

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of

Duquesne Light Company
(Beaver Valley Power Station, Unit No. 1)

)
) Docket No. 50-334
)
)

APPLICATION FOR AMENDMENT
INSERVICE INSPECTION REQUIREMENTS

Pursuant to Section 50.90 of the regulations of the U. S. Nuclear Regulatory Commission (the "Commission"), Duquesne Light Company ("DLC"), holder of Facility Operating License No. DPR-66, hereby requests relief from the Hydrostatic Inservice Inspections requirement described in Appendix 1.

WHEREFORE, Applicant respectfully requests that the Inservice Inspection requirements of Facility Operating License No. DPR-66 be amended in the form attached hereto as Appendix 1.

Duquesne Light Company

By

J. J. Carey
J. J. Carey
Vice President, Nuclear

Subscribed and sworn to before me

on this *8th* day of *April*, *1976*

Sheila M. Fattore

SHEILA M. FATTORE, NOTARY PUBLIC
SHIPPINGPORT BORO, BEAVER COUNTY
MY COMMISSION EXPIRES OCT. 23, 1989
Member, Pennsylvania Association of Notaries

Beaver Valley Power Station, Unit No. 1
Docket No. 50-334, License No. DPR-66
Hydrostatic Testing Relief Requests
Page 2

cc: Mr. W. M. Troskoski, Resident Inspector
U. S. Nuclear Regulatory Commission
Beaver Valley Power Station
Shippingport, PA 15077

U. S. Nuclear Regulatory Commission
c/o Document Management Branch
Washington, DC 20555

Director, Safety Evaluation & Control
Virginia Electric & Power Company
P.O. Box 26666
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Bureau of Radiation Protection
Pennsylvania Dept. of Environmental Resources
P.O. Box 2063
Harrisburg, PA 17120

Appendix 1

Requests for Relief from Hydrostatic
Inservice Inspection Requirements

A.1 Components Affected

Class 3 systems that are in continuous use; specifically, portions of the River Water and Fuel Pool Cooling Systems and the entire Reactor Plant Component Cooling Water System. (See Attachment A.1 drawings.)

2. Section XI Requirement (1980W1981)

IWD-5223(a) - The system hydrostatic test pressure shall be at least 1.10 times the system design pressure.

3. Basis for Relief

Hydrostatic testing on portions of these systems is impractical since they are required to be in continuous operation during all modes of plant operation. The continuous functional operation serves to demonstrate structural and leak-tight integrity of these systems. Visual examinations of these systems at normal operating pressures will provide adequate confidence of the leak-tightness of the systems.

4. Alternate Examination

Visual examination of the affected components will be performed at normal operating pressures.

B.1 Components Affected

Portions of systems, e.g., River Water and Quench Spray Systems, with low design pressure ratings.

2. Section XI Requirements (1980W1981)

IWA-5265(b) - . . . the imposed pressure on any component, including static head, will not exceed 106% of the specified test pressure for the system.

3. Basis for Relief

Systems with low design pressure ratings, for example 20 psig, should be hydrotested to 1.1 Pd, or 22 psig. An elevation difference of only 3.5 ft., between the lowpoint of the test boundary and the hydrostatic test equipment, would exceed the 106% limitation of IWA-5265(b). Since piping elevations can vary somewhat within a system, the 106% limitation is impractical when applied to systems with low design pressure ratings. The use of the nominal design pressure rating of the piping class as the upper limit of the test pressure allows for elevation differences within the system, while ensuring the piping can withstand the test pressure.

4. Alternate Examination

The upper limit of hydrostatic test pressures will be based on the nominal design pressure rating of the piping class on systems with low design pressure ratings where elevation differences within the test boundary would cause the 106% limitation to be exceeded. Provisions will be made to ensure all components within the test boundary have a design pressure rating equal to or greater than the nominal design pressure rating of the piping class.

C.1 Components Affected

The following sections of Class 2 piping are affected (see Attachment C.1 drawings):

- (a) Cold leg injection lines between valves SI-97 and SI-100, SI-98 and SI-101, and SI-99 and SI-102.
- (b) Cold leg injection lines between valve MOV-SI-890C and valves SI-10, SI-11, and SI-12.
- (c) Hot leg injection lines between valve MOV-SI-890A and valves SI-15, SI-16, and SI-17 and between valve MOV-SI-890B and valves SI-15, SI-16, and SI-17.
- (d) Hot leg injection lines between valve MOV-SI-869A and valve SI-83 and between valve MOV-SI-869B and valve SI-84.
- (e) Safety Injection Accumulator lines:
 - 1. From valve MOV-SI-865A to valves MOV-SI-850A and SI-48.
 - 2. From valve MOV-SI-865B to valves MOV-SI-850C and SI-49.
 - 3. From valve MOV-SI-865C to valves MOV-SI-850E and SI-50.

2. Section XI Requirement (1980W1981)

IWC-5222(a) - The system hydrostatic test shall be at least 1.25 times the design pressure.

3. Basis for Relief

The lines noted above cannot be isolated from the reactor coolant system if the Class 2 hydrostatic test pressure is applied. Hydrostatic testing of these lines to the Class 2 test pressure would overpressurize the reactor coolant system.

4. Alternate Examination

These portions of Class 2 piping will be hydrostatic tested at the reactor coolant system test pressure (1.02 Po). Vent and drain valves will be utilized as jumpers past check valves to allow pressurization of the Class 2 piping.

D.1 Components Affected

The following sections of Class 2 Quench Spray System piping are affected (see Attachment D.1 and D.2 drawings):

- (a) 1A Quench Spray Pump piping from valve QS-1 to Temporary Strainer (TS45) and to valve QS-40.
- (b) 1B Quench Spray Pump piping from valve QS-2 to TS-46 and to valve QS-41.

Also affected is the Class 3 Refueling Water Recirculating Pumps piping from valves QS-14 and QS-15 to the Refueling Water Recirculating Pumps discharge valves QS-20 and QS-21.

2. Section XI Requirement (1980W1981)

IWC-5222(a) - The system hydrostatic test pressure shall be at least 1.10 times the system design pressure.

IWD-5222(a) - The system hydrostatic test pressure shall be at least 1.10 times the system design pressure.

3. Basis for Relief

The design pressure of the affected piping is 20 psig. In accordance with IWC-5222(a) and IWD-5222(a) the hydrostatic test pressure would be 22 psig. Using the static head developed by the maximum level (elev. 787'6") in the Refueling Water Storage Tank (RWST) as the hydrostatic test pressure would apply the code required test pressure (at least 1.1 Pd) to the majority of the test boundary. The high point of the test boundary (elev 740'7") would be at a pressure of 20.3 psig, still above the design pressure rating of the system but below the code required test pressure of 22 psig.

Using the maximum level in the RWST instead of hydrostatic test equipment will apply the code required test pressure of 22 psig to the majority of the test boundary while allowing the system to remain in service during the examination, thus increasing the availability of the system for testing purposes. Furthermore, this method will decrease the set-up time, manpower requirements, number of test blocks required, and equipment necessary for testing. It is felt that compliance with the specified requirements, as compared to the alternate test method, does not adequately compensate in an increased level of quality and safety for the difficulties that would be incurred.

4. Alternate Examination

The portion of the Quench Spray System noted above will be examined during hydrostatic testing using the static head of the maximum level of the RWST as the hydrostatic test pressure.

E.1 Components Affected

The Class 3 Boron Injection Recirculation lines from valve SI-110 to valves SI-107, SI-117, and SI-118. (See Attachment E.1 drawings.)

2. Section XI Requirement (1980W1981)

IWD-5223(a) - The system hydrostatic test pressure shall be at least 1.25 times the system design pressure.

3. Basis for Relief

The design pressure of the affected section of piping is 150 psig. The check valve and piping arrangement design do not provide a connection point for hydrostatic testing equipment within the test boundary.

