DAIRYLAND Power COOPERATIVE · P.O. BOX 817 · 2615 EAST AV SOUTH · LA CROSSE, WISCONSIN 54601
(608) 788-4000

FRANK LINDER
General Manager

September 16, 1983

In reply, please
refer to LAC-9287

DOCKET NO. 50-409

Director, Office of Inspection
and Enforcement
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

SUBJECT: DAIRYLAND POWER COOPERATIVE
LA CROSSE BOILING WATER REACTOR (LACBWR)
PROVISIONAL OPERATING LICENSE NO. DPR-45
RESPONSE TO NOTICE OF VIOLATION AND
PROPOSED IMPOSITION OF CIVIL PENALTY, EA 83-61

References: (1) NRC Letter, Keppler to Linder, EA 83-61, dated August 12, 1983 - Notice of Violation
(2) NRC Letter, Keppler to Linder, dated August 12, 1983, Report No. 50-409/83-08 (DPRP)
(3) DPC Letter, Linder to Keppler, LAC-9120, dated May 3 , 1983
(4) DPC Letter, Linder to Keppler, LAC-9131, dated June 9, 1983
(5) Gulf United Technical Report SS942 May 31, 1972

Gentlemen:

Pursuant to 10 CFR 2.201, our response to your letter (Reference 1) which enclosed a Notice of Violation and Proposed Imposition of Civil Penalty in the amount of $40,000 is forwarded for your consideration. Reference 1 states the alleged violation as follows:

VIOLATION ASSESSED CIVIL PENALTY

Technical Specification 4.2.2.15 states, in part, "One core spray pump may be removed from service for maintenance provided that all control rods are fully inserted, the reactor pressure is less than 85 psig, and the 'Control Power' key switch is in the 'OFF' position."

Technical Specification 4.2.2.18 states, in part, "The low pressure coolant injection system (Alternate Core Spray) shall be available for automatic operation except at times when the reactor is shut down and the system depressurized to approximately atmospheric pressure."

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Technical Specification 3.0.3 states, "In the event a Limiting Condition for Operation and/or associated ACTION requirements cannot be satisfied because of circumstances in excess of those addressed in the specification, the unit shall be placed in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the following 30 hours unless corrective measures are completed that permit operation under the permissible ACTION statements for the specified time interval as measured from initial discovery or until the reactor is placed in an OPERATIONAL CONDITION in which the specification is not applicable. Exceptions to these requirements shall be satisfied in the individual specifications."

Technical Specification 3.0.4 states, "Entry into an OPERATIONAL CONDITION or other specified applicability state shall not be made unless the conditions of the Limiting Condition for Operation are met without reliance on provisions contained in the ACTION statements unless otherwise excepted. This provision shall not prevent passage through OPERATIONAL CONDITIONS required to comply with ACTION requirements."

Contrary to the above, from 4:45 p.m. on May 26, 1983, until 11:40 a.m. on May 27, 1983, a period in excess of 12 hours, one of two containment building pressure sensing lines was capped. This resulted in disabling containment pressure instrumentation for automatic initiation of one high pressure core spray pump, one alternate core spray pump, two containment isolation valves, and one alternate core spray valve. The sensing line was capped while the reactor was in the start-up and operating condition.

This is a Severity Level III violation (Supplement I).

(Civil Penalty - $40,000)

ADMISSION OR DENIAL OF THE ALLEGED VIOLATION

Dairyland Power Cooperative agrees that Technical Specifications 4.2.2.18 and 3.0.4 were violated as described in the Notice.

We do not agree that Technical Specifications 4.2.2.15 and 3.0.3 were violated.

With regard to Technical Specification 4.2.2.15, neither core spray pump was removed from service for maintenance. Both pumps were available for operation.

