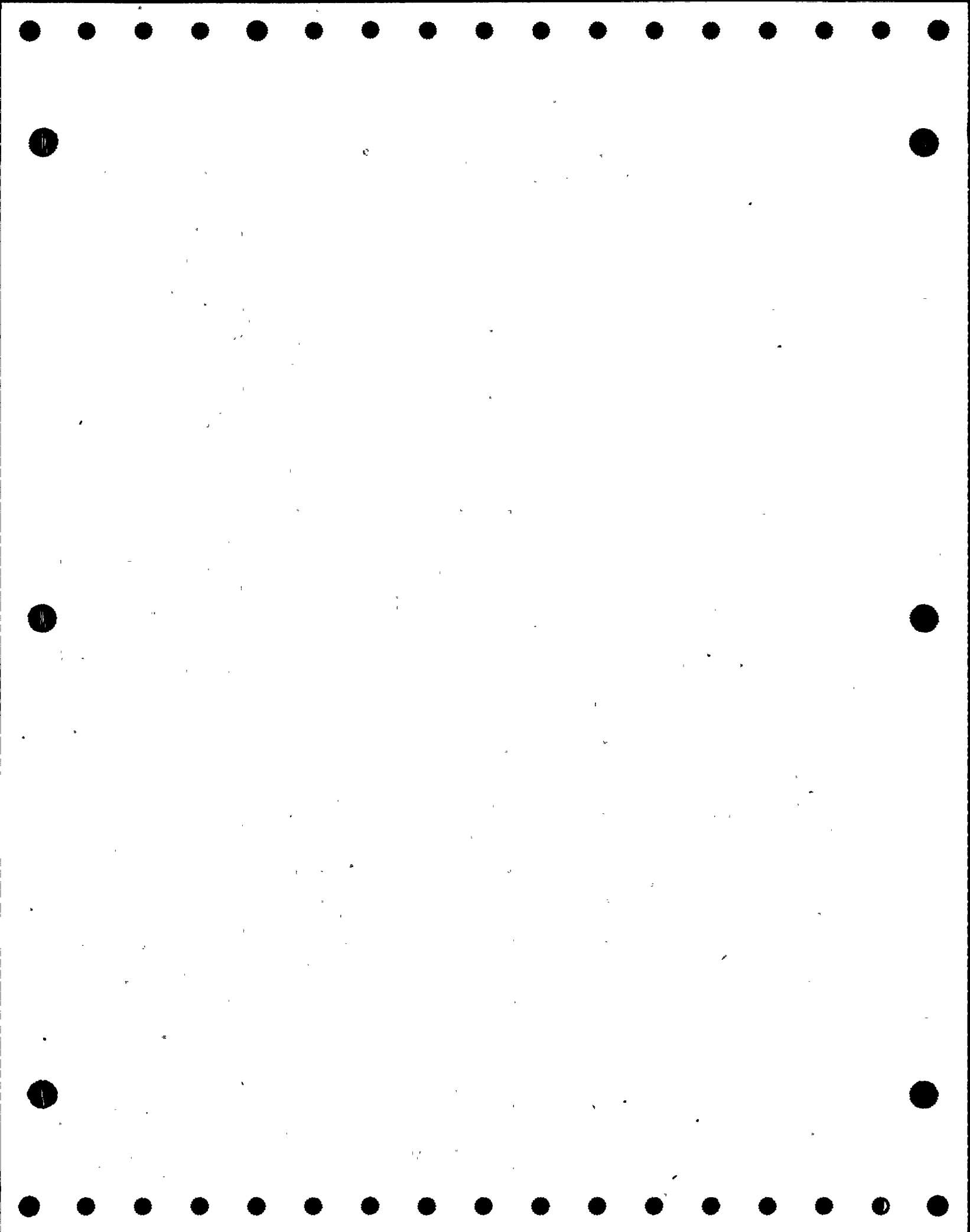


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5143-35

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-IMO-325	3	GA	8	MO	C/7	C	C/O	1	A	B	EF-1 EF-5 ET-XXX	EF-2 EF-5 ET-XXX	C - C	NO, CSJ 4 NO NO, CSJ 4
2-IMO-326	3	GA	8	MO	C/7	O	O/C	2	A	B	EF-1 EF-5 ET-XXX	EF-2 EF-5 ET-XXX	C - C	NO, CSJ 4 NO NO, CSJ 4
2-IMO-330	3	GA	8	MO	G/4	C	O	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-IMO-331	3	GA	8	MO	L/5	C	O	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-IMO-340	3	GA	8	MO	H/5	C	O	2	A	B	EF-1 EF-5 ET-XXX	EF-2 EF-5 ET-XXX	C - C	YES, NOTE 15 NO YES, NOTE 15
2-IMO-350	3	GA	8	MO	L/5	C	O	2	A	B	EF-1 EF-5 ET-XXX	EF-2 EF-5 ET-XXX	C - C	YES, NOTE 15 NO YES, NOTE 15
2-N-102	3	CK	1	SA	F/5	O/C	C	2	A	AC	CF-1 SLT-1	CF-2 SLT-2	R R	YES, NOTE 13 YES, NOTE 14
2-RH-108E	3	CK	8	SA	K/9	C	O	2	A	C	CF-1	CF-3	C	NO, CSJ 7



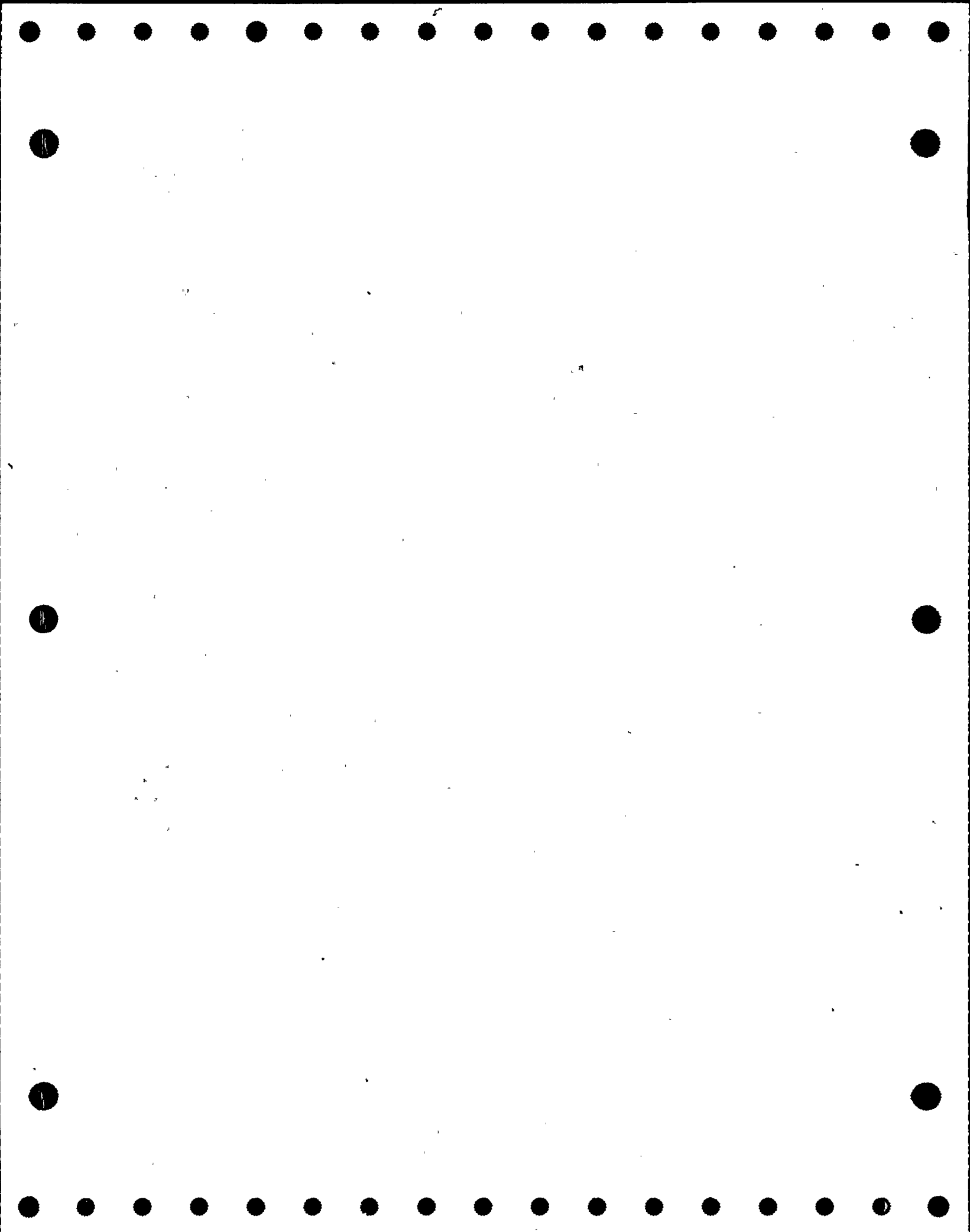
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5143-35

RUN DATE AND TIME: 15FEB90:16:14

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-108W	3	CK	8	SA	N/9	C	O	2	A	C	CF-1	CF-3	C	NO, CSJ 7
2-RH-133	3	CK	8	SA	C/5	C	C	1	P	AC	SLT-1	SLT-1	R	NO, NOTE 1
2-RH-134	3	CK	8	SA	C/5	C	C	1	P	AC	SLT-1	SLT-1	R	NO, NOTE 1
2-SI-148	3	CK	12	SA	G/7	C	O	2	A	C	CF-1	CF-3	-	YES, NOTE 8
2-SI-151-E	3	CK	8	SA	D/7	C	O	2	A	AC	CF-1 SLT-1	CF-2 SLT-1	C R	NO, CSJ 9 NO, NOTE 1
2-SI-151-W	3	CK	8	SA	D/7	C	O	2	A	AC	CF-1 SLT-1	CF-2 SLT-1	C R	NO, CSJ 9 NO, NOTE 1
2-SI-152-N	3	CK	4	SA	D/8	C	O	2	A	AC	CF-1 SLT-1	CF-2 SLT-1	R R	YES, NOTE 10 NO, NOTE 1
2-SI-152-S	3	CK	4	SA	D/7	C	O	2	A	AC	CF-1 SLT-1	CF-2 SLT-1	R R	YES, NOTE 10 NO, NOTE 1
2-SI-158-L1	3	CK	6	SA	B/8	C	O	1	A	AC	CF-1 SLT-1	CF-2 SLT-1	- R	YES, NOTE 11 NO, NOTE 1
2-SI-158-L2	3	CK	6	SA	B/7	C	O	1	A	AC	CF-1 SLT-1	CF-2 SLT-1	- R	YES, NOTE 11 NO, NOTE 1



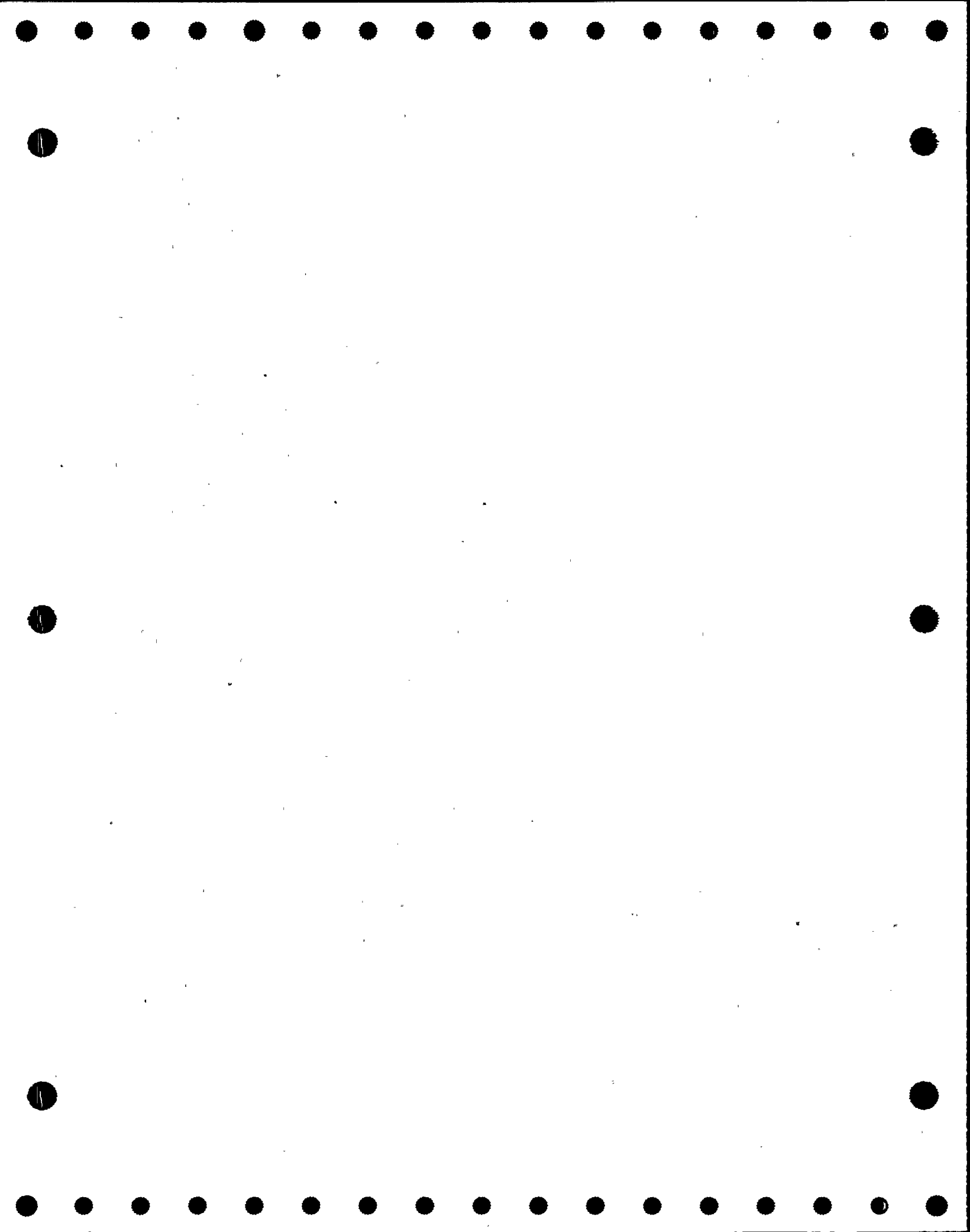


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5143-35

RUN DATE AND TIME: 15FEB90:16:14

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-158-L3	3	CK	6	SA	B/7	C	0	1	A	AC	CF-1 SLT-1	CF-2 SLT-1	- R	YES, NOTE 11 NO, NOTE 1
2-SI-158-L4	3	CK	6	SA	B/7	C	0	1	A	AC	CF-1 SLT-1	CF-2 SLT-1	- R	YES, NOTE 11 NO, NOTE 1
2-SI-161-L1	3	CK	6	SA	B/6	C	0	1	A	AC	CF-1 SLT-1	CF-2 SLT-1	- R	YES, NOTE 6 NO, NOTE 1
2-SI-161-L2	3	CK	6	SA	B/5	C	0	1	A	AC	CF-1 SLT-1	CF-2 SLT-1	- R	YES, NOTE 6 NO, NOTE 1
2-SI-161-L3	3	CK	6	SA	B/5	C	0	1	A	AC	CF-1 SLT-1	CF-2 SLT-1	- R	YES, NOTE 6 NO, NOTE 1
2-SI-161-L4	3	CK	6	SA	B/6	C	0	1	A	AC	CF-1 SLT-1	CF-2 SLT-1	- R	YES, NOTE 6 NO, NOTE 1
2-SI-166-1	3	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-166-2	3	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-166-3	3	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

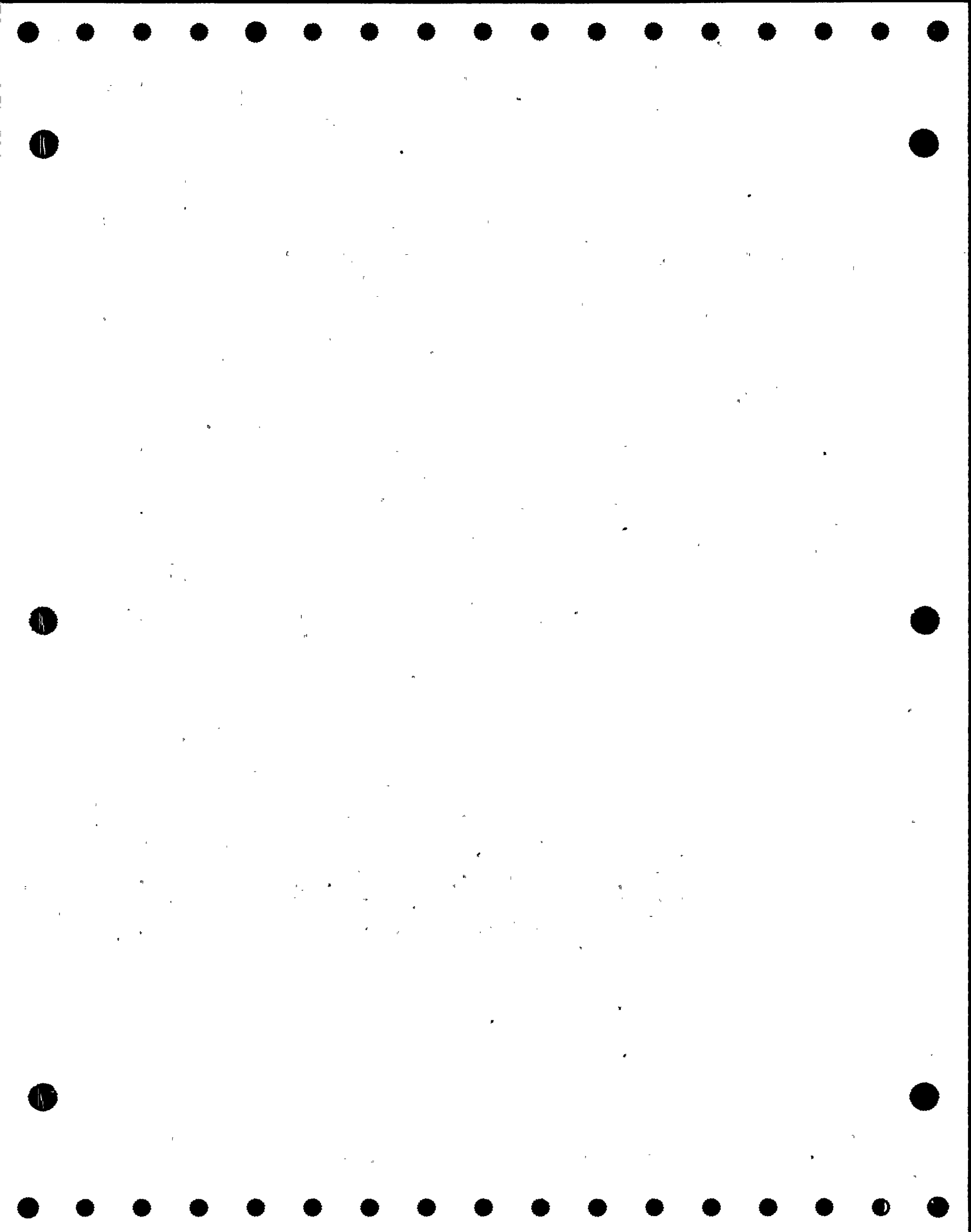


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5143-35

RUN DATE AND TIME: 15FEB90:16:14

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-166-4	3	CK	10	SA	C/4	C	O	1	A	AC	CF-1 SLT-1	CF-2 SLT-1	R R	YES, NOTE 5 NO, NOTE 1
2-SI-170-L1	3	CK	10	SA	A/4	C	O	1	A	AC	CF-1 SLT-1	CF-3 SLT-1	R R	YES, NOTE 12 NO, NOTE 1
2-SI-170-L2	3	CK	10	SA	A/5	C	O/C	1	A	AC	CF-1 SLT-1	CF-3 SLT-1	R R	YES, NOTE 12 NO, NOTE 1
2-SI-170-L3	3	CK	10	SA	A/5	C	O/C	1	A	AC	CF-1 SLT-1	CF-3 SLT-1	R R	YES, NOTE 12 NO, NOTE 1
2-SI-170-L4	3	CK	10	SA	A/4	C	O	1	A	AC	CF-1 SLT-1	CF-3 SLT-1	R R	YES, NOTE 12 NO, NOTE 1
2-SI-171	3	GL	0.75	M	H/6	C	C	2	P	A	SLT-1	SLT-2	R	YES, NOTE 14
2-SI-172	3	GL	0.75	M	H/6	C	C	2	P	A	SLT-1	SLT-2	R	YES, NOTE 14
2-SI-194	3	GL	0.75	M	G/6	C	C	2	P	A	SLT-1	SLT-2	R	YES, NOTE 14
2-SV-100-1	3	REL	1	SA	D/1	C	O	2	A	C	TF-1	TF-1	R	NO
2-SV-100-2	3	REL	1	SA	D/1	C	O	2	A	C	TF-1	TF-1	R	NO

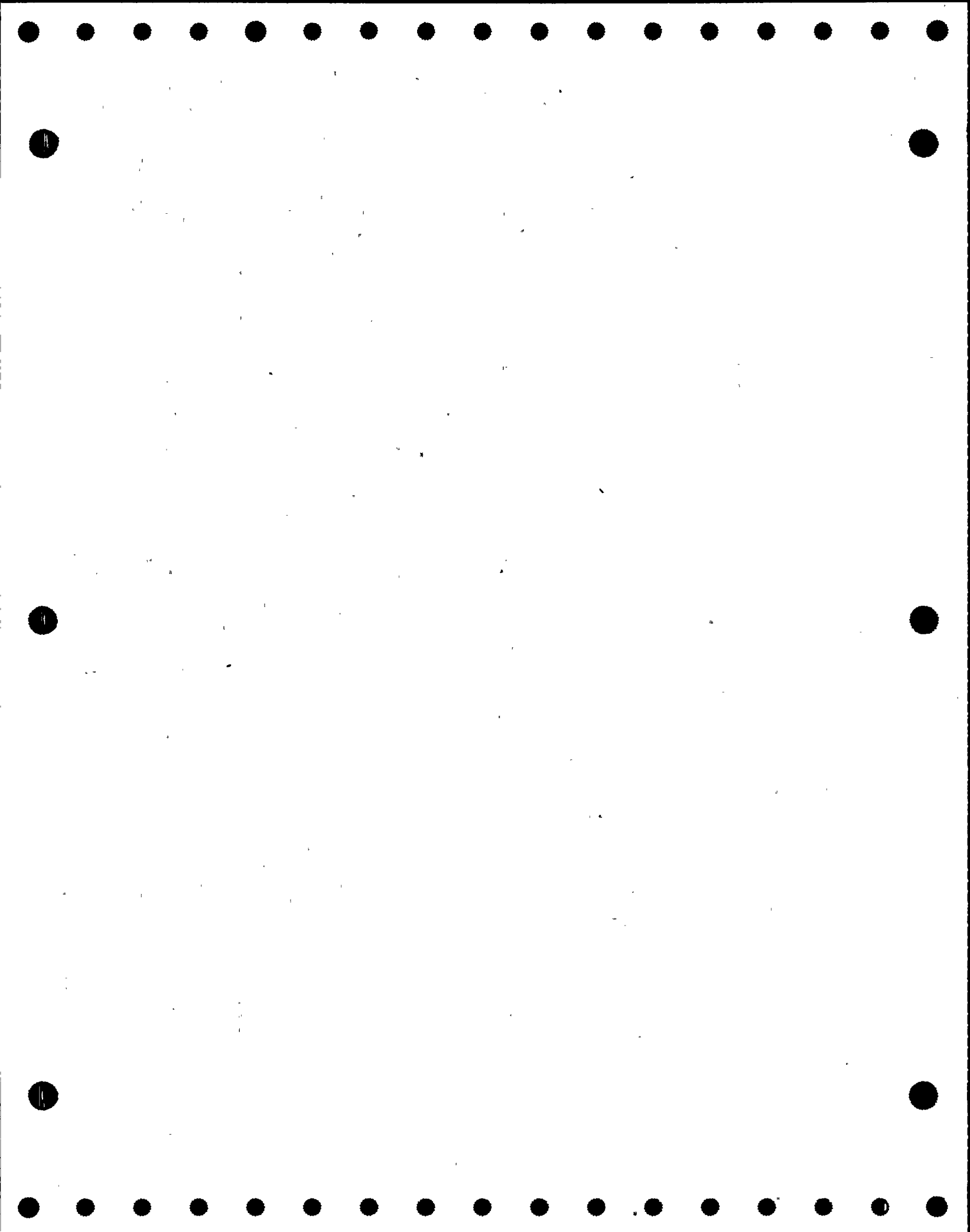


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5143-35

RUN DATE AND TIME: 15FEB90:16:14

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	3	REL	1	SA	D/1	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-100-4	3	REL	1	SA	D/1	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-102	3	REL	0.75	SA	E/5	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-103	3	REL	3	SA	F/8	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-104E	3	REL	2	SA	G/4	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-104W	3	REL	2	SA	K/4	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-105E	3	REL	2	SA	D/9	C	0	2	A	C	TF-1	TF-1	R	NO
2-SV-105W	3	REL	2	SA	D/9	C	0	2	A	C	TF-1	TF-1	R	NO



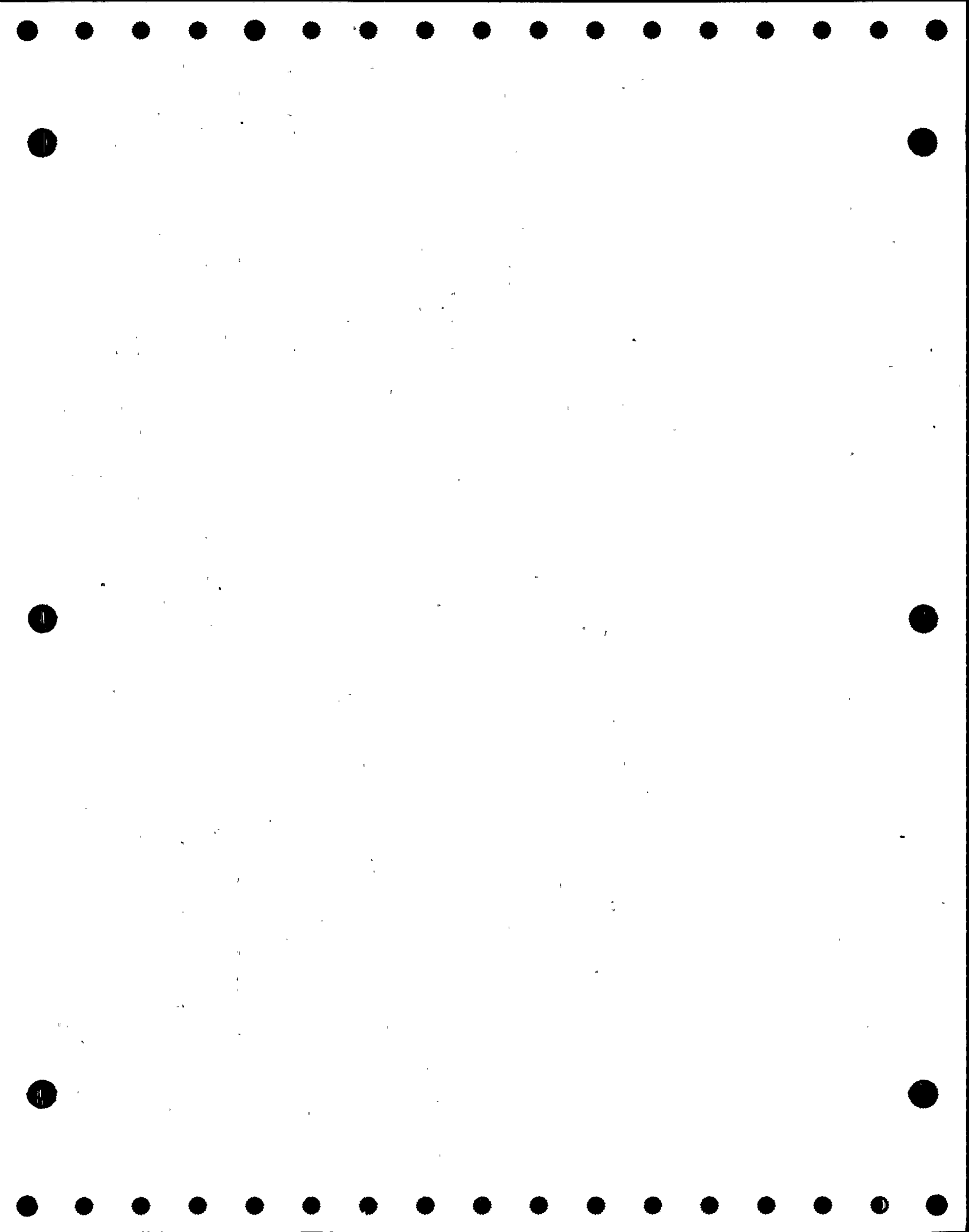
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5144-29

RUN DATE AND TIME: 15FEB90:16:14

SYSTEM NAME: CONTAINMENT SPRAY

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-CTS-103-E	3	CK	10	SA	J/9	C	0	2	A	C	CF-1	CF-3	-	YES, NOTE 2
2-CTS-103-W	3	CK	10	SA	L/9	C	0	2	A	C	CF-1	CF-3	-	YES, NOTE 2
2-CTS-109	3	VB	1	SA	M/6	C	0	2	A	C	CF-1	CF-2	C	NO, CSJ 6
2-CTS-110	3	VB	1	SA	M/6	C	0	2	A	C	CF-1	CF-2	C	NO, CSJ 6
2-CTS-120-E	3	CK	2	SA	H/8	C	0	2	A	C	CF-1	CF-1	P	NO
2-CTS-120-W	3	CK	2	SA	K/8	C	0	2	A	C	CF-1	CF-1	P	NO
2-CTS-127-E	3	CK	6	SA	E/5	C	0	2	A	AC	CF-1 SLT-1	CF-2 SLT-2A	R R	YES, NOTE 4 YES, NOTE 7
2-CTS-127-W	3	CK	6	SA	E/4	C	0	2	A	AC	CF-1 SLT-1	CF-2 SLT-2A	R R	YES, NOTE 4 YES, NOTE 7
2-CTS-131-E	3	CK	8	SA	E/2	C	0	2	A	AC	CF-1 SLT-1	CF-2 SLT-2A	R R	YES, NOTE 3 YES, NOTE 7
2-CTS-131-W	3	CK	8	SA	E/2	C	0	2	A	AC	CF-1 SLT-1	CF-2 SLT-2A	R R	YES, NOTE 3 YES, NOTE 7
2-CTS-138-E	3	CK	12	SA	G/9	C	0/C	2	A	C	CF-1	CF-3	-	YES, NOTE 1



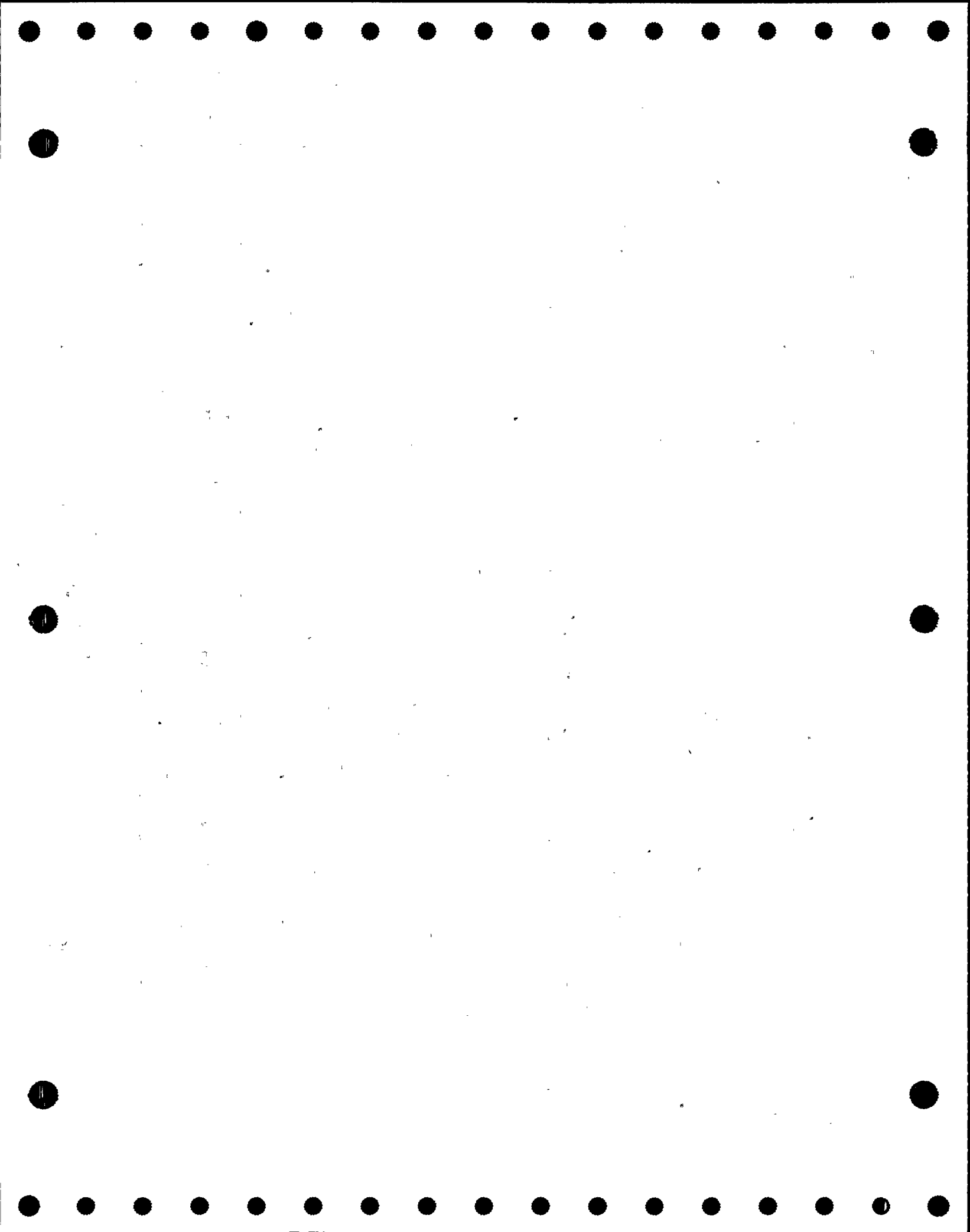


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5144-29

RUN DATE AND TIME: 15FEB90:16:14

SYSTEM NAME: CONTAINMENT SPRAY

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-CTS-138-W	3	CK	12	SA	J/9	C	O/C	2	A	C	CF-1	CF-3	-	YES, NOTE 1
2-IMO-202	3	GA	2.5	MO	M/7	C	0	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-IMO-204	3	GA	2.5	MO	M/7	C	0	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-IMO-210	3	GA	10	MO	J/8	C	0	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-IMO-211	3	GA	10	MO	J/8	C	0	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-IMO-212	3	GA	2	MO	H/8	O	O/C	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-IMO-215	3	GA	12	MO	G/9	O	O/C	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-IMO-220	3	GA	10	MO	L/8	C	0	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO

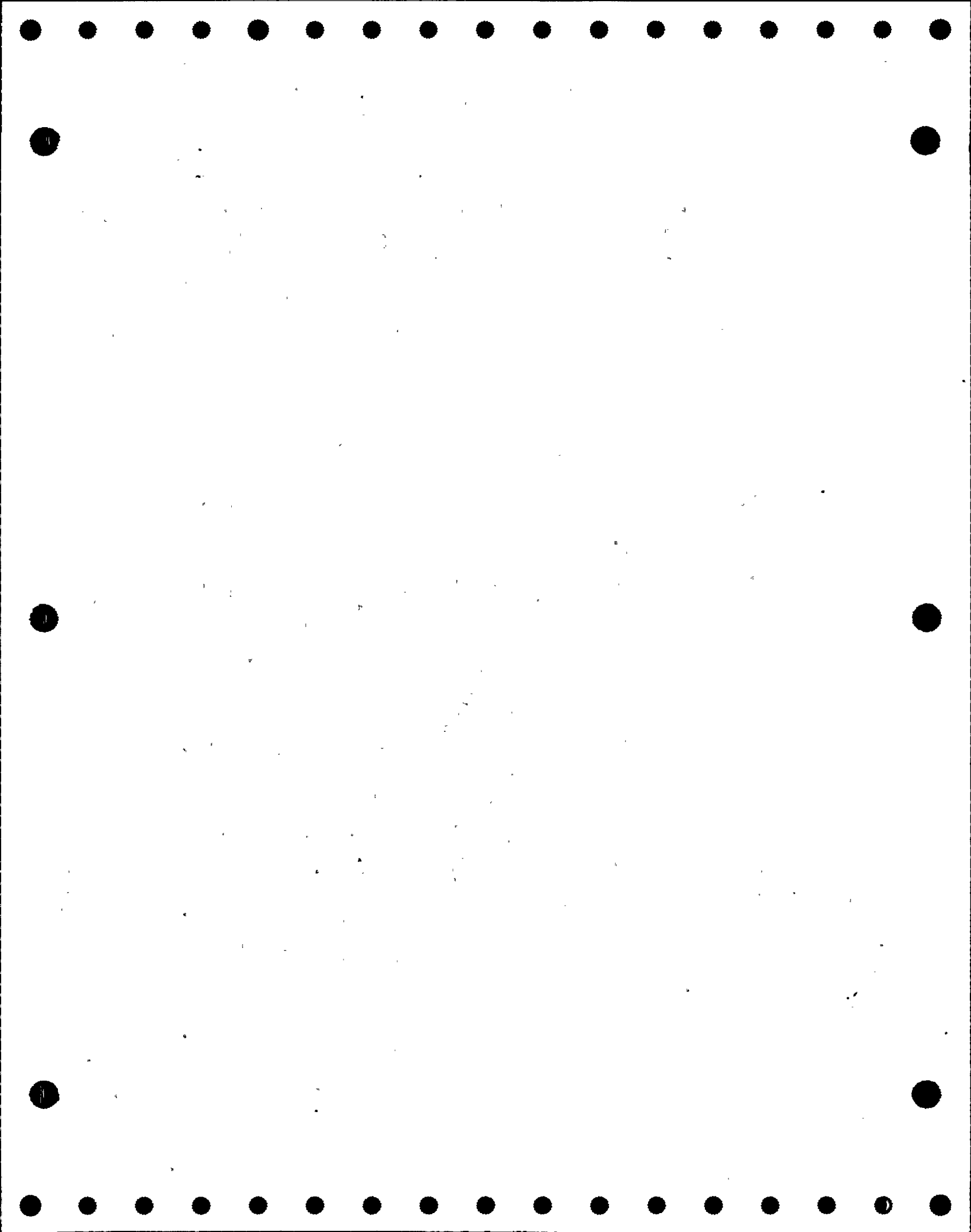


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5144-29

RUN DATE AND TIME: 15FEB90:16:14

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	3	GA	10	MO	L/8	C	0	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-IMO-222	3	GA	2	MO	L/9	0	0/C	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-IMO-225	3	GA	12	MO	J/9	0	0/C	2	A	B	EF-1 EF-5 ET-XXX	EF-1 EF-5 ET-XXX	P - P	NO NO NO
2-RH-141	3	CK	8	SA	E/3	C	0	2	A	AC	CF-1 SLT-1	CF-2 SLT-2A	R R	YES, NOTE 5 YES, NOTE 7
2-RH-142	3	CK	8	SA	E/3	C	0	2	A	AC	CF-1 SLT-1	CF-2 SLT-2A	R R	YES, NOTE 5 YES, NOTE 7
2-SV-107	3	REL	1	SA	N/5	C	0	2	A	C	TF-1	TF-1	R	NO

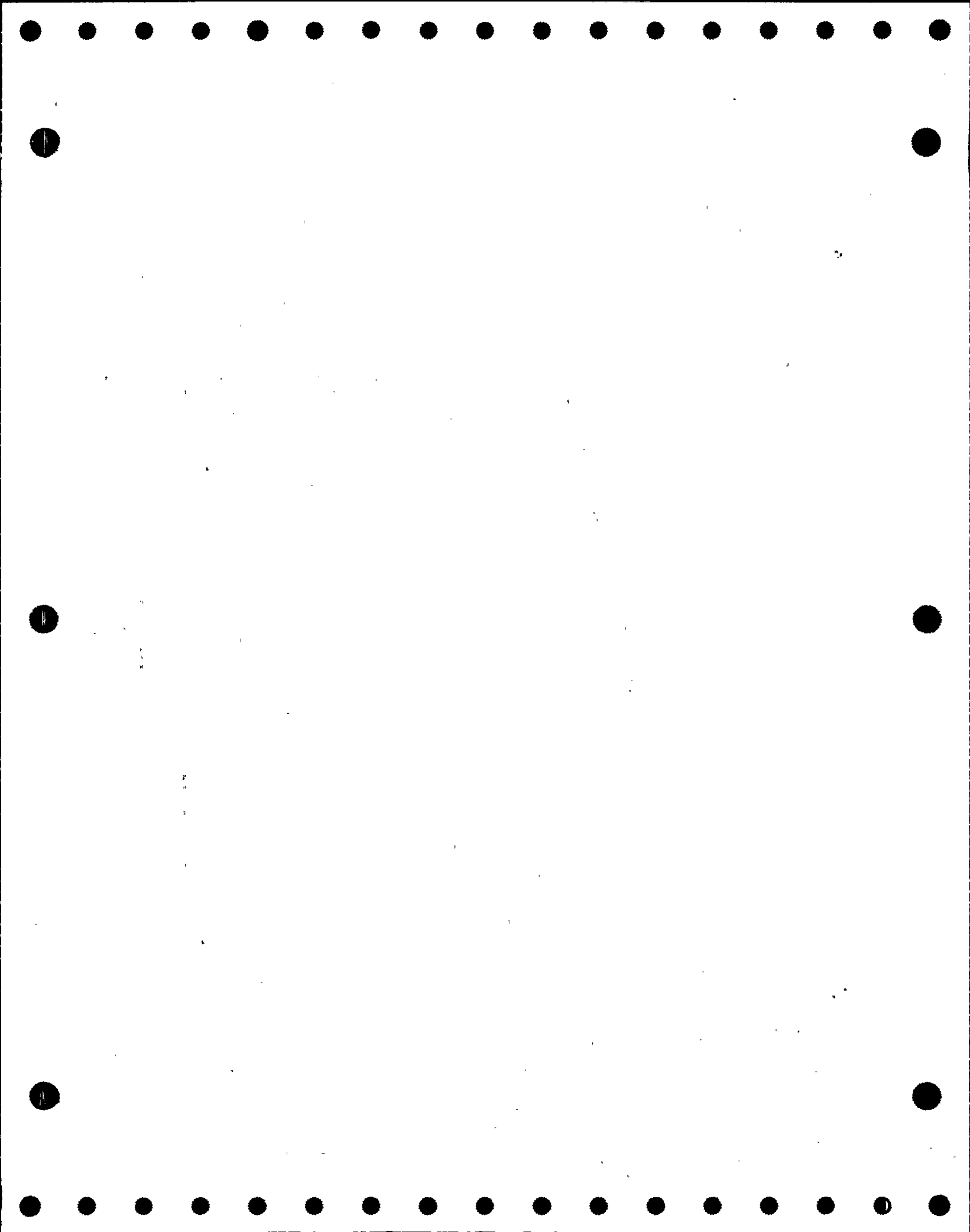


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5145-20

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-CA-181-N	3	CK	0.5	SA	F/2	C	C	2	P	AC	SLT-1	SLT-2	R	YES, NOTE 1
2-CA-181-S	3	CK	0.5	SA	F/3	C	C	2	P	AC	SLT-1	SLT-2	R	YES, NOTE 1



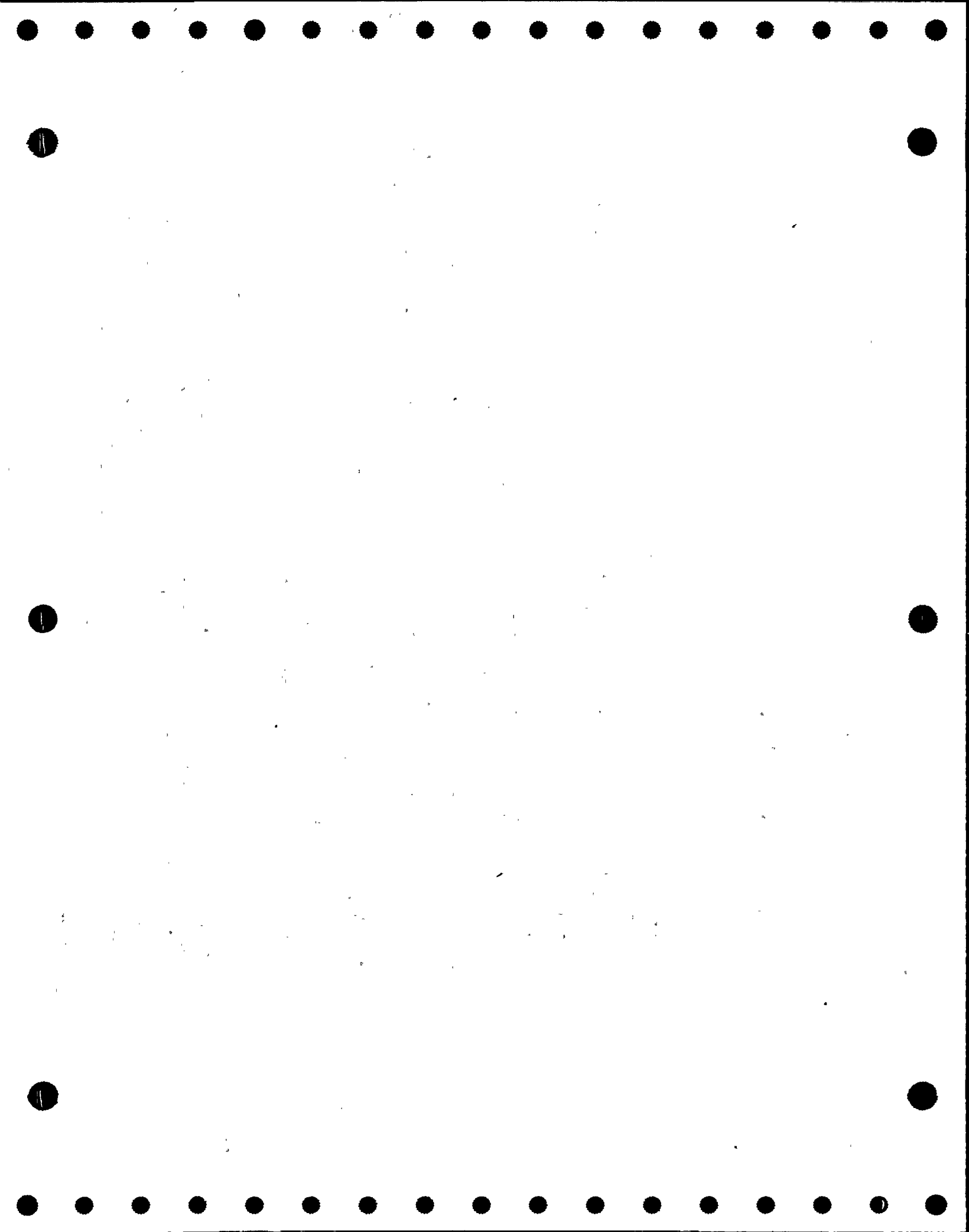
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5146B-23