Connection points outside the test boundary were considered, but line sizes and distances from the test boundary made these possibilities impractical. Also, without the pressure sensing instrument located inside the test boundary, it is impossible to ensure the pressure imposed on the test boundary is within the 106% limitation of IWA-5265(b).

Considering this portion of piping is isolated from the Reactor Coolant System during emergency conditions and the Boron Injection Surge Tank is provided with a low level alarm that would detect leakage in this piping, it is believed that a visual examination performed with the Surge Tank filled to its maximum level will provide an adequate level of confidence of the leak-tight integrity of the system.

4. Alternate Examination

These lines will be visually examined using the static head of the maximum level of the Boron Injection Surge Tank as the test pressure.

F.1 Components Affected

The portion of Class 2 Residual Heat Removal System lines, 6"RH-14-152 and 4"RH-25-152, between valves RH-14, RH-15 and RH-16. (See Attachment F.1 drawings.)

This portion of piping is utilized only during an outage with the plant in a safe shutdown condition; this piping functions to drain the refueling cavity after an outage.

2. Section XI Requirement (1980W1981)

IWA-5265(b) - ...the imposed pressure on any component, including static head, will not exceed 106% of the specified test pressure for the system.

IWC-5222(a) - The system hydrostatic test shall be at least 1.10 times the design pressure.

3. Basis for Relief

The design pressure of the portion of piping between valves RH-14, -15 and -16 is 145 psig. The elevation difference between the highpoint (valve RH-15) and the lowpoint (valve RH-14) of this piping is 30'10". There are no isolation points within this section of piping.

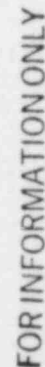
If the Code-required test pressure of 159.5 (1.10 times the design pressure) was applied to the highpoint of the test boundary, the resultant pressure imposed at the lowpoint, due to static head, would be 172.8 psig. This resultant pressure exceeds the 106% limit of IWA-5265(b).

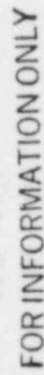
To prevent exceeding the 106% limitation, i.e., 169 psig (1.06 times 159.5 psig), of the specified test pressure, the pressure applied to the highpoint of the test boundary will be 152.5 psig. This will impose a resultant pressure of 165.8 psig at the lowpoint of the test boundary and will allow for an additional 2% margin of safety before exceeding the 106% limit.

4. Alternate Examination

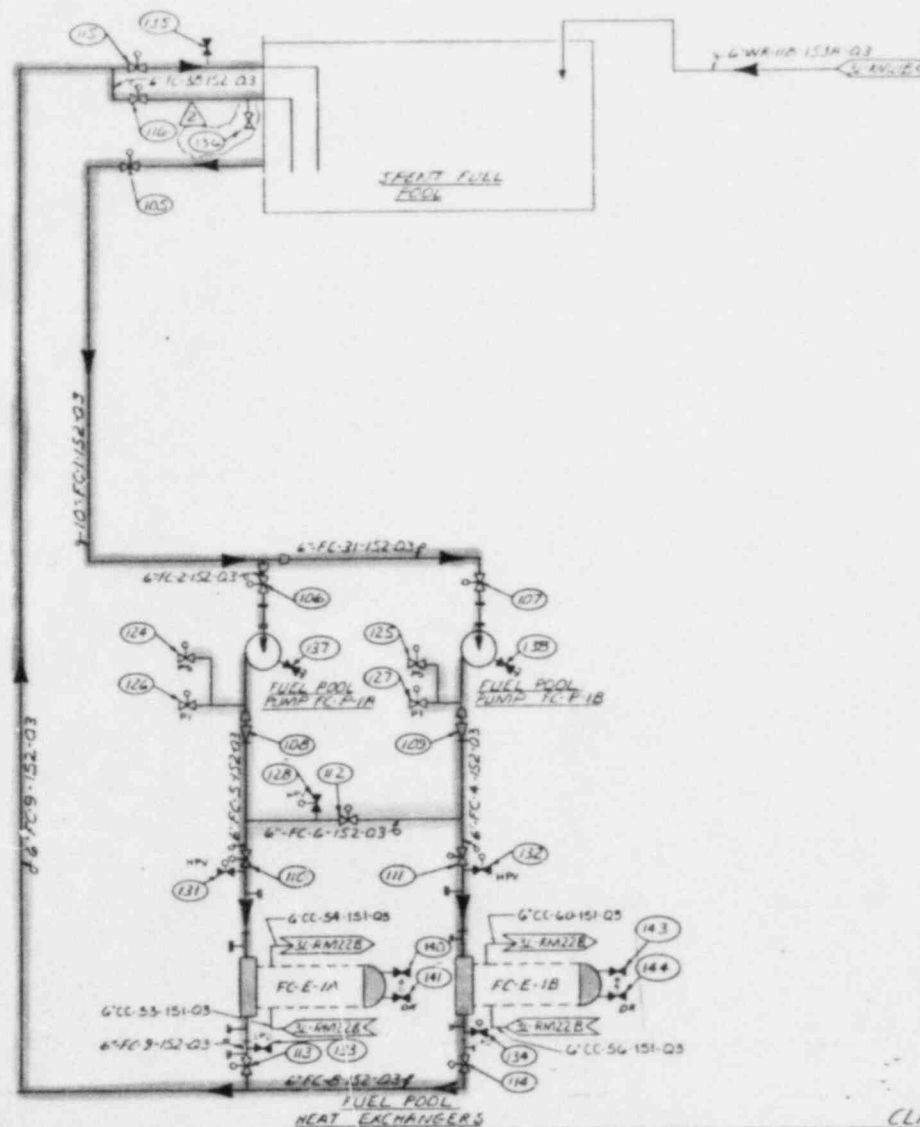
The portion of the Class 2 piping between valves RH-14, -15, and -16 will be tested at a pressure slightly less than the Code-required pressure of 1.10 times the design pressure to preclude exceeding the 106% limitation of IWA-5265(b). The pressure applied to the highpoint of the test boundary will be 152.5 psig. This will result in a pressure of 165.8 psig at the lowpoint of the test boundary.

Attachment A.1





3L FM31A



- NOTES:**
- 1) ALL VALVE NOS. ARE PRECEDED BY UNIT NO AND SYSTEM DESIGNATION (IPC-) UNLESS OTHERWISE NOTED.
 - 2) FOR EXPLANATION OF DRAWING NOS. SEE DRAWING NO. 8700-151-1-NOTES.

G.A. CATEGORY 1

Duquesne Light Company NUCLEAR GROUP		UNIT 1 SHIPPINGPORT, PA.	
SCALE	DATE 7/15/84	NUCLEAR APP.	SQA: 201
DRAWN: J. H. L.	ELECT APP.	MECH APP.	FINAL APP. FOR ISSUE
CHECKED: J. H. L.	ARCH/STRUCT APP.		
FLOW DIAGRAM FUEL POOL COOLING & PURIFICATION SYSTEMS			
D.C.P. NO. 76	D.F.E. NO.	D.W.G. NO.	
STA. NO.	C.D. NO.	A	8700-151-3L-FM31A