The capped sensing line is located at Electrical Penetration Unit 1A. The other sensing line which remained open is located at Electric Penetration 2B. The pressure sensing line which was capped is attached to a 1-inch pipe which passes through a penetration plate fixture which also contains electrical penetrations. The plate fixture, which contains an array of electrical penetrations and other piping penetrations is referred to as an Electrical Penetration Unit. The sensing line is provided with a 1/4" NPT x 1/4" swagelok fitting inside containment to permit the accomplishment of periodic Type C leak

rate tests. This is the fitting that was erroneously capped. (See Attachment 1 - Sketch.) On the turbine building side of containment, Pressure Switches 37-35-701 and 37-35-703 were attached to the sensing line. (See Attachment 2 - Sketch.) Upon receipt of a 5 psig containment building pressure signal, each pressure switch controls a set of relays with associated contact actions as follows:

Switch 37-35-701 - Relay CBX1

Contact Actions -

Close Reactor Demineralized Water Isolation Valve
Close Off Gas Header Valve
Close Decay Heat Valve
Activate Reactor Building Pressure Hi Alarm C4-4
Open Signal - Alternate Core Spray Valve - D.C.*
Close Reactor High Pressure Service Water Valve
Signal to Solenoids to Close Screen Wash Valves
Close Containment Ventilation Valves
Start Diesel Service Water Pump 1A
Close Retention Tank Discharge Valve
Open Signal - Alternate Core Spray Valve D.C.*
Close Shutdown Condenser Condensate Leg Drain

Switch 37-35-701 - Relay CBX1A

Contact Actions

Start - High Pressure Core Spray Pump 1A
Signal to Solenoid #1 for Heating Steam Condensate Valve to Close

Switch 37-35-703 - Relay CBX2

Contact Actions

Close Reactor Demineralized Water Isolation Valve
Close Off Gas Header Valve
Close Decay Heat Valve
Activate Reactor Building Pressure Hi Alarm C4-4
Close Reactor Building High Pressure Service Water Valve
Signal to Solenoids to Close Screen Wash Solenoid Valves
Close Containment Ventilation Valves
Close Retention Tank Discharge Valve
Close Shutdown Condenser Condensate Leg Drain

Switch 37-35-703 - Relay CBX2A

*(one-half of the required open signals)

Contact Actions

Signal to Solenoid No. 2 for Heating Steam Condensate Valve to Close

Electrical Penetration Unit 2B identifies the location of the sensing line which remained open inside containment. On the turbine building side of containment, Pressure Switch 37-35-702 is attached to this sensing line. This pressure switch controls one relay with associated contact actions as follows:

Switch 37-35-702 - Relay CBX2B

Contact Actions

Start Diesel Service Water Pump 1B
Activate Reactor Building Pressure Hi Alarm C4-4
Start - High Pressure Core Spray Pump 1B
Open Signal - Alternate Core Spray Valve A.C.*

Reference DPC Drawing - S&L 41-503773 (Rev. 28) dated 2-2-82
Schematic Control Diagram Off-Gas & Waste Gas - LACBWR Project

Thus, as a result of the capping of the sensing line, the above four functions remained available for automatic action in the event high containment building pressure was experienced.

During the time that Pressure Switches 37-35-701 and 37-35-703 were disabled, High Pressure Core Spray Pump 1A remained available for automatic start by the low reactor water level function from either of three water level safety Channels Nos. 1, 2 or 3 and for manual start from the Control Room. Nothing occurred to otherwise render the pump incapable of delivering water to the reactor vessel for core cooling. High Pressure Core Spray Pump 1B remained available for automatic start from either high containment building pressure triggering Pressure Switch 37-35-702 or low reactor water. Manual start from the Control Room was also available. Only one pump is needed to meet core cooling requirements.

The automatic start feature in response to high containment building pressure was added to the High Pressure Core Spray Pumps as a diverse parameter in 1977. Prior to that time, the plant had operated with only low reactor water as the automatic pump start feature. The plant operated approximately two years successfully without the diverse containment building pressure activation signal.

Had a loss of coolant accident occurred during the time the pressure switches were disabled and had the event been of sufficient magnitude to increase pressure in the containment building to greater than 5 psig, the automatic pump start set point, the corresponding low reactor water level condition would also have developed.

*(one-half of the required open signals)

For the largest break analyzed, Reference 5, it appears that the reactor water level drop and containment building pressure increase would occur almost instantaneously.