RUN DATE AND TIME: 15FEB90:16:14

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	CL	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-R-156	3	CK	0.375	SA	L/4	C	O/C	2	A	AC		CF-1 SLT-1	CF-2 SLT-2	R R	YES, NOTE 1 YES, NOTE 2
2-R-157	3	CK	0.375	SA	L/6	C	O/C	2	A	AC		CF-1 SLT-1	CF-2 SLT-2	R R	YES, NOTE 1 YES, NOTE 2
2-VCR-10	3	DA	4	A	M/5	O	C	2	A	A		EF-1 EF-5 EF-7 ET-XXX SLT-1	EF-1 EF-5 EF-7 ET-XXX SLT-2	P - P P R	NO NO NO NO YES, NOTE 2
2-VCR-11	3	DA	4	A	L/5	O	C	2	A	A		EF-1 EF-5 EF-7 ET-XXX SLT-1	EF-1 EF-5 EF-7 ET-XXX SLT-2	P - P P R	NO NO NO NO YES, NOTE 2
2-VCR-20	3	DA	4	A	M/7	O	C	2	A	A		EF-1 EF-5 EF-7 ET-XXX SLT-1	EF-1 EF-5 EF-7 ET-XXX SLT-2	P - P P R	NO NO NO NO YES, NOTE 2
2-VCR-21	3	DA	4	A	L/7	O	C	2	A	A		EF-1 EF-5 EF-7 ET-XXX SLT-1	EF-1 EF-5 EF-7 ET-XXX SLT-2	P - P P R	NO NO NO NO YES, NOTE 2



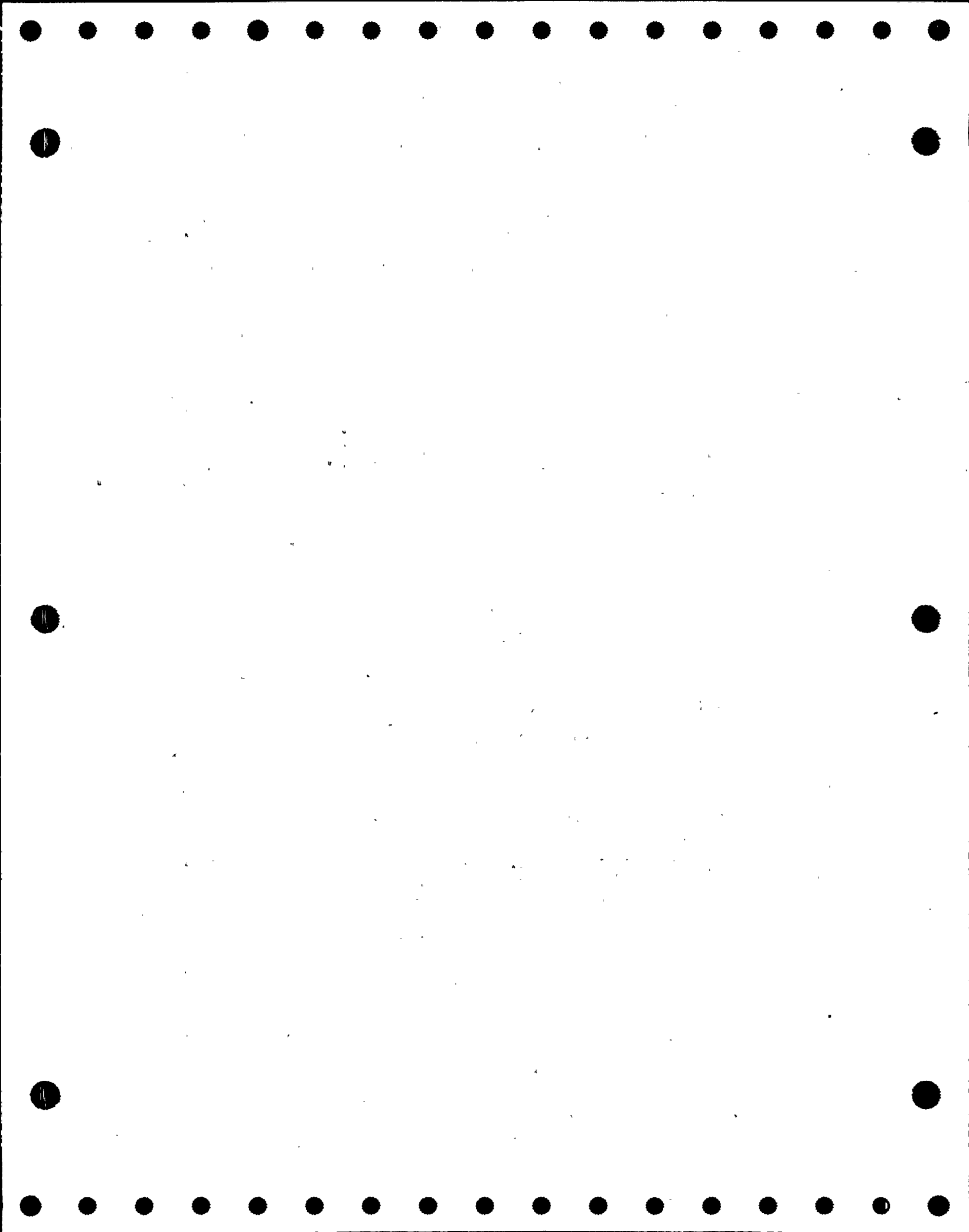


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5147A-35

RUN DATE AND TIME: 15FEB90:16:14

SYSTEM NAME: CONTAINMENT VENTILATION

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-SM-10	3	GA	0.5	M	A/4	C	C	2	P	A	SLT-1	SLT-2	R	YES, NOTE 1
2-SM-4	3	GA	0.5	M	A/2	C	C	2	P	A	SLT-1	SLT-2	R	YES, NOTE 1
2-SM-6	3	GA	0.5	M	A/2	C	C	2	P	A	SLT-1	SLT-2	R	YES, NOTE 1
2-SM-8	3	GA	0.5	M	A/4	C	C	2	P	A	SLT-1	SLT-2	R	YES, NOTE 1
2-VCR-101	3	BF	14	A	J/8	C	C	2	P	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-VCR-102	3	BF	14	A	J/9	C	C	2	P	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-VCR-103	3	BF	24	A	J/5	C	C	2	P	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-VCR-104	3	BF	30	A	J/6	C	C	2	P	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1

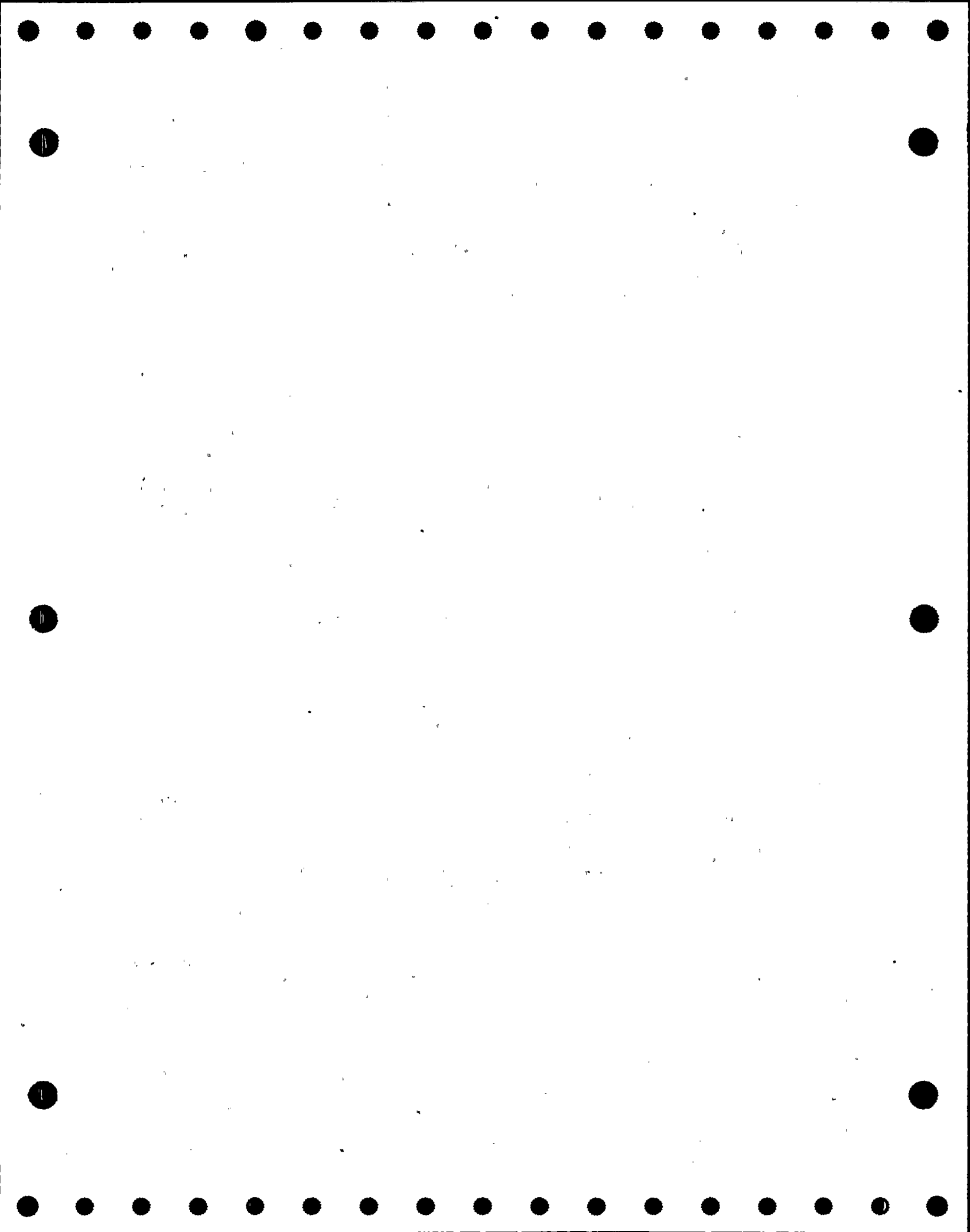


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5147A-35

RUN DATE AND TIME: 15FEB90:16:14

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   CL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)	
2-VCR-105	3	BF	30	A	J/3	C	C	2	P	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-VCR-106	3	BF	24	A	J/3	C	C	2	P	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-VCR-107	3	BF	14	A	J/4	O/C	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-VCR-201	3	BF	14	A	J/8	C	C	2	P	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-VCR-202	3	BF	14	A	J/9	C	C	2	P	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1

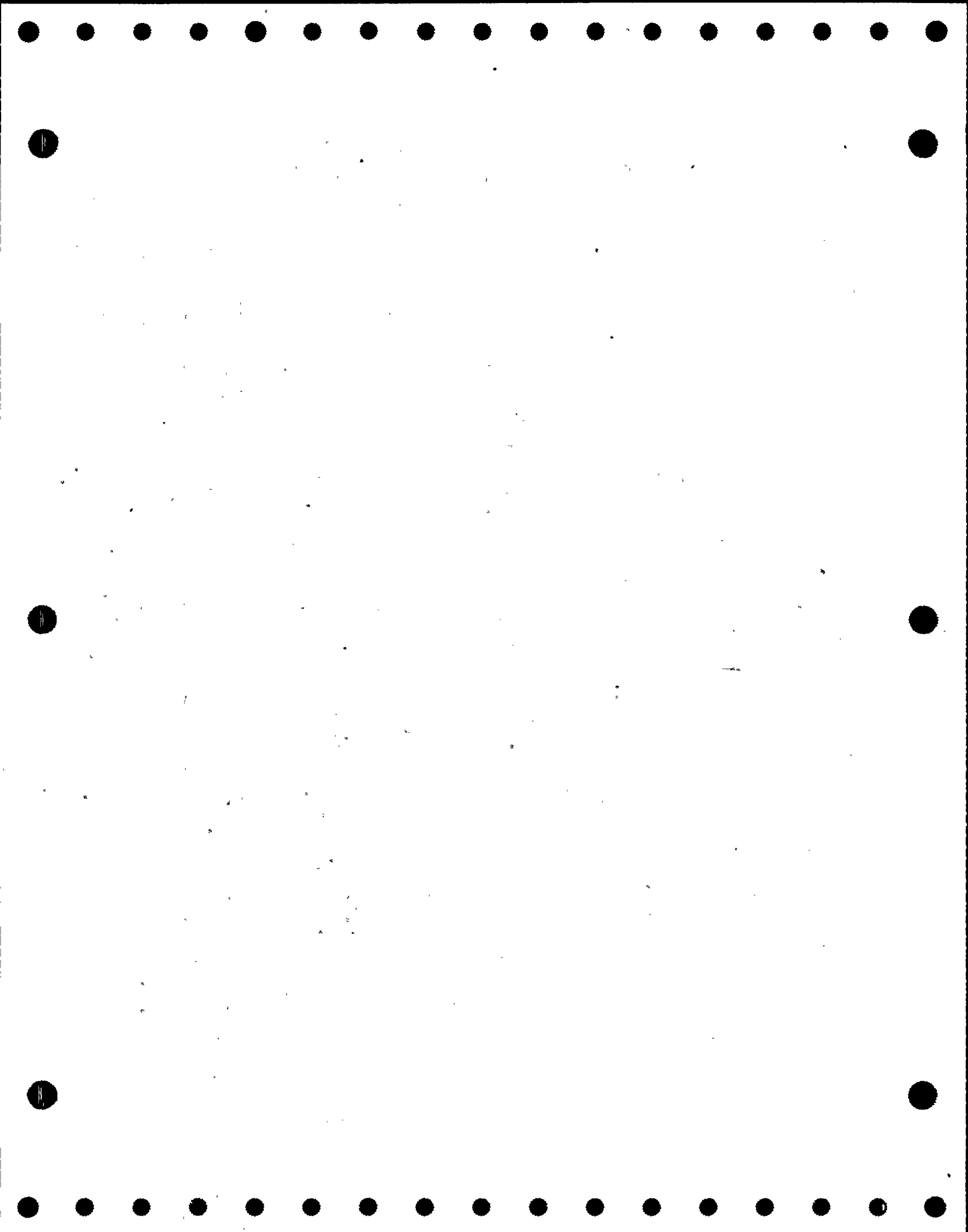


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5147A-35

RUN DATE AND TIME: 15FEB90:16:14

SYSTEM NAME: CONTAINMENT VENTILATION

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-VCR-203	3	BF	24	A	J/5	C	C	2	P	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-VCR-204	3	BF	30	A	J/6	C	C	2	P	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-VCR-205	3	BF	30	A	J/3	C	C	2	P	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-VCR-206	3	BF	24	A	J/3	C	C	2	P	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1
2-VCR-207	3	BF	14	A	J/4	O/C	C	2	A	A	EF-1	EF-1	P	NO
											EF-5	EF-5	-	NO
											EF-7	EF-7	P	NO
											ET-XXX	ET-XXX	P	NO
											SLT-1	SLT-2	R	YES, NOTE 1



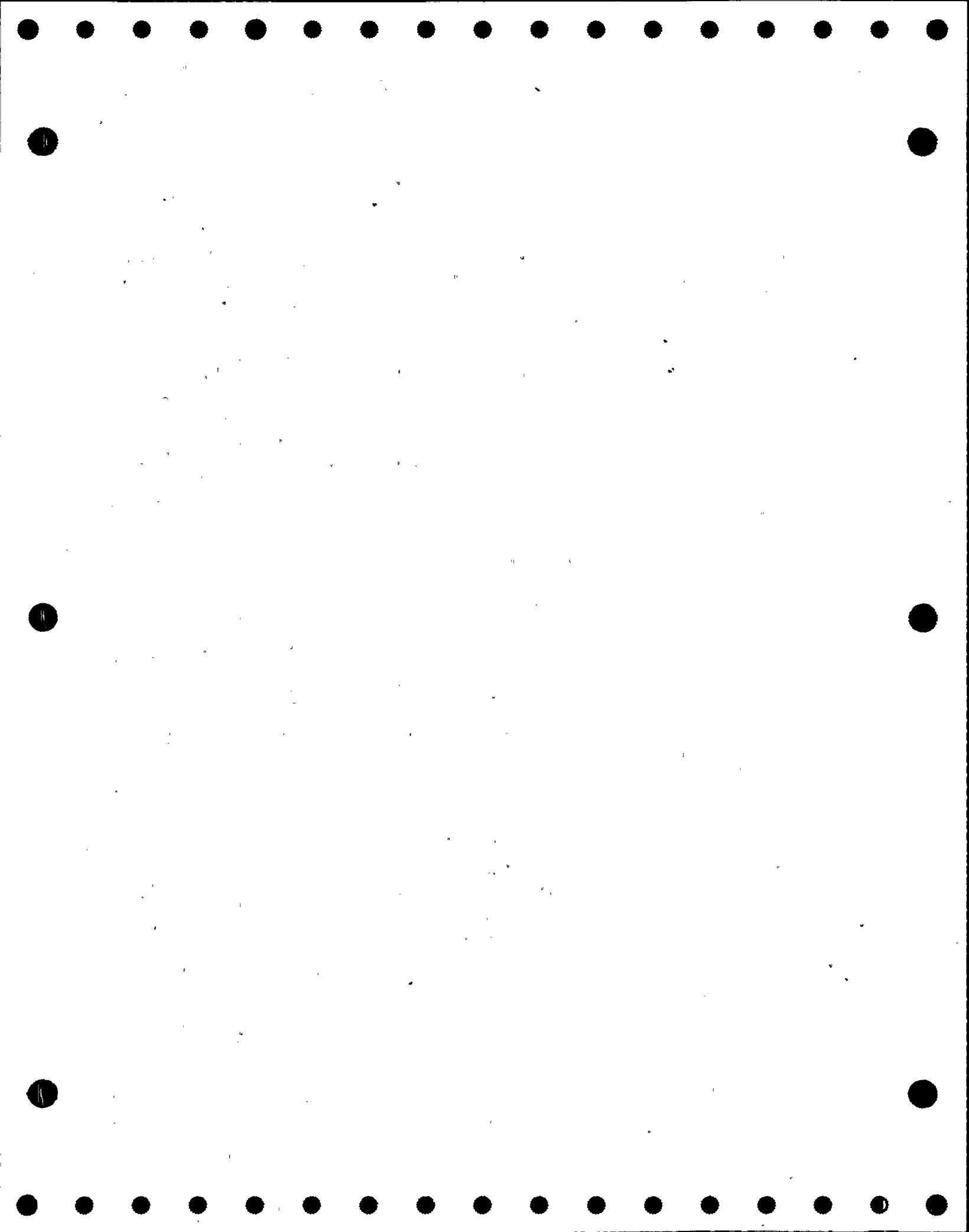
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5149-23

RUN DATE AND TIME: 15FEB90:16:14

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	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-DW-163-N	3	GA	2.5	M	F/2	0	0/C	3	A	B	EF-1	EF-1	P	NO
2-DW-163-S	3	GA	2.5	M	G/2	0	0/C	3	A	B	EF-1	EF-1	P	NO
2-DW-166-N	3	GA	2.5	M	E/5	0	0/C	3	A	B	EF-1	EF-1	P	NO
2-DW-166-S	3	GA	2.5	M	J/5	0	0/C	3	A	B	EF-1	EF-1	P	NO
2-VRV-315	3	3W	2.5	A	F/5	0	0	3	A	B	EF-1 EF-7 ET-XXX	NOTE 1 EF-7 NOTE 1	P P -	YES, NOTE 1 NO, NOTE 1 YES, NOTE 1
2-VRV-325	3	3W	2.5	A	G/5	0	0	3	A	B	EF-1 EF-7 ET-XXX	NOTE 1 EF-7 NOTE 1	P P -	YES, NOTE 1 NO, NOTE 1 YES, NOTE 1



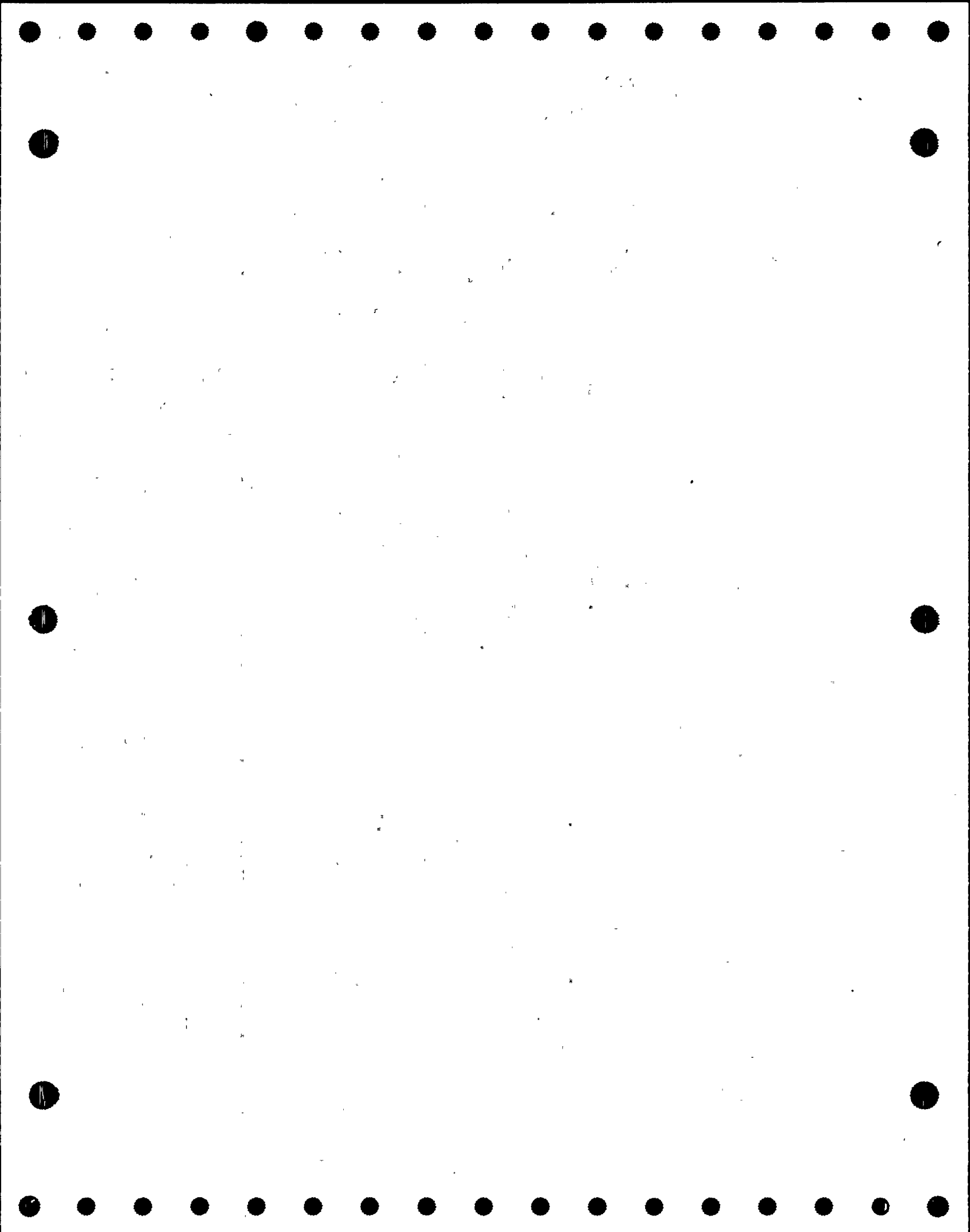


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5151A-26

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-DF-108A	3	CK	1.5	SA	L/3	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DF-109A	3	CK	1.5	SA	K/3	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DF-114A	3	CK	1.5	SA	J/3	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DF-115A	3	CK	1.5	SA	H/3	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DL-114A	3	CK	1.5	SA	B/9	O	C	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DL-116A	3	CK	1.5	SA	B/9	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DL-126A	3	CK	2.5	SA	E/9	O	C	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DL-132A	3	CK	1	SA	F/9	O	C	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DL-158A	3	CK	6	SA	G/6	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-QT-114-2AB	3	3H	6	SA	H/5	O	O	3	A	B	EF-1	NOTE 2	P	NO, NOTE 2

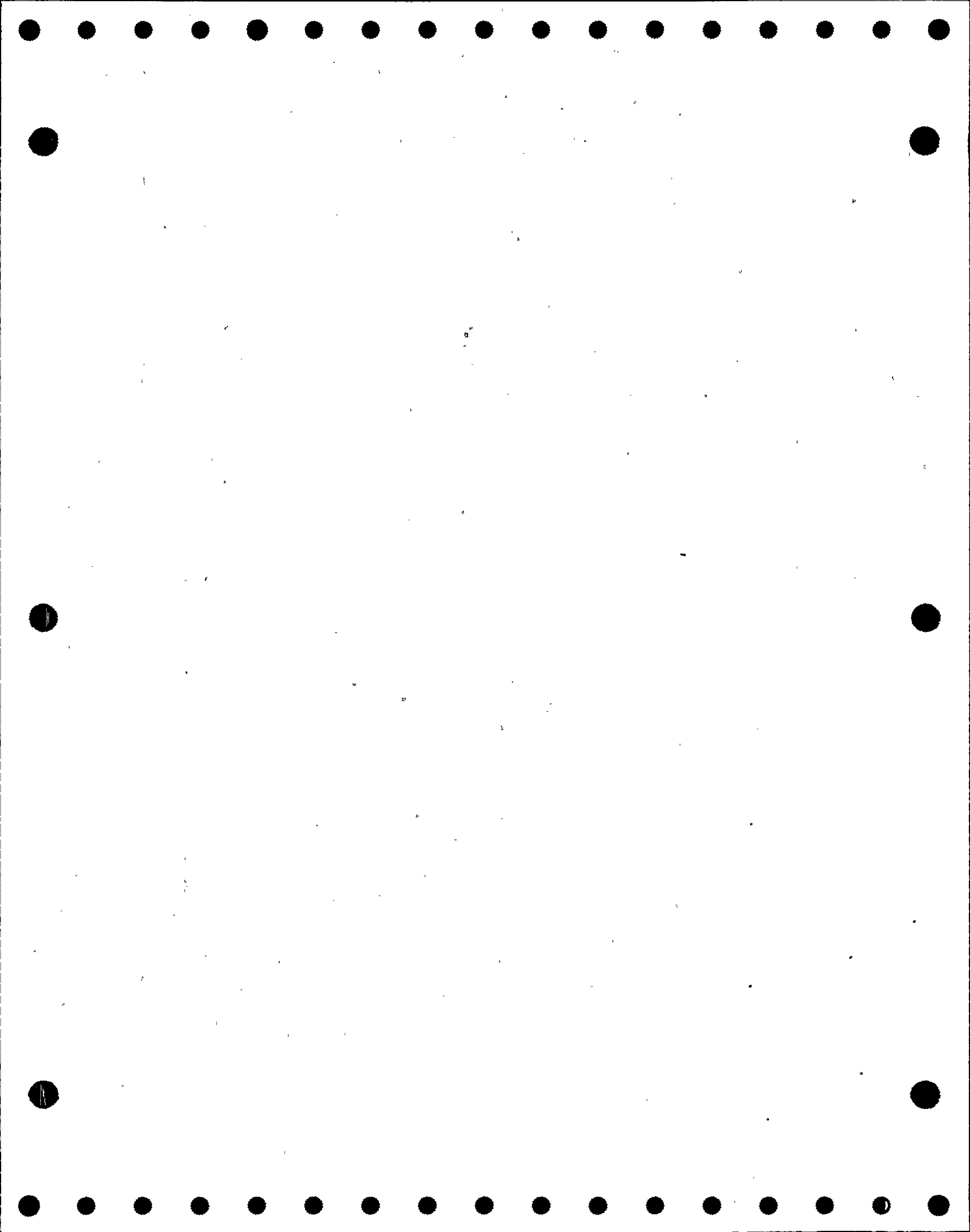


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5151B-27

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-DG-102A	3	CK	1.5	SA	H/4	O	O/C	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-104A	3	CK	1.5	SA	G/4	O	O/C	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-128A	3	CK	1	SA	C/4	C	O	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-130A	3	CK	1	SA	C/4	C	O	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-140A	3	CK	0.5	SA	F/1	C	O/C	3	A	C	CF-1	CF-1	P	NO
2-DG-142A	3	CK	0.5	SA	F/1	C	O/C	3	A	C	CF-1	CF-1	P	NO
2-DG-146A	3	CK	2	SA	A/8	O	C	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-152A	3	CK	4	SA	D/8	C	O	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-154A	3	CK	4	SA	C/8	C	O	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-QT-132-2AB	3	3W	6	SA	E/8	O	O	3	A	B	EF-1	NOTE 2	P	NO, NOTE 2
2-SV-120-AB	3	REL	0.25	SA	G/2	C	O	3	A	C	TF-1	TF-1	R	NO
2-SV-139-AB	3	REL	1	SA	B/2	C	O	3	A	C	TF-1	TF-1	R	NO

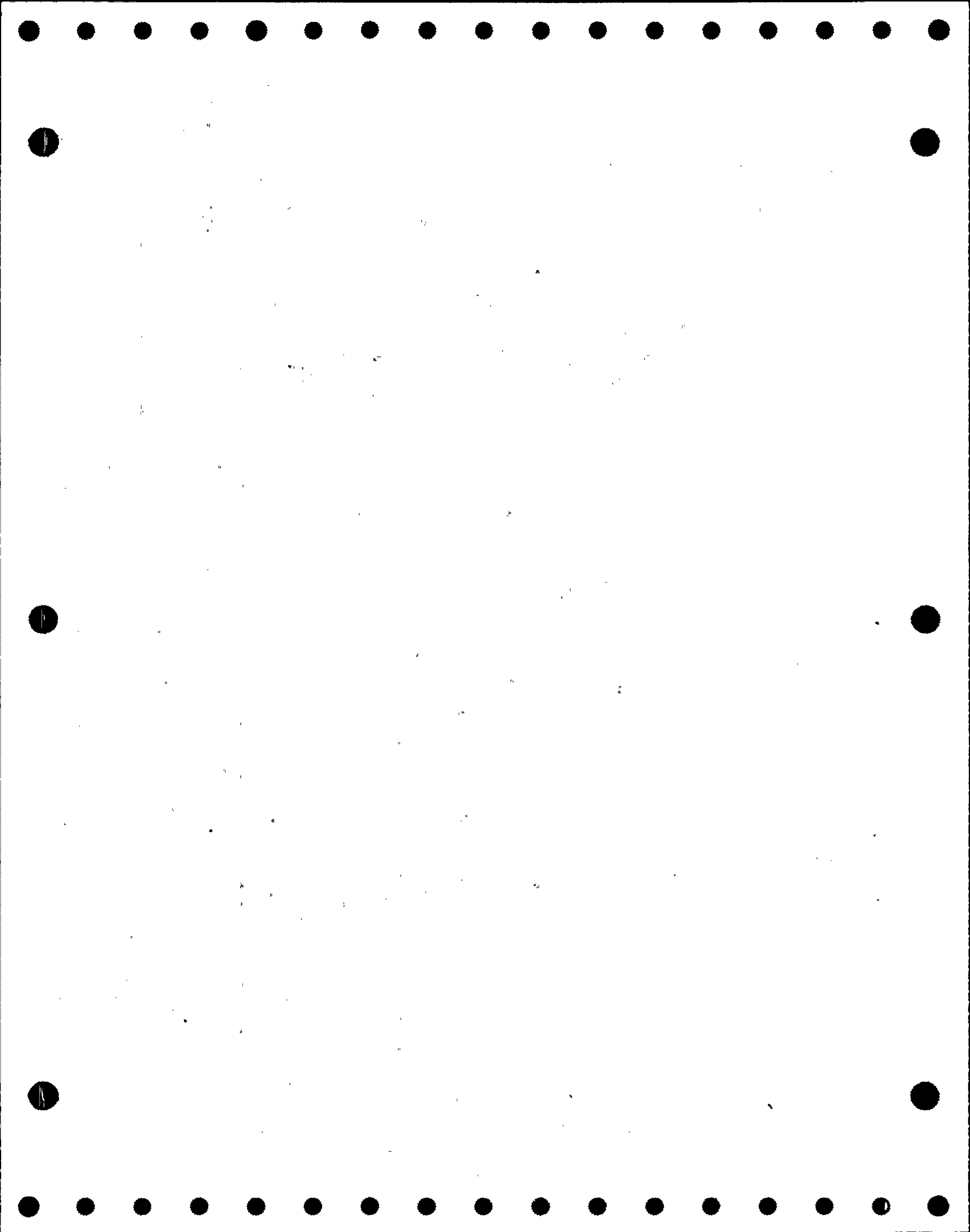


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5151B-27

RUN DATE AND TIME: 15FEB90:16:14

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   CL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)	
2-SV-61-AB	3	REL	1	SA	A/8	C	0	3 A C	C	TF-1	TF-1	R	NO	
2-SV-78-AB1	3	REL	1	SA	E/3	C	0	3 A C	C	TF-1	TF-1	R	NO	
2-SV-78-AB2	3	REL	1	SA	D/3	C	0	3 A C	C	TF-1	TF-1	R	NO	
2-SV-79-AB1	3	REL	0.5	SA	E/1	C	0	3 A C	C	TF-1	TF-1	R	NO	
2-SV-79-AB2	3	REL	0.5	SA	E/1	C	0	3 A C	C	TF-1	TF-1	R	NO	
2-XRV-220	3	GA	1	A	B/3	C	0	3 A B	B	EF-1 EF-7 ET-XXX	EF-1 EF-7 NOTE 4	- - -	YES, NOTE 4 YES, NOTE 4 YES, NOTE 4	
2-XRV-221	3	GL	3	A	B/4	C	0	3 A B	B	EF-1 EF-7 ET-XXX	EF-1 NOTE 3 NOTE 3	- - -	YES, NOTE 3 YES, NOTE 3 YES, NOTE 3	
2-XRV-222	3	GL	3	A	B/4	C	0	3 A B	B	EF-1 EF-7 ET-XXX	EF-1 NOTE 3 NOTE 3	- - -	YES, NOTE 3 YES, NOTE 3 YES, NOTE 3	



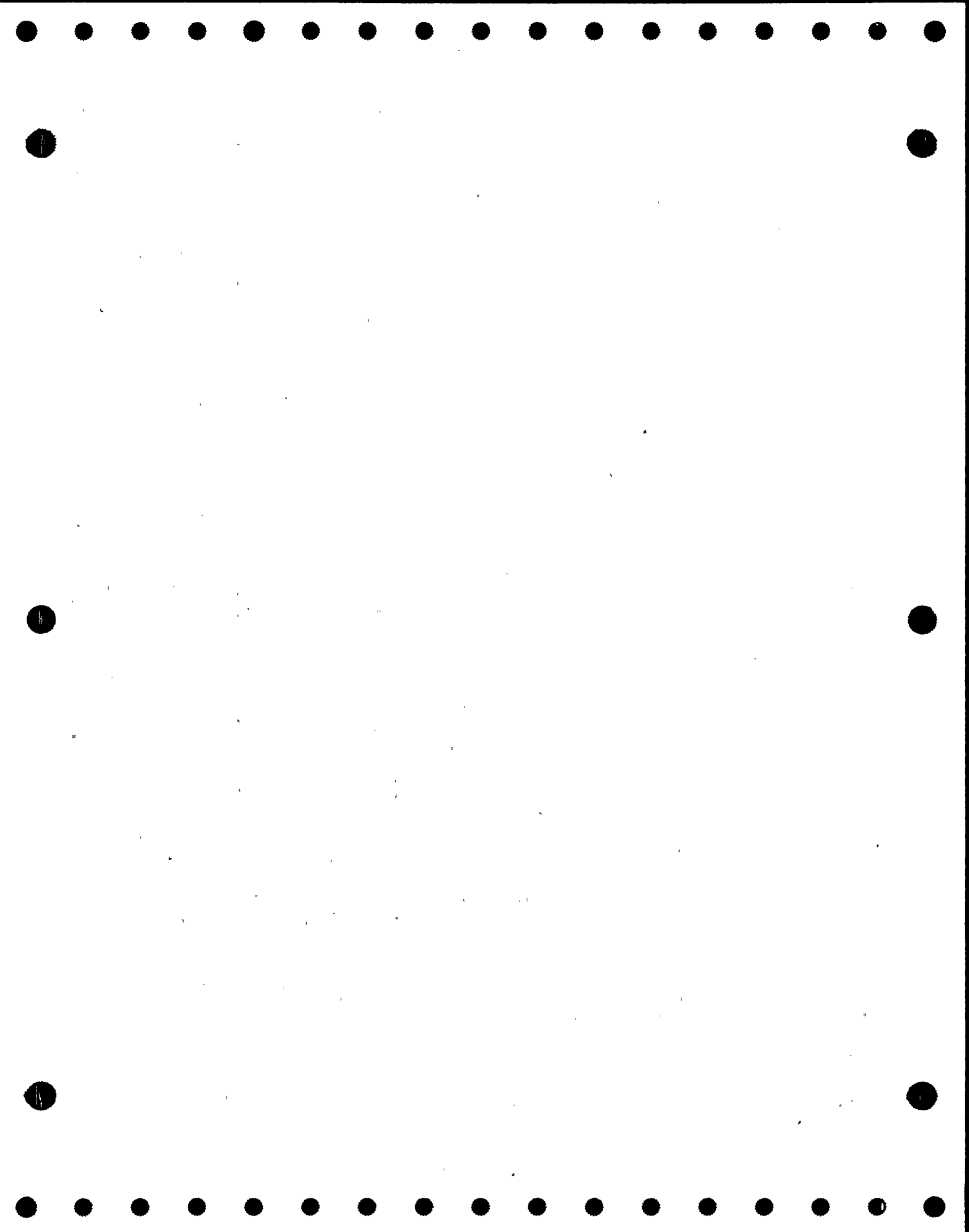
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5151C-26

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	A/P	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)
2-DL-114C	3	CK	1.5	SA	B/9	0	C	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DL-116C	3	CK	1.5	SA	B/9	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DL-126C	3	CK	2.5	SA	E/9	0	C	3	A	C	CF-1	CF-1	P	NO,NOTE 1
2-DL-132C	3	CK	1	SA	F/9	0	C	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DL-158C	3	CK	6	SA	G/5	C	0	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-QT-114-2CD	3	3H	6	SA	H/5	0	0	3	A	B	EF-1	NOTE 2	P	NO, NOTE 2



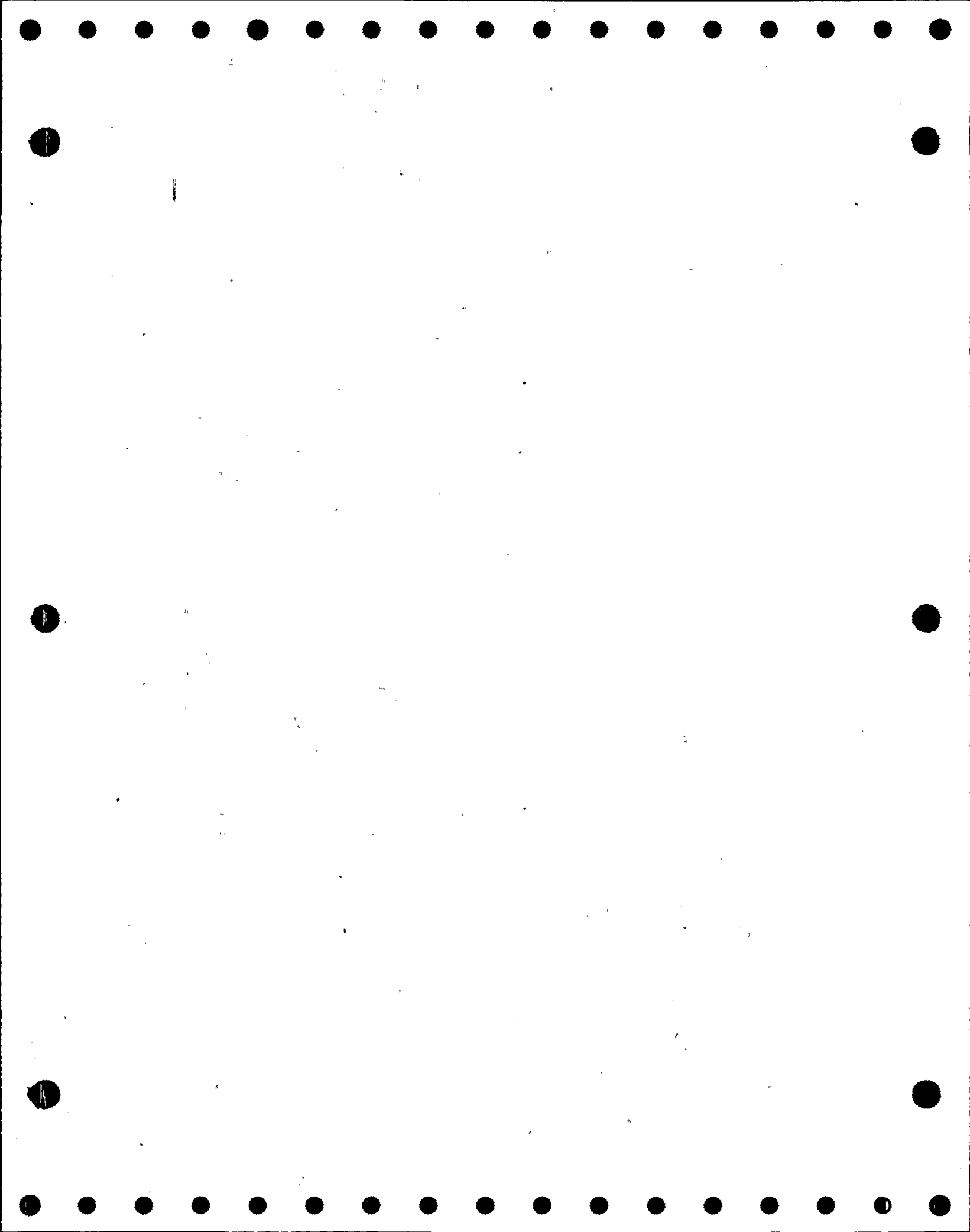


DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5151D-27

RUN DATE AND TIME: 15FEB90:16:14

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 CL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)	
2-DG-102C	3	CK	1.5	SA	H/4	O	O/C	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-104C	3	CK	1.5	SA	F/4	O	O/C	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-128C	3	CK	1	SA	C/3	C	O	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-130C	3	CK	1	SA	C/3	C	O	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-140C	3	CK	0.5	SA	F/1	C	O/C	3	A	C	CF-1	CF-1	P	NO
2-DG-142C	3	CK	0.5	SA	F/1	C	O/C	3	A	C	CF-1	CF-1	P	NO
2-DG-146C	3	CK	2	SA	A/9	O	C	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-152C	3	CK	4	SA	D/9	C	O	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-DG-154C	3	CK	4	SA	C/9	C	O	3	A	C	CF-1	CF-1	P	NO, NOTE 1
2-QT-132-2CD	3	3W	6	SA	E/8	O	O	3	A	B	EF-1	NOTE 1	P	NO, NOTE 2
2-SV-120-CD	3	REL	0.25	SA	H/2	C	O	3	A	C	TF-1	TF-1	R	NO
2-SV-139-CD	3	REL	1	SA	B/2	C	O	3	A	C	TF-1	TF-1	R	NO