CLASS 3 LEAKAGE

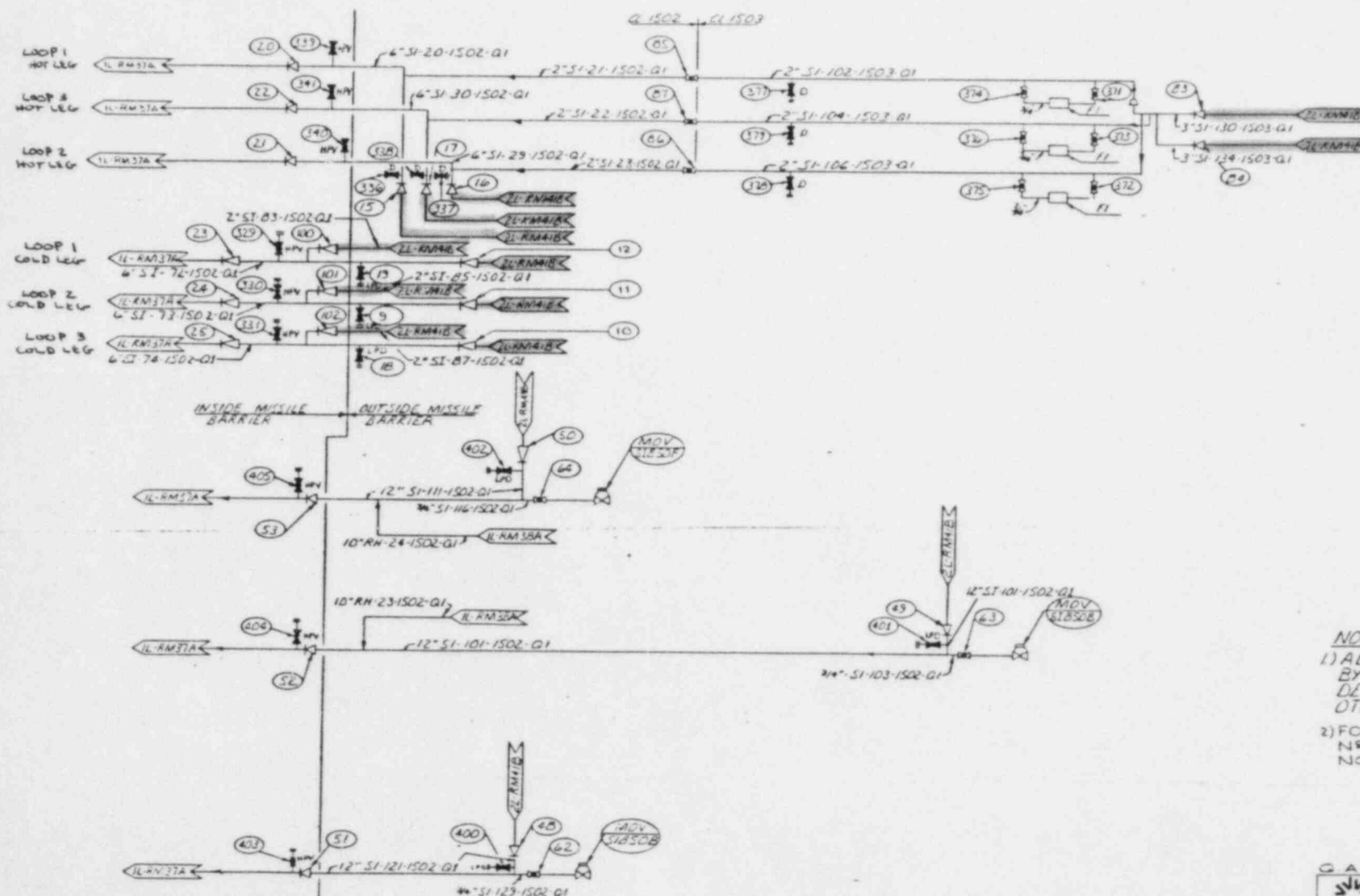
REFERENCE DRAWINGS:
 8700-RM-31A (14)
 8700-RM-162A (15)
 OM FIG 20-1 (5)

FOR INFORMATION ONLY

Attachment C.1

1-RM41B

2 3 4 5 6 7 8



- NOTES:**
- 1) ALL VALVE NOS ARE PRECEDED BY UNIT N° AND SYSTEM DESIGNATION (ISI-) UNLESS OTHERWISE NOTED.
 - 2) FOR EXPLANATION OF DRAWING N° * SEE DRAWING N° 8700-151-NOTES.

FOR INFORMATION ONLY

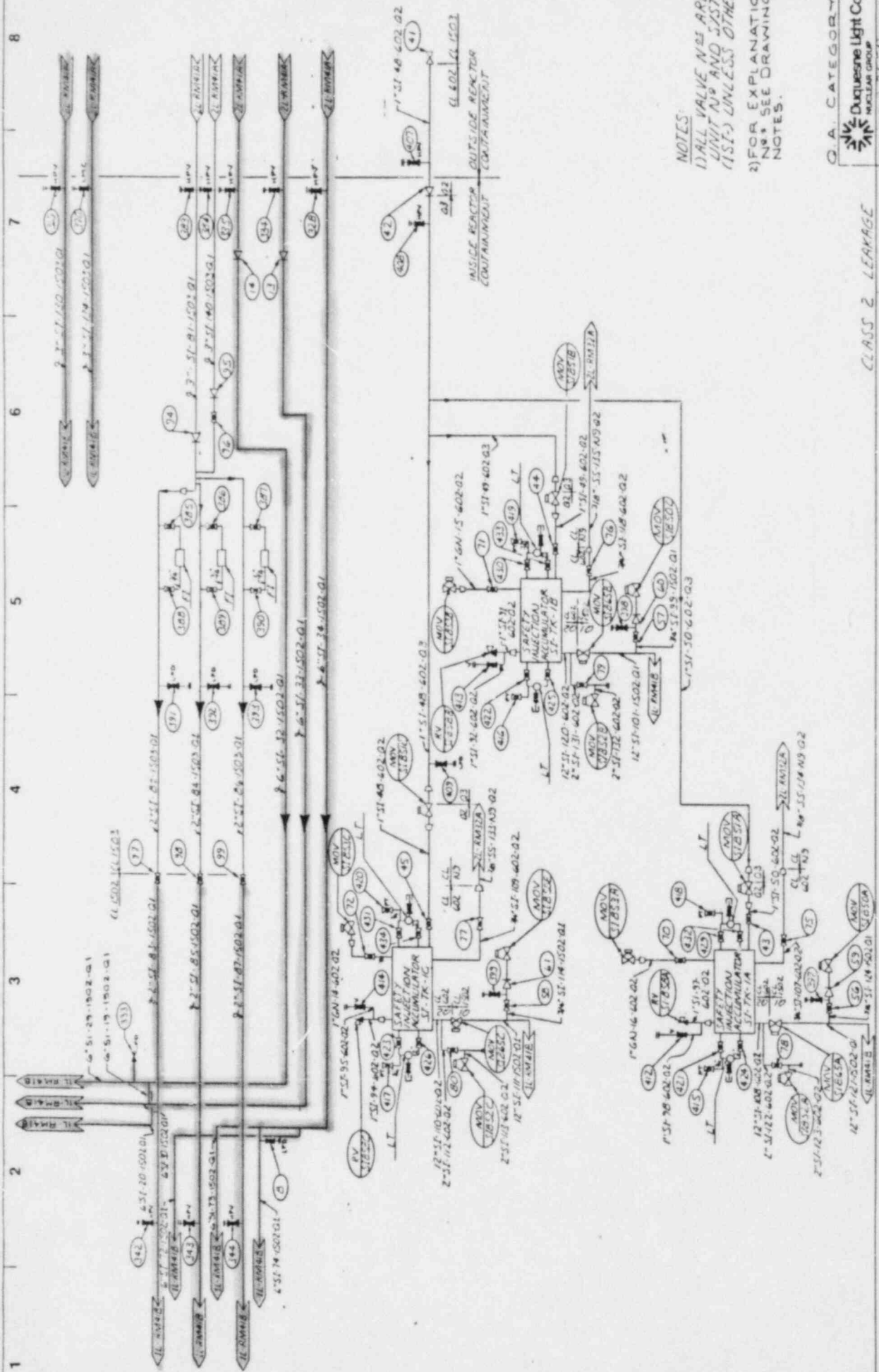
- 1 -

CLASS 1 LEAKAGE

8700-FM-41B (15)
Q.N.T. FIG. 11-2 (14)