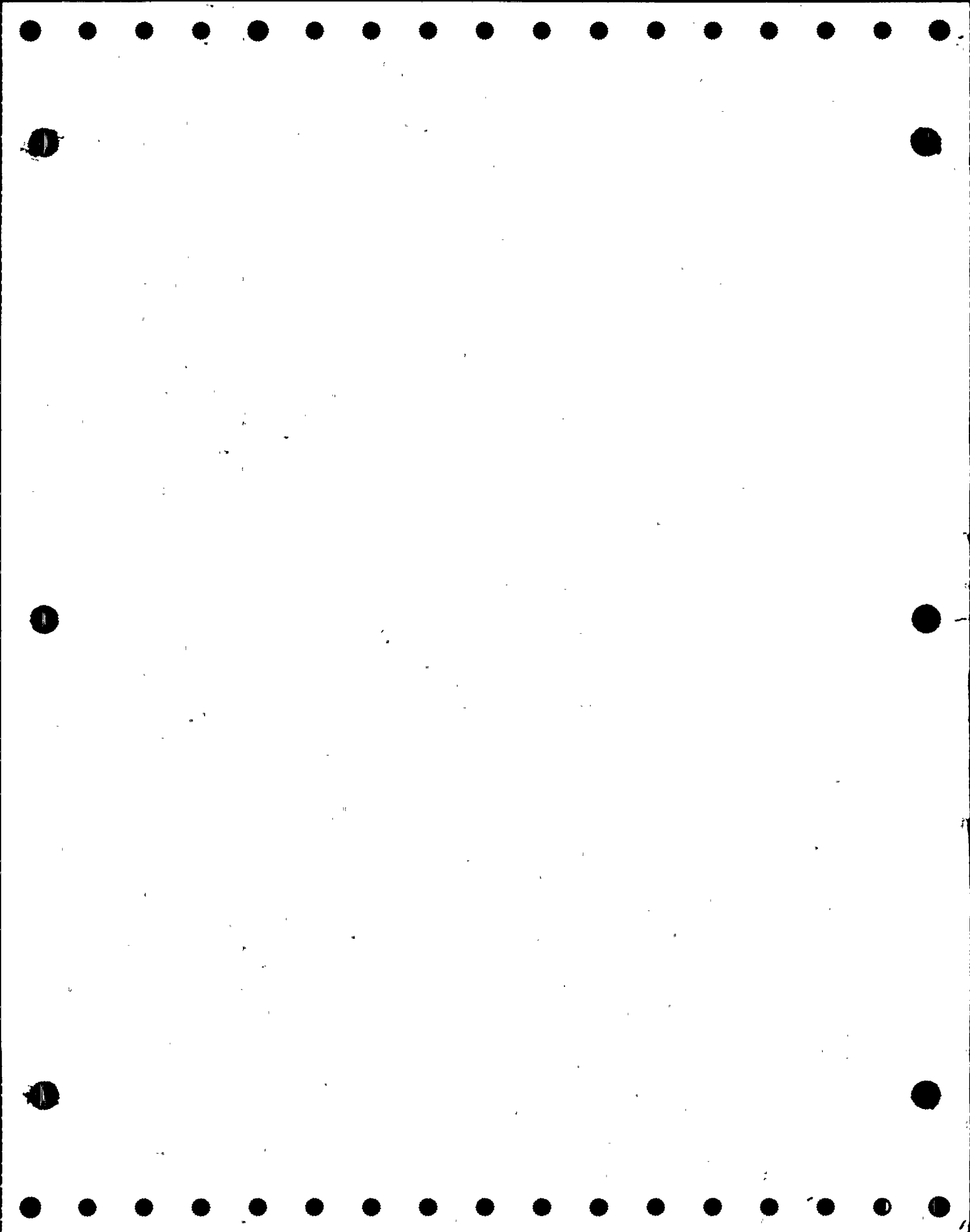


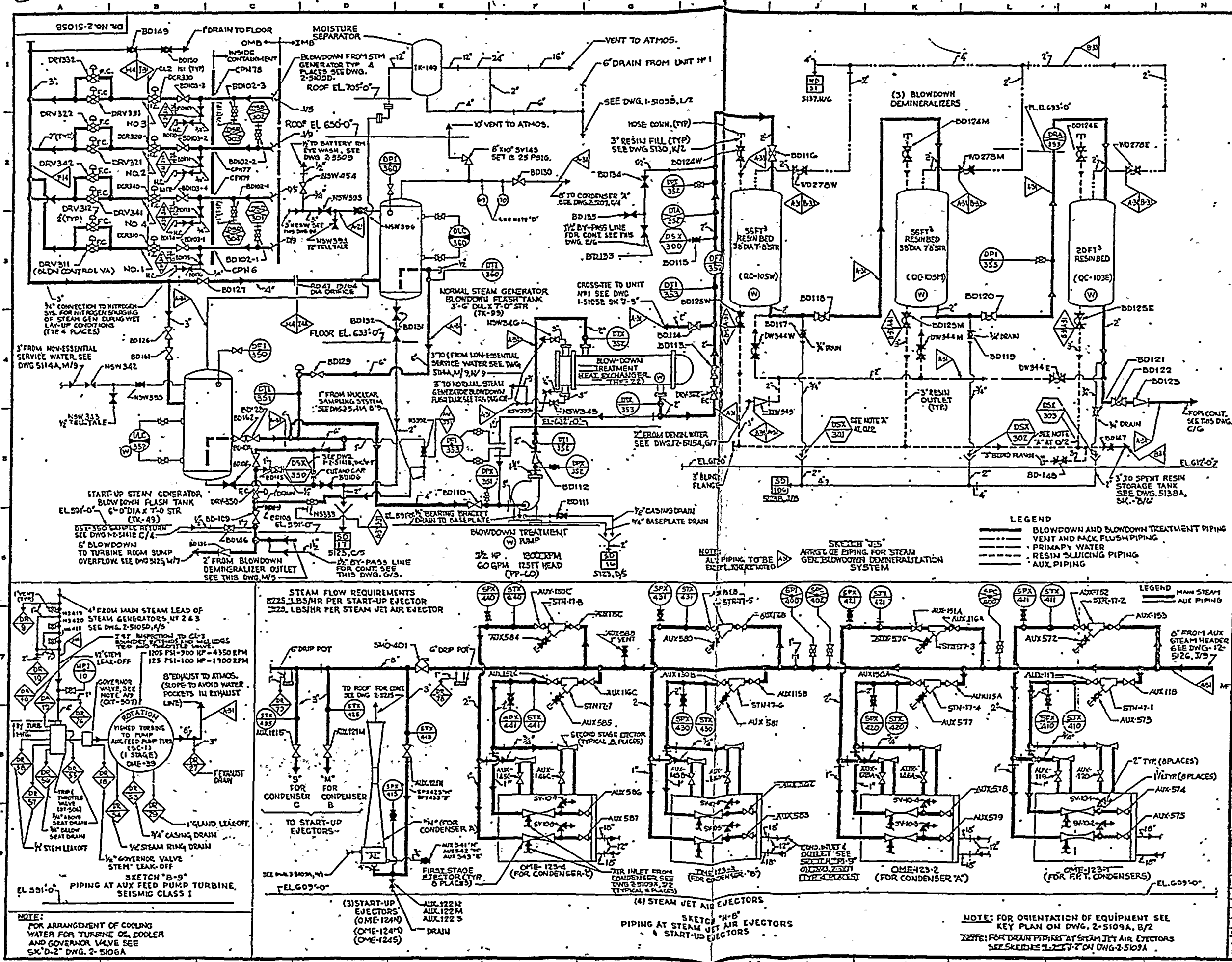
DONALD C. COOK NUCLEAR PLANT  
 SECOND TEN YEAR INTERVAL  
 VALVE SUMMARY SHEET - UNIT 2  
 FLOW DIAGRAM: 2-5151D-27

RUN DATE AND TIME: 15FEB90:16:14

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 ICL	CAT	PRIM TEST REQUIRED	TEST PERFORMED	TEST MODE	RELIEF REQUEST(S)	
2-SV-61-CD	3	REL	1	SA	A/8	C	0	3	A	C	TF-1	TF-1	R	NO
2-SV-78-CD1	3	REL	1	SA	E/3	C	0	3	A	C	TF-1	TF-1	R	NO
2-SV-78-CD2	3	REL	1	SA	D/3	C	0	3	A	C	TF-1	TF-1	R	NO
2-SV-79-CD1	3	REL	0.5	SA	E/1	C	0	3	A	C	TF-1	TF-1	R	NO
2-SV-79-CD2	3	REL	0.5	SA	E/1	C	0	3	A	C	TF-1	TF-1	R	NO
2-XRV-225	3	GA	1	A	B/3	C	0	3	A	B	EF-1 EF-7 ET-XXX	EF-1 EF-7 NOTE 4	- - -	YES, NOTE 4 YES, NOTE 4 YES, NOTE 4
2-XRV-226	3	GL	3	A	B/4	C	0	3	A	B	EF-1 EF-7 ET-XXX	EF-1 NOTE 3 NOTE 3	- - -	YES, NOTE 3 YES, NOTE 3 YES, NOTE 3
2-XRV-227	3	GL	3	A	B/4	C	0	3	A	B	EF-1 EF-7 ET-XXX	EF-1 NOTE 3 NOTE 3	P - P	YES, NOTE 3 YES, NOTE 3 YES, NOTE 3





**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 LINE THE EXE EQUIPMENT EXTENDS TO AND INCLUDES THE FIRST COUPLER FOR CLASS 2 VENT LINE THE EXE BOUNDARY EXTENDS TO AND INCLUDES THE FIRST NORMALLY CLOSED VALVE...

NOTE "D" THIS SYMBOL INDICATES A TRUCK INLET ON THE TOP OF THE NUMBER WITHIN THE CIRCLE INDICATES THE VALVE LOCATION FOR THE CONNECTION, (T, E, S, W) AND IS SHOWN ON THE VALVE LIST.

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

**MANUALLY OPERATE 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. 2-5105B-42  
 APPEARS AS 12-5105B

3. INSTRUMENT ROOT VALVE MARK "R" IS NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER FOR SINGLE PULSATION FOR DOUBLE PULSATION (STREAM) VENT SYSTEM.

**REVISIONS**

NO.	DATE	APPROVED
1	7-11-51	[Signature]
2	12-12-51	[Signature]

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING.

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

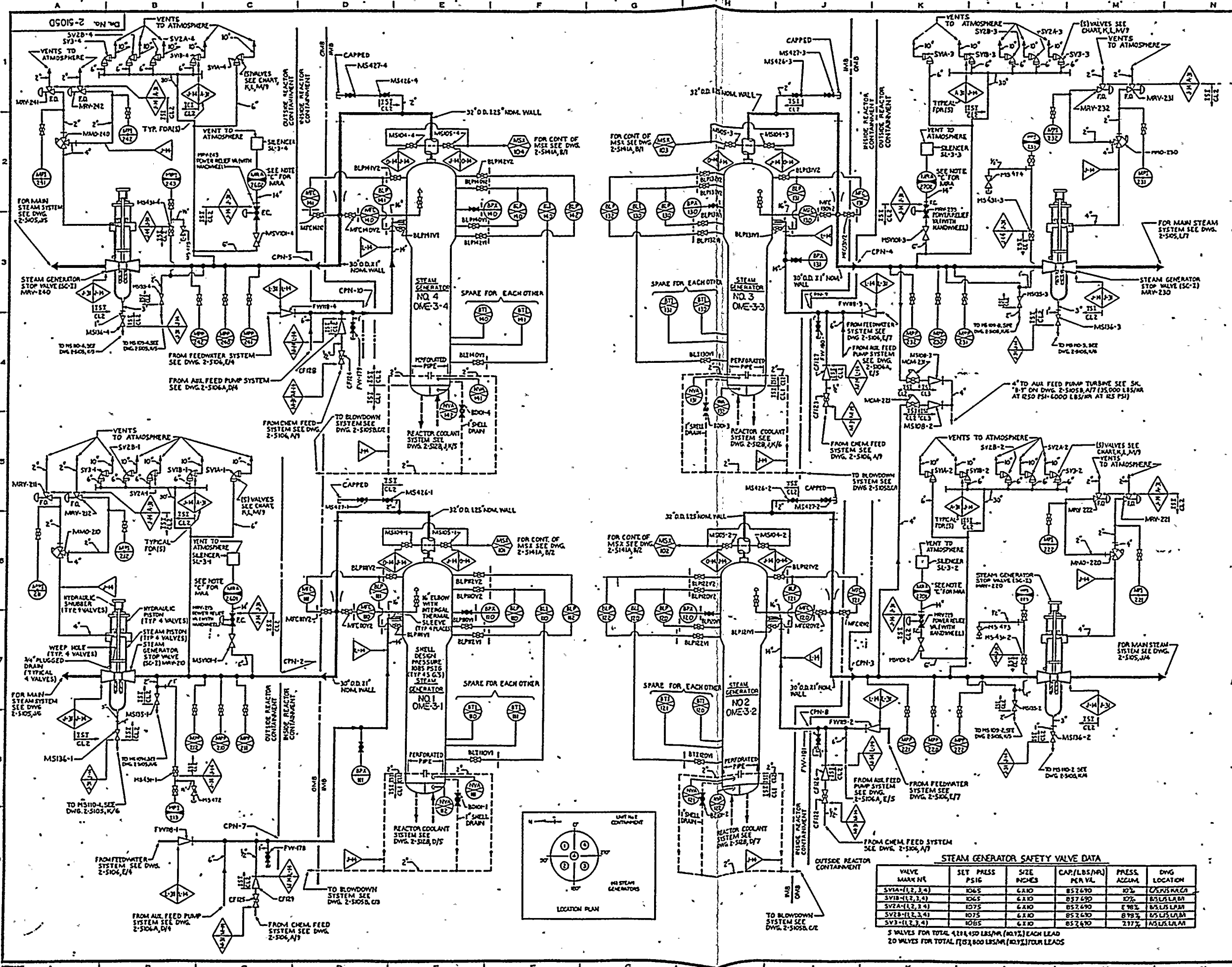
**"FLOW DIAGRAM MAIN STEAM UNIT NO. 2 SHEET 3 OF 3"**

DR. NO. 2-5105B-42

INDIANA ELECTRIC POWER SERVICE CO., INDIANAPOLIS, IND.

SI APERTURE CARD  
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**GENERAL NOTES**

**LEGEND**

- MAIN STEAM
- FEEDWATER
- REACTOR COOLANT
- AUX. PIPING
- BLOWDOWN

FOR VALVE, INSTRUMENT SAMPLING PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG. AND FOR MARK NUMBER COOLS, SEE DWG. 2-5103A, 4

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

**NOTE "B"**  
FOR CODE CLASS 2 INSTRUMENT (SAMPLE CONNECTIONS THE IS) BOUNDARY EXTENDS TO AND INCLUDE THE FIRST ROOT VALVE.

**NOTE "C"**  
DETECTOR IS IN PROXIMITY TO PIPE BUT NOT PHYSICALLY ATTACHED FOR DETAIL. SEE DWG. 2-5104, 5, 6, 7, 8.

MMD OPERATED VALVE IDENTIFICATION MARKERS

- ONE "UNIQUE VALVE MARKER" APPEAR ON THIS DRAWING SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN LOGIC MARKERS.
- "TAG" NUMBERS MOOVED FOR DRAWING USE AS FOLLOWS:  
TAG NO. 2-5105A-W APPEARS AS 2-5105W
- INSTRUMENT ROOT VALVE MARK NO'S NOT SHOWN ON DRAWING SEE VALVE IDENTIFICATION LIST DERIVED BY ADDING TO INSTRUMENT NUMBER:  
FOR SINGLE PULSE: 1111  
FOR DOUBLE PULSE: 1111111111

**NOTES:**  
THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NO. IS "2-51" UNLESS OTHERWISE NOTED.

6-23-87 2:5105D-2  
DATE: 10/12/87 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.

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CARD

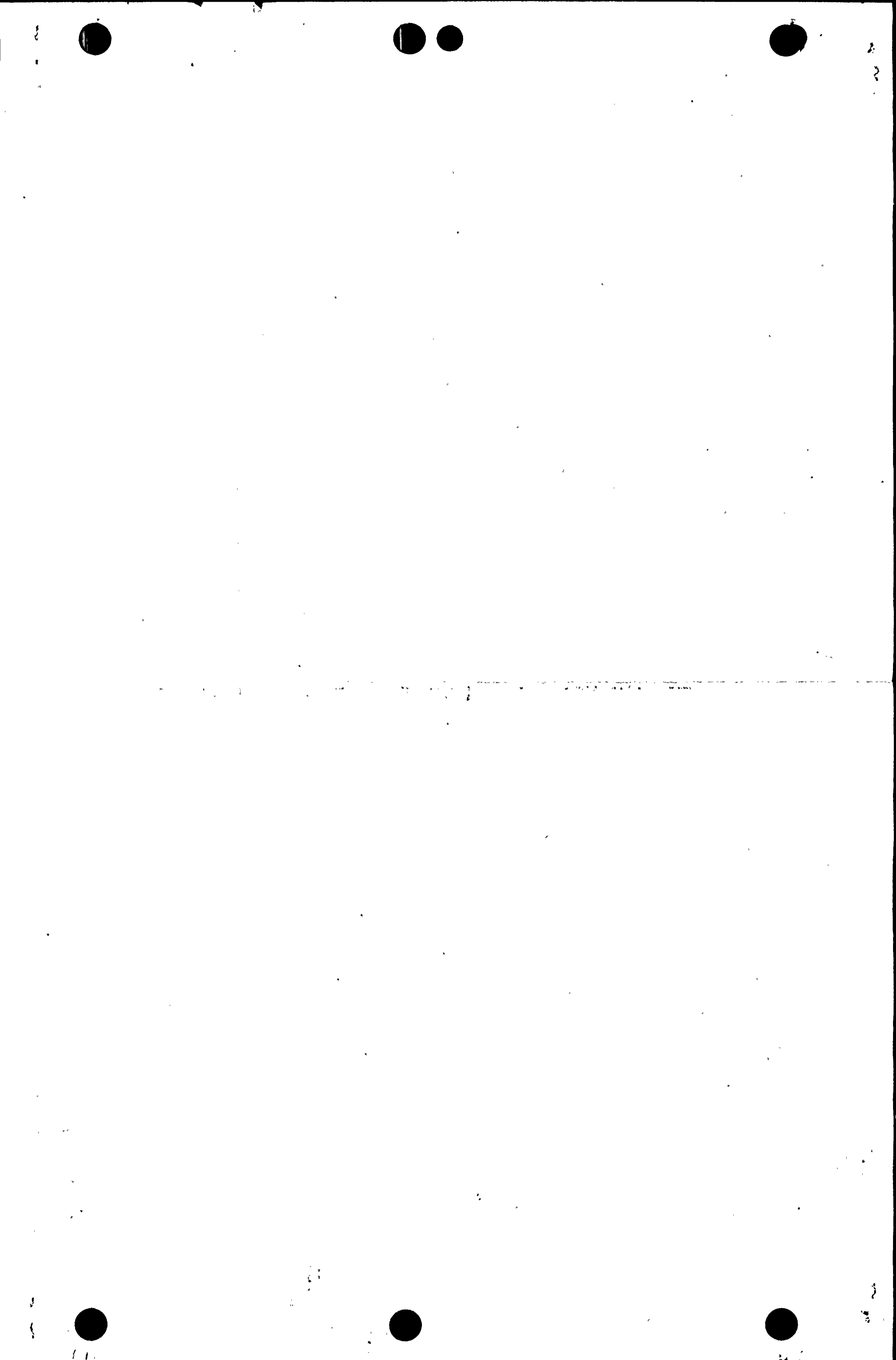
Also Available On  
Aperture Card

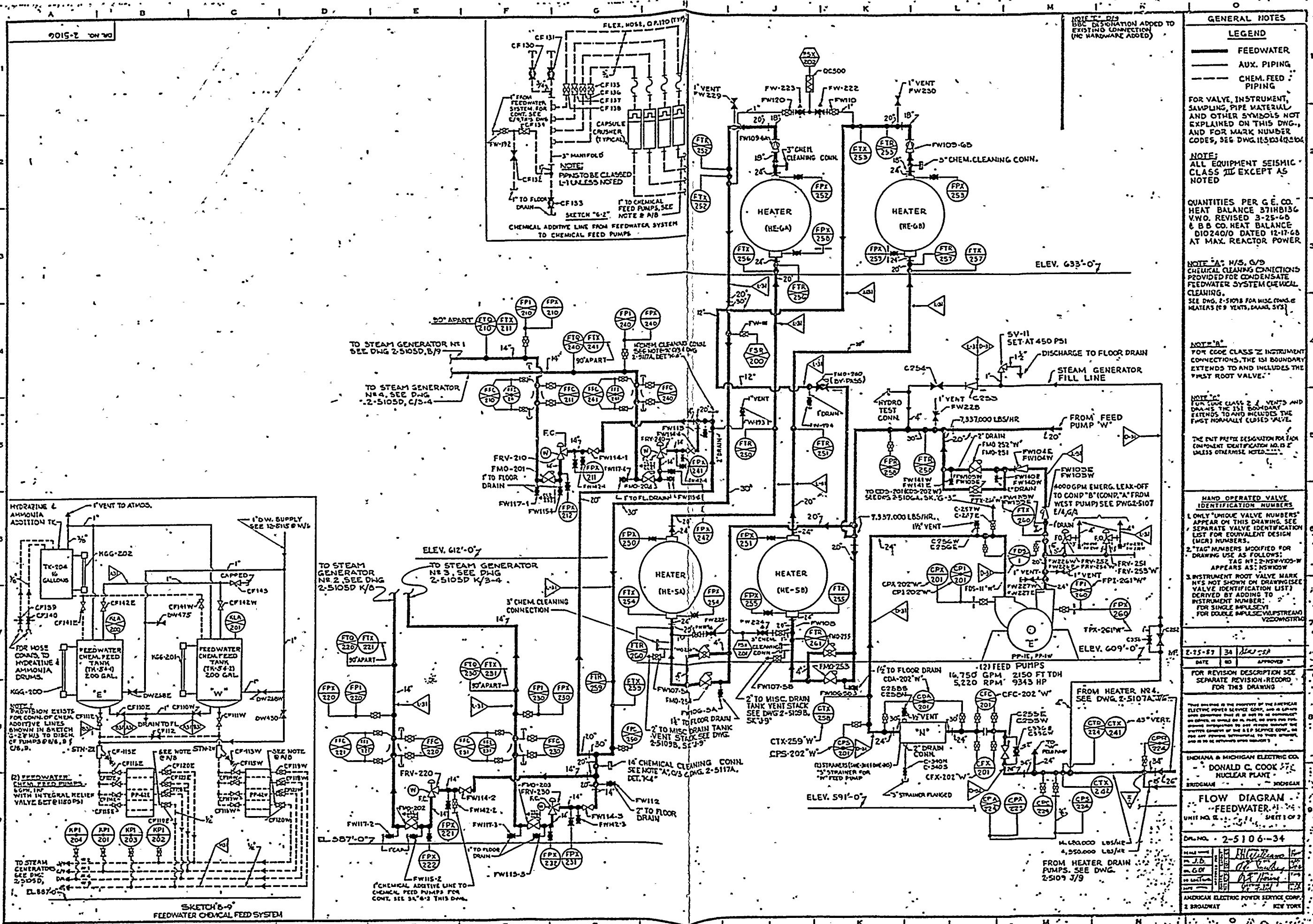
**STEAM GENERATOR SAFETY VALVE DATA**

VALVE MARK NO.	SET PRESS. PSIG	SIZE INCHES	CAP. (LBS./HR.) PER VAL.	PRESS. ACCUM.	DWG. LOCATION
SV1A-(1,2,3,4)	1045	6.00	852,600	107%	AS/L5/LA/R4
SV1B-(1,2,3,4)	1045	6.00	852,600	107%	AS/L5/LA/R4
SV2A-(1,2,3,4)	1075	6.00	852,600	108%	AS/L5/LA/R4
SV2B-(1,2,3,4)	1075	6.00	852,600	108%	AS/L5/LA/R4
SV3-(1,2,3,4)	1085	6.00	852,600	111%	AS/L5/LA/R4

5 VALVES FOR TOTAL 4,263,000 LBS./HR. (107%) EACH LEAD  
20 VALVES FOR TOTAL 17,052,000 LBS./HR. (107%) 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. 2-5105/1/2/3/4

**NOTE:** ALL EQUIPMENT SEISMIC CLASS III EXCEPT AS NOTED

QUANTITIES PER G.E. CO. HEAT BALANCE 371H1316 V.H.D. REVISED 3-25-68 & B.B. CO. HEAT BALANCE D10240/D DATED 12-17-68 AT MAX. REACTOR POWER

**NOTE "A":** H/S, O/S CHEMICAL CLEANING CONNECTIONS PROVIDED FOR CONDENSATE FEEDWATER SYSTEM (CHEMICAL CLEANING). SEE DWG. 2-5105/8 FOR MISC. CONDENSATE HEATERS (9 VENTS, 2A, 2B, 2C, 2D)

**NOTE "B":** FOR CODE CLASS 2 INSTRUMENT CONNECTIONS, THE ISM BOUNDARY EXTENDS TO AND INCLUDES THE FIRST ROOT VALVE.

**NOTE "C":** FOR CODE CLASS 2 VENTS AND DRAINS, THE ISM BOUNDARY EXTENDS TO AND INCLUDES THE FIRST NORMALLY CLOSED VALVE.

THE PNT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NO. IS UNLESS OTHERWISE NOTED.

**HAND OPERATED VALVE IDENTIFICATION NUMBERS:** 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-NSWV03-W APPEARS AS: NSWV03  
 3. INSTRUMENT ROOT VALVE MARKING IS NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:  
 FOR SINGLE IMPULSE: V  
 FOR DOUBLE IMPULSE: V/STRAND  
 FOR DOUBLE IMPULSE: V/STRAND

2-5106-34	34	REV 258
DATE	NO.	APPROVED
FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING		

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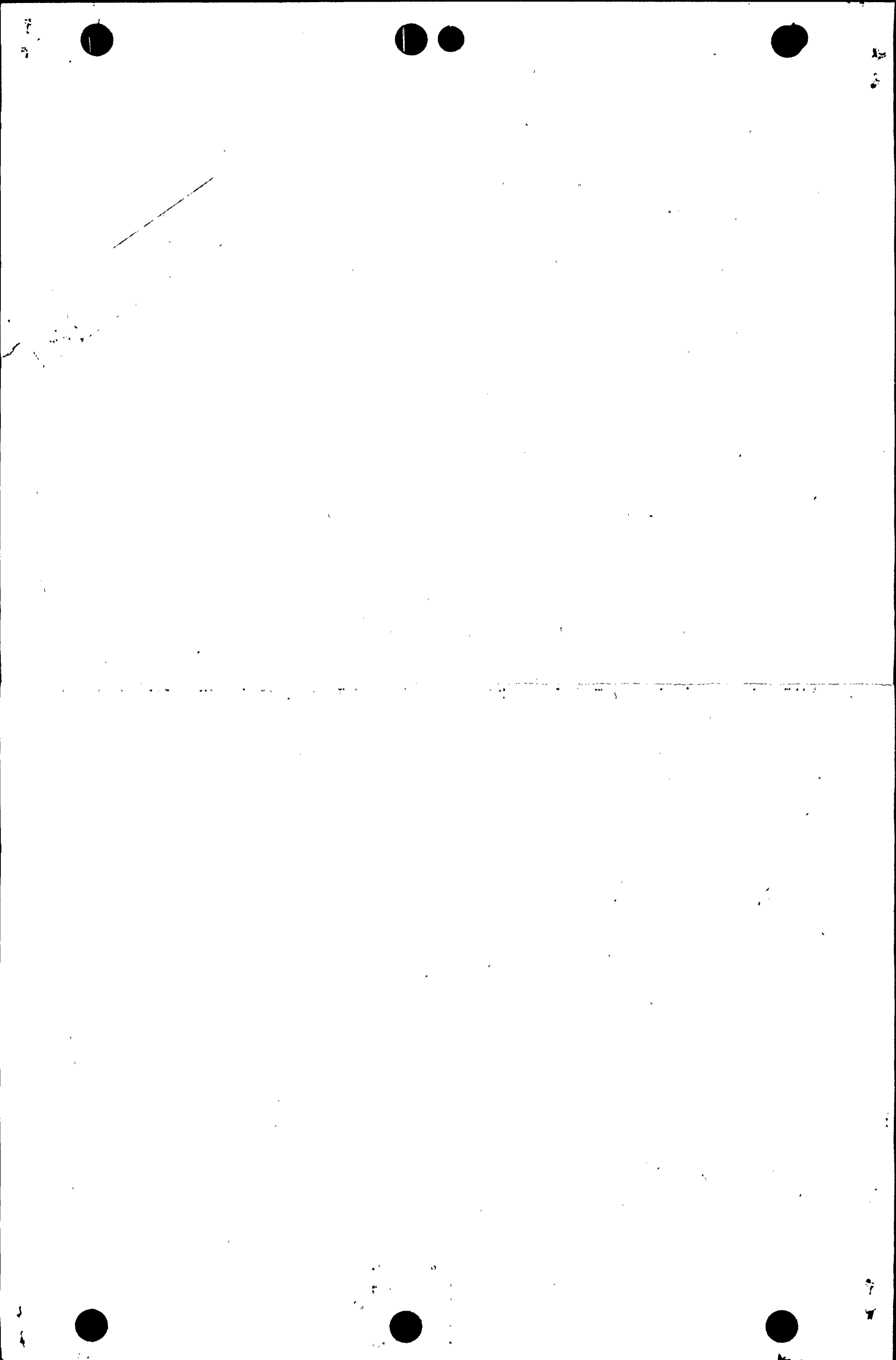
INDIANA & MICHIGAN ELECTRIC CO.  
 DONALD C. COOK JR.  
 NUCLEAR PLANT

**FLOW DIAGRAM**  
 FEEDWATER - 1  
 UNIT NO. 2-5106-34 SHEET 1 OF 3

DWG. NO.	2-5106-34
NAME	J.D.
DATE	11/1/67
BY	J.D.
CHECKED	J.D.
DATE	11/1/67
APPROVED	J.D.
DATE	11/1/67

AMERICAN ELECTRIC POWER SERVICE CORP.  
 2 BROADWAY NEW YORK

ST  
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 Aperture Card



"NOT FOR D. C. COOK  
OPERATIONAL USE"

Y901S-2

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

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. 12-5106A/12-5104

LINE IDENTIFICATION SYMBOLS

NOTE A  
VALVES ALSO SHOWN (AND NUMBERED) ON DWG. 5118 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 243 INSTRUMENT CONNECTIONS TO IS1 BOUNDARY EXTENDS TO AND INCLUDES THE FIRST ROOT VALVE.

2. FOR CODE CLASS 243 VENTS & DRAINS, THE IS1 BOUNDARY EXTENDS TO AND INCLUDES THE FIRST NORMALLY CLOSED VALVE.

NOTE E  
CL14 LOCATED IN "DAPP" ROOM.

NOTE F  
FOR "DAPP" STEAM SUPPLY SEE DWG. 2-5108A/3.

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

HAND OPERATED VALVE IDENTIFICATION NUMBERS

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

2. TAG NUMBERS MODIFIED FOR DWG. ARE AS FOLLOWS:  
TAG NO. 245WV05W APPEARS AS 45W05W

3. INSTRUMENT ROOT VALVE MARKINGS NOT SHOWN ON DWG. SEE VALVE IDENTIFICATION LIST DERIVED BY ADDING TO INSTRUMENT NUMBER FOR SINGLE IMPULSE: VI FOR DOUBLE IMPULSE: V1 (UPSTREAM) V2 (DOWNSTREAM)

4-5-3741	11/81	
DATE	BY	APPROVED

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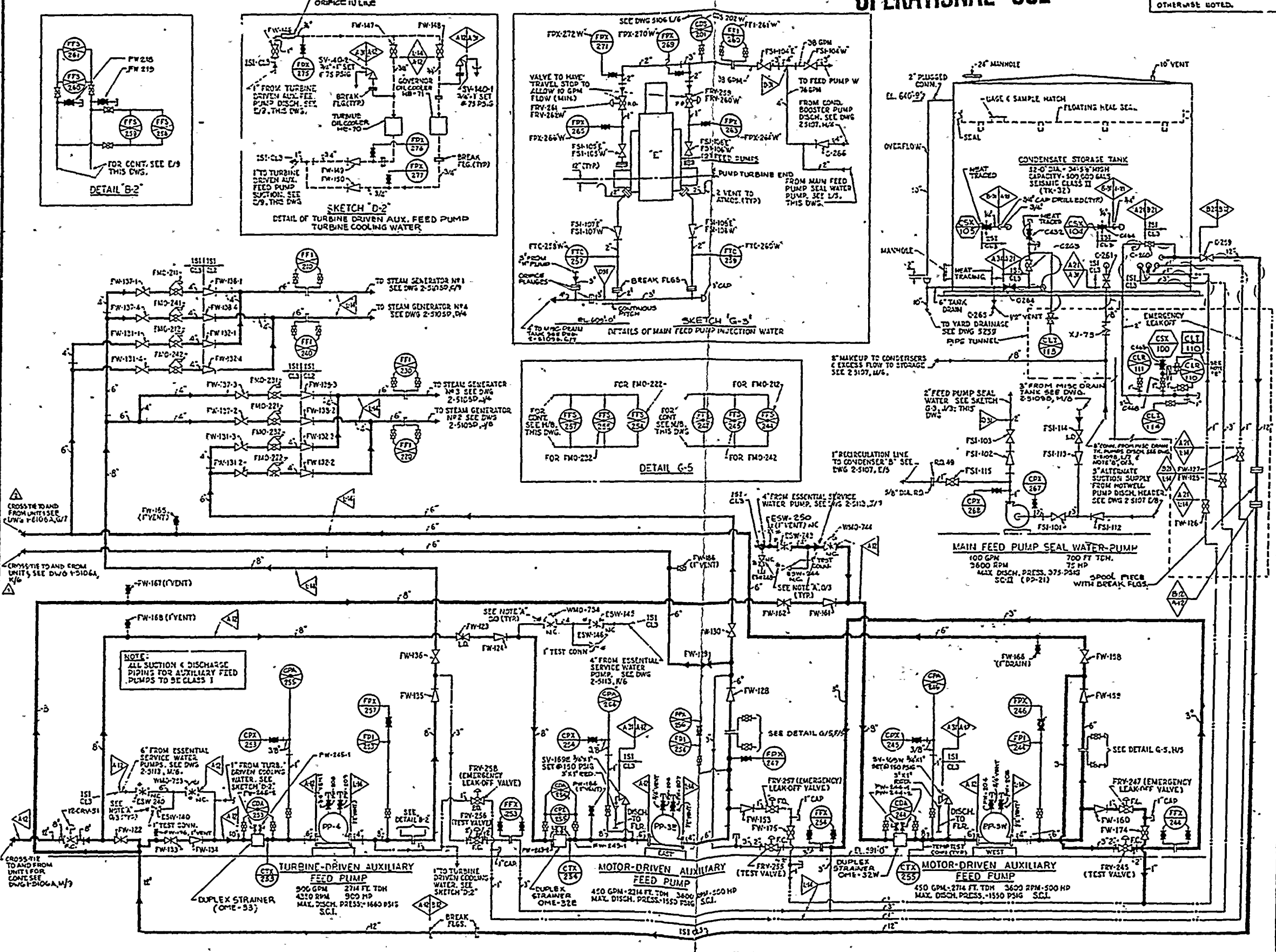
INDIANA & MICHIGAN ELECTRIC CO.  
DONALD C. COOK  
NUCLEAR PLANT

FLOW DIAGRAM AUX. FEED WATER UNIT 2	
DR. NO.	2-5106A-41
SCALE	AS SHOWN
DR. BY	W. J. BROWN
CHECK BY	J. B. BROWN
DATE	11/81

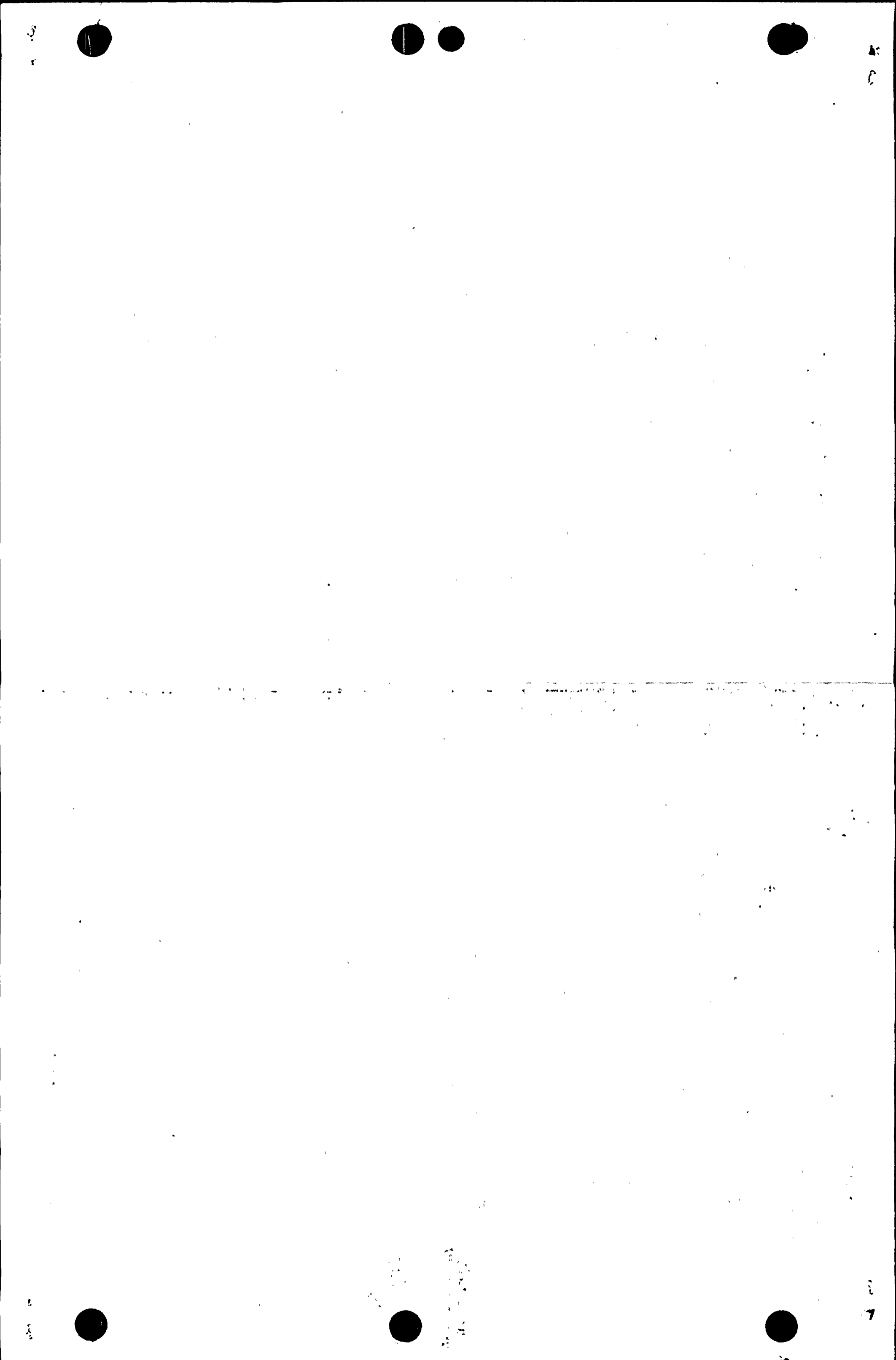
AMERICAN ELECTRIC POWER SERVICE CORP.

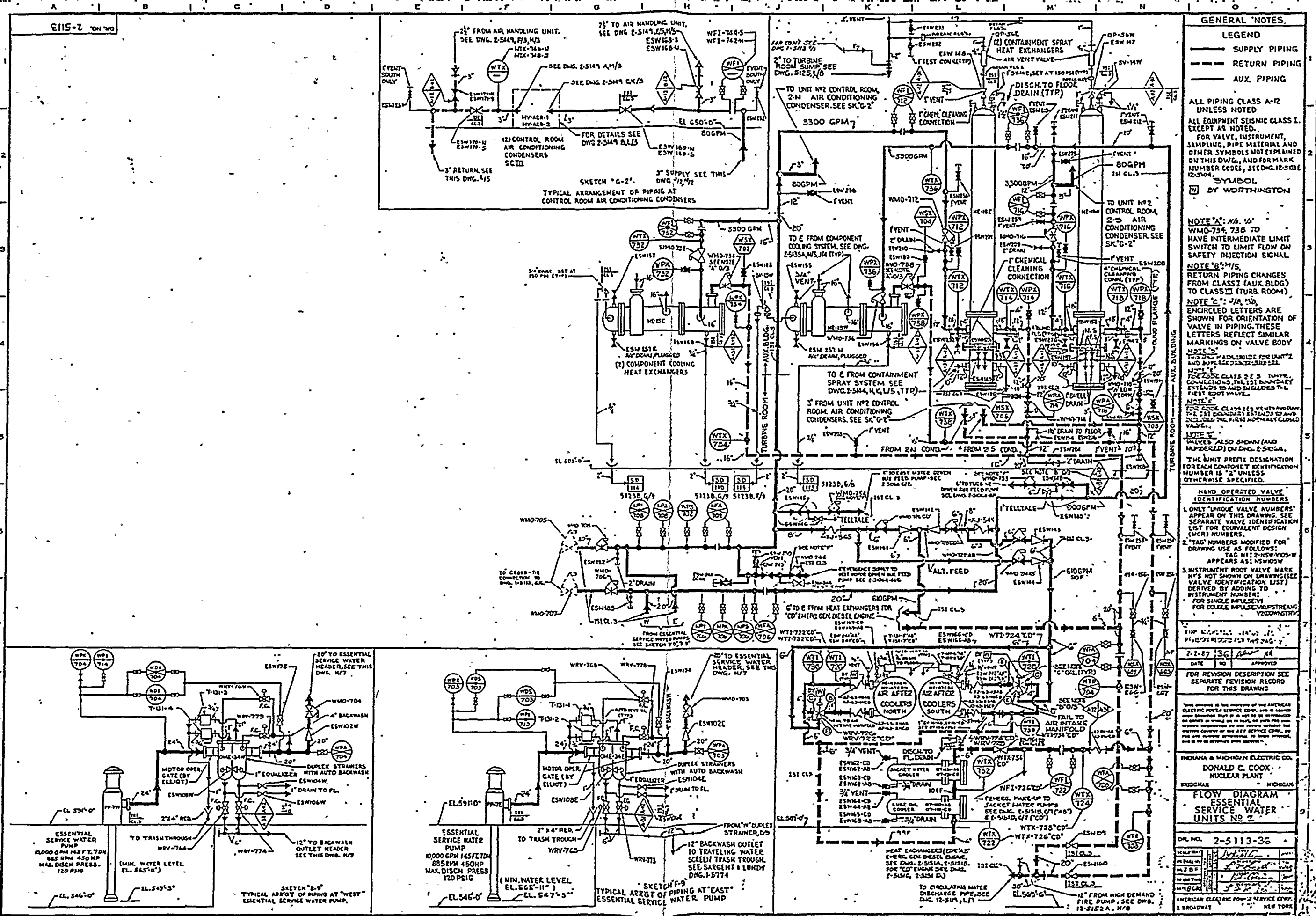
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90030-90183-04





**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 DWG. 12-5104.  
 SYMBOL BY WORTHINGTON

**NOTE A: N/A, 15'**  
 WMO-734, 738 TO HAVE INTERMEDIATE LIMIT SWITCH TO LIMIT FLOW ON SAFETY INJECTION SIGNAL

**NOTE B: M/S,**  
 RETURN PIPING CHANGES FROM CLASS I (AUX. BLDG) TO CLASS III (TURB. ROOM)

**NOTE C: J/A, M/S,**  
 ENCIRCLED LETTERS ARE SHOWN FOR ORIENTATION OF VALVE IN PIPING. THESE LETTERS REFLECT SIMILAR MARKINGS ON VALVE BODY

**NOTE D:**  
 THIS DRAWING IS FOR UNIT #2 AND SHALL BE USED IN SUB 221

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

**NOTE F:**  
 VALVES ALSO SHOWN (AND NUMBERED) ON DWG. 12-5104.

**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-NW-V05-W APPEARS AS: N5W05W
3. INSTRUMENT ROOT VALVE MARK NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:  
 FOR SINGLE IMPULSE: V  
 FOR DOUBLE IMPULSE: V/2  
 FOR STREAM: V/ST

DATE: 2-27-36  
 APPROVED: [Signature]

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

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

**FLOW DIAGRAM ESSENTIAL SERVICE WATER UNITS NO. 2**

DWG. NO. 2-5113-36

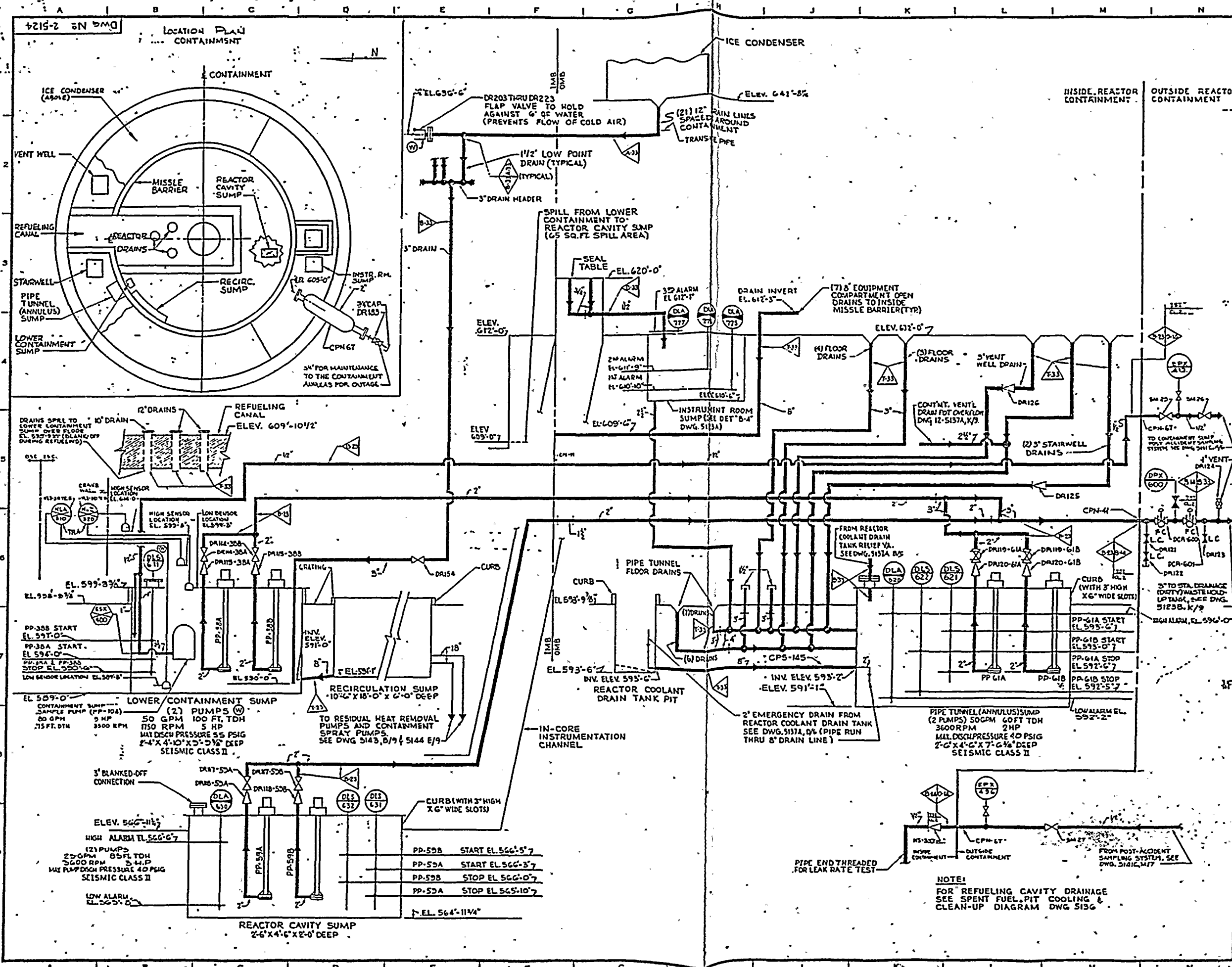
SCALE	DATE
BY	CHKD
APP'D	REV
DATE	NO.
DESCRIPTION	

AMERICAN ELECTRIC POWER SERVICE CORP., 1 BROADWAY, NEW YORK



100-100

100-100



**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 CODES, THE 1ST BOUNDARY LETTER TO AND INCLUDING THE FIRST ROOT VALVE

④ FOR CODE CLASS 2 VALVE / DRAIN TAGS, THE 1ST BOUNDARY LETTERS TO AND INCLUDING 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. 12-5124-20 RAC. 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 NO.: 2-NSW-V03-R APPEARS AS: 2-NSW-V03-R

3. INSTRUMENT ROOT VALVE MARKING IS NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:  
 FOR SINGLE IMPULSE: V  
 FOR DOUBLE IMPULSE: V2

1-1-87 20 12/87

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

BRIDGMAN MICHOEGR

**FLOW DIAGRAM STATION DRAINAGE CONTAINMENT UNIT NO. 2**

DWG. NO. 12-5124-20

DATE: 12/87

DESIGNED BY: [Signature]

CHECKED BY: [Signature]

IN CHARGE: [Signature]

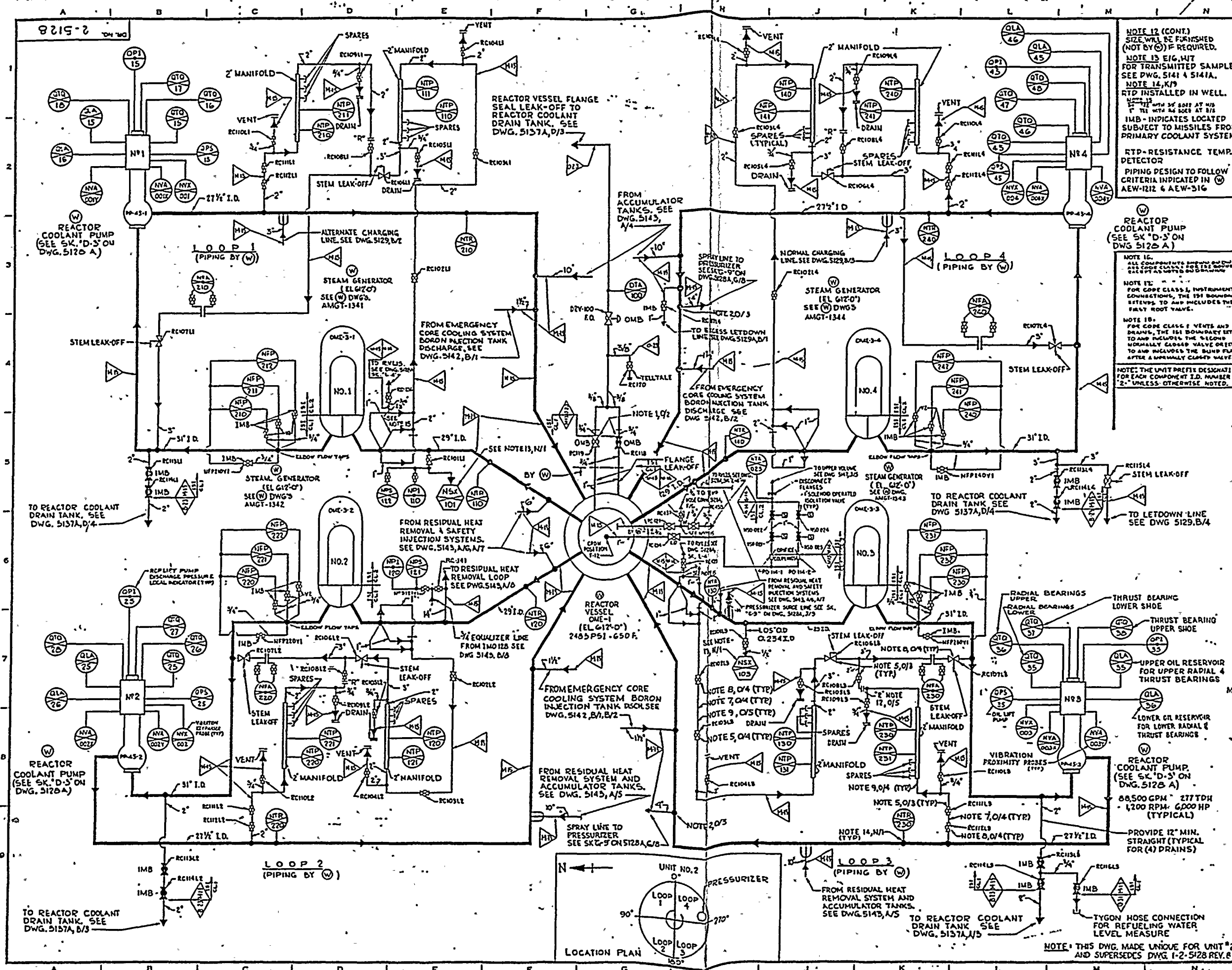
AMERICAN ELECTRIC POWER SERVICE CORP.  
 2 BROADWAY NEW YORK

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**NOTE 12 (CONT.)**  
 SIZE WILL BE FURNISHED (NOT BY  $\text{\textcircled{C}}$ ) IF REQUIRED.  
**NOTE 13** EIG, W/T FOR TRANSMITTED SAMPLE SEE DWG. 5141 & 5141A.  
**NOTE 14, K/9** RTD INSTALLED IN WELL.  
 WITH 3" DIA AT 1/2" T WITH 1/4" DIA AT 1/8" I.M.B. INDICATES LOCATED SUBJECT TO MISSILES FROM PRIMARY COOLANT SYSTEM.  
**RTD - RESISTANCE TEMP. DETECTOR**  
 PIPING DESIGN TO FOLLOW CRITERIA INDICATED IN  $\text{\textcircled{C}}$  AEW-1212 & AEW-316

**REACTOR COOLANT PUMP** (SEE SK 'D-3' ON DWG 5120 A)  
**NOTE 15.** ALL COMPONENTS SHOWN ON THIS DRAWING ARE TO BE CLASSIFIED AS SEISMIC CLASS I EXCEPT AS NOTED ON DRAWING.  
**NOTE 16.** FOR CODE CLASS I INSTRUMENT CONNECTIONS, THE 151 BOUNDARY EXTENDS TO AND INCLUDES THE BOUNDARY TO AND INCLUDES THE BOUNDARY AFTER A NORMALLY CLOSED VALVE.  
**NOTE 17.** THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT I.D. NUMBER IS "2" UNLESS OTHERWISE NOTED.