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SCALE	DATE 7-27-73	NUCLEAR APP	CO. A. 345	FINAL APP
DRAWN	BY J. L. H. G. S.	ELECT. APP		FOR ISSUE
CHECKED	AL. M. J. N.	MECH. APP		N.T.
VERIFIED	C. M. W.	ARCH. STRUCT. APP		N.T.
FLOW DIAGRAM SAFETY INJECTION SYSTEM				
D.C.P. NO.	76	O.F.E. NO.	A	DWG. NO.
STA. NO.		C.O. NO.		8700 ISI IL FM41B

8700-151-2L-RMA1B



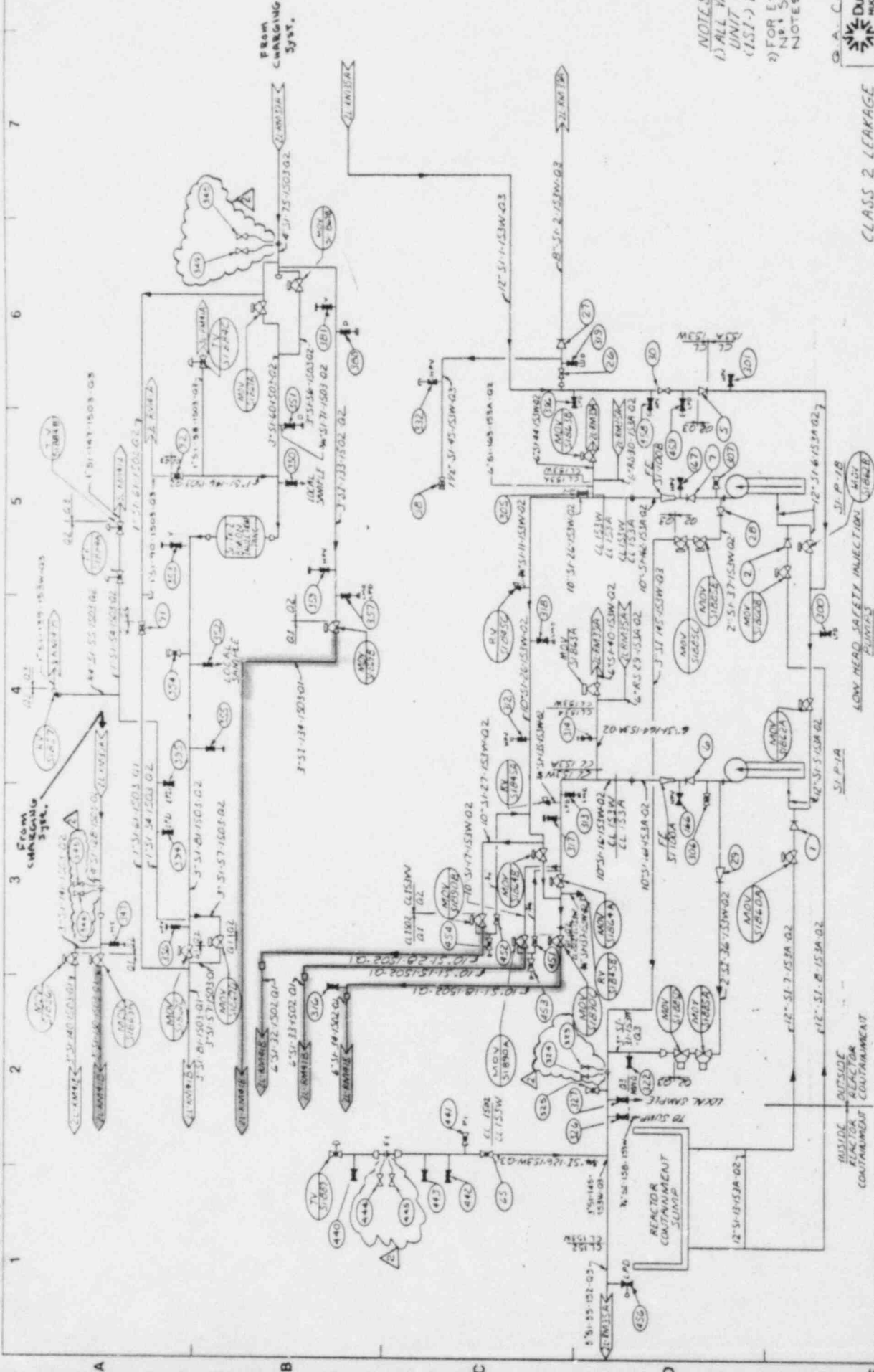
NOTES
1) ALL VALVE N.B. ARE PHEE
UNIT N.B. AND SYSTEM E.E.
1151-3 UNLESS OTHERWISE
2) FOR EXPLANATION OF
N.B. SEE DRAWING N.B. 87
NOTES.

G.A. CATEGORY 1
Duquesne Light Company
Nuclear Group
SCALE DATE 1/21/83 INCHES
DRAWN BY J.E. ELECT. APP
CHECKED BY J.E. MFG. APP
VERIFIED BY J.E. JACK. STRUCT. APP
FLOW DIAGRAM
SAFETY INJECTION
DCP NO. 1 GFE NO. 1
STA NO. 1 C.D. NO. 1
A 1/1

CLASS 2 LEAKAGE

FOR INFORMATION ONLY

No. 8700-51-1-RM41A



NOTES:
1) ALL VALVE AND ARE A UNIT AND SYSTEM (151-1) UNLESS OTHERWISE NOTED.
2) FOR EXPLANATION OF 2 NOT SEE DRAWING NOTES.

CLASS 2 LEAKAGE

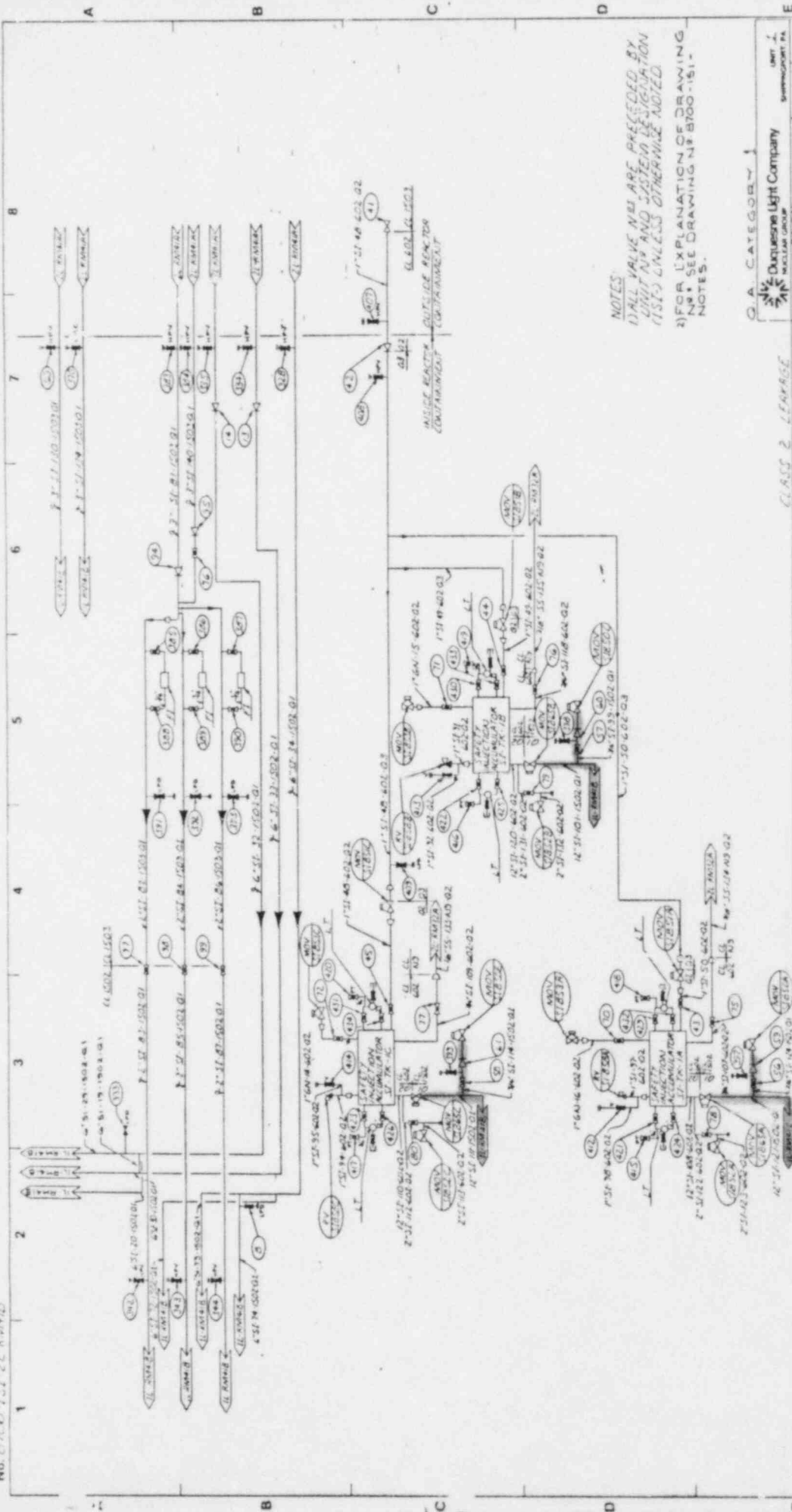
DATE: 3/13/24
SCALE: 1/4" = 1'-0"

DESIGNED BY: [Signature]
CHECKED BY: [Signature]
VERIFIED BY: [Signature]

PROJECT: 8700-51-1-RM41A
SHEET: 3 OF 5

FOR INFORMATION ONLY

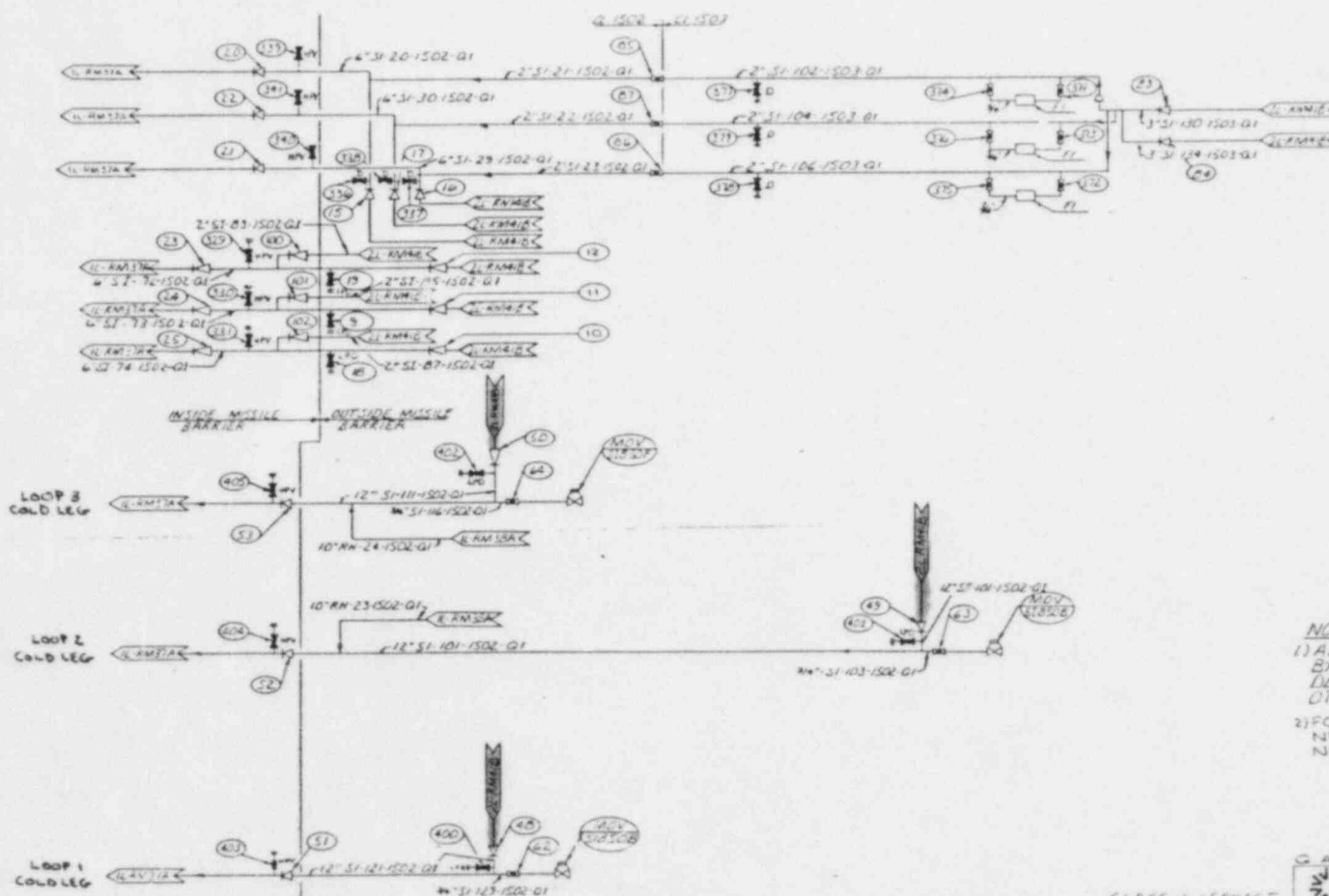
No. 07-015126 NMMB



CLASS 2 LEAKAGE		CLASS 2 LEAKAGE	
DATE	12/12/01	DATE	12/12/01
BY	J. J. J. J.	BY	J. J. J. J.
FOR	SAFETY INJECTION SYSTEM	FOR	SAFETY INJECTION SYSTEM
REVISION	1.0	REVISION	1.0
DESCRIPTION	SAFETY INJECTION SYSTEM	DESCRIPTION	SAFETY INJECTION SYSTEM
DATE	12/12/01	DATE	12/12/01
BY	J. J. J. J.	BY	J. J. J. J.
FOR	SAFETY INJECTION SYSTEM	FOR	SAFETY INJECTION SYSTEM
REVISION	1.0	REVISION	1.0
DESCRIPTION	SAFETY INJECTION SYSTEM	DESCRIPTION	SAFETY INJECTION SYSTEM

FOR INFORMATION ONLY

No. 8700-151-IL-RM41B

**NOTES:**

- 1) ALL VALVE NOS ARE PRECEDED BY UNIT NO AND SYSTEM DESIGNATION (ISE) UNLESS OTHERWISE NOTED.
- 2) FOR EXPLANATION OF DRAWING NOS SEE DRAWING NO 8700-151-NOTES.