**GENERAL NOTES**

**LEGEND**

- REACTOR COOLANT PIPING,  $\text{\textcircled{C}}$
- AUX. PIPING
- INSTR. PIPING
- $\text{\textcircled{W}}$  BY WESTINGHOUSE
- SEISMIC CLASS I

ALL VALVES AND INSTRUMENTATION BY  $\text{\textcircled{W}}$

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, G/5** LOCATE OUTSIDE SECONDARY SHIELD WALL, ONE VALVE FROM INNER O-RING, ONE VALVE FROM OUTER O-RING.

**NOTE 2, W/3, W/9** SPRAY LINE SCOOP

**NOTE 3, J/7, W/8, L/8** LOCATE RTD MANIFOLD ISOLATION VALVE APPROX. 9" FROM MANIFOLD.

**NOTE 4, W/1, K/9** ALL BYPASS LOOP PIPING / THE RTD MANIFOLDS SHALL HAVE REMOVABLE INSULATION UP TO LOOP ROOT VALVES.

**NOTE 5, W/8, K/8** LENGTH OF HOT LEG PIPE AND COLD LEG PIPE BASED ON  $\text{\textcircled{W}}$  RECOMMENDATION TO MEET "TEMPERATURE TIME LAG" OF LESS THAN 1.0 SEC. FOR RTD MANIFOLD.

**NOTE 6, W/7, K/7, L/9** LOCATE ROOT VALVE ABOVE ELEV. OF REACTOR VESSEL NOZZLES.

**NOTE 7, W/8, K/8** LENGTH OF HOT LEG PIPE AND COLD LEG PIPE BASED ON  $\text{\textcircled{W}}$  RECOMMENDATION TO MEET "TEMPERATURE TIME LAG" OF LESS THAN 1.0 SEC. FOR RTD MANIFOLD.

**NOTE 8, K/7** FLO'S ARE INSTALLED FOR INSERT OF FLOW LIMITING ORIFICES, IF REQUIRED. BLANK ORIFICE PLATES TO BE DRILLED TO (CONT'N W/1)

**MANU OPERATED VALVE IDENTIFICATION NUMBERS**

1. ONLY "UPHOLE 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 #12-5120-100-Y APPEARS AS: NS100W

3. INSTRUMENT ROOT VALVE MARK #Y'S NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING "TO INSTRUMENT NUMBER" FOR SINGLE IMPULSE / "VAPORSTREAM" FOR DOUBLE IMPULSE / "VAPORSTREAM" / "VAPORSTREAM"

**MF** FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG.

DATE: 3-21-67  
 NO. 15  
 APPROVED: [Signature]

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

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

BRIDGEVILLE - INDIANAPOLIS

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

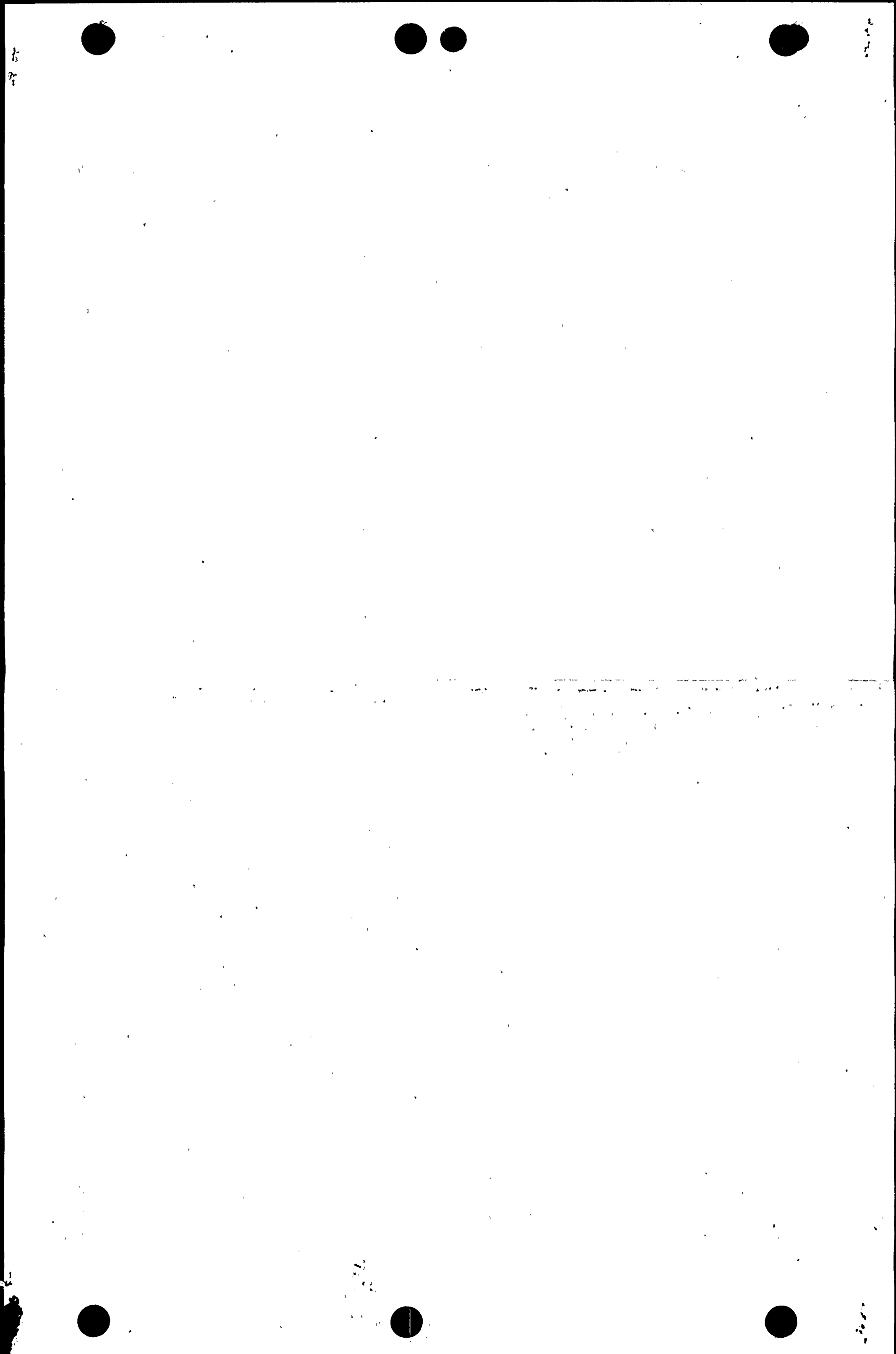
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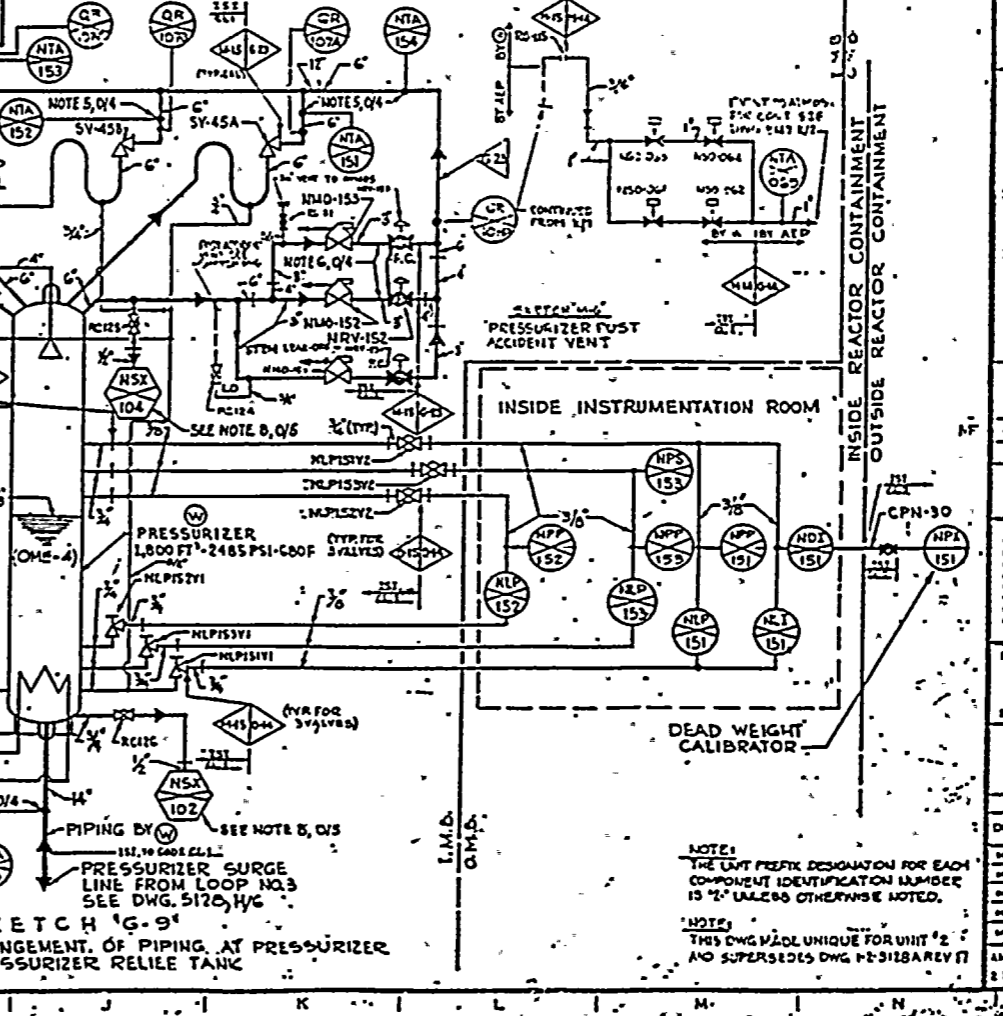
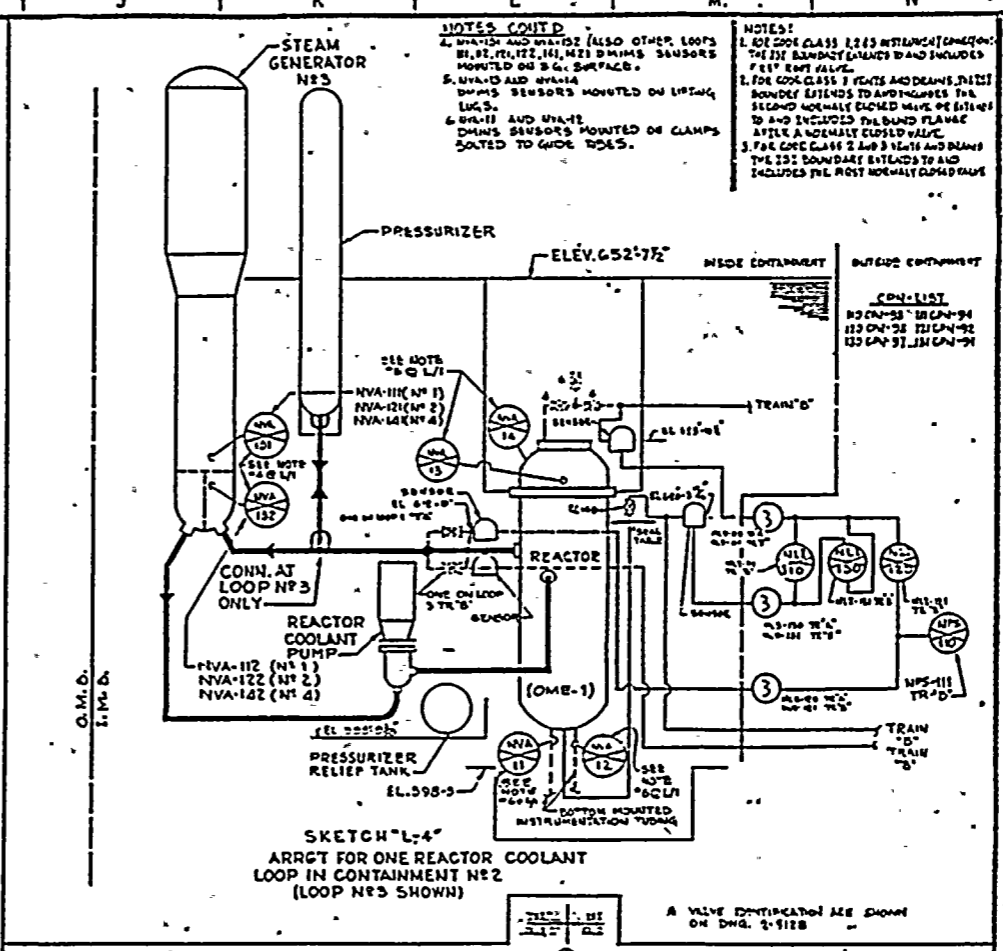
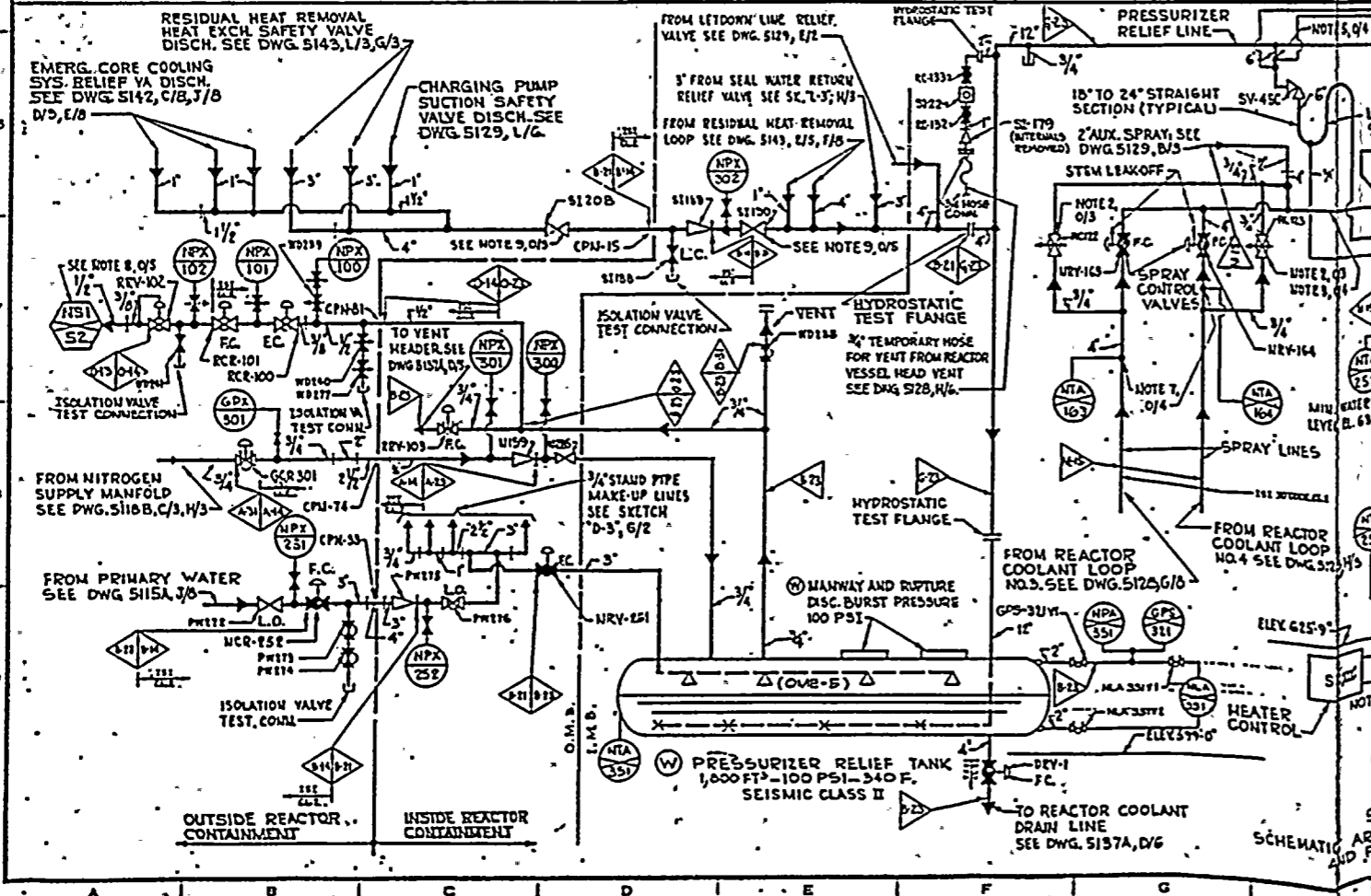
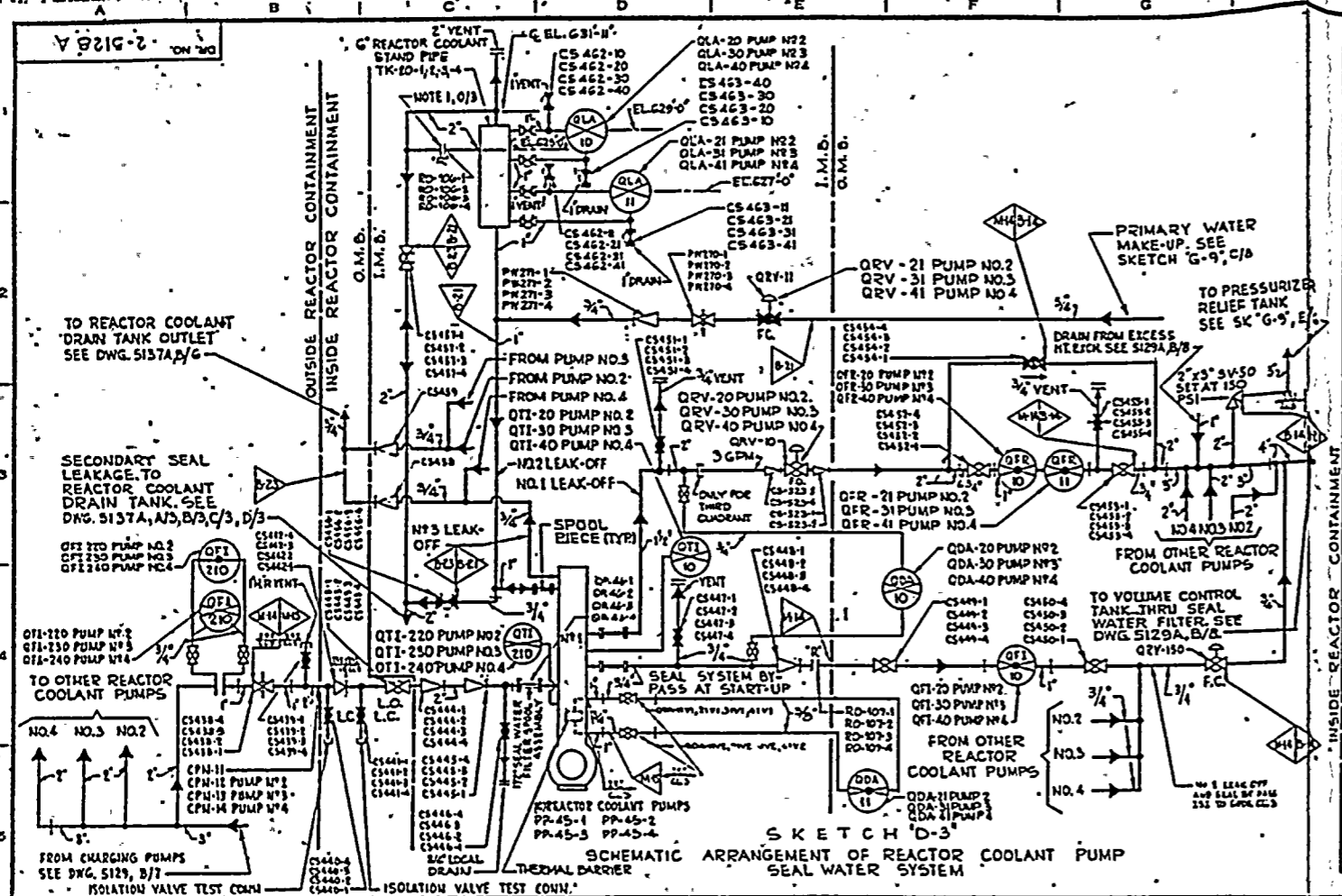
AMERICAN ELECTRIC POWER SERVICE CORP. BROADWAY NEW YORK

SI APERTURE CARD  
 Also Available on Aperture Card

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

9003090183-08





**GENERAL NOTES**

**LEGEND**

REACTOR COOLANT PIPING BY (M)  
 AUX. PIPING BY (W)  
 BY WESTINGHOUSE

ALL VALVES AND INSTRUMENTATION BY (M)

FOR VALVE, INSTRUMENT, SAMPLING, PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG. AND FOR MARK NUMBER CODES; SEE DWG. 512903, 5102.

NOTE: PIPING DESIGN TO FOLLOW CRITERIA INDICATED IN (M) AEW-1212 & AEW-516.

SEISMIC CLASS I EXCEPT AS INDICATED.

NOTE 1, Q17 ORIFICE IS A MIN. OF 7 FT. ABOVE THE COOL. TO THE REACTOR COOLANT PUMP.

NOTE 2, T17, 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, W16, W17, W18 FLARE DETECTORS AT BOTTOM OF PIPE.

NOTE 6, W12 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, W19 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 (MCR) NUMBERS.

2. TAG NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:  
 TAG NO. 2-NW-1003-N APPEARS AS: 10W103-N

3. INSTRUMENT ROOT VALVE MARK IS NOT SHOWN ON DRAWING. SEE VALVE IDENTIFICATION LIST DERIVED BY ADDING TO INSTRUMENT NUMBER:  
 FOR SINGLE IMPULSE, VI  
 FOR DOUBLE IMPULSE, VI2 (DOWNSTREAM)

FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG.

DATE	NO.	APPROVED
4-27-57	34	AW/AM

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING.

INDIANA & HIGHGAM ELECTRIC CO.  
 DONALD C. COOK  
 NUCLEAR PLANT  
 BRIDGEHAM - INDIANAPOLIS

FLOW DIAGRAM - REACTOR COOLANT UNIT 2 SHEET 2 OF 2

DWG. NO. 2-5128 A-34

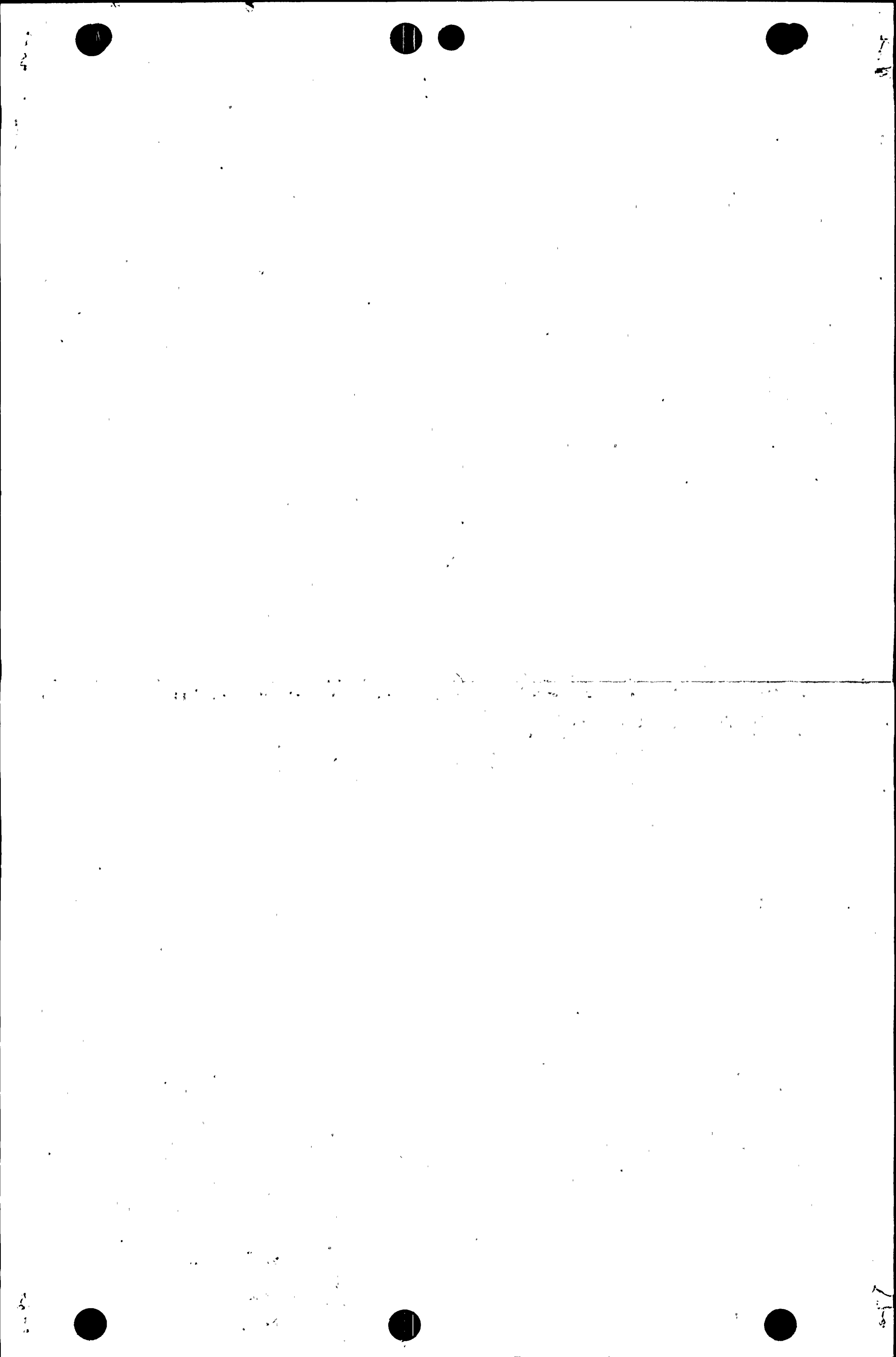
NOTE: THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER IS "U" UNLESS OTHERWISE NOTED.

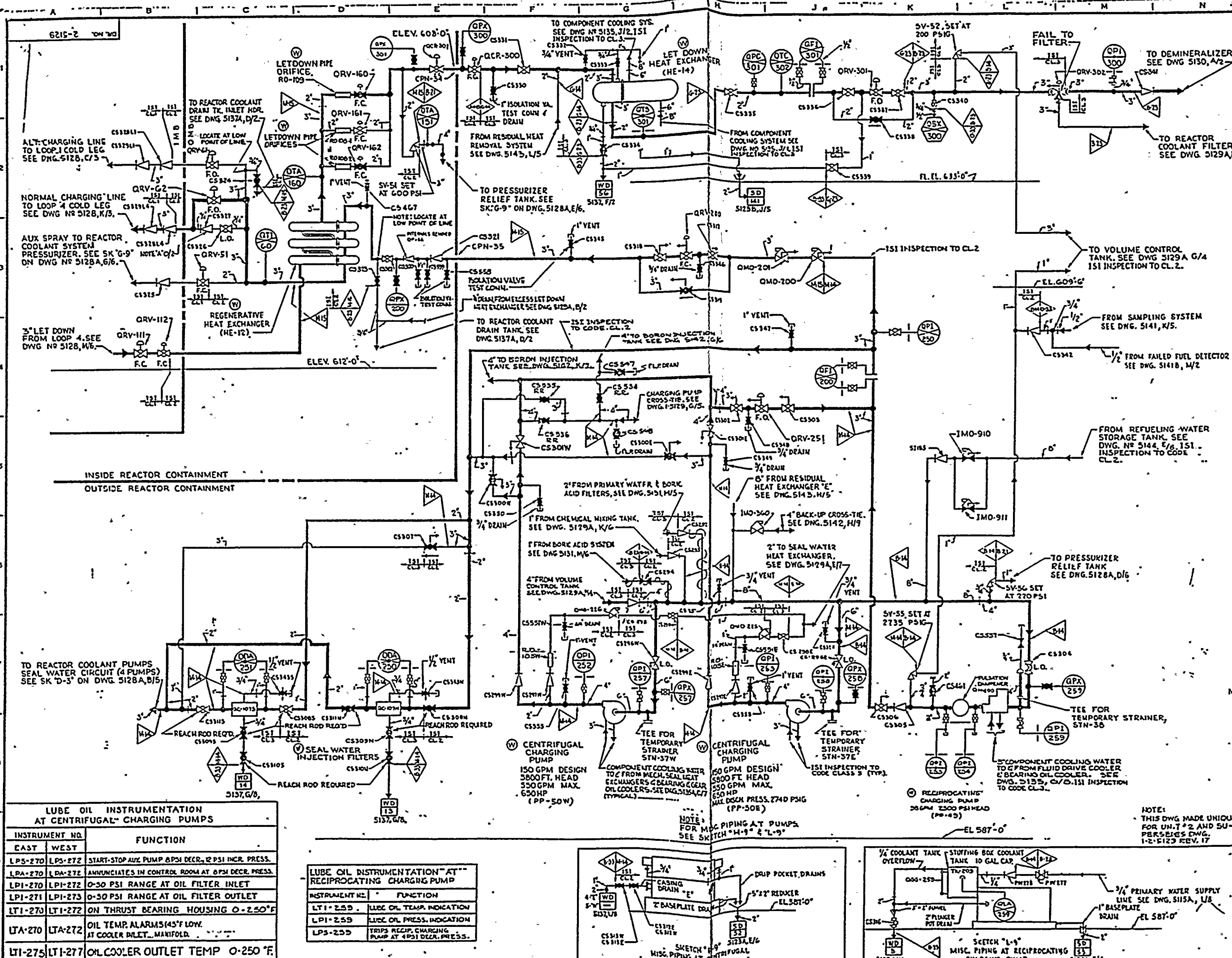
NOTE: THIS DWG. MADE UNIQUE FOR UNIT #2 AND SUPERSEDES DWG. 5128A REV. 11

AMERICAN ELECTRIC POWER SERVICE CORP. 2 BROADWAY NEW YORK

SI APERTURE CARD

Also Available On Aperture Card





**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. 5129A, 4/2

SEISMIC CLASS 1.

VALVE NOTED 'A' B/S VALVE OPENS AT 800 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 IS1 BOUNDARY EXTENDS TO AND INCLUDES THE FIRST ROOT VALVE.

2. FOR CODE CLASS 2 & 3 VENTS & DRAINS, THE IS1 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.

**HAND OPERATED VALVE IDENTIFICATION NUMBERS**  
 1. ONLY "H" 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-NW-105-W APPEARS AS: NW105W  
 3. INSTRUMENT ROOT VALVE MARKINGS NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST). DERIVED BY ADDING TO INSTRUMENT NUMBER:  
 FOR SINGLE IMPULSE: V (VALVE)  
 FOR DOUBLE IMPULSE: V (VALVE) + S (STREAM) = VS

⊗ FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG.

DATE: 3-11-72  
 NO. 32  
 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 CVCS-REACTOR LETDOWN & CHARGING**  
 UNIT #2 SHEET 1073

DR. NO. 2-5129-32

AMERICAN ELECTRIC POWER SERVICE CORP.  
 2 BROADWAY NEW YORK

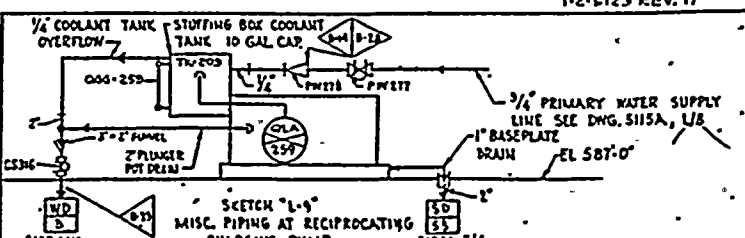
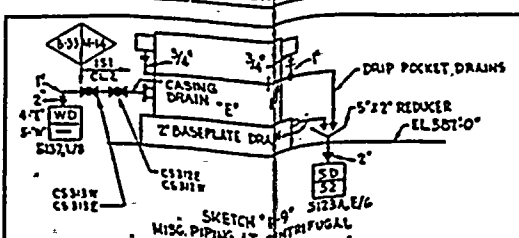
SI APERTURE CARD  
 Also Available On Aperture Card

**LUBE OIL INSTRUMENTATION AT CENTRIFUGAL CHARGING PUMPS**

INSTRUMENT NO.	FUNCTION	
LPS-270	LPS-272	START-STOP AUX. PUMP @ PSI DECR. @ PSI INCR. PRESS.
LPA-270	LPA-272	ANNUNCIATES IN CONTROL ROOM AT 6 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 0-2.50°F
LTA-270	LTA-272	OIL TEMP. ALARMS (45°F 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	
LTI-255	LTI-257	LUBE OIL TEMP. INDICATION
LPI-255	LPI-257	LUBE OIL PRESS. INDICATION
LPS-255	LPS-257	TRIPS RECIP. CHARGING PUMP AT 4 PSI DECR. PRESS.



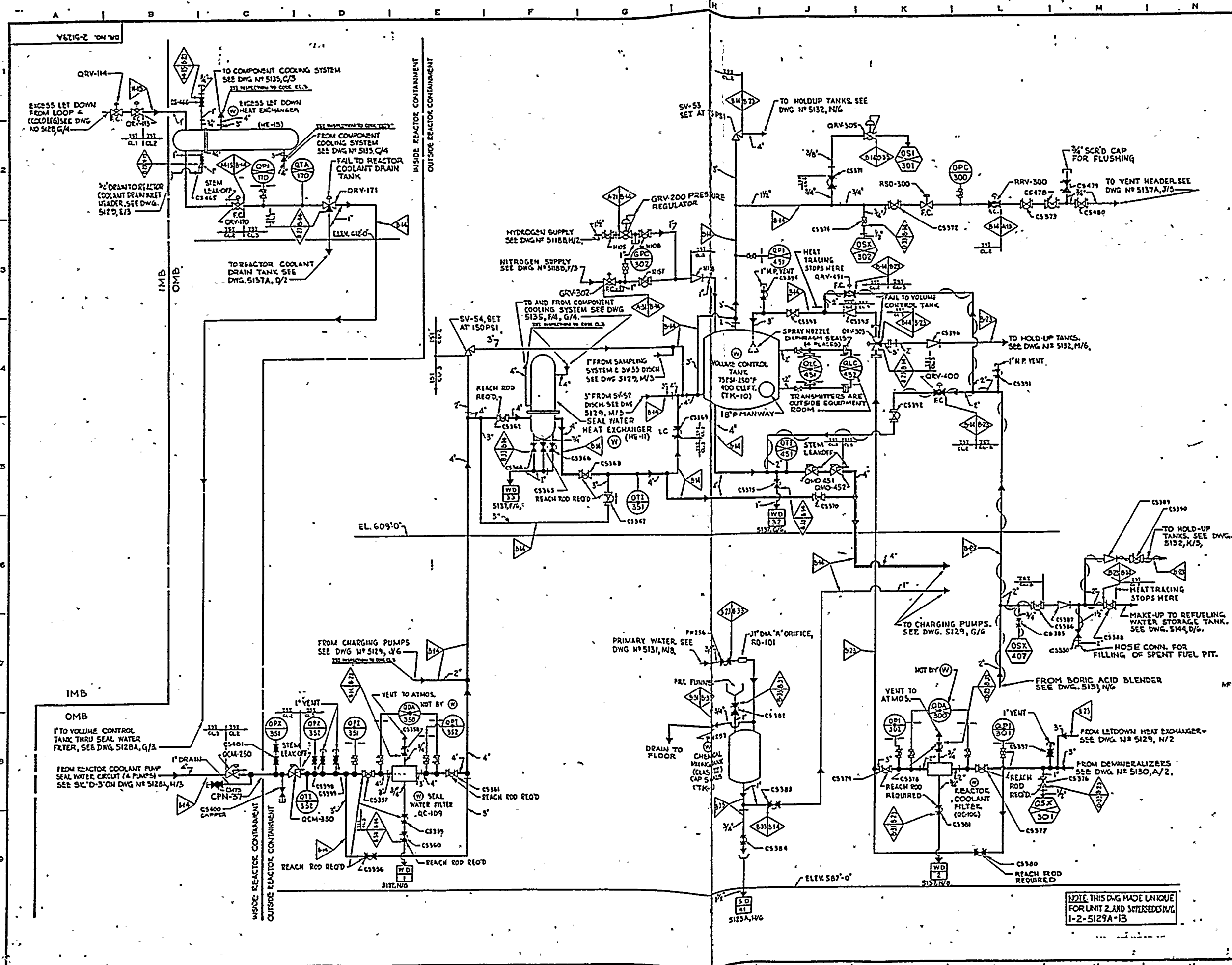


14



14





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. 2/3 BURNOUTS...  
 2. FOR COOL. CL. 2/3...  
 THE UNIT DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER IS 2-5129A, 2-5129B, 2-5129C.

- 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 # 2-5129A-452 APPEARS AS: NSW452
  - INSTRUMENT ROOT VALVE MARK NYS NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:  
FOR SINGLE IMPULSE: VIMPSTREAM  
FOR DOUBLE IMPULSE: VIMPSTREAM V2DOWSTREAM

MF FOR MICRO/AN STATUS SEE REVISION RECORD FOR THIS DWG.

DATE 4-10-57 201 REV 22 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 # 2 SHEET 2 OF 2

DWG. NO. 2-5129A-20

DESIGNED	W. H. ...
DRAWN	...
CHECKED	...
APPROVED	...