FOR INFORMATION ONLY

CLASS & CATEGORY I

Ducquesne Light Company

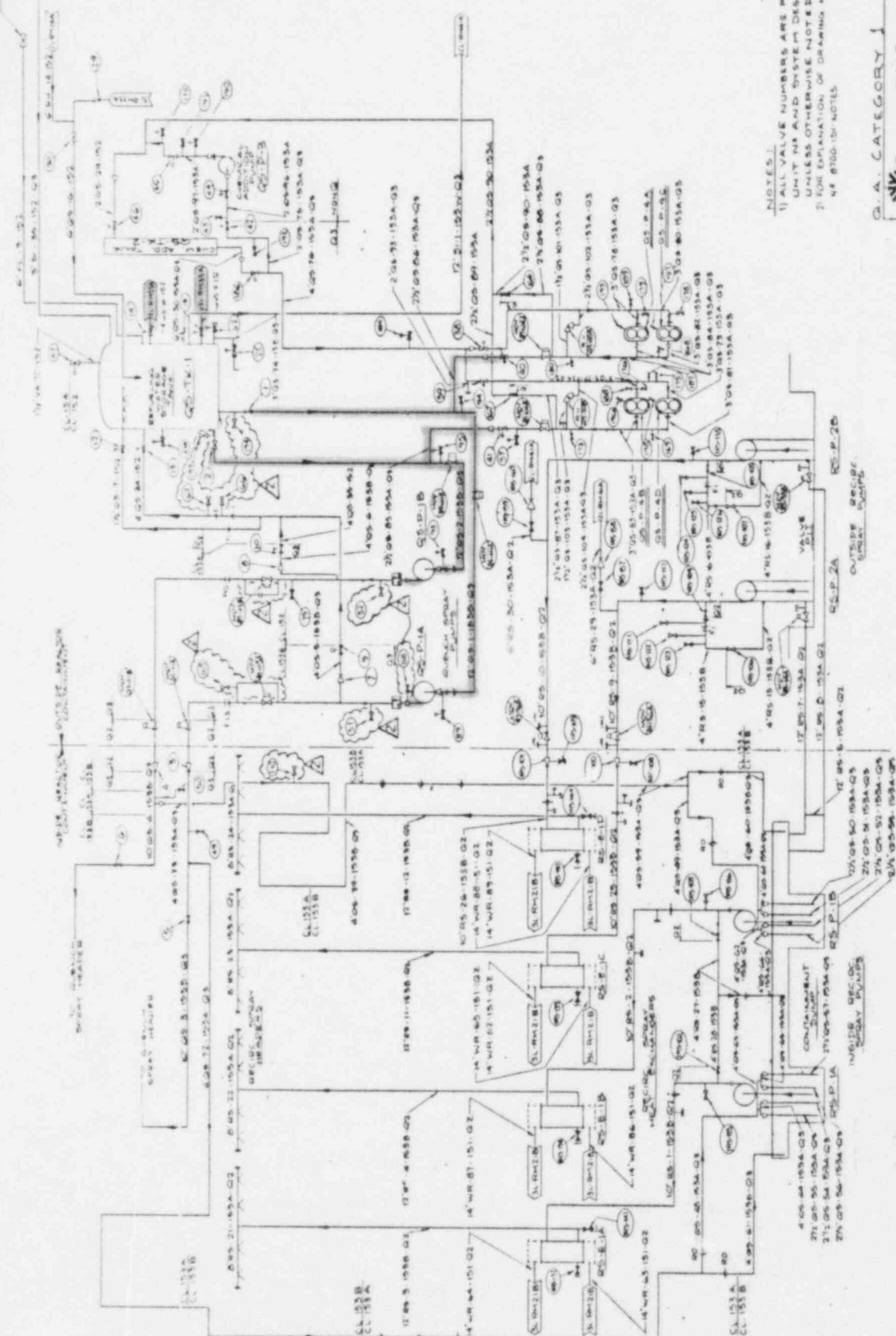
UNIT 1
SHIPPINGSIDE, PA.

SCALE	DATE	DESIGNED BY	CHECKED BY	APPROVED BY	FINAL APP FOR ISSUE
1\"/>					

FLOW DIAGRAM
SAFETY INJECTION SYSTEM

DCA NO. 101 OFF NO. 1 * TONG NO. 8700-151-IL-RM41B

Attachment D.1



NOTES:

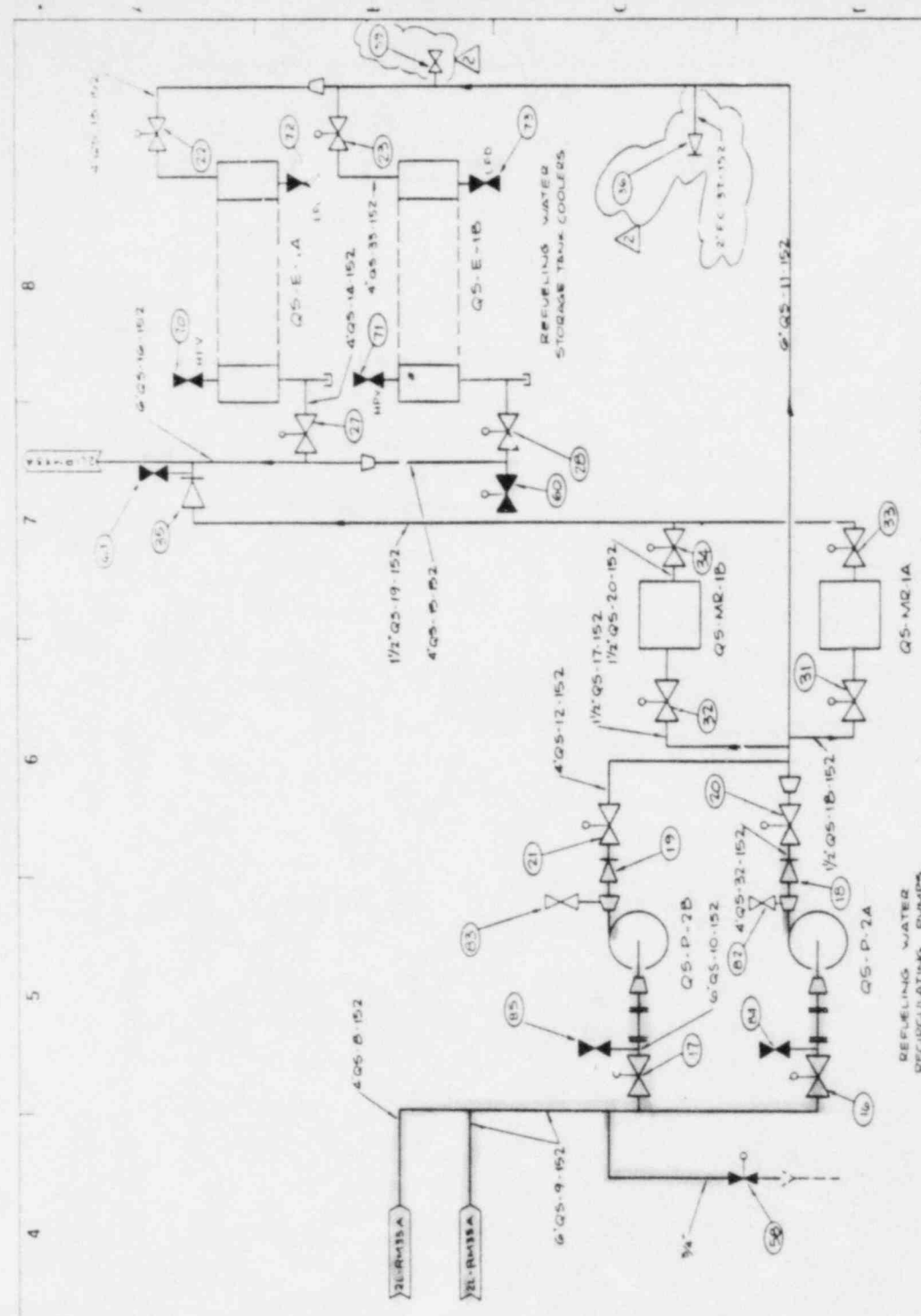
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- 2) FOR EXPLANATION OF DRAWING NUMBERS SEE DRAWING #8 8700-100 NOTES.

D.A. CATEGORY 1		Duquesne Light Company NUCLEAR GROUP		UNIT 1 SUNNINGPORT PA	
SCALE	DATE	41-13	2-6	NUCLEAR APP	FINAL APP
		DRAMA SUNNINGPORT	ELECT APP		APPROVAL
AP		CHECKED	MILLEN	MECH APP	DATE
		VERIFIED	LARKIN	ARCHITECT APP	NO.
FLOW DIAGRAM					
CONTAINMENT DEPRESSURIZATION SYS.					
DESIGN NO	APP	DIFF NO		UNIT NO	
DATA NO		C.D. NO		A	8700-151 2L 2PM 254

CLASS 2 LEAKAGE

FOR INFORMATION ONLY

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FOR INFORMATION ONLY



NOTES:
1) ALL VALVE NAMES PRECEDED BY UNIT
N° AND SYSTEM DESIGNATION (105-)
UNLESS OTHERWISE NOTED.
2) FOR EXPLANATION OF DRAWING NUMBER, SEE
DRAWING NUMBER 800-151 NOTES

REFUELING WATER
REGULATING UNIT

REFUELING WATER
REGULATING PUMPS

UNCONTROLLED COPY
FOR INFORMATION ONLY

CLASS 3 LEAKAGE

QA CATEGORY 1

Duquesne Light Company
NUCLEAR GROUP

UNIT 1
DRAWING NO. 800-151
REV. 1
DATE 9-13-84
BY J. L. MCGEE
CHECKED BY J. L. MCGEE
APPROVED BY J. L. MCGEE

FILED IN 800-151
800-151-1 (17)
800-151-15 (17)
800-151-15 (17)
800-151-15 (17)

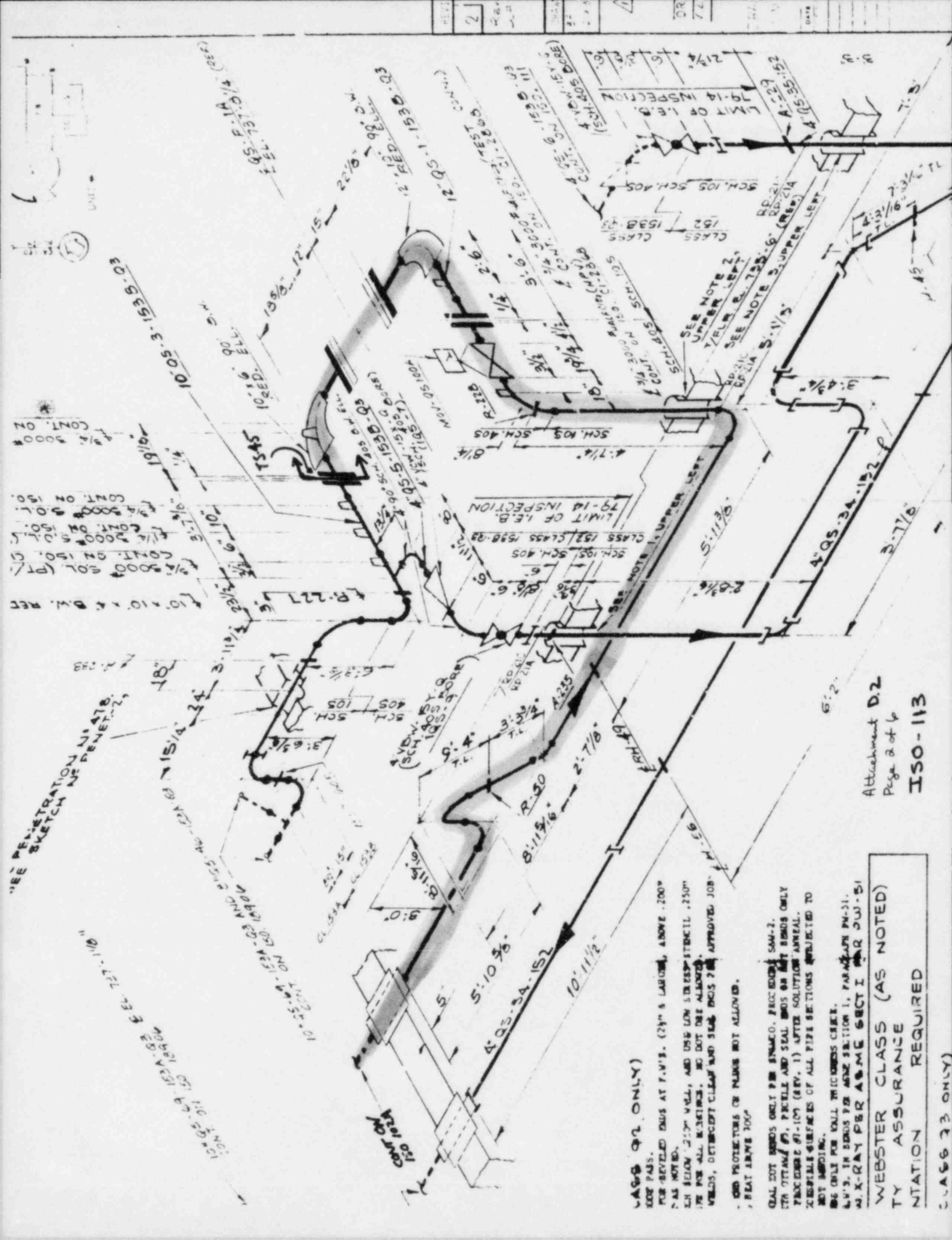
CONTAINMENT DEPRESSURIZATION SYS.
FLOW DIAGRAM

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800-151-15 (17)
800-151-15 (17)
800-151-15 (17)