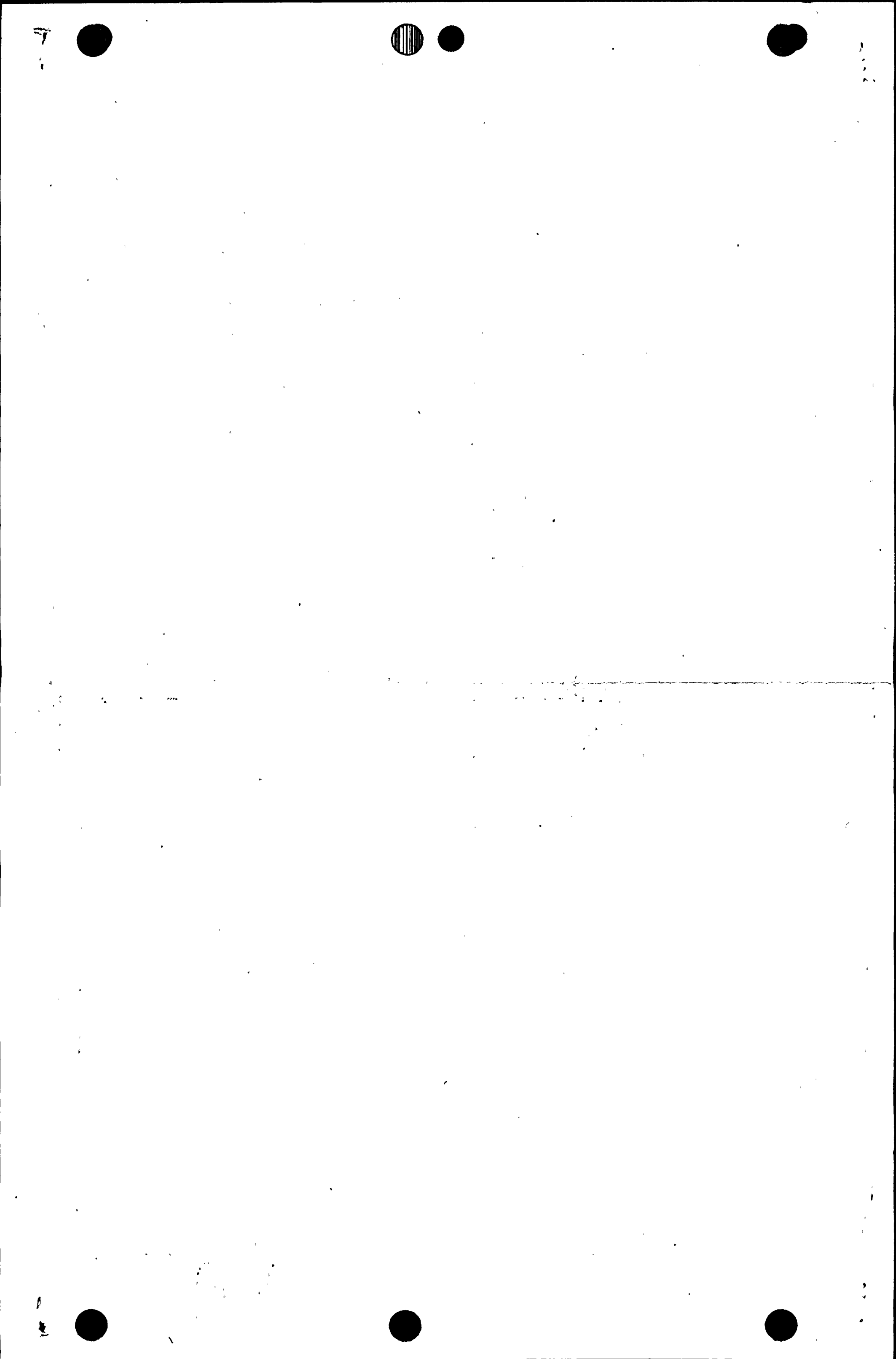
AMERICAN ELECTRIC POWER SERVICE CORP., 2 BROADWAY, NEW YORK

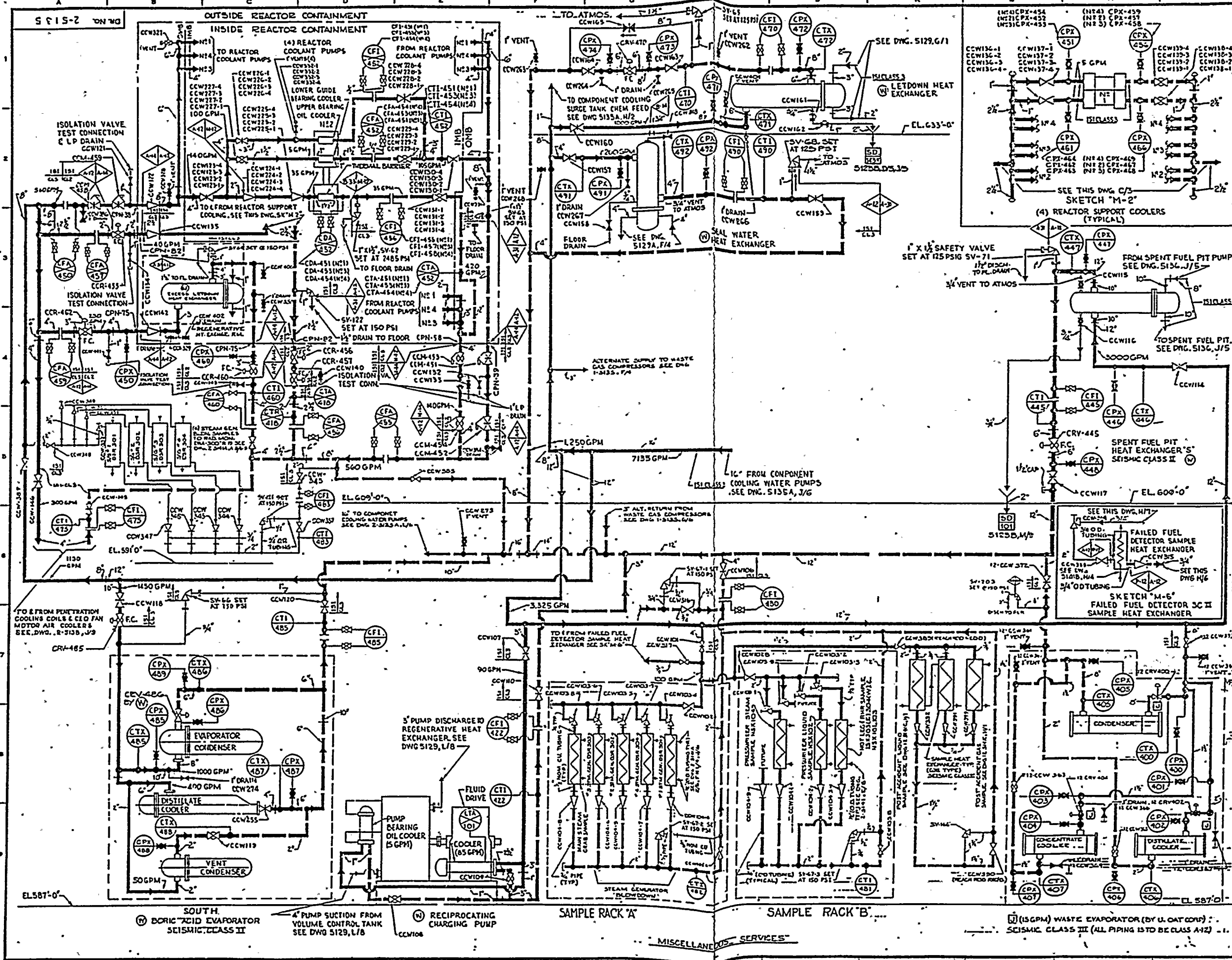
SI APERTURE CARD  
 Also Available On Aperture Card

FOR INFORMATION CONTACT  
 NEW YORK A. G. ...

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







**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 12-3103 12-3104 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

④ FOR CODE CLASS 2 AND 3 INSTR. CONNECTIONS, THE 1ST BOUNDARY, EXTENDS TO AND INCLUDES THE FIRST ROOT VALVE.

⑤ FOR CODE CLASS 2 (3 VENTS) DRAINS THE 1ST BOUNDARY - EXTENDS TO AND INCLUDES THE FIRST NORMALLY CLOSED VALVE.

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

NOTE: THIS DWG MADE UNIQUE FOR UNIT #2 AND SUPERSEDES DWG 1-2-5135 REV 17

- 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-1003-W APPLIES AS: NSW1003
  3. INSTRUMENT ROOT VALVE MARK "N" IS NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:  
FOR SINGLE IMPULSE: V  
FOR DOUBLE IMPULSE: V/STREAM

FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG

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 USE ONLY. IT IS TO BE RETURNED TO THE AMERICAN ELECTRIC POWER SERVICE CORP. ON THE DATE SPECIFIED ON THE BOTTOM RIGHT OF THE SHEET. 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."

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

FLOW DIAGRAM  
COMPONENT COOLING  
UNIT N92  
SHEET 1 OF 3

DR. NO. 2-5135-34

DATE	NO.	APPROVED
3-27-83	34	W. J. W.

AMERICAN ELECTRIC POWER SERVICE CORP.  
2 BROADWAY, NEW YORK

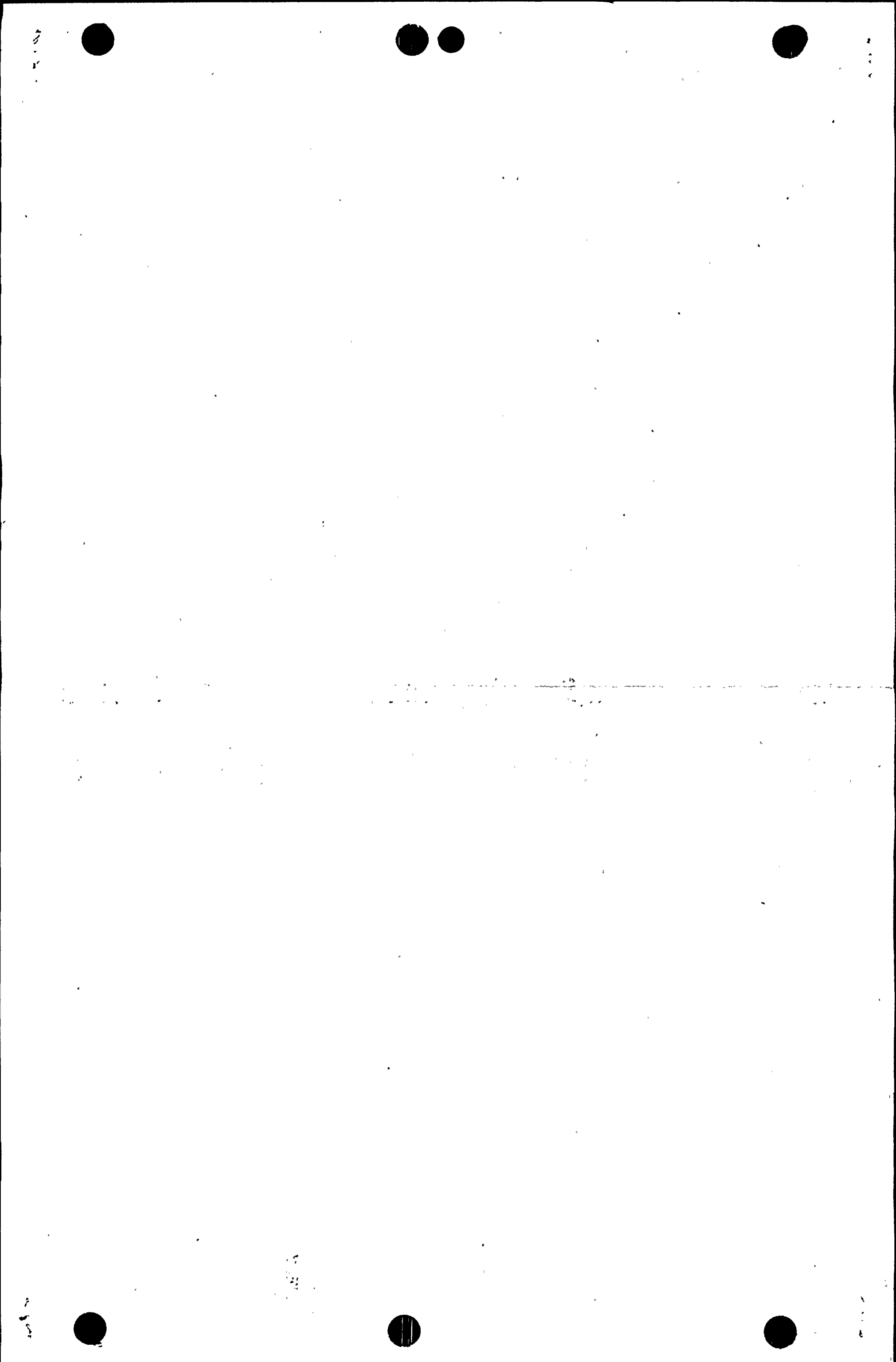
SI APERTURE CARD

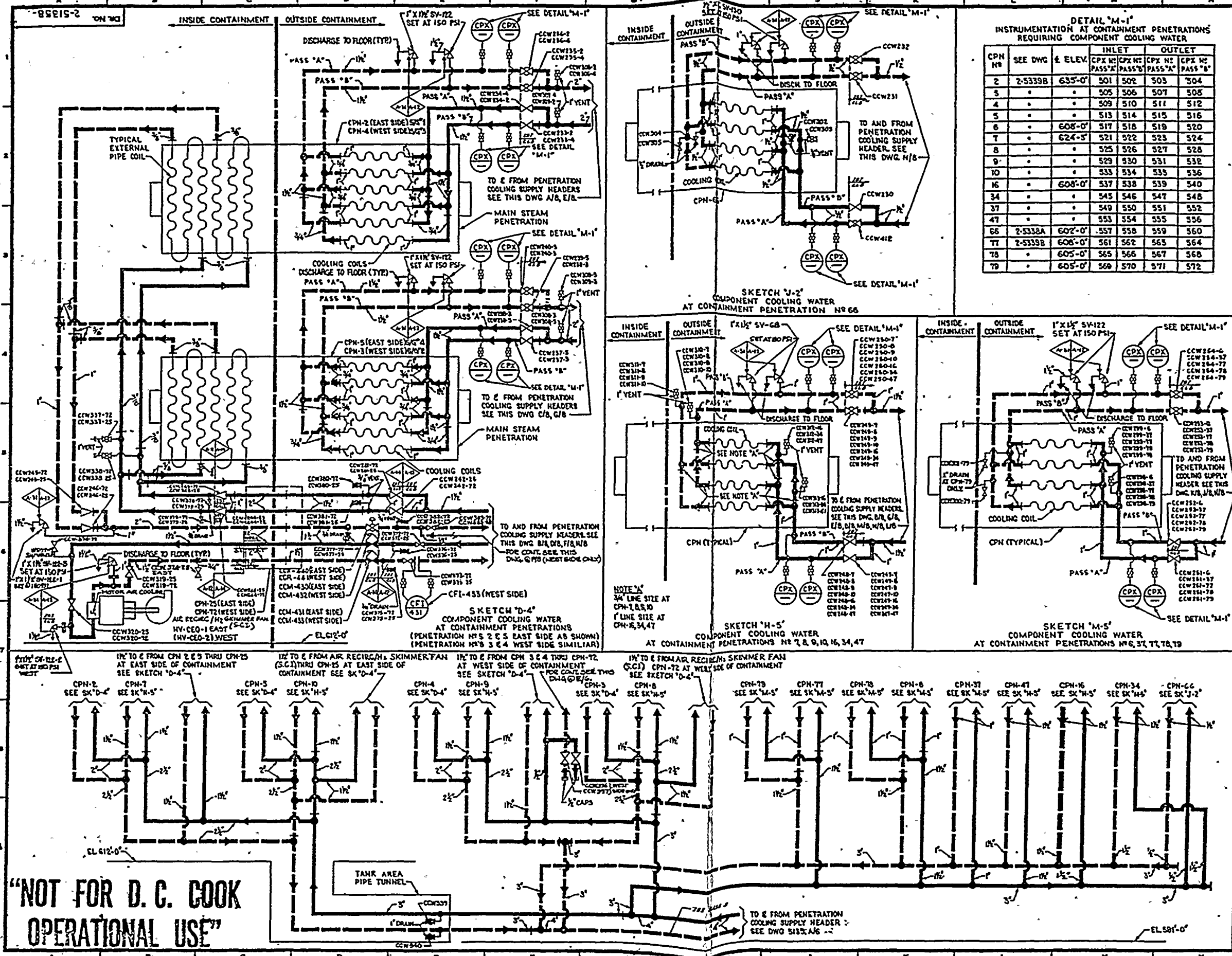
Also Available On Aperture Card



12  
11  
10  
9  
8  
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6  
5  
4  
3  
2  
1







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

CPN NO	SEE DWG	ELEV	INLET		OUTLET	
			CPX NO PASS 'A'	CPX NO PASS 'B'	CPX NO PASS 'A'	CPX NO 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	2-5338B	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

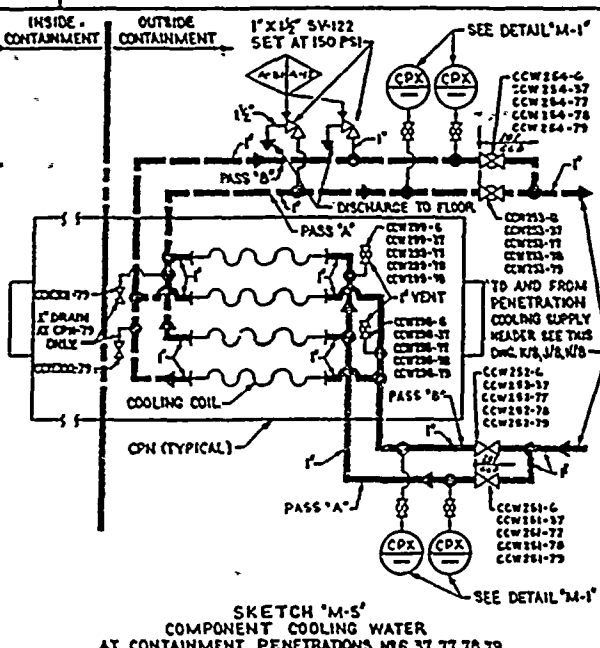
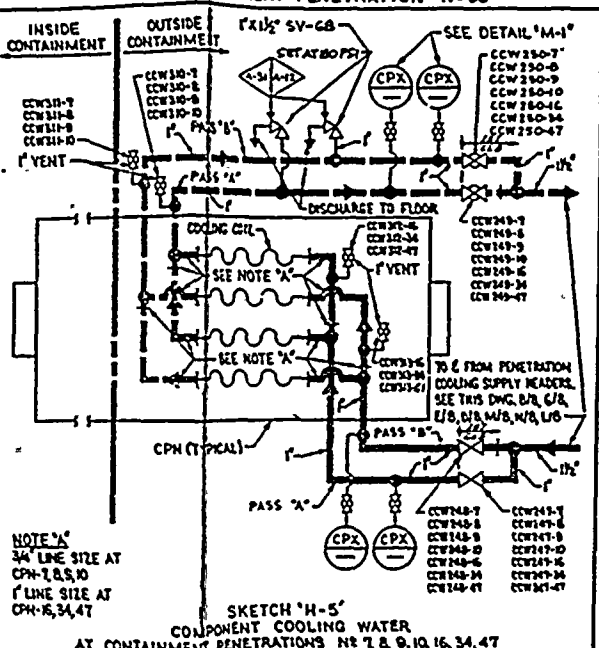
FOR VALVE, INSTRUMENT SAMPLING PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG, AND FOR MARK NUMBER CODES, SEE DWG 5104

PENETRATION COOLING COILS ARE SEISMIC CLASS 1

**NOTE**

FROM CODE CASE 2433 INSTEAD OF THE 1/2" NPT VALVE, USE THE 3/4" NPT VALVE.

FOR COOLING COILS, SEE DWG 5104 FOR THE 1/2" NPT VALVE.



**NOTE**

THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT ID. NO. IS '2' UNLESS OTHERWISE NOTED.

**NOTE**

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

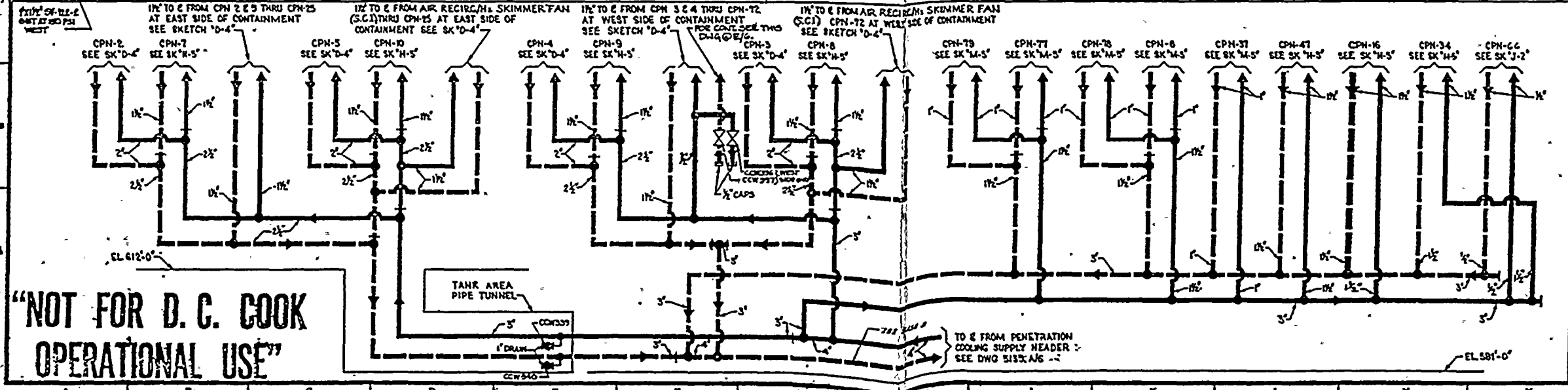
**HAND OPERATED VALVE IDENTIFICATION NUMBERS**

1. ONLY THROUGH 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-VOS-W APPEARS AS: NSWVOW

3. INSTRUMENT ROOT VALVE MARK NTS NOT SHOWN ON DRAWING. SEE VALVE IDENTIFICATION LIST DERIVED BY ADDING TO INSTRUMENT NUMBER FOR DOUBLE BRACKETED FOR DOUBLE BRACKETED INSTRUMENT.

**FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG.**



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

**REVISION RECORD**

NO.	DATE	BY	APPROVED	DESCRIPTION
1	11-21-68	DL	DL	ISSUE FOR CONSTRUCTION

**FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING**

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

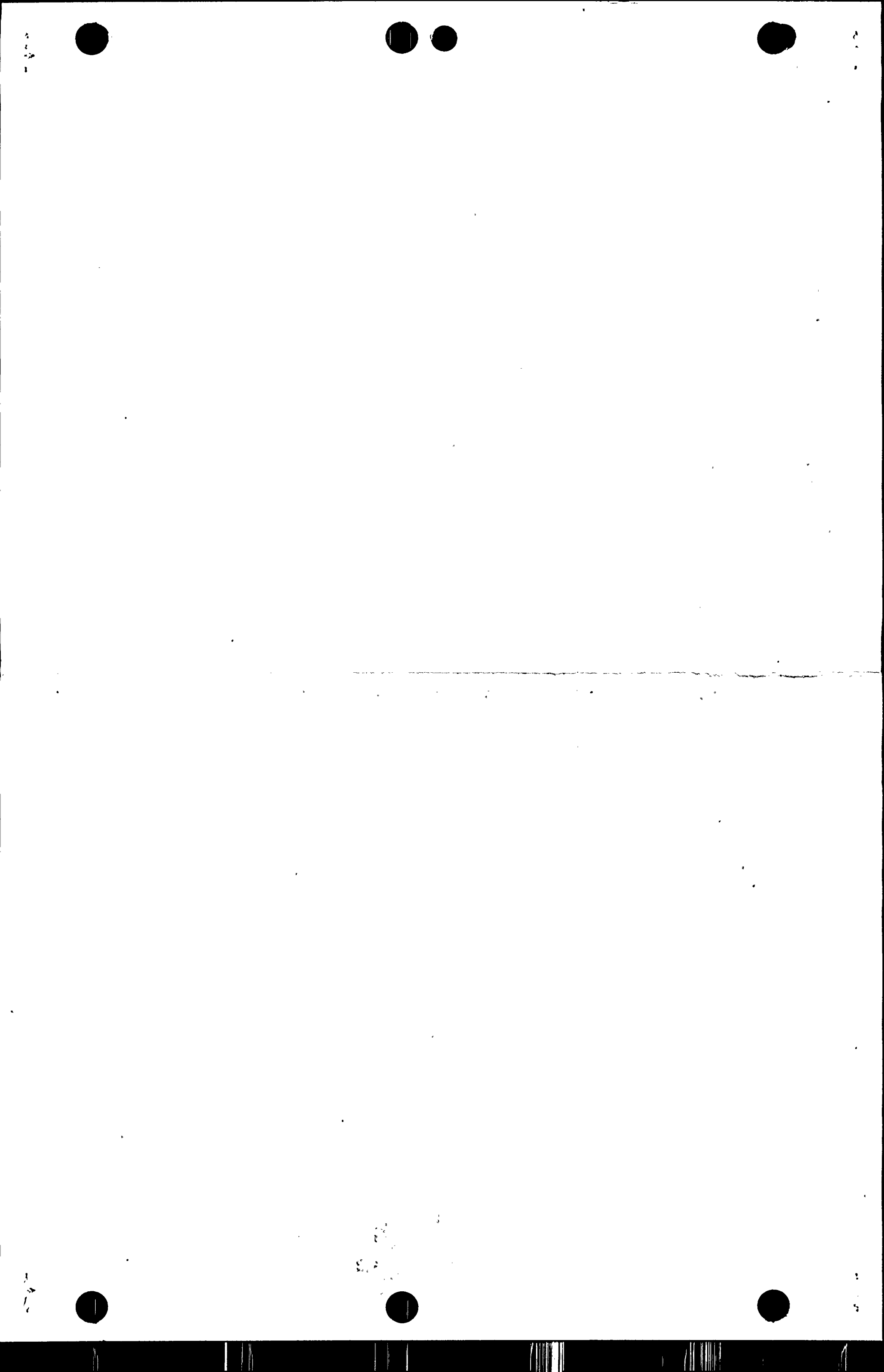
**FLOW DIAGRAM COMPONENT COOLING UNIT NO 2 SHEET 3 OF 3**

DR. NO. 2-5135B-14

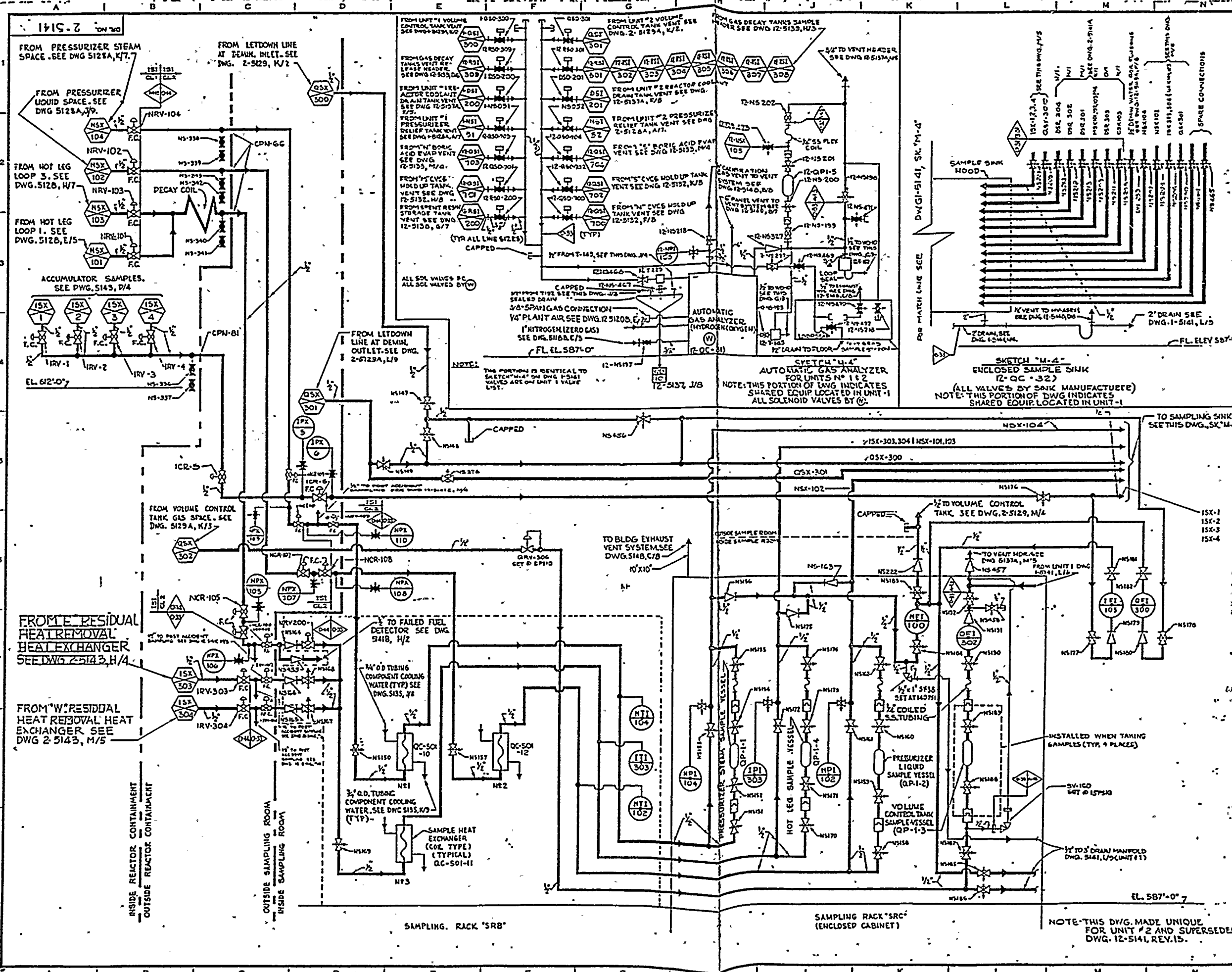
AMERICAN ELECTRIC POWER SERVICE CORP.  
8 BROADWAY  
NEW YORK

**SI APERTURE CARD**

Also Available On Aperture Card







**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

**SYMBOLS**  
 □ QUICK DISCONNECT COUPLING  
 (W) BY WESTINGHOUSE

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

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

**CLASS NOTES**  
 1. FOR CODE CLASS 2 INSTRUMENT CONNECTIONS, THE 1ST BOUNDARY EXTENSION TO INCLUDE THE FIRST ROOT VALVE.  
 2. FOR CODE CLASS 2 INSTRUMENT CONNECTIONS, THE 1ST BOUNDARY EXTENSION TO INCLUDE THE FIRST ROOT VALVE.

**HAND OPERATED VALVE IDENTIFICATION NUMBERS**

1. ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MGR) NUMBERS.  
 2. TAG NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:  
 TAG NO. 2-NSW-1005-W APPEARS AS: NSW1005W  
 3. INSTRUMENT ROOT VALVE MARK "R" IS NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:  
 FOR SINGLE IMPULSE: V  
 FOR DOUBLE IMPULSE: VV  
 FOR STREAMLINE: S

FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG.

DATE	NO.	APPROVED
1-7-97	27	[Signature]

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

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

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

DWG. NO. 2-5141-27

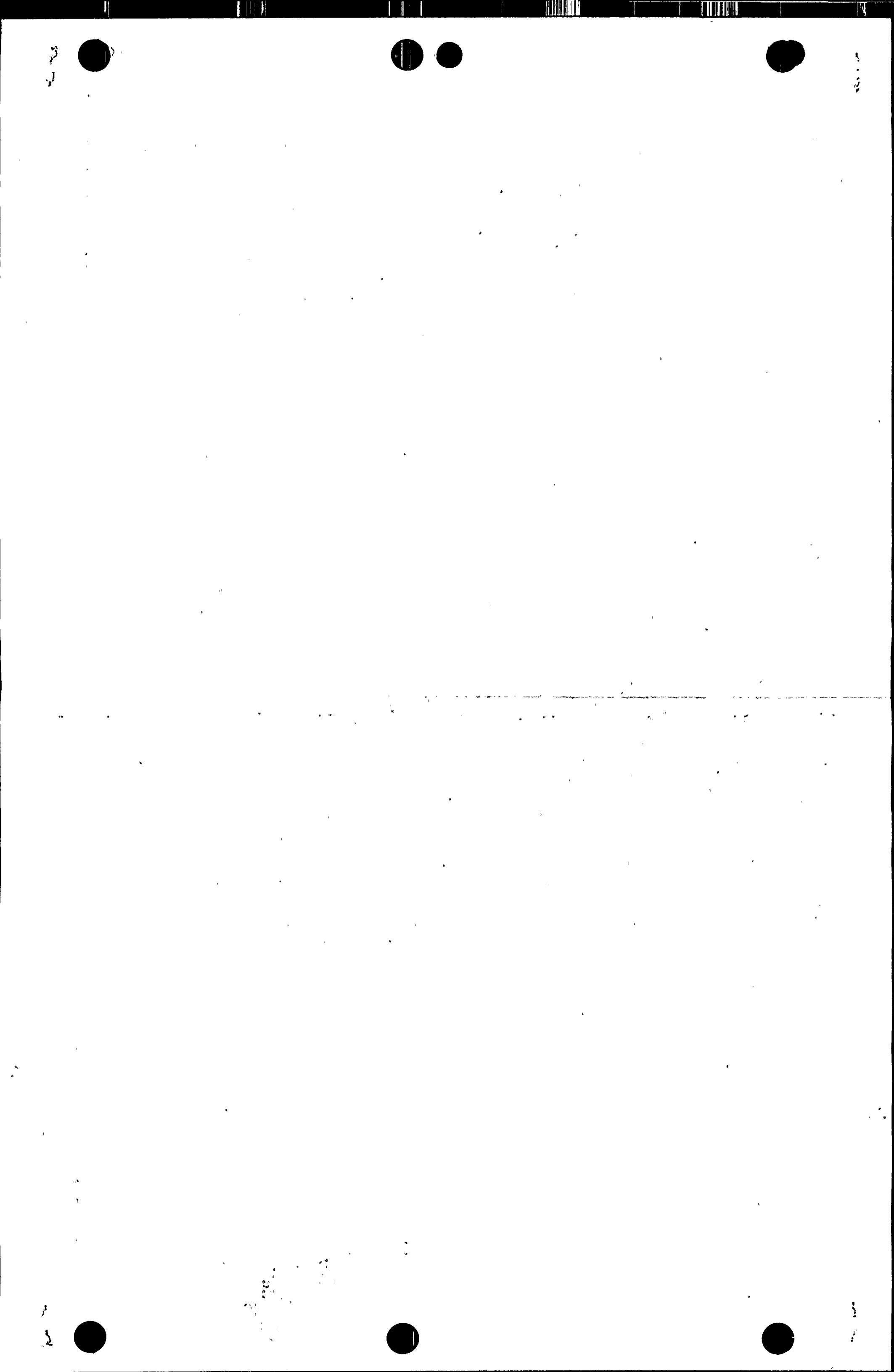
DATE	NO.	APPROVED
1-7-97	27	[Signature]

AMERICAN ELECTRIC POWER SERVICE CORP.  
 2 BROADWAY NEW YORK

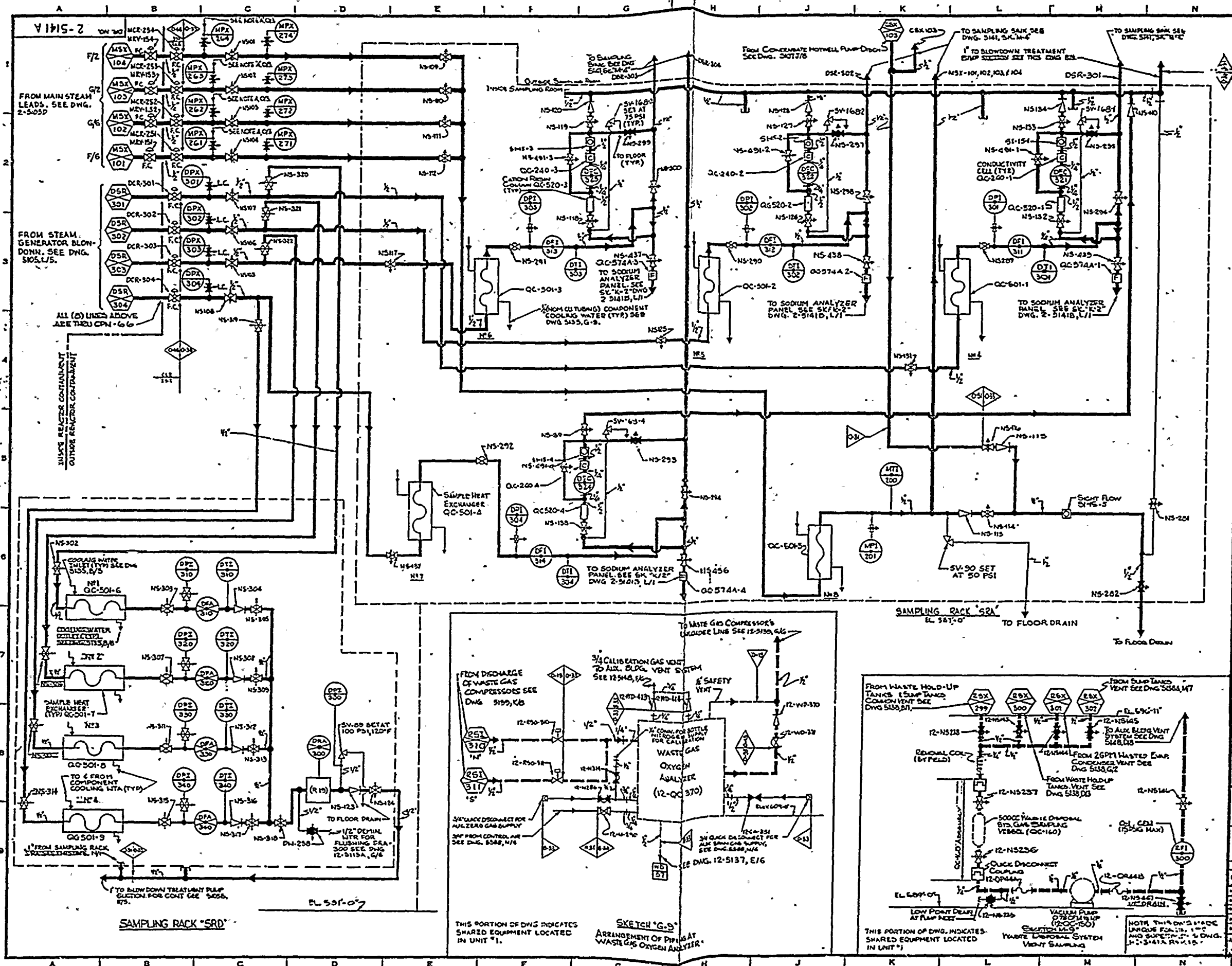
**SI  
 APERTURE  
 CARD**

Also Available On  
 Aperture Card





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



**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: CH. 02  
 TYP. SUPPLY FOR DRAINING STEAM GENERATORS FOR CONTINUATION SEE DWG. 5145A, L/1

NOTE "B"  
 THIS SYMBOL DENOTES A FILTER

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

**HAND OPERATED VALVE IDENTIFICATION NUMBERS**  
 1. ONLY "HOLE 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 N: 2-N5100-W APPEARS AS: N5100W  
 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: V/STREAM  
 FOR DOUBLE IMPULSE: V/STREAM

DATE: 1-21-87 30 PAGES  
 FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

INDIANA & MICHIGAN ELECTRIC CO.  
 DONALD C. COOK  
 NUCLEAR PLANT  
 BROADWAY  
 FLOW: DIAGRAM  
 NUCLEAR SAMPLING UNIT #2  
 SHEET 2 OF 3

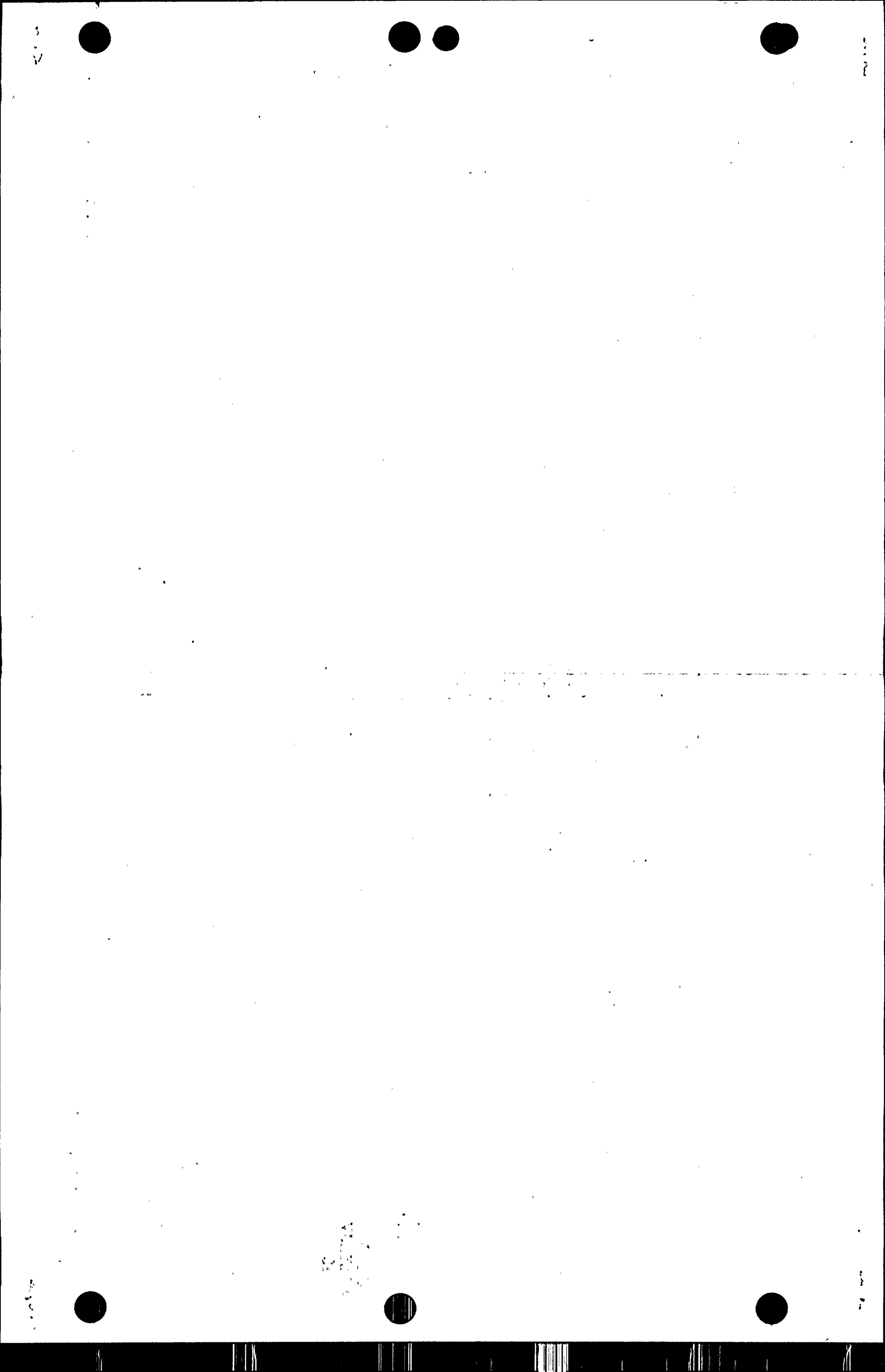
DR. NO.: 2-5141A-30

NOTED: THIS DWG. IS A D.C. COOK DWG. AND SUPPLEMENTARY DWG. 2-5141A, REV. 15.