Attachment D.2



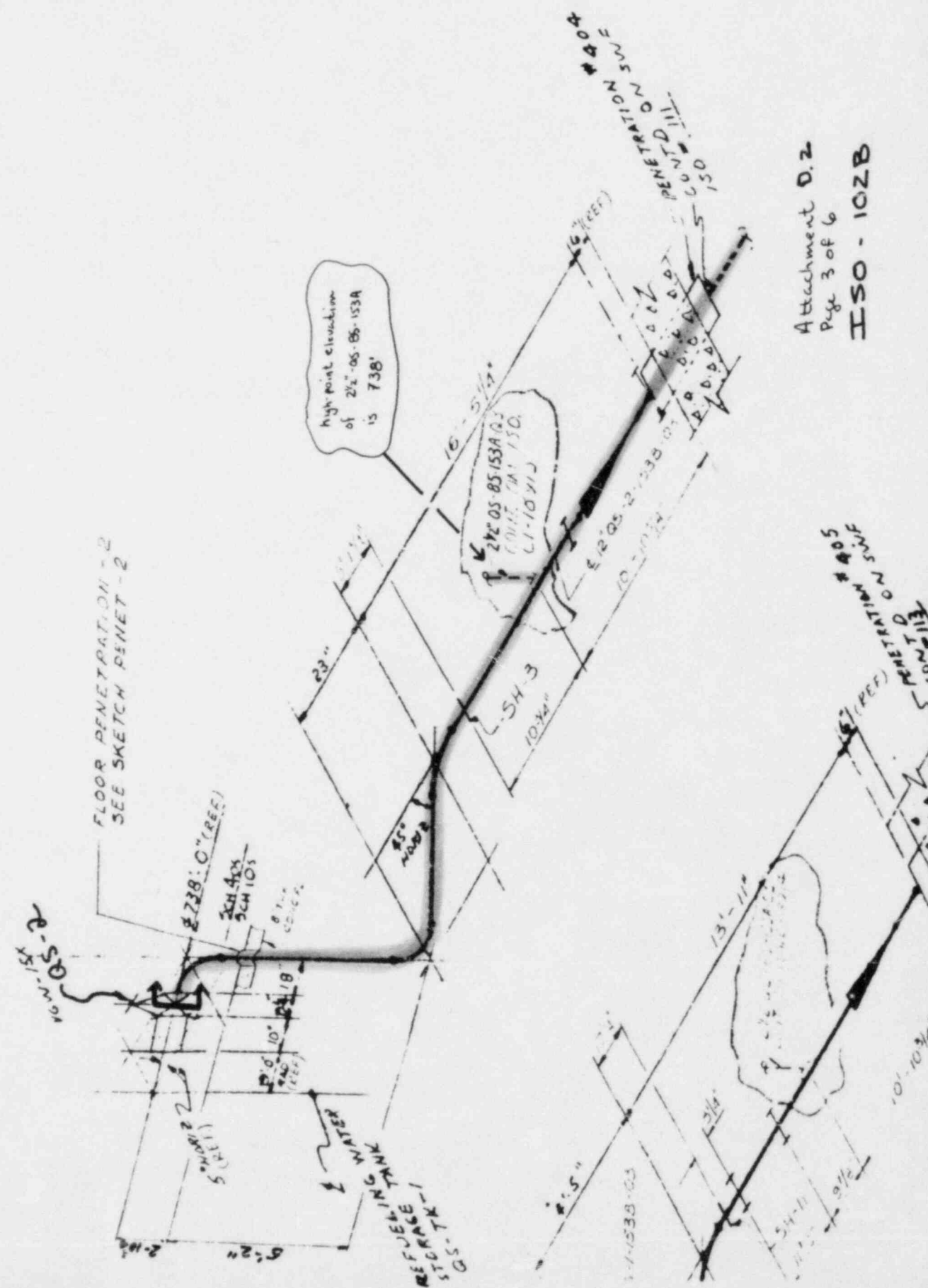
ISO - 102A



CLASS 92 ONLY)
 FOR PASS.
 FOR REVISED ENDS AT 7.11/8". (24" & LARGER, ABOVE .200"
 WAS NOTED.
 IN BELOW 2.11/8" WALL, AND USE LOW STRENGTH STEEL .250"
 FOR ALL REPAIRS. NO DOT USE ALLOWED.
 WELDS, OUTSTANDING CLEAN AND SMOOTH ENDS PER APPROVED JOBS.
 - NO PROTECTORS OR PLUGS NOT ALLOWED.
 - REAT ABOVE 100'
 QUAL DOT BODIES ONLY PER S.M.A.C.O. PROCEEDING SAM-2.
 FOR OTTAWA & P. P. FILE AND SEAL BODIES ON DOT BODIES ONLY
 PROCEEDING 61-107 (REV. 1) AFTER SOLUTION APPEAL.
 X-RAY PER ABME SECT I PAR 51
 NO ONLY FOR WALL THICKNESS CHECK.
 4.11/8". IN SECTIONS PER ABME SECTION 1, PAR 51.
 X-RAY PER ABME SECT I PAR 51
 WEBSTER CLASS (AS NOTED)
 TY ASSURANCE
 NTATION REQUIRED
 CLASS 92 ONLY)

Attachment D2
 Page 2 of 6
 ISO-113

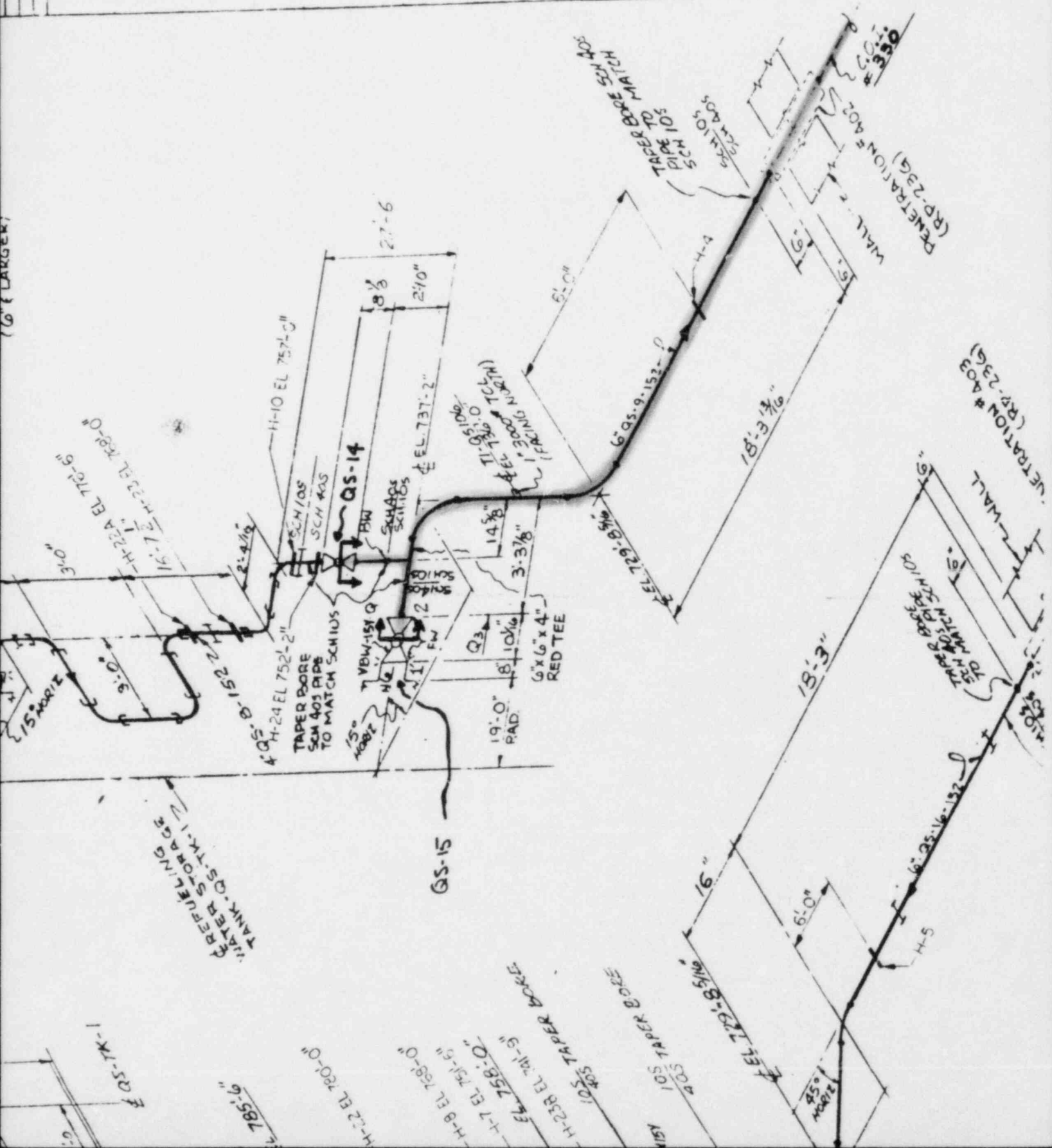
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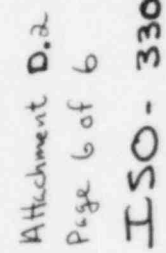


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2		DATE	11/4/71	BY	UTM	11/4/71	BY	UTM

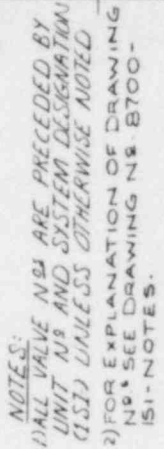
DRAWN/DATE CHECK
EL 04 DPM

Attachment 0.2
Page 3 of 6
ISO - 102B





Attachment E.1



CLASS 3 LEAKAGE

FOR INFORMATION ONLY

Attachment F.1