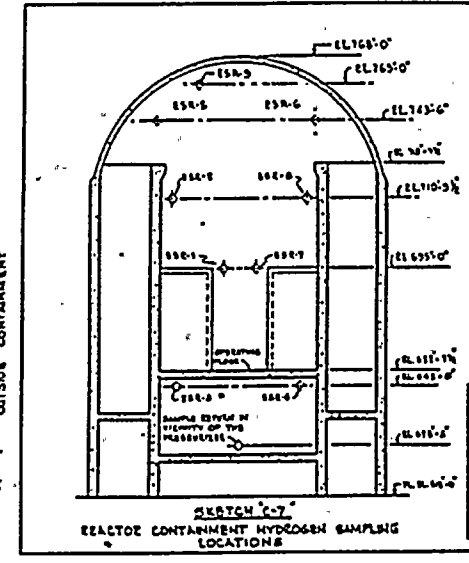
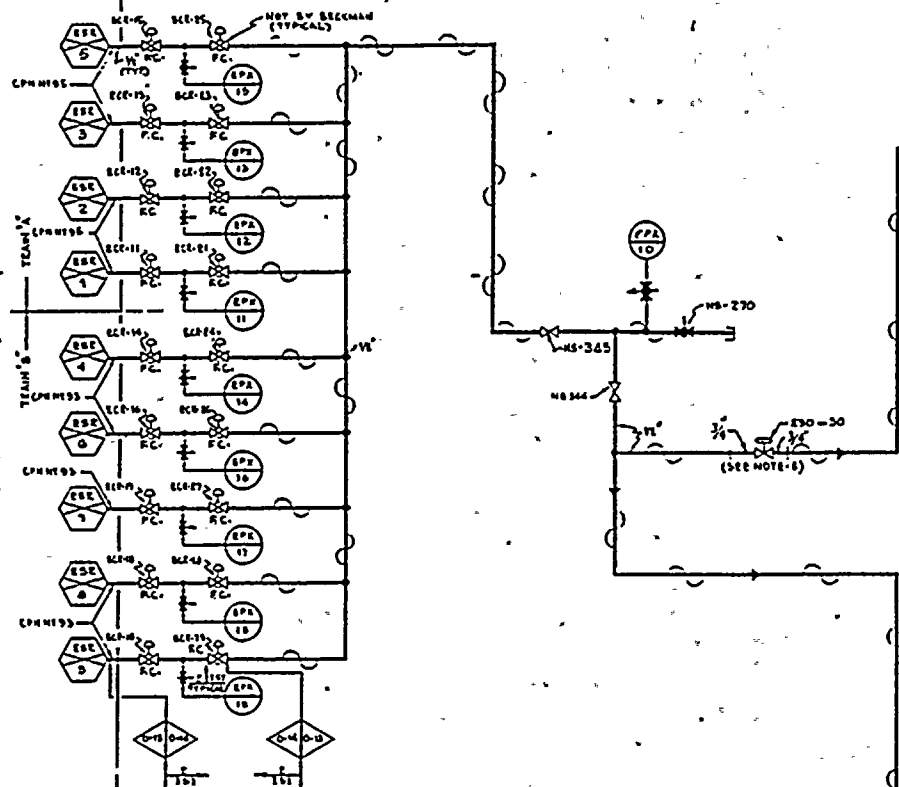
SI APERTURE CARD

Also Available Aperture Card

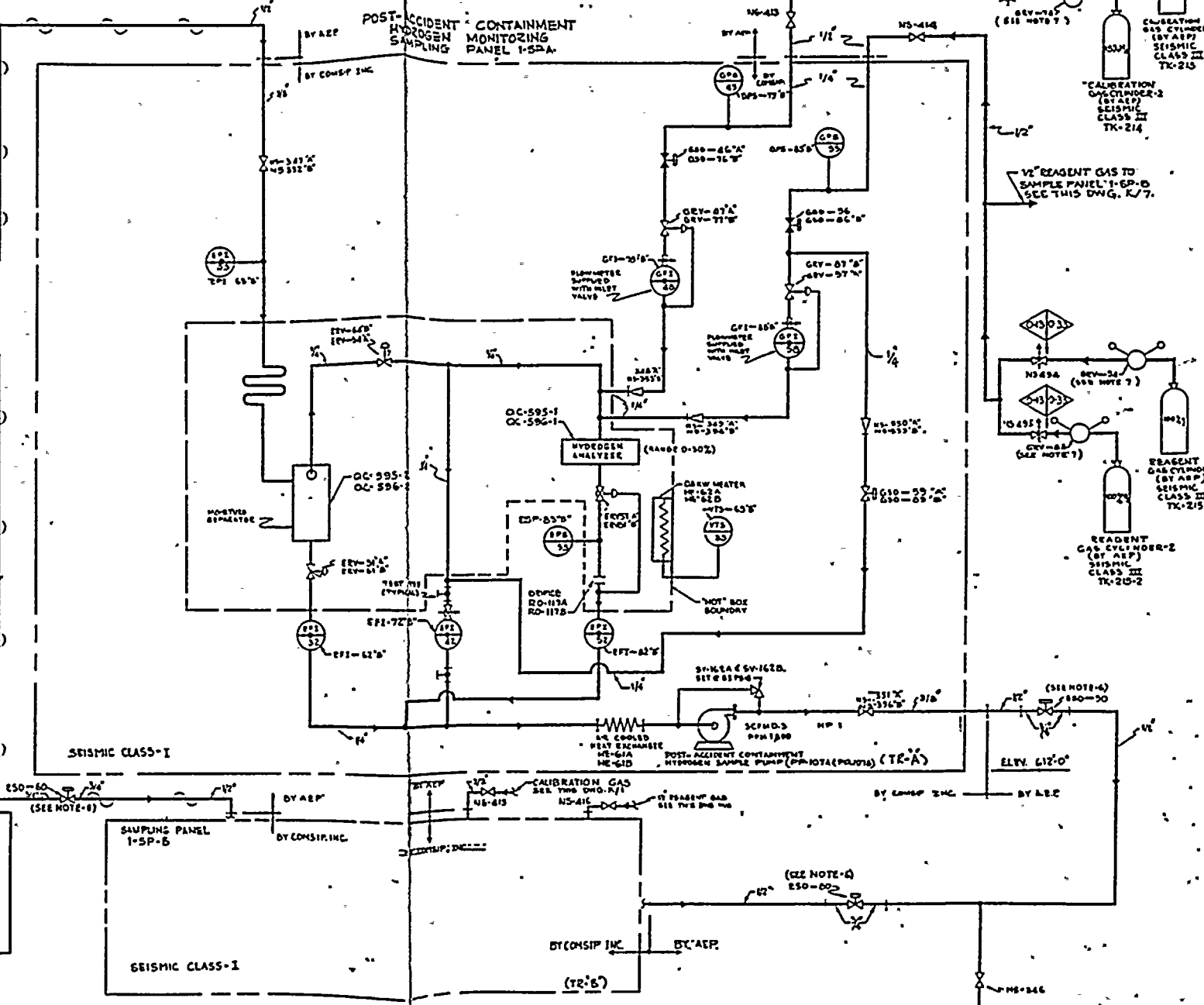
9003090183-16



DR. NO. 2-5141D



SAMPLE	LOCATION
ESR-1	UPPER CONT VOLUME-E
ESR-2	CONT. AIR FROM RECOMBINER-E
ESR-3	LOWER CONT. VOLUME-E
ESR-4	LOWER CONT. VOLUME-W
ESR-5	CONT. DOME-E
ESR-6	CONT. DOME-W
ESR-7	UPPER CONE VOLUME-W
ESR-8	CONT. AIR FROM RECOMBINER-W
ESR-9	DOME



GENERAL NOTES

LEGEND



NOTES

- ADDITION OF NEW POST-ACCIDENT CONTAINMENT HYDROGEN MONITORING SYSTEM AS PER INSTRUCTIONS AND SPEC. DC-1443.
  - SEE EQUIPMENT IN SEISMIC CLASS I EXCEPT AS NOTED.
  - CONTROL SWITCH LOCATED ON RESPECTIVE CONTROL PANEL.
  - REGULATING VALVE WITH UP AND DOWN PRESSURE SET POINTS AND SAFETY RELIEF.
  - ALL PIPING IS 0-0 EXCEPT AS NOTED.
- 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. E-NS-V-00-V APPEARS AS: NSV00W.
- INSTRUMENT ROOT VALVE MARKING IS NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST). DERIVED BY ADDING TO INSTRUMENT NUMBER FOR SINGLE IMPLSE (V) FOR DOUBLE IMPLSE (V) VALVE STREAM (V) DOWNSTREAM.

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 NO. 2

DR. NO. 2-5141D-8

DESIGNED BY	[Signature]
CHECKED BY	[Signature]
APPROVED BY	[Signature]
DATE	11/17/86

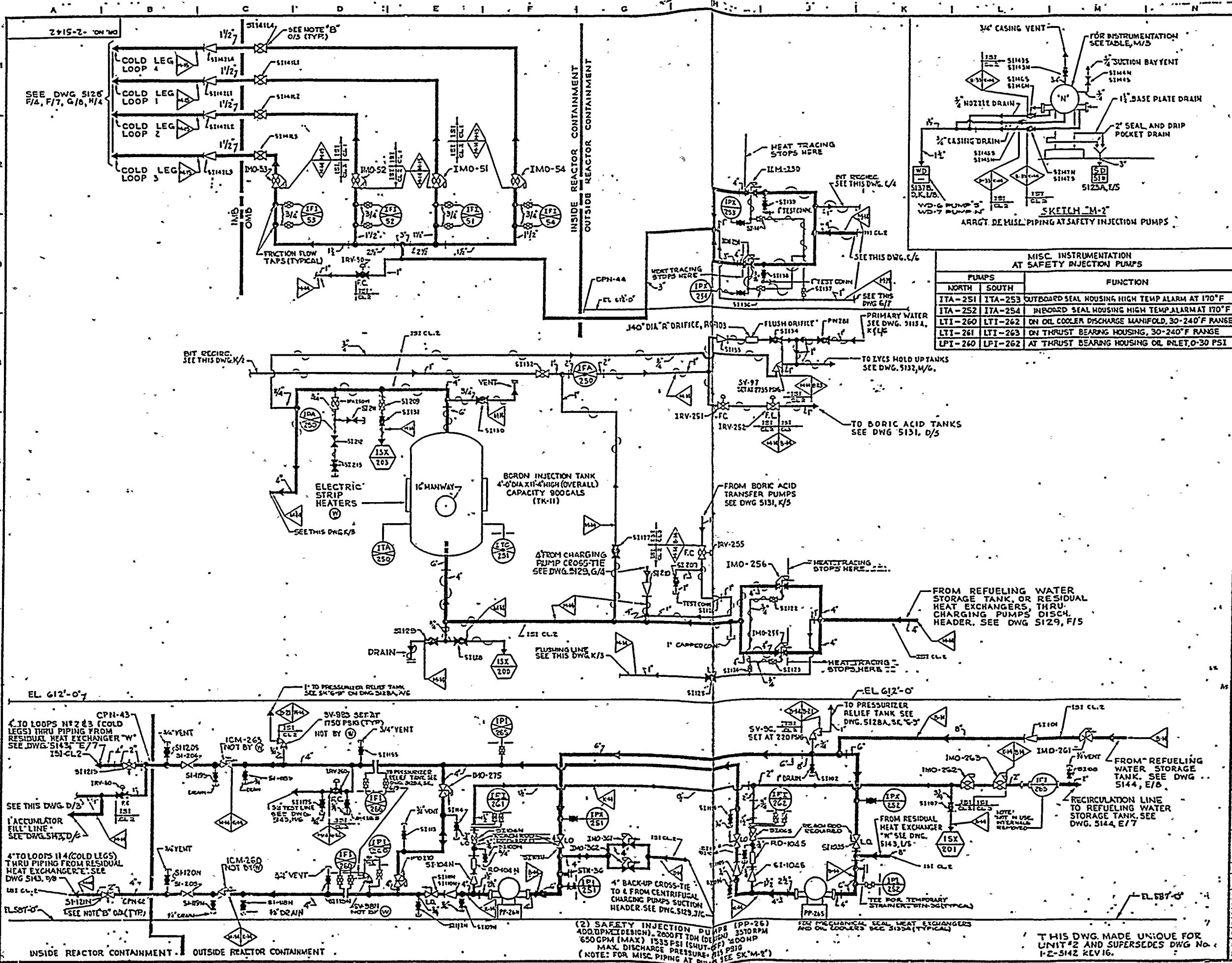
AMERICAN ELECTRIC POWER SERVICE CORP.

SI APERTURE CARD

Also Available On Aperture Card

NOT A CONTROL COPY





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
LFI-260	LFI-262	AT THRUST BEARING HOUSING OIL INLET, 0-30 PSI

**GENERAL NOTES**

**LEGEND**

— MAIN FLOW  
 - - - - - AUXILIARY FLOW

(W) 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**  
 GLOBE VALVES IN FIELD TO LIMIT PUMP RUN OUT THEN LOCK IN POSITION.

**NOTE C**  
 ALL EQUIPMENT SEISMIC CLASS 2 EXCEPT AS NOTED.

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

**NOTE E**  
 FOR CODE CLASS 2 VENTS, DURING THE 15E BANDWIDTH 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 COMPONENT IDENTIFICATION NO IS 'E' 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 (EIN) NUMBERS.

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

3. INSTRUMENT ROOT VALVE MARK NO'S NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:  
 FOR SINGLE IMPULSE: V  
 FOR DOUBLE IMPULSE: V2  
 FOR STREAM: S  
 FOR DOUBLE STREAM: S2

FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG.

10-2-26	28	CH
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 YOU FOR YOUR USE ONLY. IT IS NOT TO BE REPRODUCED OR COPIED IN WHOLE OR IN PART, OR FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN CONSENT OF THE AEP SERVICE CORP. THE FINE AND REVISIONS THEREON, TO THE EXTENT AND IN THE MANNER SPECIFIED THEREON, ARE TO BE OBSERVED.

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

BRIDGMAN MICHIGAN

**FLOW DIAGRAM EMERG CORE COOLING SYSTEM UNIT NO 2**

DWG NO. 2-5142-2B

DATE	NO.	APPROVED
10-2-26	28	CH

AMERICAN ELECTRIC POWER SERVICE CORP  
 2 BROADWAY NEW YORK

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(2) SAFETY INJECTION PUMPS (PP-26) 400 GPM DESIGN, 2600 FT TDH (DESIGN) 3510 RPM 650 GPM (MAX) 1335 PSI (SHUT OFF) 2000 HP MAX DISCHARGE PRESSURE: 215 PSI (NOTE: FOR MISC PIPING AT PUMP SEE SK 'M-2')

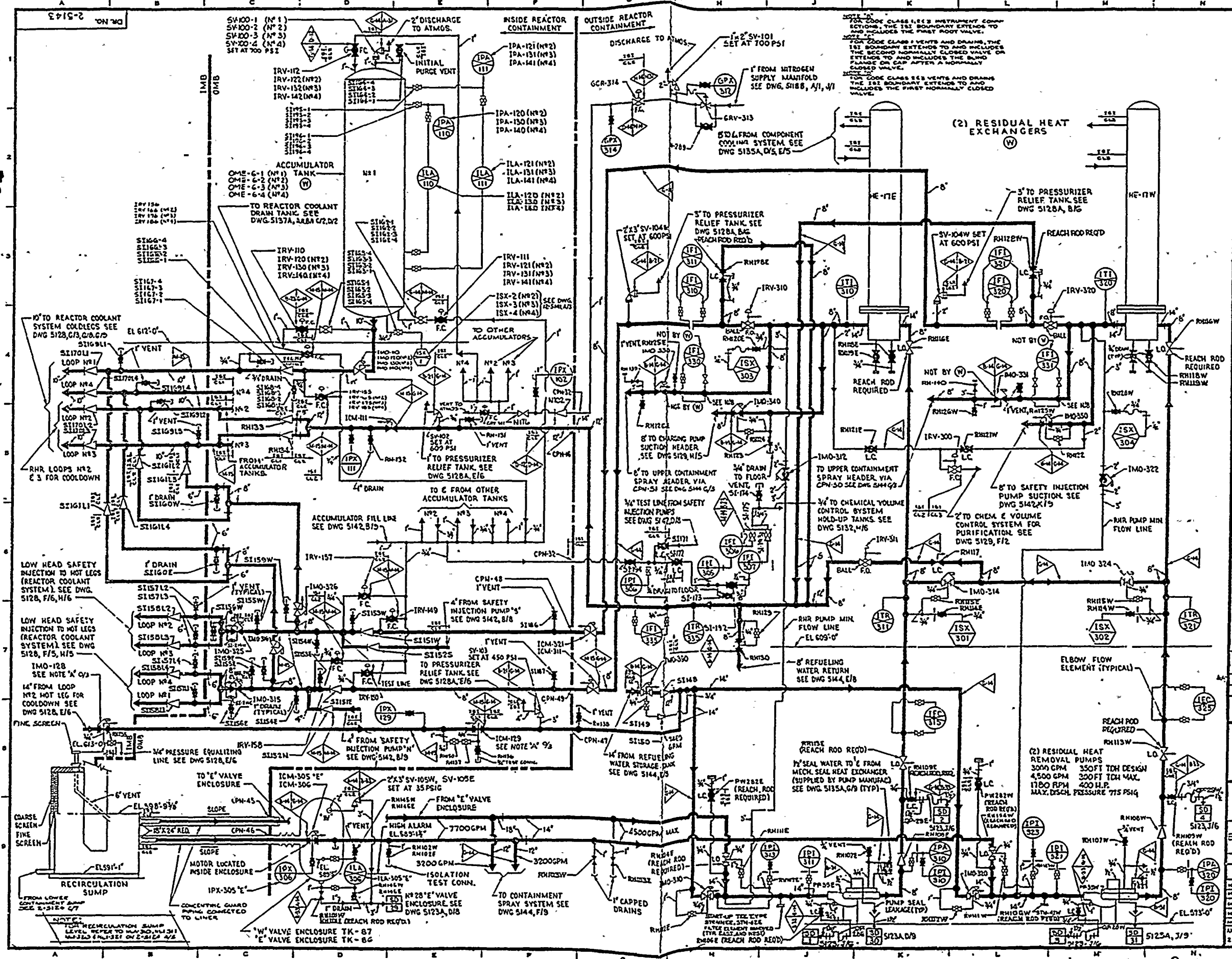
SEE EQUIVALENT SEAL HEAT EXCHANGERS AND OIL COOLERS SEE 5123A (TYPICAL)

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

9003090183-18



NOT FOR D.C. COCK  
OPERATIONAL USE



**GENERAL NOTES**

**LEGEND**

— MAIN FLOW  
- - - AUXILIARY FLOW

FOR VALVE, INSTRUMENT, SAMPLING PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG LIST FOR EQUIVALENT DESIGN (MCR) NUMBERS. ALL EQUIPMENT SEISMIC CLASS I EXCEPT AS NOTED BY WESTINGHOUSE. ALL EQUIPMENT VALVES CONSTRUCTED SUPPLIED BY © EXCEPT AS NOTED.

NOTE: VALVE INTERLOCKED WITH REACTOR COOLANT SYSTEM PRESSURE SIGNAL C.A./1

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

THIS DWG MADE UNUSABLE FOR UNIT "2" AND SUPERSEDES DWG 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: 2-NUMBER-W APPEARS AS: 15700W

3. INSTRUMENT ROOT VALVE MARK "VS" NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER: FOR SINGLE IMPULSE: V1PSTREAM V2DOWNSTREAM

FOR MICROFILM STRIPS SEE REVISION RECORD FOR THIS DWG.

DATE: 3/17/82 35  
NO. APPROVED

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING.

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

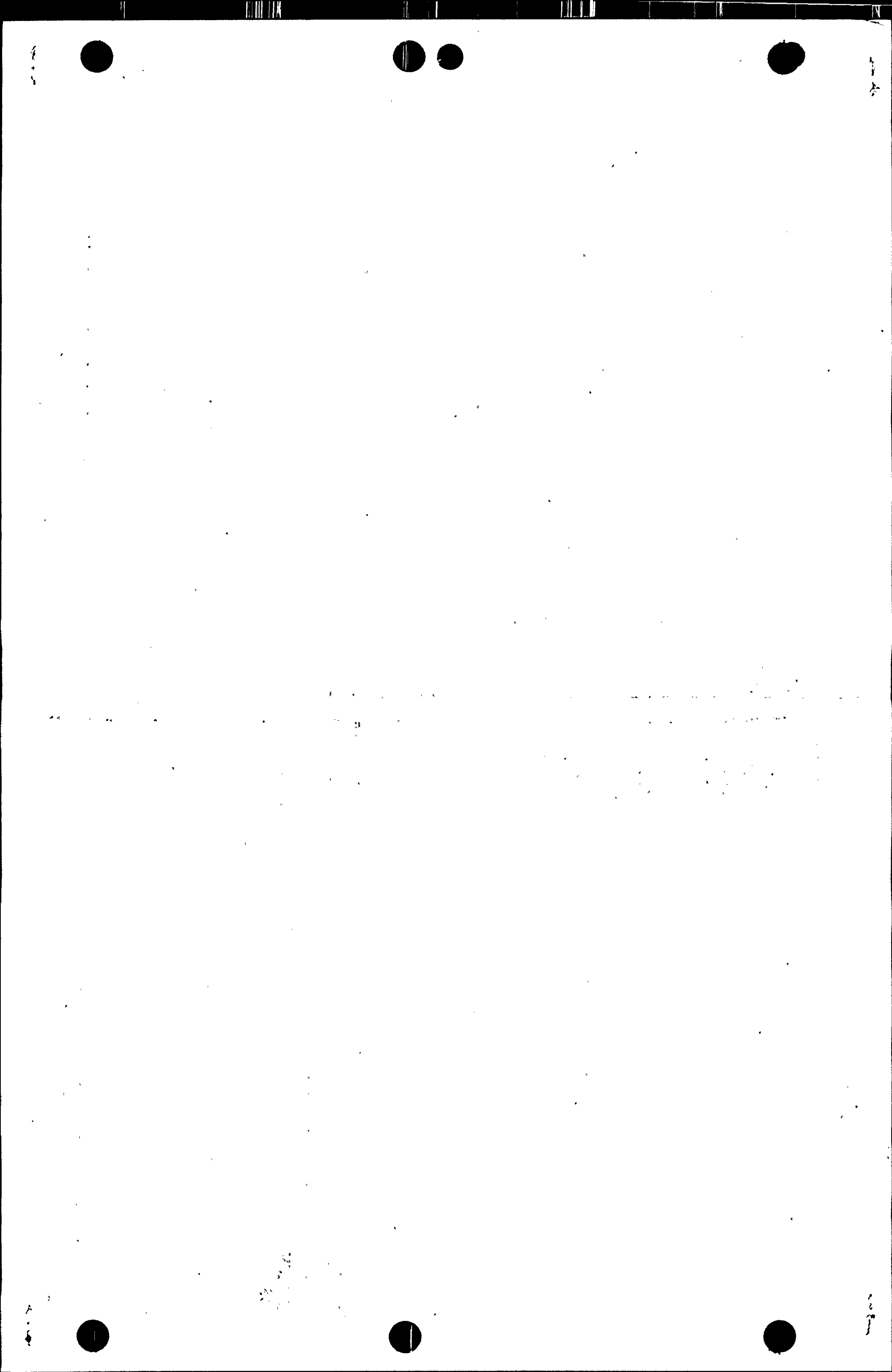
**FLOW DIAGRAM EMERG. CORE COOLING UNIT NO. 2**

DR. NO. 2-5143-35

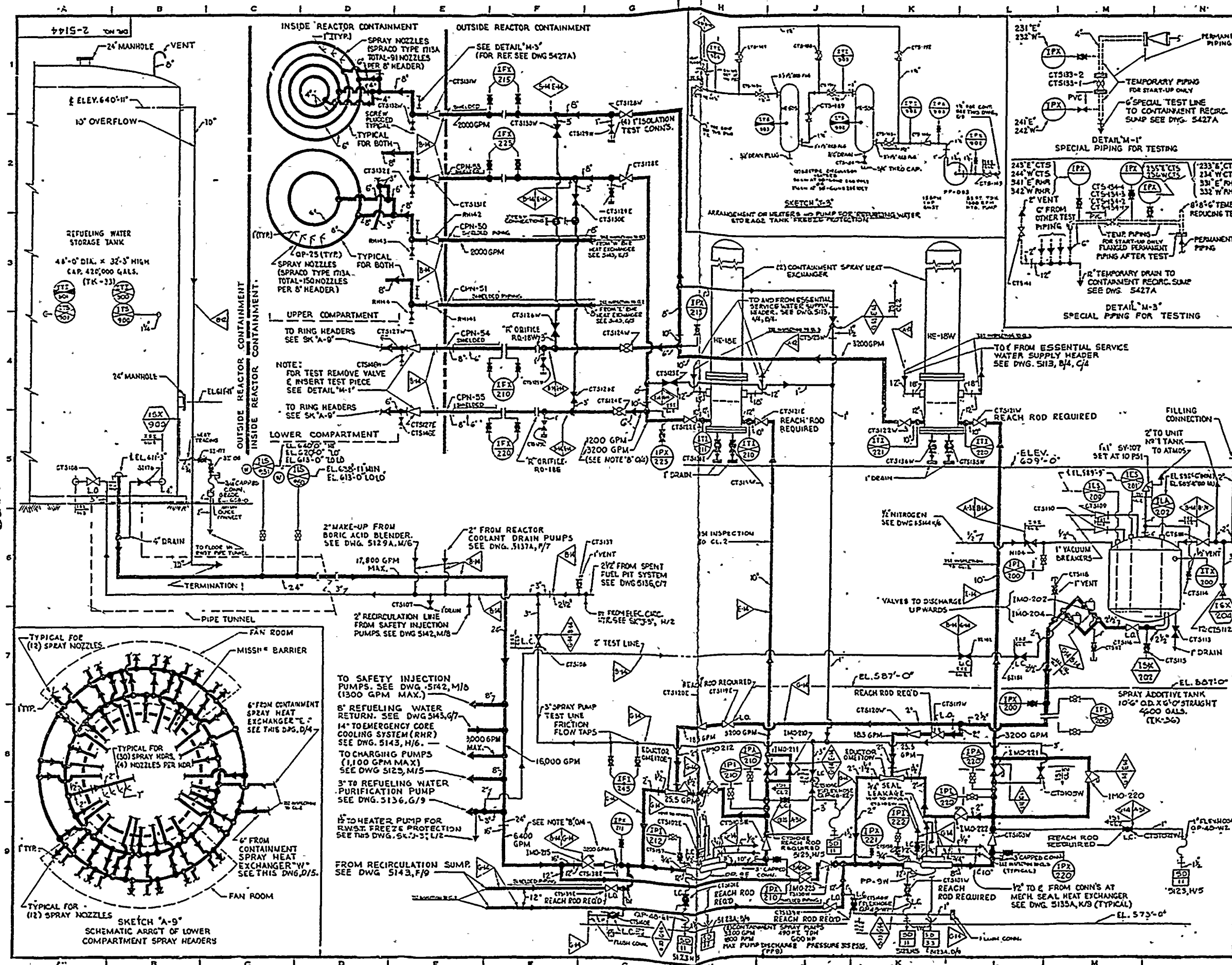
AMERICAN ELECTRIC POWER SERVICE CORP. 2 BROADWAY NEW YORK

SI APERTURE CARD  
Also Available On Aperture Card





NOT FOR D.C. CUBER OPERATIONAL USE



**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 COORDS., SEE DWG. 5135 & 12-2100A.

ALL EQUIPMENT AND PIPING SEISMIC CLASS I EXCEPT AS NOTED

(W) BY WESTINGHOUSE

REFUELING WATER STORAGE TANK FREEZE PROTECTED

DRAINS FROM SPRAY ADDITIVE TANKS TO SPRAY ADDITIVE TANK ROOM SUMP S157 HD

NOTE "B" G/5, F/9, G/9 FLOWS SHOWN ARE REDUCED BY 25.5 GPM WHEN NCH DUCTORS ARE IN SERVICE

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

IF THE CODE CLASS IS "S" (SAFETY), THE UNIT PREFIX SHALL BE "S".

IF THE CODE CLASS IS "I" (INSTRUMENT), THE UNIT PREFIX SHALL BE "I".

IF THE CODE CLASS IS "V" (VALVE), THE UNIT PREFIX SHALL BE "V".

IF THE CODE CLASS IS "P" (PIPE), THE UNIT PREFIX SHALL BE "P".

IF THE CODE CLASS IS "M" (MATERIAL), THE UNIT PREFIX SHALL BE "M".

IF THE CODE CLASS IS "E" (ELECTRIC), THE UNIT PREFIX SHALL BE "E".

IF THE CODE CLASS IS "C" (CONTROL), THE UNIT PREFIX SHALL BE "C".

IF THE CODE CLASS IS "D" (DRAWING), THE UNIT PREFIX SHALL BE "D".

IF THE CODE CLASS IS "O" (OTHER), THE UNIT PREFIX SHALL BE "O".

NOTE: THIS DWG MADE UNIQUE FOR UNIT #2 AND SUPERSEDES DWG 512-544 REV 18

**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-NUMBER-W APPEARS AS: N2W00W

3. INSTRUMENT ROOT VALVE MARK NO'S NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER: FOR SINGLE IMPULSE: 100 FOR DOUBLE IMPULSE: 200

FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG.

DATE: 11-27-57 BY: JAD/AM

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

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

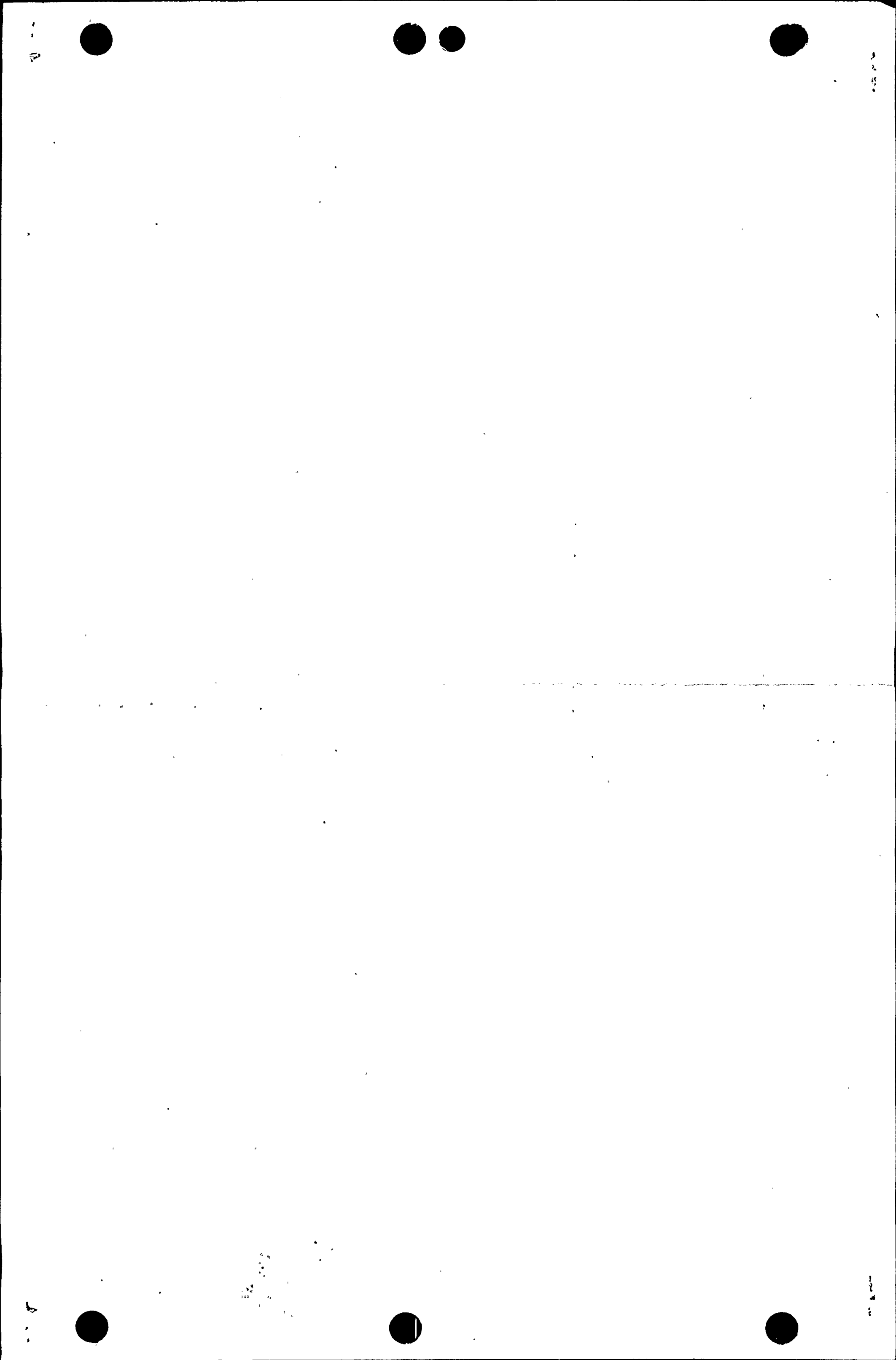
**FLOW DIAGRAM CONTAINMENT SPRAY UNIT NR2**

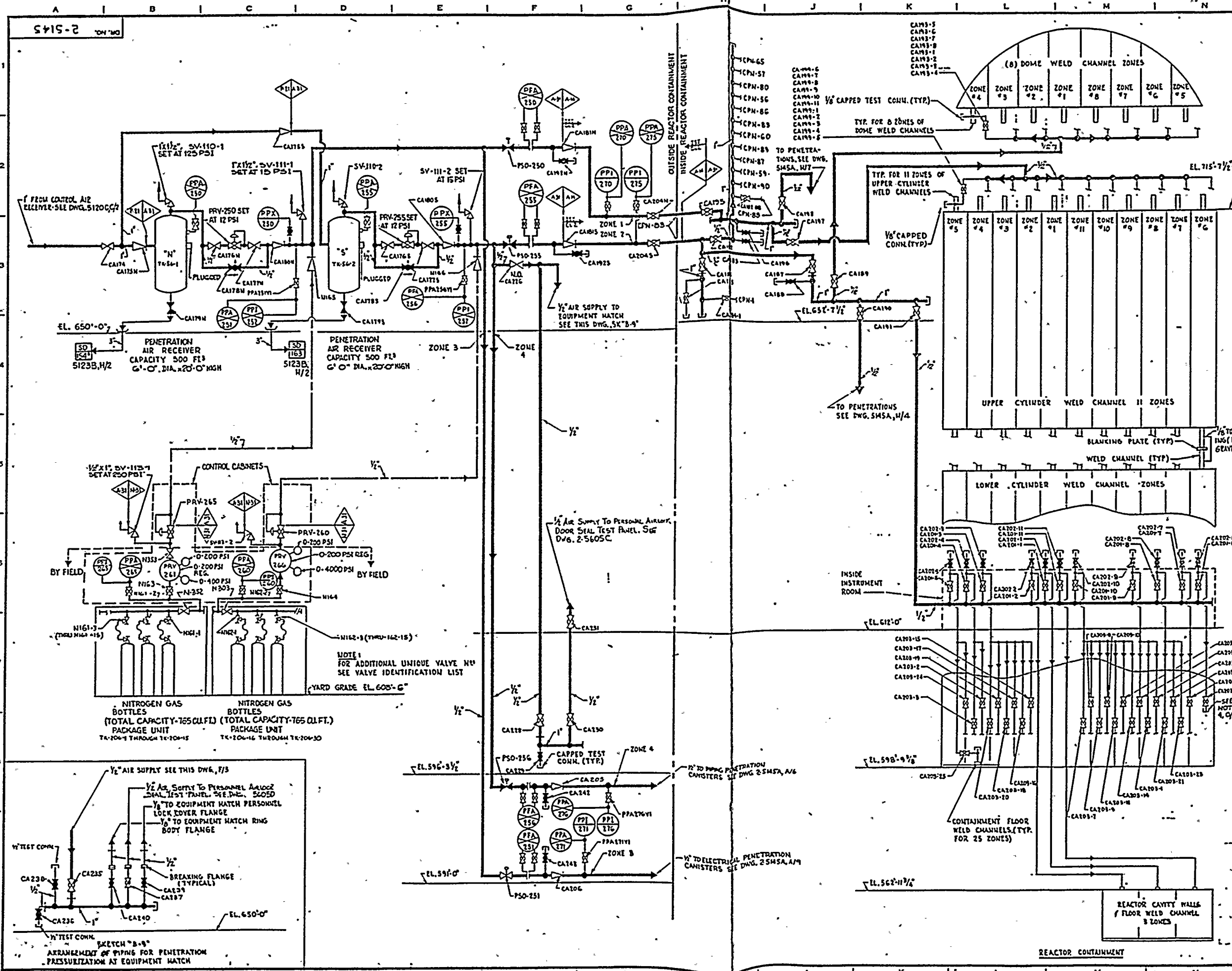
DWG NO: 2-5144-29

SI APERTURE CARD

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9003090183-20





**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. 2-5103 AND 2-5104. ALL EQUIPMENT SEISMIC CLASS II.

NOTE 1 REFER TO DWGS. 5336 E 5337 FOR LIST OF PIPING PENETRATIONS. ALL 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 151 BOUNDARY EXTENDS TO AND INCLUDES THE FIRST FOOT OF VALVE.

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

NOTE: THIS DWG. MADE UNIQUE FOR UNIT #2 AND SUPERSEDES DWG. 2-5148 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 NO: 2-NW-V005-W APPEARS AS: NSW005W

3. INSTRUMENT ROOT VALVE MARK NYS NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:  
 FOR SINGLE IMPULSE: V  
 FOR DOUBLE IMPULSE: V+V  
 FOR DOUBLE IMPULSE: V+V+V+V

FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG.

DATE: 12-7-76  
 NO: 120  
 APPROVED: [Signature]

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING.

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

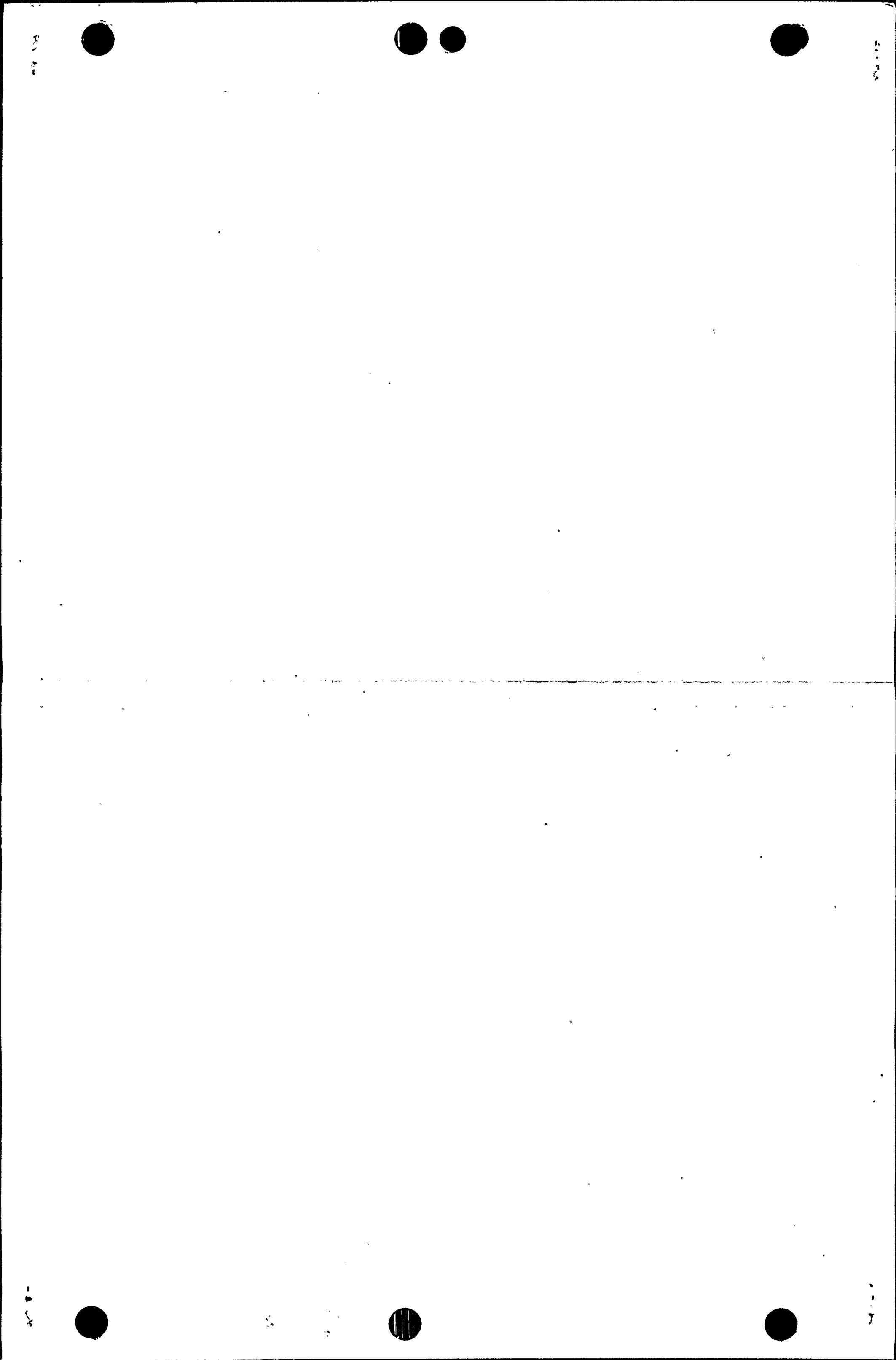
**FLOW DIAGRAM**  
 CONTAINMENT PENETRATION & WELD CHANNEL PRESSURIZATION  
 UNIT NO. 2  
 SHEET 1 OF 2

DR. NO. 2-5145-20

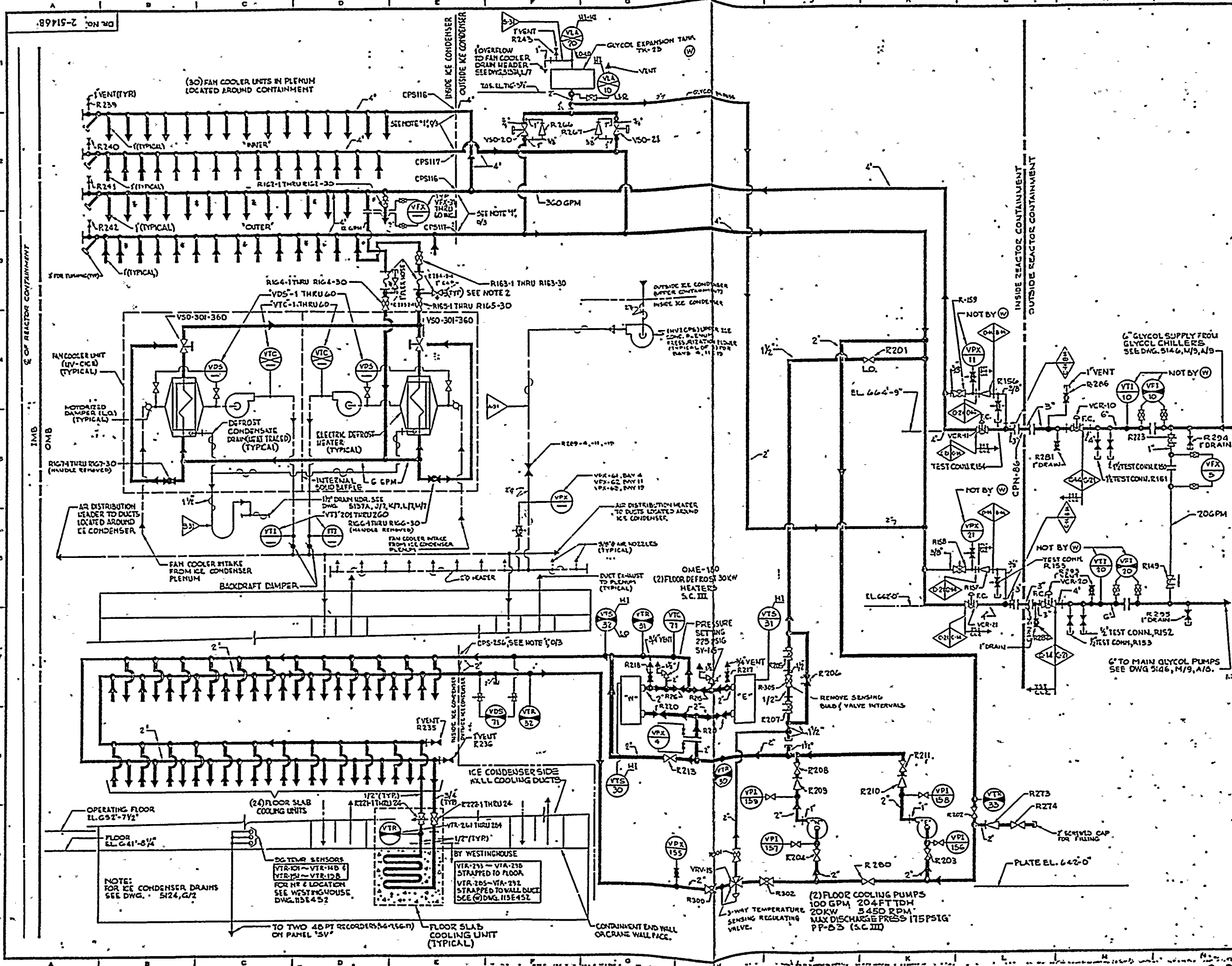
AMERICAN ELECTRIC POWER SERVICE CORP.  
 2 BROADWAY  
 NEW YORK

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8915-2 ON 20



**GENERAL NOTES**

**LEGEND**

ETHYLENE GLYCOL  
 AIR  
 AUXILIARY PIPING

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

ALL EQUIPMENT VALVES AND INSTRUMENTATION, BY WESTINGHOUSE UNLESS OTHERWISE NOTED

ALL PIPING C-21 EXCEPT AS NOTED

ALL EQUIPMENT SEISMIC CLASS II EXCEPT AS NOTED

NOTE: 1" E/P, E/P GLYCOL PIPING PENETRATES 125° END WALL ONLY.

NOTE: 2" D/S, C/S, D/S GLYCOL CONNECTIONS FOR ICE BASKET WATER ADDITION EQUIPMENT SEE PHY-5707, AUG 1-4, 2-4, 3-4, 5-4, 6-4

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

NOTE: 4" FOR CODE CLASS 1, 2 & 3 VENTS AND DEANS, THE ISI BOUNDARY EXTENDS TO AND INCLUDES THE SECOND FULLY CLOSED VALVE OR EXTENDS TO AND INCLUDES THE SECOND FULLY CLOSED VALVE OR EXTENDS TO AND INCLUDES THE SECOND FULLY CLOSED VALVE.

NOTE: 5" FOR CODE CLASS 2 & 3 VENTS AND DEANS, THE ISI BOUNDARY EXTENDS TO AND INCLUDES THE FIRST FULLY CLOSED VALVE.

NOTE: THIS DWG MADE UNIQUE FOR UNIT #2 AND SUPERSEDES DWG 1-2-5146-R REV 12

**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-VDS-W APPEARS AS: NSW105W

3. 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: VP  
 VCDWAGTRM

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

DATE	NO.	APPROVED
9-12-51	23	Rev 22

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

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

**FLOW DIAGRAM  
 ICE CONDENSER  
 REFRIGERATION**

UNIT #2 SHEET 3 OF 3  
 DR. NO. 2-5146B-23

AMERICAN ELECTRIC POWER SERVICE CORP.  
 2 BROADWAY NEW YORK

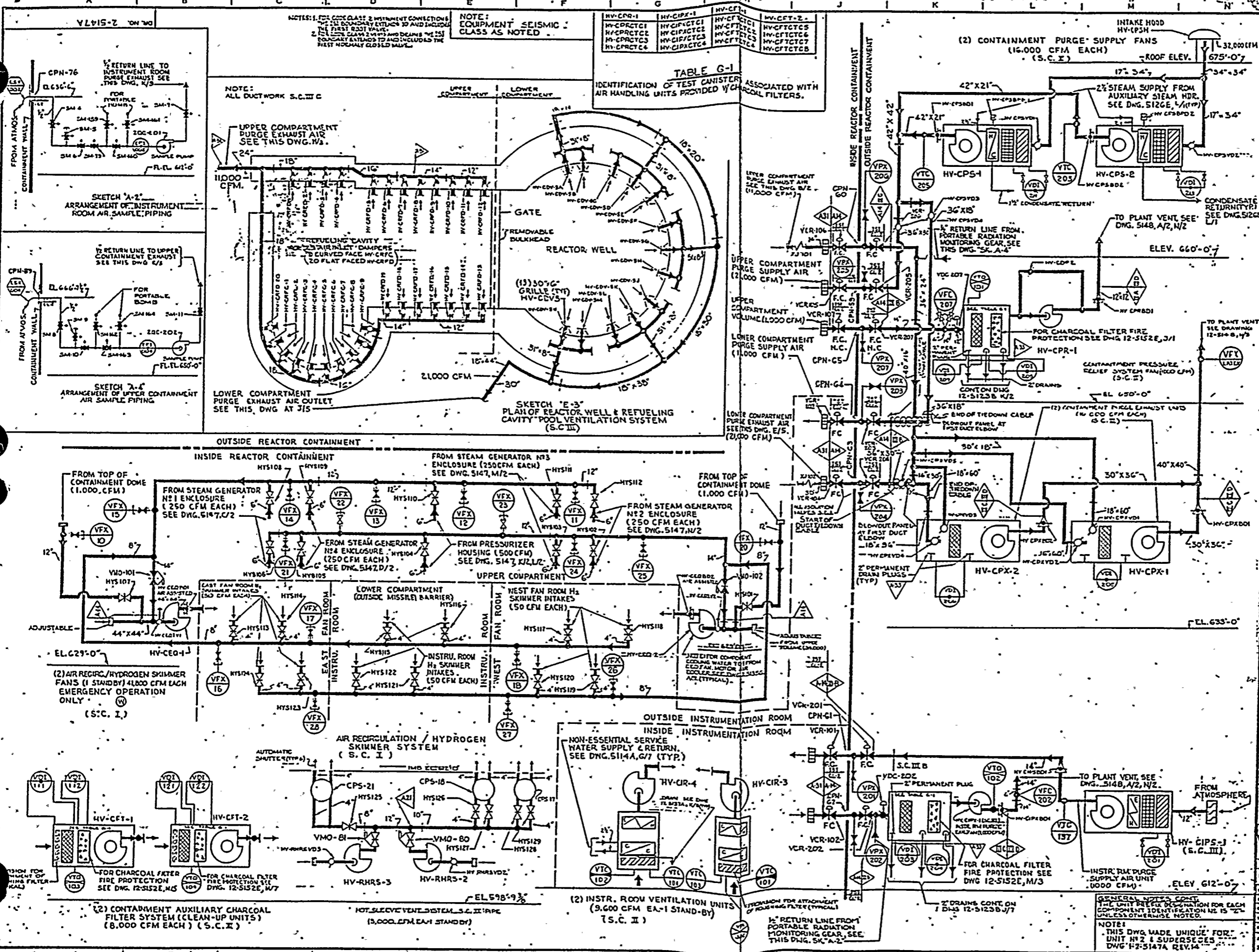
SI APERTURE CARD

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9003090183-22



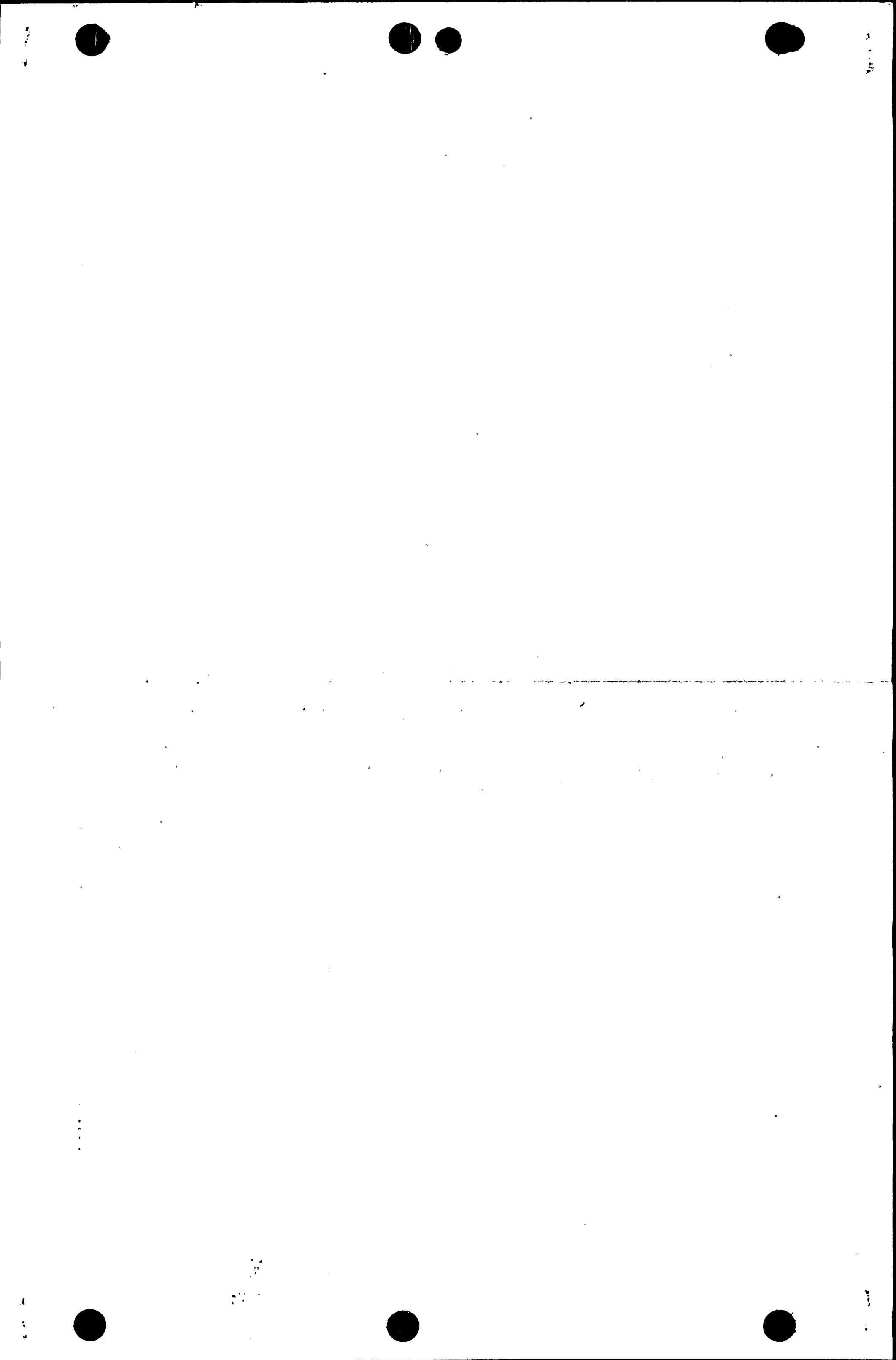




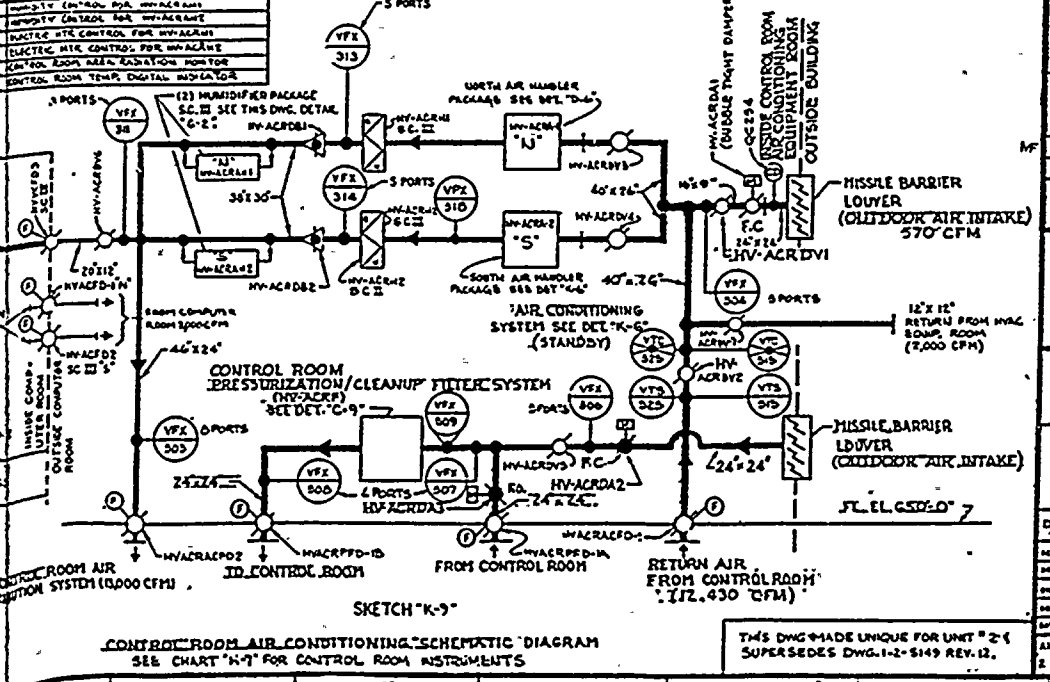
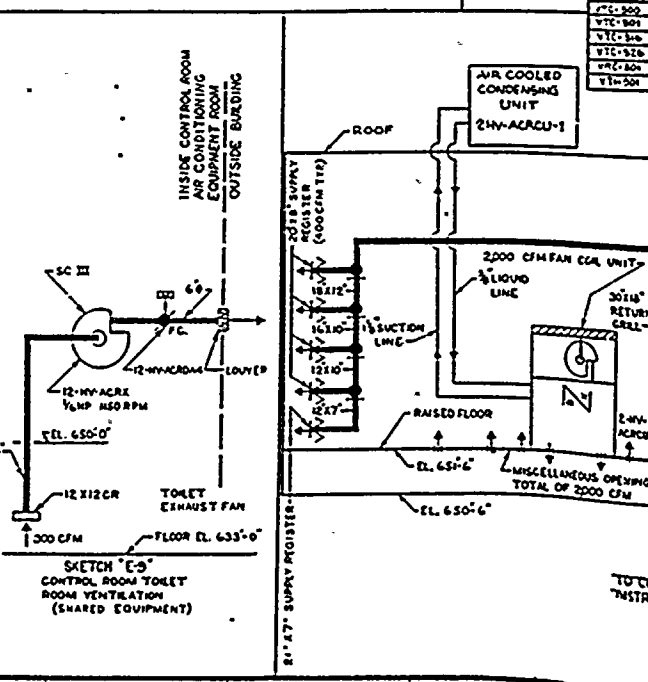
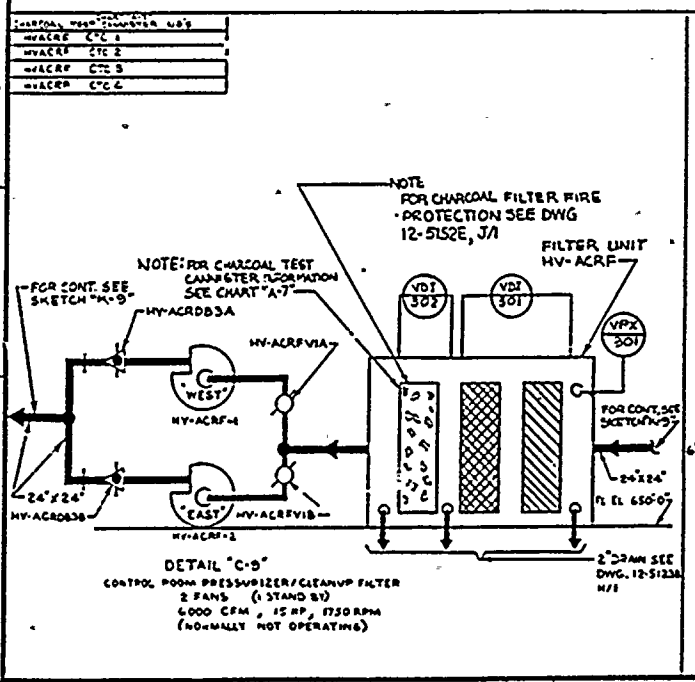
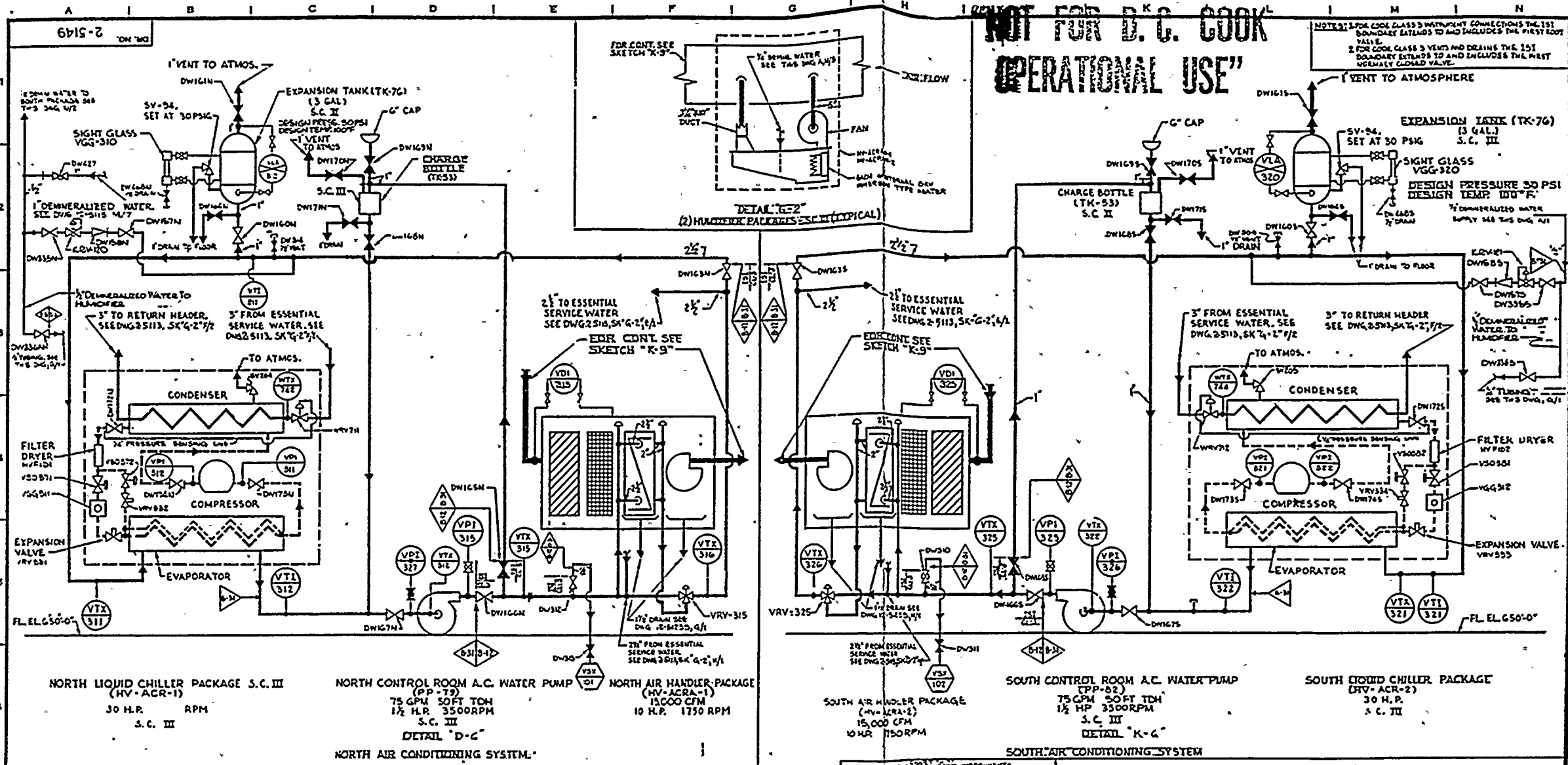
SI  
APERTURE  
CARD

Also Available On  
Aperture Card





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



DATE	1-17-77	NO.	23	APPROVED	
FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING					
INDIANA & MICHIGAN ELECTRIC CO. DONALD C. COOK NUCLEAR PLANT					
BRIDGMAN MOCKMAN					
FLOW DIAGRAM CONTROL ROOM VENTILATION UNIT NO. 2					
DWG. NO. 2-5149-23					
AMERICAN ELECTRIC POWER SERVICE CO. 2 BROADWAY NEW YORK					

**SI  
APERTURE  
CARD**

Also Available On  
Aperture Card

9003090183-24



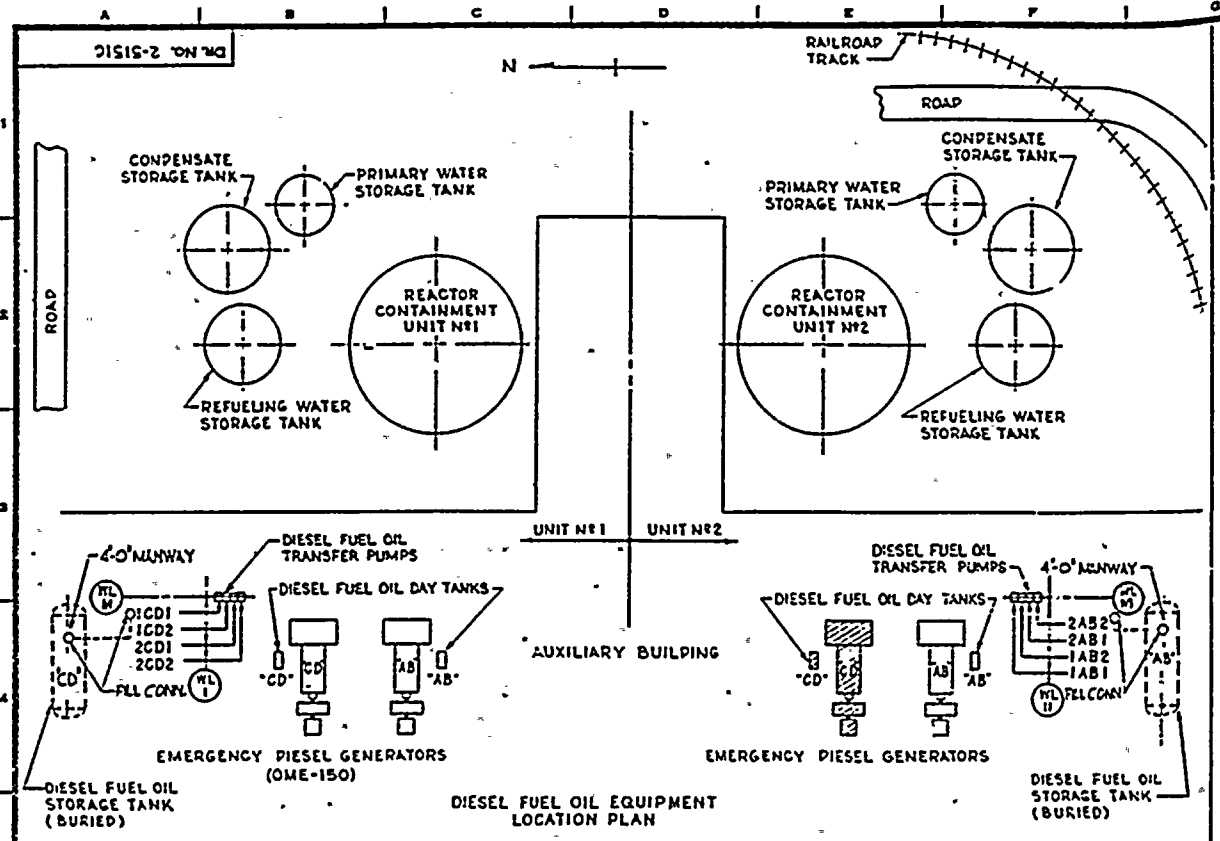
111  
112  
113











DESEL FUEL OIL STORAGE AND TRANSFER SYSTEM  
(SEE SKETCH 'L-G' DWG. 12-5104)

**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.

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

NOTE A, M5 ENCIRCLED LETTERS ARE SHOWN FOR ORIENTATION OF VALVE IN PIPING. THESE LETTERS REFLECT SIMILAR MARKINGS ON VALVE BODY.

ALL PIPING TO BE CLASS 1 OR 2 FOR EMBEDDED, EXCEPT AS NOTED.

ALL PIPING AND EQUIPMENT TO BE THE SAME CLASS AS NOTED.

FOR THE CODE CLASS 3 INSTRUMENT SYMBOLS, THE 125 SYMBOL EXTENDS TO AND INCLUDES THE FIRST ROOT VALVE.

FOR THE CODE CLASS 3 INSTRUMENT SYMBOLS, THE 125 SYMBOL EXTENDS TO AND INCLUDES THE FIRST ROOT VALVE.

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

NOTE: THIS DWG. MADE UNIQUE FOR UNIT #2 AND SUPERSEDES 12-5130 REV. 0.

HAND OPERATED VALVE IDENTIFICATION NUMBERS: ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MCM) NUMBERS.

TAG NUMBERS DERIVED FROM DRAWING AS FOLLOWS:  
TAG #1: 2-NS-1000-W APPEARS AS: NS1000-W

INSTRUMENT ROOT VALVE MARKING IS NOT SHOWN ON DRAWING. VALVE IDENTIFICATION (LIT) DERIVED BY ADDING TO INSTRUMENT NUMBER:  
FOR SINGLE IMPULSION: VCCOMMITING

FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG.

DATE: 12-8-81 26  
BY: [Signature]  
APPROVED: [Signature]

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING.

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

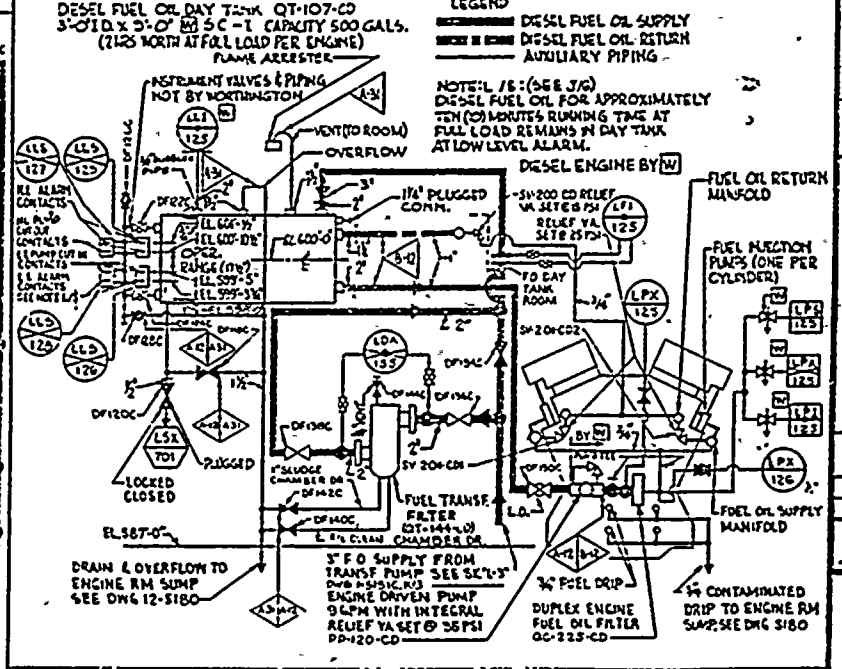
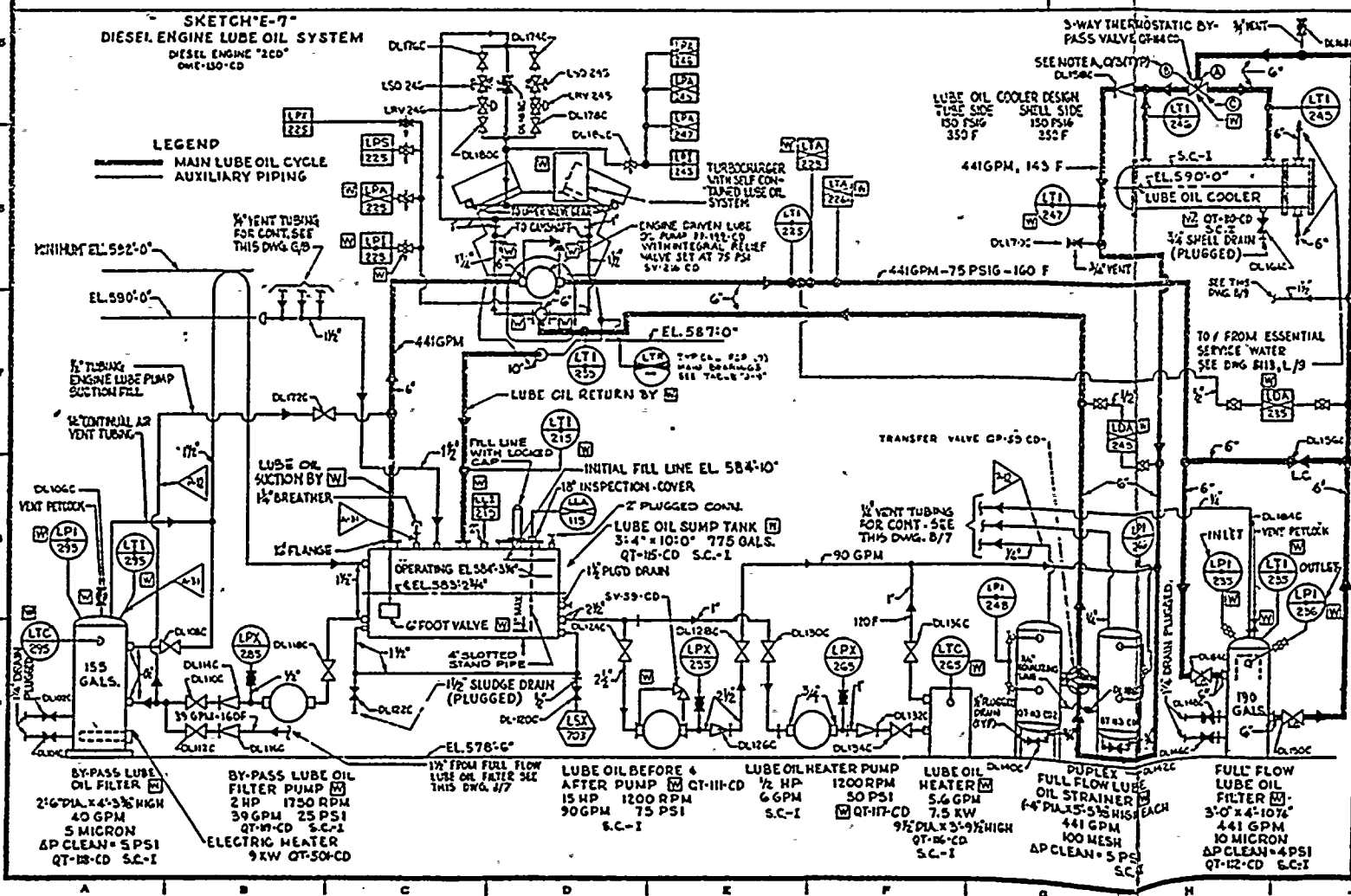
FLOW DIAGRAM  
EMERGENCY DIESEL GENERATOR 'CD'

UNIT #2  
DR. NO. 2-5151C-26

SCALE: 1" = 10'-0"

DATE: 12-8-81  
BY: [Signature]  
APPROVED: [Signature]

AMERICAN ELECTRIC POWER SUPPLY CO. INC. NEW YORK



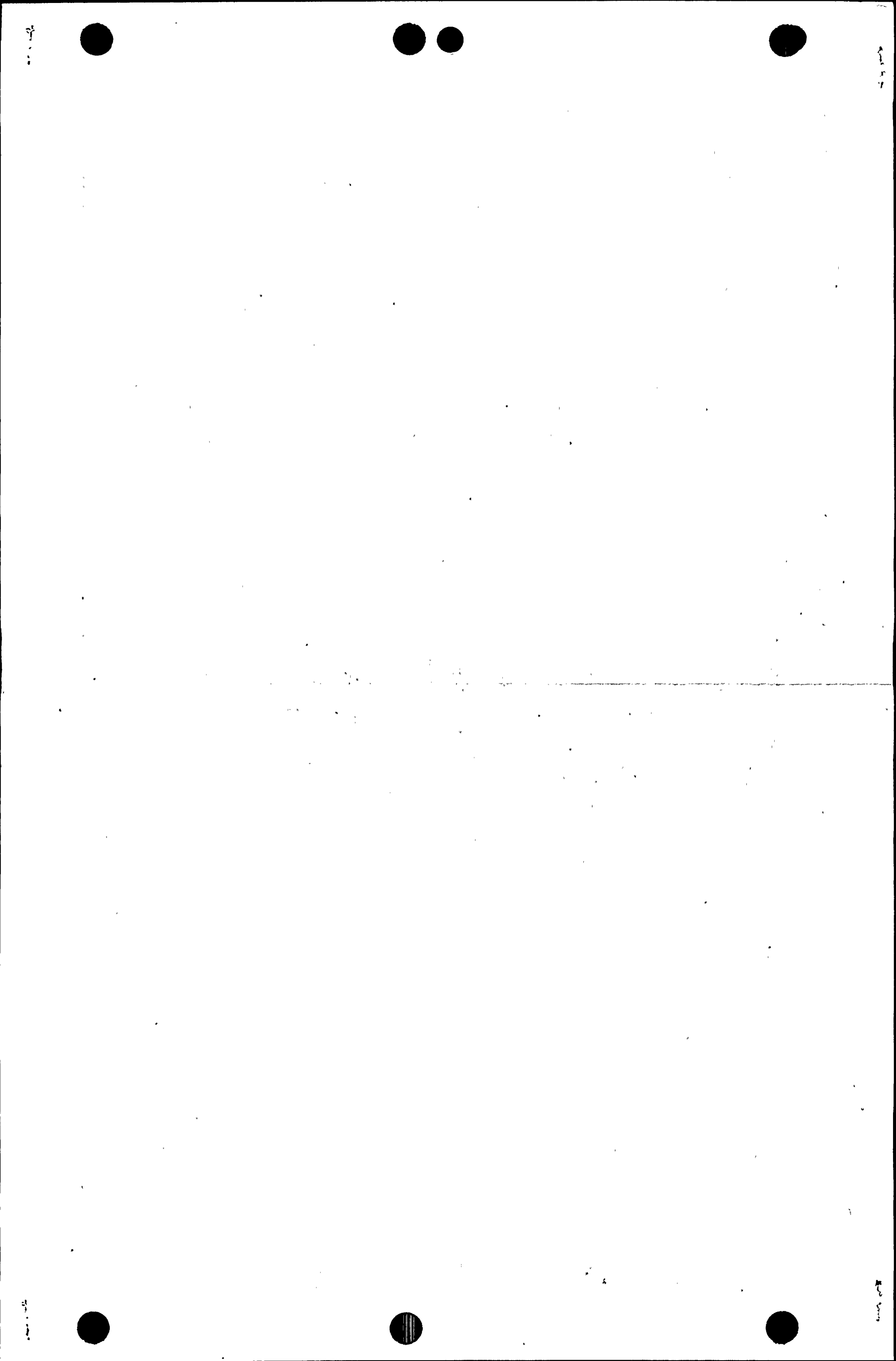
TAB. E-7 "J" MAIN BEARING TEMPERATURE INSTRUMENTS

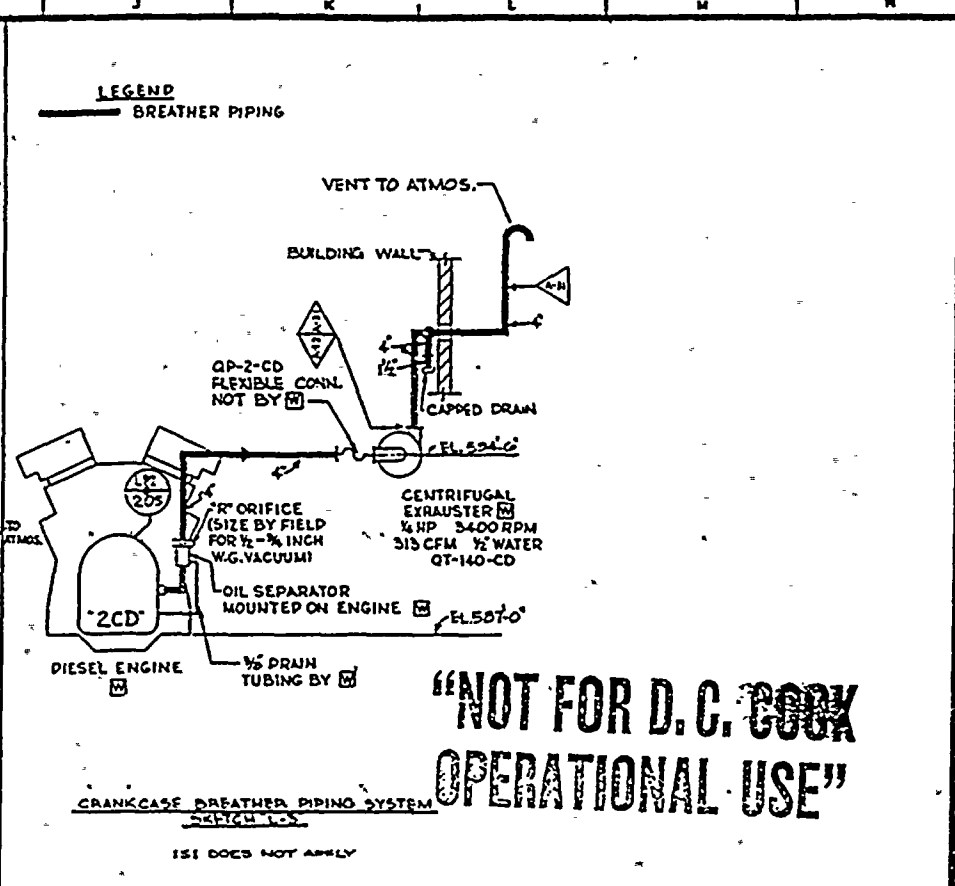
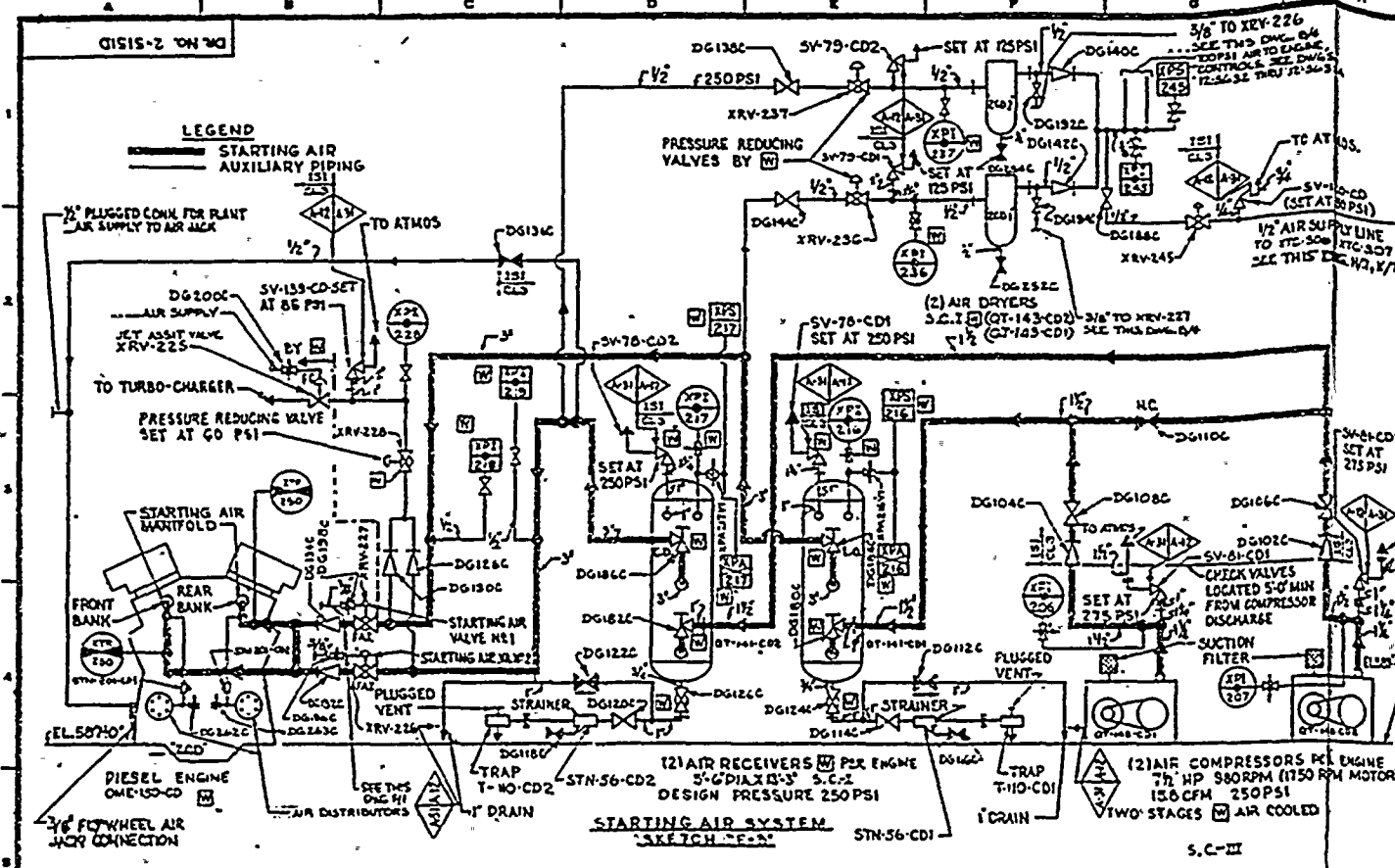
MAIN DRG. U.O.	LTR
1	211
2	212
3	213
4	214
5	215
6	216
7	217

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

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

NOTE: "F.A.I." INDICATES VALVE FAILURE POSITION "FAK 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.

151 DOES NOT APPLY

FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG.

DATE: 11-27-62

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DWG.

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

**FLOW DIAGRAM EMERGENCY DIESEL GENERATOR 'CD'**

DR. NO. 2-5151D-27

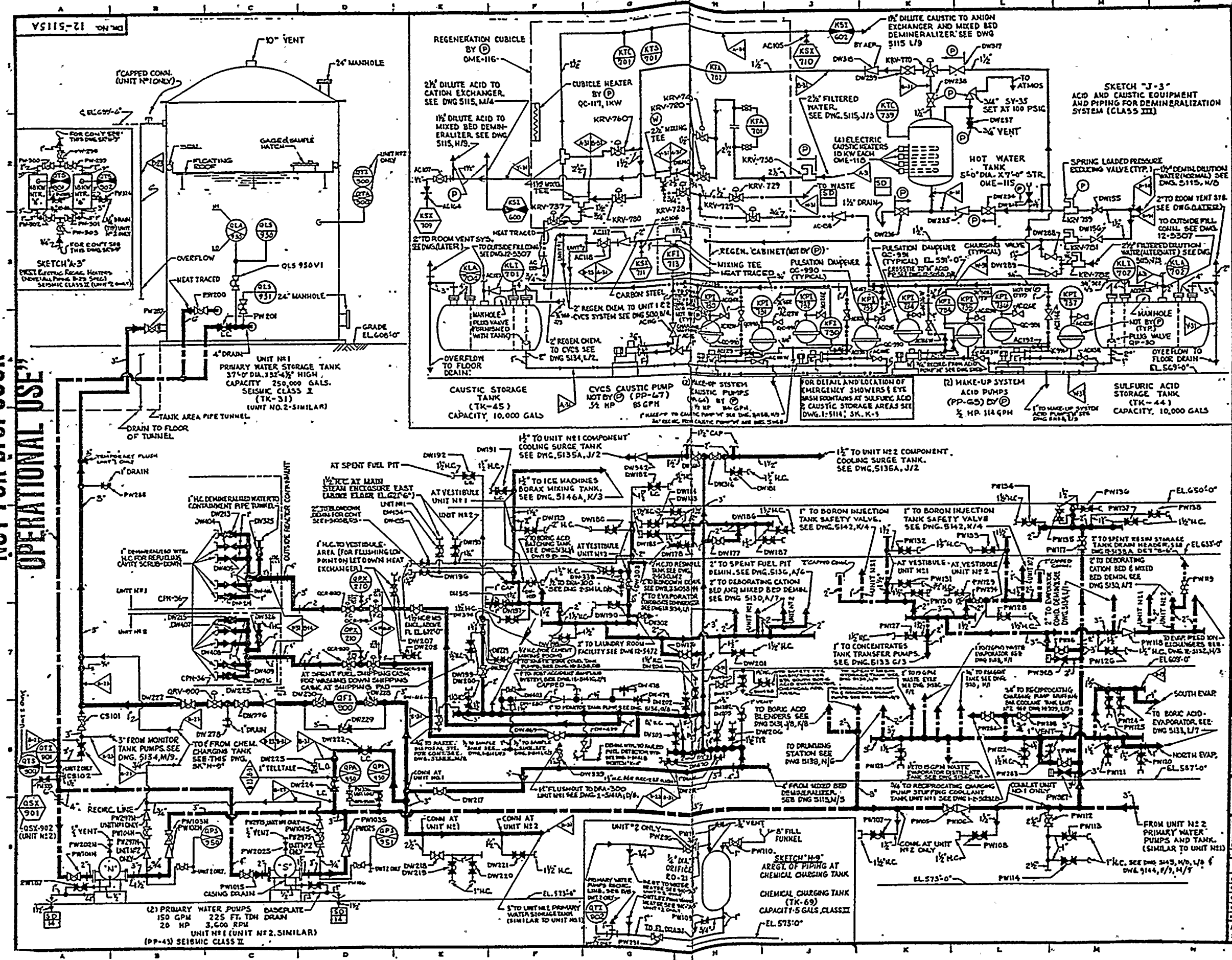
AMERICAN ELECTRIC POWER EQUIPMENT CO. NEW YORK

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NOT FOR D.G. COOK  
OPERATIONAL USE



**GENERAL NOTES**

**LEGEND**

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

**SYMBOLS**

⊕ PERMITIT

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 PIPING DESIGNATION FOR EACH COMPONENT IDENTIFICATION IS (1) UNIT NUMBER (2) VALVE OR INSTRUMENT NUMBER.

**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. 12-5115A-41 APPEARS AS: 12-5115A-41
- INSTRUMENT ROOT VALVE MARK NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER FOR SINGLE IMPULSION FOR DOUBLE IMPULSION/STREAM VELOCITY

DATE: 12-2-56  
NO. 41  
APPROVED: [Signature]

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

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

**FLOW DIAGRAM MAKE-UP WATER & PRIMARY WATER SYSTEMS UNIT #1 & 2**

EXCEPTIONS ARE NOTE

DR. NO. 12-5115A-41

SCALE: [Blank]

BY: [Blank]

CHECKED: [Blank]

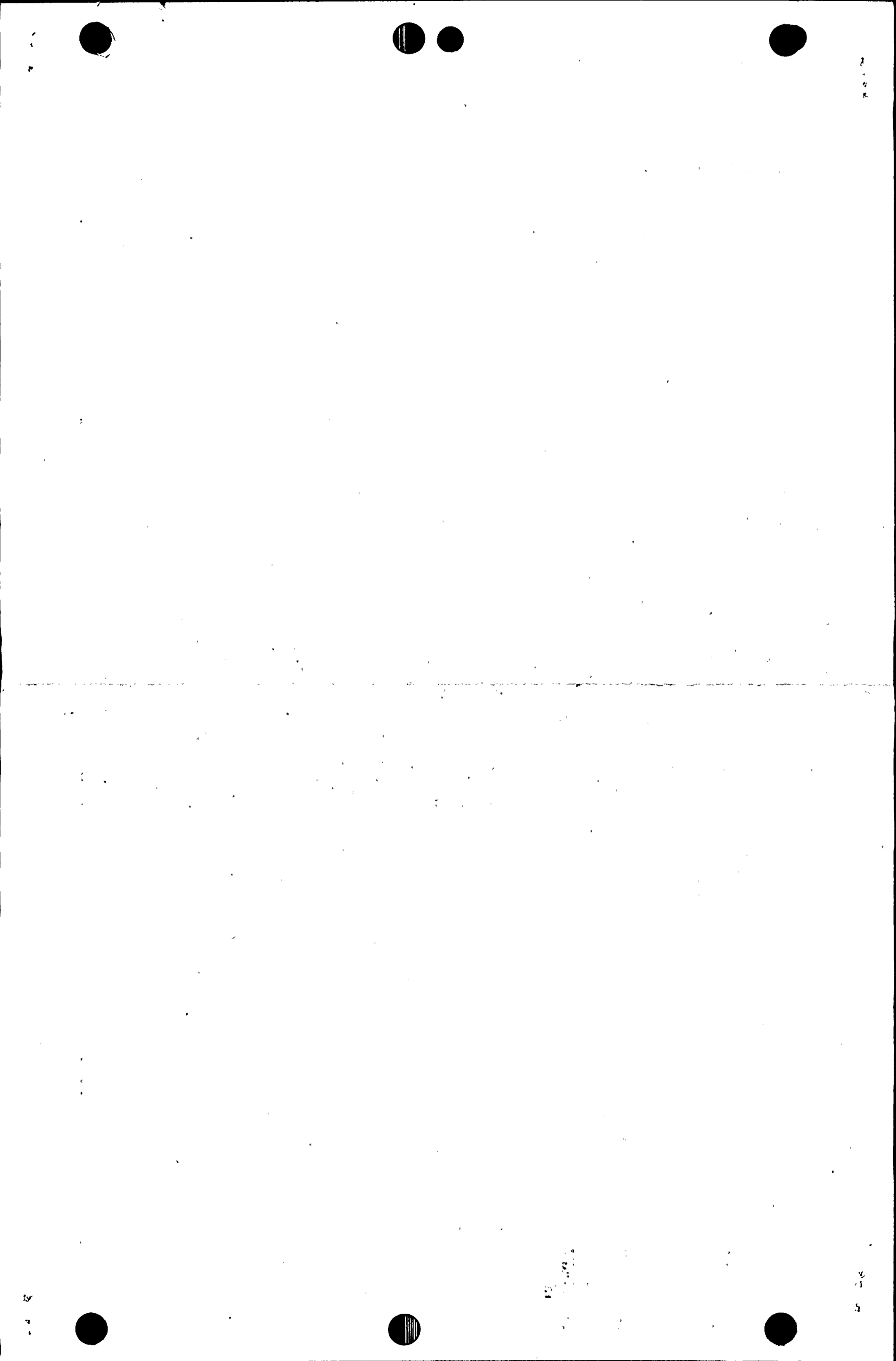
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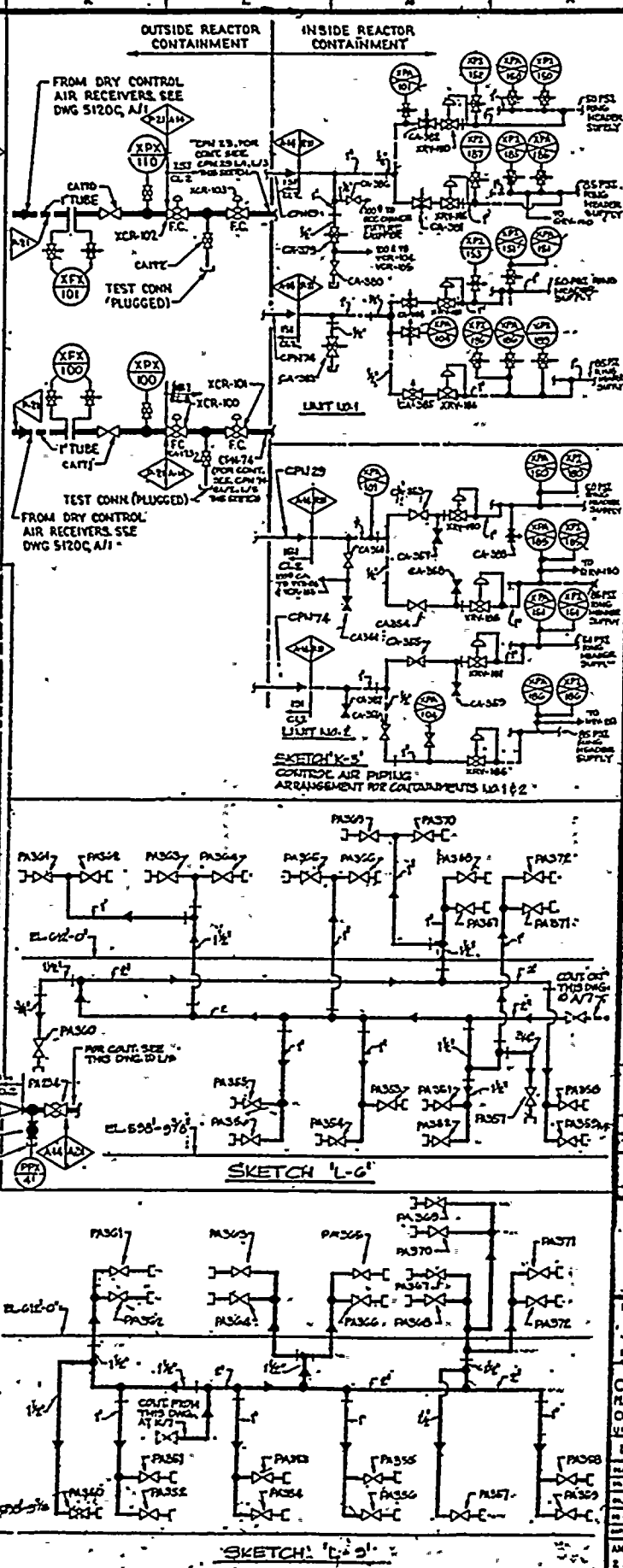
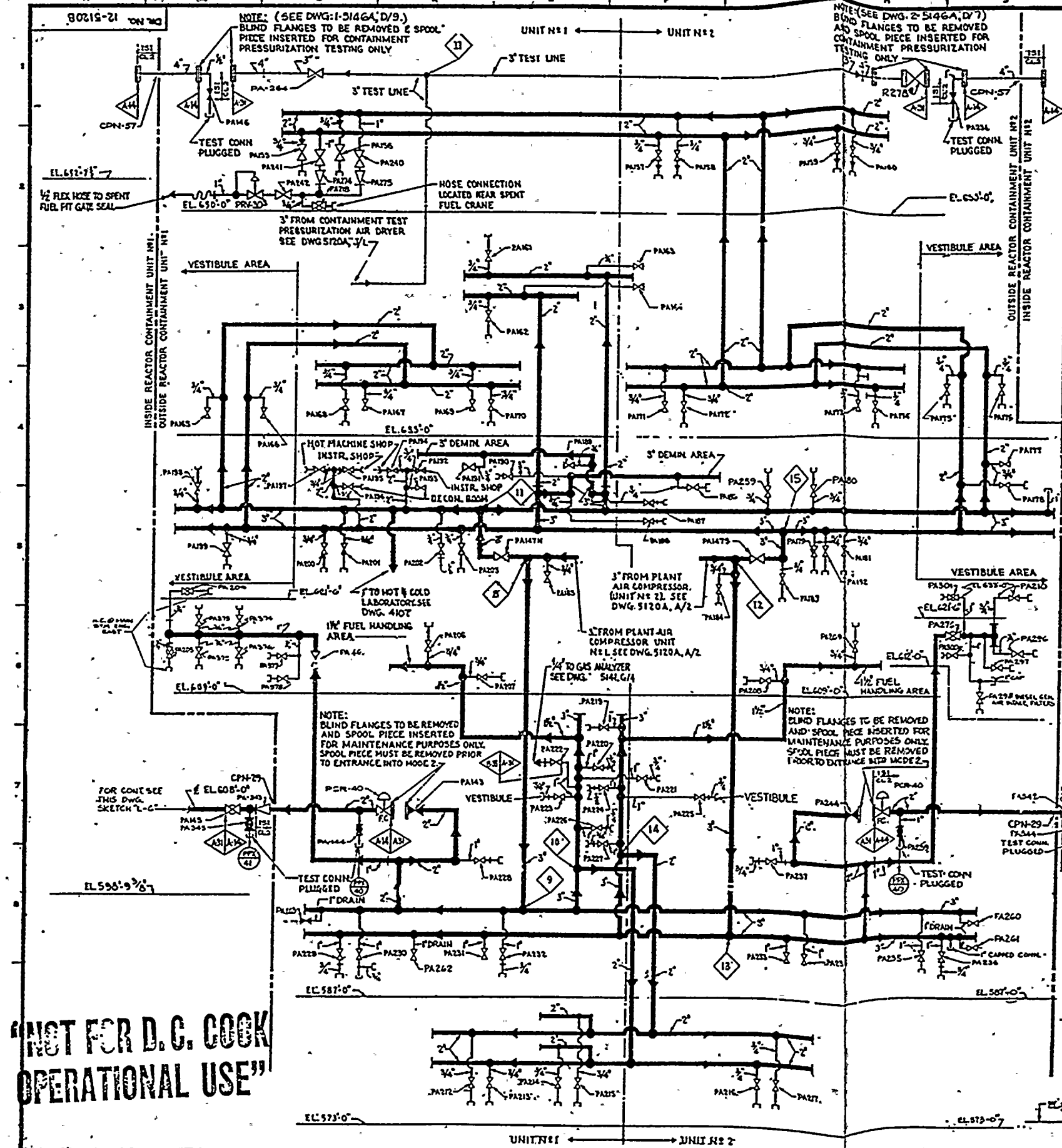
APPROVED: [Blank]

ANYWHERE ELECTRIC POWER SERVICE CORP. S. BOONAVILLE NEW YORK

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APERTURE  
CARD

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**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 INSTRUMENT CONN'S, THE 1/2" SCHEDULE 40S END TO BE INCLUDED ON THE FIRST ROOT VALVE.

FOR CODE CLASS 3 VALVES & CONN'S, THE 1/2" SCHEDULE 40S END TO BE INCLUDED ON THE FIRST, NORMALLY CLOSED VALVE.

3 VALVES MARKED @ ARE ALSO SHOWN ON DIAGRAMS ON WHICH THEY OCCUR. AIR PIPING NOT TO BE DUPLICATED.

THE LAST DEPTH DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER IS '1' 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 DRAWING USE AS FOLLOWS:

- \* APPEARS AS: 1000000
- INSTRUMENT ROOT VALVE MARK (VALVE IDENTIFICATION LIST) DERIVED BY ADDING 0 TO INSTRUMENT NUMBER.
- FOR SINGLE IMPULSE/STREAM FOR DOUBLE IMPULSE/STREAM V22000000

M 104 MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG.

DATE: 12/22/60  
 APPROVED: [Signature]

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

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

FLOW DIAGRAM  
 COMPRESSED AIR SYSTEM  
 PLANT AIR AUX. BLDG. & CONTAINMENT CONTROL AIR FOR CONTAINMENT UNITS 1 & 2

DR. NO. 12-5120B-22

AMERICAN ELECTRIC POWER SERVICE CORP.  
 2 BROADWAY

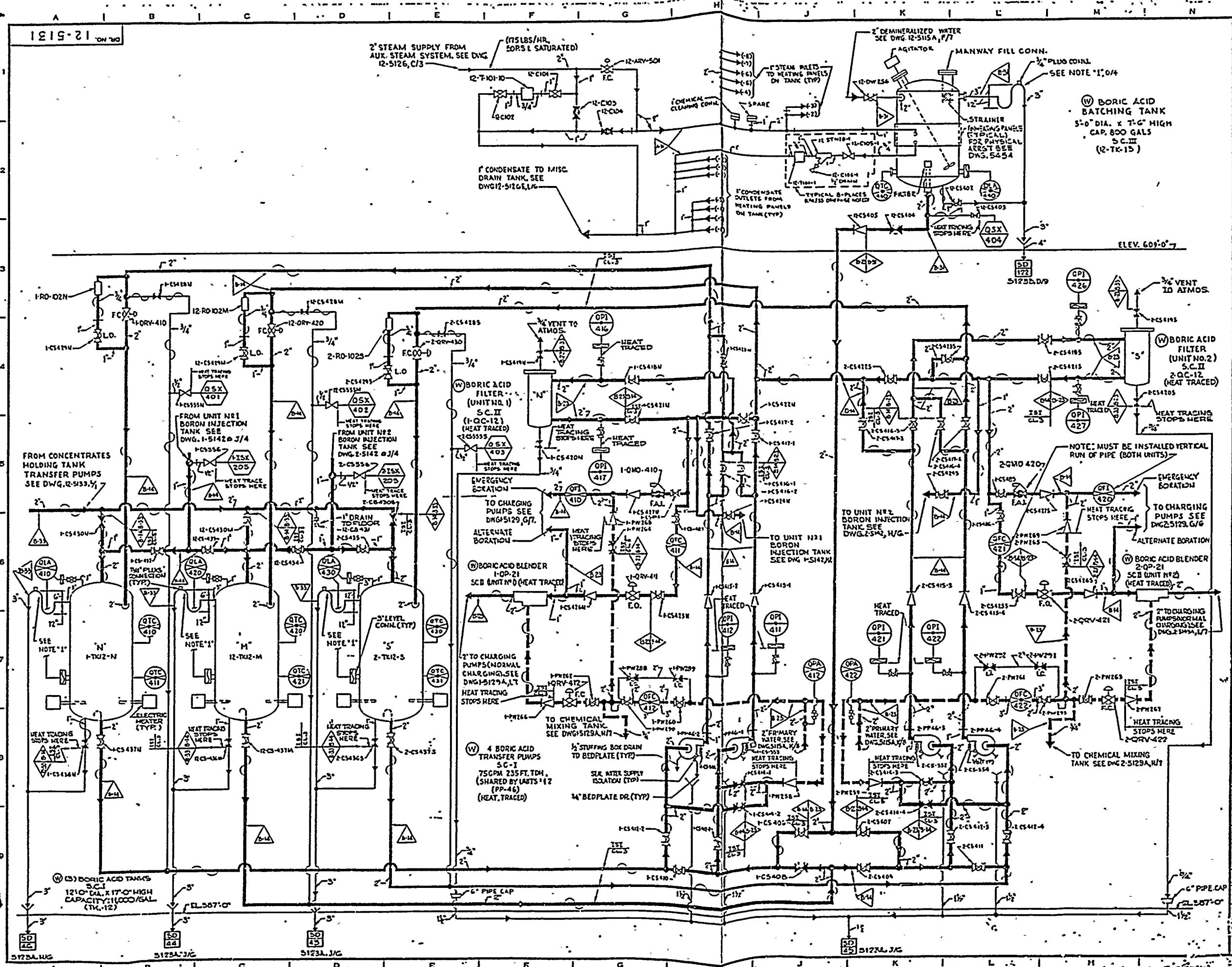
**"NOT FOR D. C. COOK OPERATIONAL USE"**

APERTURE CARD

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**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, COOLS, SEE DWG'S 125103 & 5104.

BY WESTINGHOUSE

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

EQUIPMENT SUPPLIED BY (W) AS NOTED.

NOTE: 1" 1/8" 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 3 INSTRUMENT CONNECTIONS THE 1ST BOUNDARY EXTENDS TO AND INCLUDES THE FIRST ROOT 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 (MCR) NUMBERS.

2. TAG NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:  
TAG # 2-NSW-VI03-W APPEARS AS: NSW003

3. INSTRUMENT ROOT VALVE MARK #15 NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:  
FOR SINGLE IMPULSE: VV001  
FOR DOUBLE IMPULSE: VV002

FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG

DATE: 1-2-77 19 APPROVED: [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 USE ONLY. IT IS NOT TO BE REPRODUCED OR COPIED IN ANY MANNER OR FOR ANY PURPOSE WITHOUT THE WRITTEN PERMISSION OF THE AEP SERVICE CORP. AND IS NOT TO BE REPRODUCED, COPIED, OR LOANED TO ANY OTHER PERSON OR ORGANIZATION.

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

BRIDGMAN MICHIGAN

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

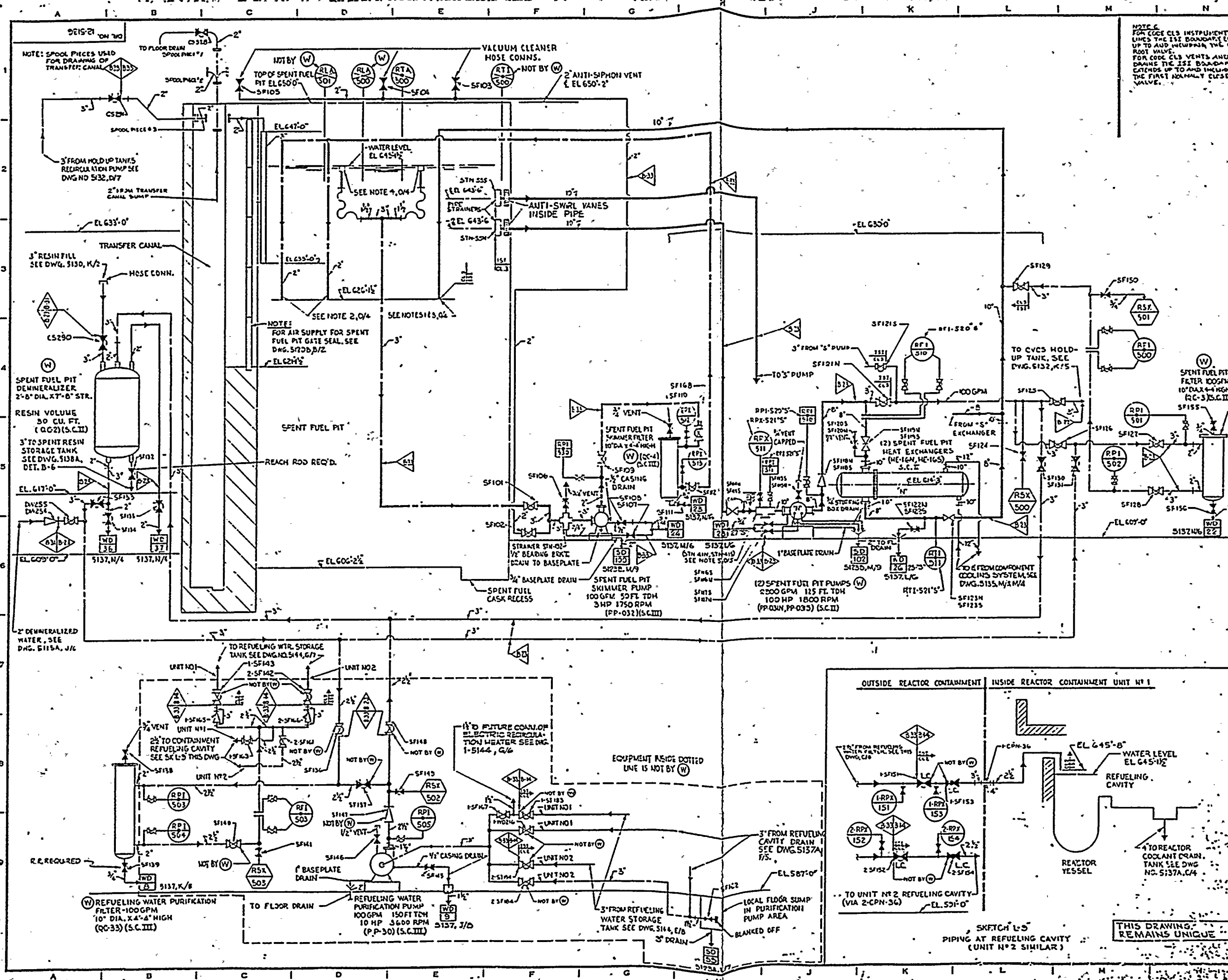
DWG. NO. 12-5131-194

SI  
APERTURE  
CARD

Also Available On  
Aperture Card







NOTE: FOR CODE CLS INSTRUMENT LINES THE ISSE BOUNDARY EXTEND UP TO AND INCLUDING THE FIRST ROOT VALVE. FOR CODE CLS VENTS AND DRAINS THE ISSE BOUNDARY CATCHES UP TO AND INCLUDING THE FIRST NORMALLY CLOSED VALVE.

**GENERAL NOTES**

**LEGEND**

- SPENT FUEL PIT COOLING WATER
- - - SKIMMER CLEANUP
- 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.

(W) 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 ABOVE FUEL ASSEMBLIES

NOTE 4/3 SET ADJUSTABLE SUPPORT ON SKIMMERS TO LIMIT DOWN TRAVEL TO 6" 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 LOCATE 1/2" HOLE IN PIPE 4" BELOW WATER LINE

NOTE 7/3 LOCATE 1/4" HOLE IN PIPE 4" BELOW WATER LINE

NOTE 8/3 TERMINATE PIPE ABOVE FUEL ASSEMBLIES

NOTE 9/3 SET ADJUSTABLE SUPPORT ON SKIMMERS TO LIMIT DOWN TRAVEL TO 6" BELOW NORMAL WATER LEVEL

NOTE 10/3 "TEE" TYPE STRAINER WITH TEMPORARY SCREEN FOR USE DURING PREOPERATIONAL FLUSHING. (LOCATE AS CLOSE TO PUMP AS POSSIBLE)

NOTE 11/3 LOCATE 1/2" HOLE IN PIPE 4" BELOW WATER LINE

NOTE 12/3 LOCATE 1/4" HOLE IN PIPE 4" BELOW WATER LINE

NOTE 13/3 TERMINATE PIPE ABOVE FUEL ASSEMBLIES

NOTE 14/3 SET ADJUSTABLE SUPPORT ON SKIMMERS TO LIMIT DOWN TRAVEL TO 6" BELOW NORMAL WATER LEVEL

NOTE 15/3 "TEE" TYPE STRAINER WITH TEMPORARY SCREEN FOR USE DURING PREOPERATIONAL FLUSHING. (LOCATE AS CLOSE TO PUMP AS POSSIBLE)

NOTE 16/3 LOCATE 1/2" HOLE IN PIPE 4" BELOW WATER LINE

NOTE 17/3 LOCATE 1/4" HOLE IN PIPE 4" BELOW WATER LINE

NOTE 18/3 TERMINATE PIPE ABOVE FUEL ASSEMBLIES

NOTE 19/3 SET ADJUSTABLE SUPPORT ON SKIMMERS TO LIMIT DOWN TRAVEL TO 6" BELOW NORMAL WATER LEVEL

NOTE 20/3 "TEE" TYPE STRAINER WITH TEMPORARY SCREEN FOR USE DURING PREOPERATIONAL FLUSHING. (LOCATE AS CLOSE TO PUMP AS POSSIBLE)

NOTE 21/3 LOCATE 1/2" HOLE IN PIPE 4" BELOW WATER LINE

NOTE 22/3 LOCATE 1/4" HOLE IN PIPE 4" BELOW WATER LINE

NOTE 23/3 TERMINATE PIPE ABOVE FUEL ASSEMBLIES

NOTE 24/3 SET ADJUSTABLE SUPPORT ON SKIMMERS TO LIMIT DOWN TRAVEL TO 6" BELOW NORMAL WATER LEVEL

NOTE 25/3 "TEE" TYPE STRAINER WITH TEMPORARY SCREEN FOR USE DURING PREOPERATIONAL FLUSHING. (LOCATE AS CLOSE TO PUMP AS POSSIBLE)

NOTE 26/3 LOCATE 1/2" HOLE IN PIPE 4" BELOW WATER LINE

NOTE 27/3 LOCATE 1/4" HOLE IN PIPE 4" BELOW WATER LINE

NOTE 28/3 TERMINATE PIPE ABOVE FUEL ASSEMBLIES

NOTE 29/3 SET ADJUSTABLE SUPPORT ON SKIMMERS TO LIMIT DOWN TRAVEL TO 6" BELOW NORMAL WATER LEVEL

NOTE 30/3 "TEE" TYPE STRAINER WITH TEMPORARY SCREEN FOR USE DURING PREOPERATIONAL FLUSHING. (LOCATE AS CLOSE TO PUMP AS POSSIBLE)

NOTE 31/3 LOCATE 1/2" HOLE IN PIPE 4" BELOW WATER LINE

NOTE 32/3 LOCATE 1/4" HOLE IN PIPE 4" BELOW WATER LINE

NOTE 33/3 TERMINATE PIPE ABOVE FUEL ASSEMBLIES

NOTE 34/3 SET ADJUSTABLE SUPPORT ON SKIMMERS TO LIMIT DOWN TRAVEL TO 6" BELOW NORMAL WATER LEVEL

NOTE 35/3 "TEE" TYPE STRAINER WITH TEMPORARY SCREEN FOR USE DURING PREOPERATIONAL FLUSHING. (LOCATE AS CLOSE TO PUMP AS POSSIBLE)

NOTE 36/3 LOCATE 1/2" HOLE IN PIPE 4" BELOW WATER LINE

NOTE 37/3 LOCATE 1/4" HOLE IN PIPE 4" BELOW WATER LINE

NOTE 38/3 TERMINATE PIPE ABOVE FUEL ASSEMBLIES

NOTE 39/3 SET ADJUSTABLE SUPPORT ON SKIMMERS TO LIMIT DOWN TRAVEL TO 6" BELOW NORMAL WATER LEVEL

NOTE 40/3 "TEE" TYPE STRAINER WITH TEMPORARY SCREEN FOR USE DURING PREOPERATIONAL FLUSHING. (LOCATE AS CLOSE TO PUMP AS POSSIBLE)

NOTE 41/3 LOCATE 1/2" HOLE IN PIPE 4" BELOW WATER LINE

NOTE 42/3 LOCATE 1/4" HOLE IN PIPE 4" BELOW WATER LINE

NOTE 43/3 TERMINATE PIPE ABOVE FUEL ASSEMBLIES

NOTE 44/3 SET ADJUSTABLE SUPPORT ON SKIMMERS TO LIMIT DOWN TRAVEL TO 6" BELOW NORMAL WATER LEVEL

NOTE 45/3 "TEE" TYPE STRAINER WITH TEMPORARY SCREEN FOR USE DURING PREOPERATIONAL FLUSHING. (LOCATE AS CLOSE TO PUMP AS POSSIBLE)

NOTE 46/3 LOCATE 1/2" HOLE IN PIPE 4" BELOW WATER LINE

NOTE 47/3 LOCATE 1/4" HOLE IN PIPE 4" BELOW WATER LINE

NOTE 48/3 TERMINATE PIPE ABOVE FUEL ASSEMBLIES

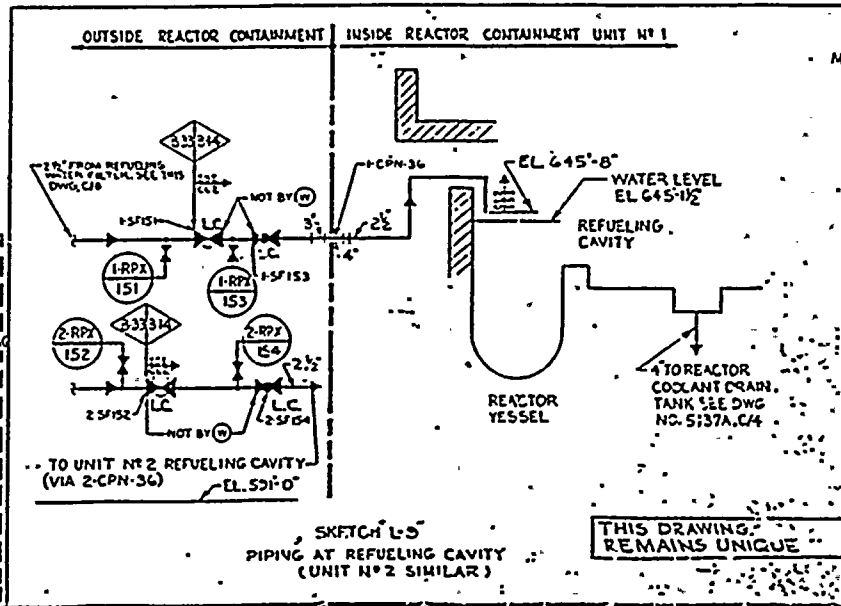
NOTE 49/3 SET ADJUSTABLE SUPPORT ON SKIMMERS TO LIMIT DOWN TRAVEL TO 6" BELOW NORMAL WATER LEVEL

NOTE 50/3 "TEE" TYPE STRAINER WITH TEMPORARY SCREEN FOR USE DURING PREOPERATIONAL FLUSHING. (LOCATE AS CLOSE TO PUMP AS POSSIBLE)

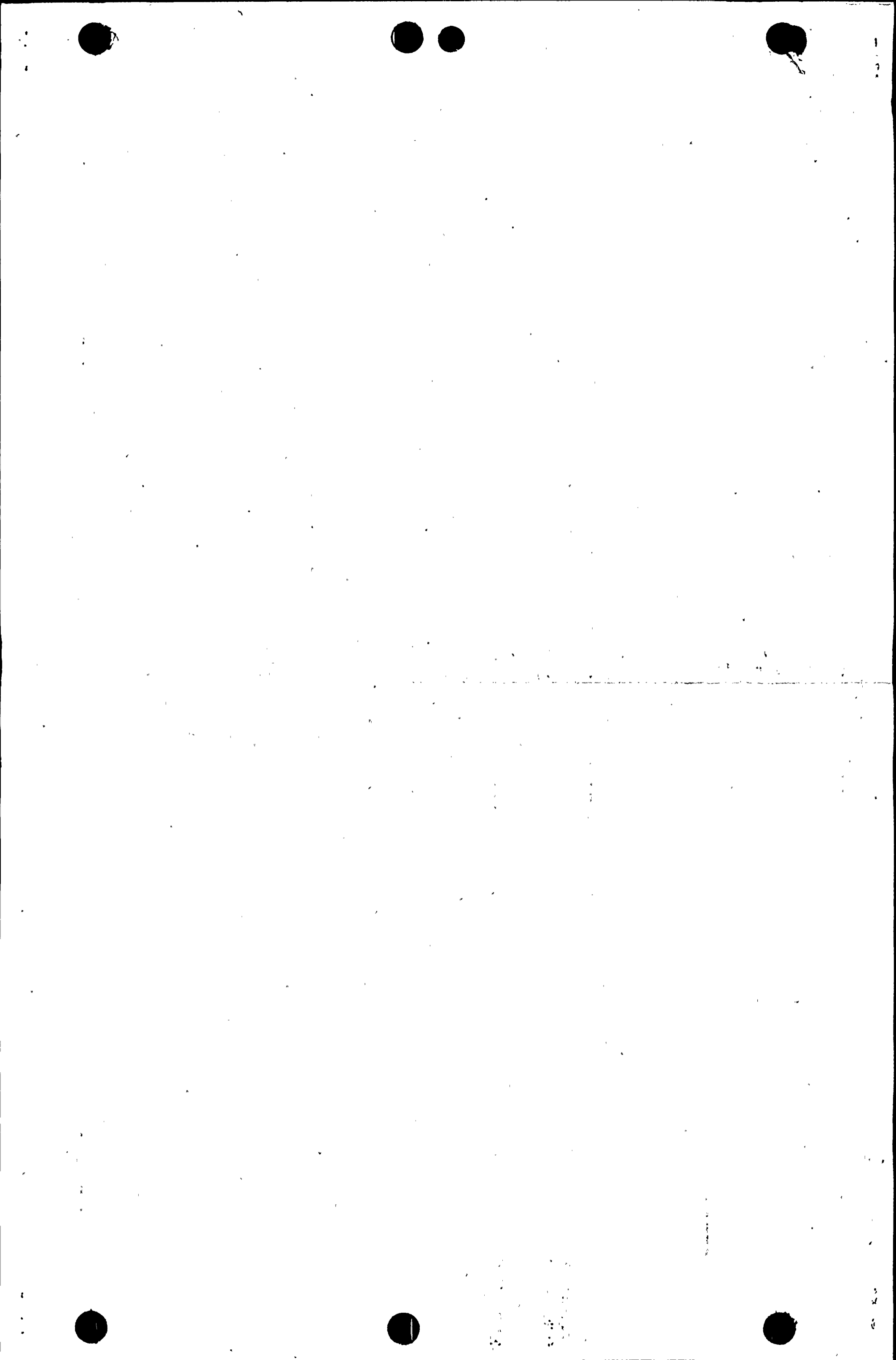
FOR REVISION RECORD SEE SEPARATE REVISION RECORD FOR THIS DRAWING

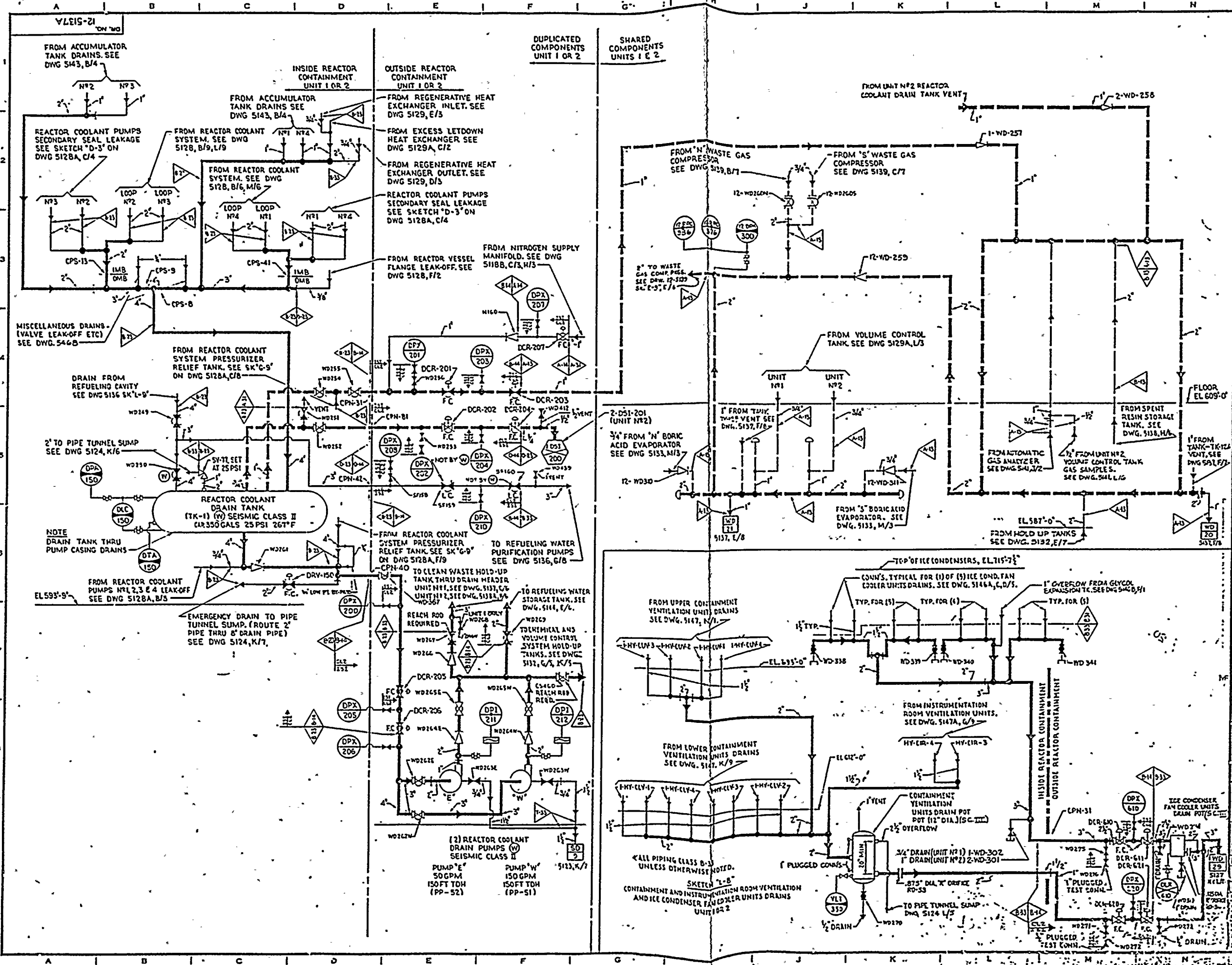
SI APERTURE CARD

Also Available On Aperture Card



DATE	3-17-87	25	412
FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING			
INDIANA & MICHIGAN ELECTRIC CO.			
DONALD C. COOK			
NUCLEAR UNIT			
BRIDGMAN			
FLOW DIAGRAM			
SPENT FUEL PIT			
COOLING & CLEAN-UP			
UNIT 1 & 2			
EXCEPTIONS ARE NOTED			
DWG. NO. 12-5136-25			





**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.

(W) 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 DRAIN

EQUIPMENT SUPPLIED BY (W) AS NOTED

NOTE: 2" EQUIPMENT SEISMIC CLASS AS NOTED

THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NUMBER IS B37H11-62 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 N1: 2-NSW-YOS-W APPEARS AS: NSWYOW

3. INSTRUMENT ROOT VALVE MARK NYS NOT SHOWN ON DRAWING SEE VALVE IDENTIFICATION LIST DERIVED BY ADDING TO INSTRUMENT NUMBER:  
 FOR SINGLE PULSE V: V1  
 FOR DOUBLE PULSE V: V2  
 FOR DOUBLE PULSE V: V3

**FOR INSTRUMENT TAG IDENTIFICATION**

7-28-26 | 21 | *[Signature]*  
 DATE: 7-28-26 | APPROVED: *[Signature]*

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

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

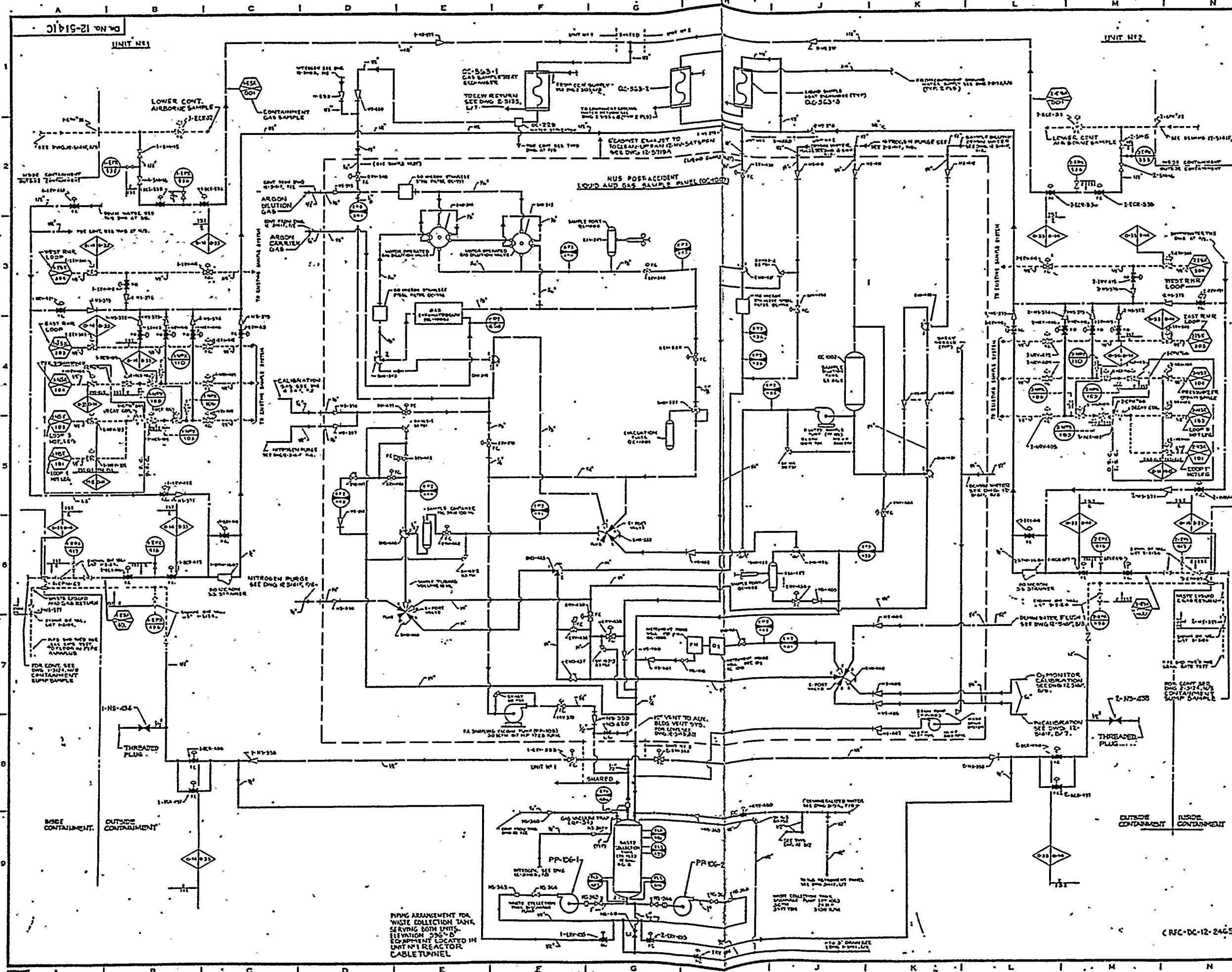
**FLOW DIAGRAM WDS VENTS & DRAINS**  
 UNITS 1 & 2 (SHEET 2 OF 2)  
 (EXCEPTIONS ARE NOTED)  
 12-5137A-21

FOR INSTRUMENT ONLY

SI APERTURE CARD

Also Available On Aperture Card





**GENERAL NOTES**

**LEGEND**

LIQUID PIPING  
 GASEOUS PIPING  
 AIRWAY PIPING  
 SAMPLE VALVES SHOWN ON THIS DRAWING ARE LOCATED AS TABLED BELOW

**NOTES:**

- THIS FLOW DIAGRAM AS PER EPC-DC-12-5141C AND 12-5141D
- FOR DETAILS OF LOWER CONTAINMENT SAMPLE FLOW DIAGRAM SEE EPC-DC-12-5141E
- THIS FLOW DIAGRAM AND GAS SAMPLE PIPING IS SHOWN FOR BOTH UNITS
- ALL EQUIPMENT AND PIPING IS SHOWN AS SHOWN EXCEPT AS NOTED
- VALVES AND PIPING SHOWN IN PARENTS OF CONTAINMENT ARE SHOWN IN PARENTS OF CONTAINMENT
- ALL PRESSURE RELIEF VALVES ARE SHOWN AS SHOWN
- ALL PIPING IS AS SHOWN IN THIS DRAWING UNLESS OTHERWISE NOTED

SAMPLE COMPONENT DESIGNATION	LOCATION	COORD.
12-5141A	1-311	33
12-5141B	2-311	33
12-5141C	3-311	33
12-5141D	4-311	33
12-5141E	5-311	33
12-5141F	6-311	33
12-5141G	7-311	33
12-5141H	8-311	33
12-5141I	9-311	33
12-5141J	10-311	33
12-5141K	11-311	33
12-5141L	12-311	33
12-5141M	13-311	33
12-5141N	14-311	33
12-5141O	15-311	33
12-5141P	16-311	33
12-5141Q	17-311	33
12-5141R	18-311	33
12-5141S	19-311	33
12-5141T	20-311	33
12-5141U	21-311	33
12-5141V	22-311	33
12-5141W	23-311	33
12-5141X	24-311	33
12-5141Y	25-311	33
12-5141Z	26-311	33

**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 (MCR) NUMBERS.

**TAG NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:**  
 TAG #12-5141C-1015 W APPEARS AS 1015 W

**INSTRUMENT ROOT VALVE MARKING IS NOT SHOWN ON DRAWING. SEE VALVE IDENTIFICATION LIST DERIVED BY ADDING TO INSTRUMENT NUMBERS FOR SINGLE IMPULSE: V1 FOR DOUBLE IMPULSE: V1UP/STREAM, V2DOWN/STREAM**

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

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

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

**FLOW DIAGRAM POST-ACCIDENT LIQUID AND GAS SAMPLING**  
 UNIT #1 & 2

DWG. NO. 12-5141C-8

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

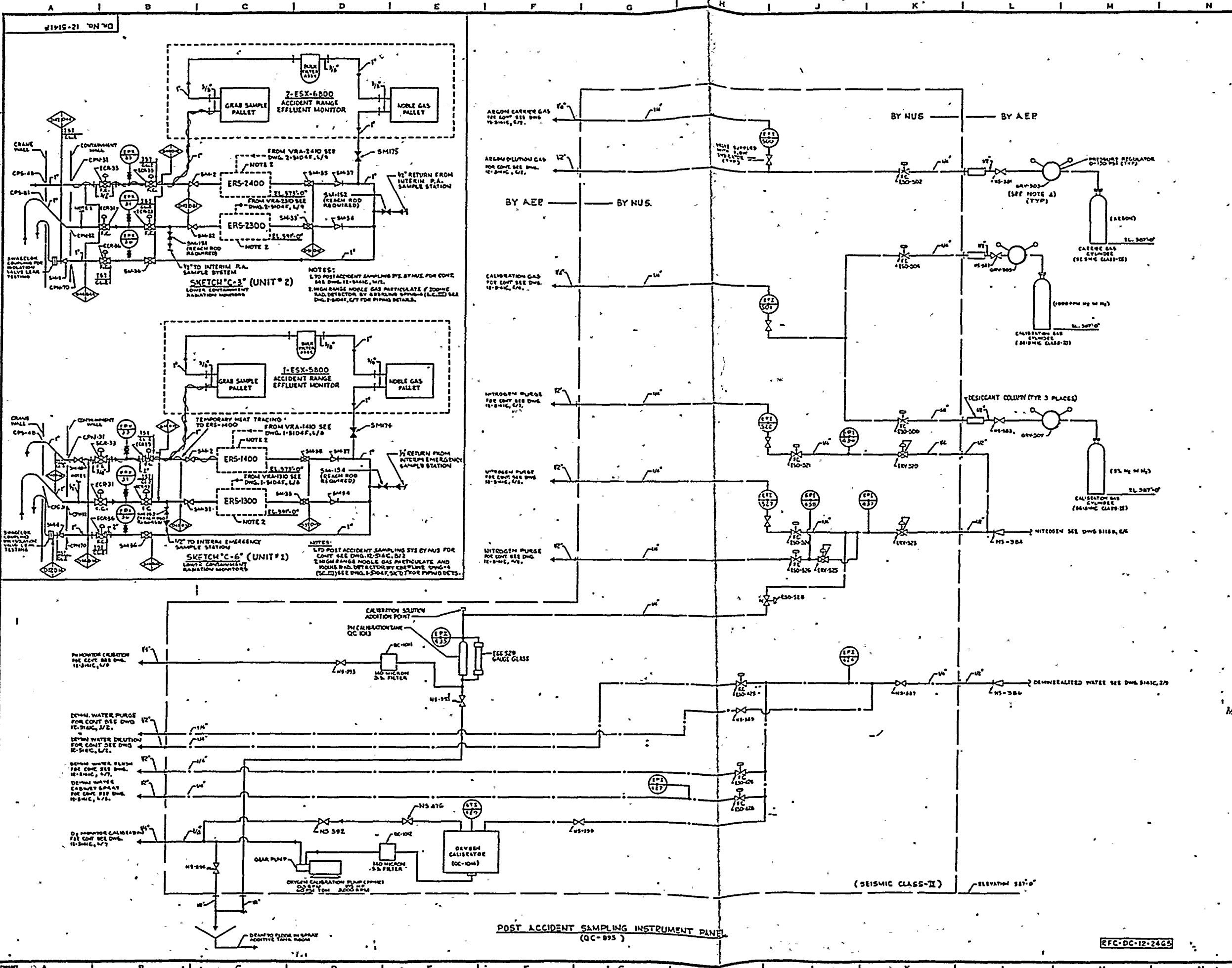
AMERICAN ELECTRIC POWER SERVICE CORP.

FOR DESIGN AND CONSTRUCTION  
 ADVISE ENGINEERING DEPT.

**SI APERTURE CARD**  
 Also Available On Aperture Card

(EPC-DC-12-2465)





**GENERAL NOTES**

**LEGEND**

— LIQUID PIPING.  
 — DEMIN WATER  
 — GAS  
 — AUXILIARY

**NOTES:**  
 1. ALL EQUIPMENT IS SEISMIC CLASS-II EXCEPT AS NOTED.  
 2. THIS INSTRUMENT PANEL IS THE PROPERTY OF THE AEP SERVICE COMPANY. IT IS TO BE PROTECTED AND MAINTAINED IN GOOD WORKING ORDER AT ALL TIMES. THE USER SHALL BE RESPONSIBLE FOR THE PROTECTION AND MAINTENANCE OF THIS INSTRUMENT PANEL.  
 3. ALL INSTRUMENTS SHALL BE CALIBRATED AND CHECKED AT THE INTERVALS SPECIFIED IN THE INSTRUMENT MANUFACTURER'S LITERATURE.  
 4. THIS INSTRUMENT PANEL IS TO BE USED ONLY FOR POST-ACCIDENT SAMPLING AND SHOULD NOT BE USED FOR OTHER PURPOSES.  
 5. THE INSTRUMENT PANEL IS TO BE KEPT IN A CLEAN AND DRY CONDITION AT ALL TIMES.  
 6. THE INSTRUMENT PANEL IS TO BE KEPT IN A SECURE LOCATION AT ALL TIMES.  
 7. THE INSTRUMENT PANEL IS TO BE KEPT IN A PROTECTED LOCATION AT ALL TIMES.  
 8. THE INSTRUMENT PANEL IS TO BE KEPT IN A PROTECTED LOCATION AT ALL TIMES.  
 9. THE INSTRUMENT PANEL IS TO BE KEPT IN A PROTECTED LOCATION AT ALL TIMES.

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 (MCR) NUMBERS.  
 2. "TAG" NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS:  
 TAG NO. 12-N5-V005-W APPEARS AS: N5V05W  
 3. INSTRUMENT ROOT VALVE MARK "N" IS NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:  
 FOR SINGLE IMPULSE: V1 (UPSTREAM), V2 (DOWNSTREAM)  
 FOR DOUBLE IMPULSE: V1 (UPSTREAM), V2 (DOWNSTREAM)

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

**FLOW DIAGRAM**  
 POST ACCIDENT LIQUID SAMPLING INSTRUMENT PANEL

DR. NO. 12-5141F-6

DATE: 10/29/83 BY: [Signature] APPROVED: [Signature]

AMERICAN ELECTRIC POWER SERVICE CORP.

SI APERTURE CARD

Also Available On Aperture Card

90030-90183-35



7  
J