In addition, while Pressure Switch 37-35-702 on the redundant sensing line at Electrical Penetration Unit 2B would have initiated the actions described above, low reactor vessel water level would have provided the other half of the opening signal to one of two redundant alternate core spray valves. While the containment ventilation valves would not have closed on a high containment building pressure signal, they would have closed on a low reactor water level signal, which, as mentioned before, would be expected if a loss of coolant had occurred. In addition, the containment building Air Exhaust Gaseous and Particulate Monitor would sense an increase in exhaust air radiation levels and thus signal the ventilation dampers to close. The Reactor Demineralized Water Valve and the Reactor Building High Pressure Service Water Valve, although not primary containment isolation valves, were prevented from closing automatically had the need arisen, but containment integrity could be assurred since the two systems are operated at hydraulic pressures greater than the design pressure of the containment building. Furthermore, the valves serve to provide isolation functions within containment to insure the flow of water supplies to essential systems. Each of these valves is bracketed by check valves, one upstream and one downstream. The upstream check valve serves as the active component to protect containment integrity. The capped sensing line and attendant loss of pressure signal would not affect the functioning of the check valves.

With regard to Technical Specification 3.0.3, we interpret this section to mean that the timing for the applicable 12 hour or 30 hour actions commences upon initial discovery of the unsatisfied Limiting Condition for operation. The cap was removed promptly upon verification of its erroneous placement.

A summary of equipment and actuation devices and signals is enclosed as Attachment 3.

REASONS FOR THE VIOLATION

Shortly before 1140, on May 27, 1983, a licensed senior operator, responding to a request from the operations engineer to make a replacement identification and caution tag for a broken tag on one of the sensing lines discovered that a cap had been screwed onto the 1/4" swagelok fitting at the end of the sensing line at Electrical Penetration Unit 1A inside the containment building. He had gone into containment for the purpose of checking the wording on the intact tag which was attached to the sensing line at Electrical Penetration Unit 2B. The tags used for this purpose are red plastic with a white laminated backing. The wording is engraved with a special machine to provide a durable inscription.

The Licensed Senior Operator immediately contacted the Operations Supervisor, who, after inspecting the capped line, verified that the cap should be removed. Removal of the cap took place within minutes after discovery.

The other containment building pressure sensing line which passes through Electrical Penetration Unit 2B was checked and verified to be open. The plant was in Operating Condition 2 (start-up), with primary temperature at approximately 400°F at the time of discovery of the capped line. The reactor had been taken critical at 1738 on May 26 following a cold shutdown. At no time was the plant in Operating Condition 1 (Power Operation).

Removal of the cap placed the plant in compliance with Technical Specifications.

During our investigation of the incident, a Shift Supervisor stated that he had capped the pressure sensing line while performing the required verification of restoration of penetration leak test fittings following completion of leak tests of electrical penetrations in the vicinity of the sensing lines. Although References 3 and 4 reported that the sensing line was capped on May 18, 1983, further review determined that this action occurred on May 19, during the shift which commenced at approximately 2330 on May 18.

The electrical penetrations are fitted with a special nipple, screwed fitting and cap. (See Attachment 4 - Photograph.) The leak test procedure involves removing the cap, attaching an air hose to pressurize the penetration, observing and recording pressure drop data, removing the air hose and replacing the cap. When all testing on the penetration units has been completed, a check is required to insure the caps have been properly replaced on all test connections. NUREG-0737, Item I.C.6. requires that the restoration of the test connections be verified by an individual other than the one who performed the restoration.

In performing the verification that all caps were reinstalled on the test connections for Electrical Penetrations Units 1B and 1C, the Shift Supervisor noticed an open fitting on Unit 1A. He assumed it was a test connection which had not been capped. The information and caution tag attached to this penetration which is about ten feet above the containment building main floor, was broken and the significant information was missing. With the belief that he was restoring containment integrity to satisfy Technical Specifications for reactor start-up, the Shift Supervisor capped the open fitting.

The Operations Engineer recalls having been informed by the NRC Resident Inspector on May 19, 1983, that during his inspection of containment building sensing lines and checking of procedures to insure that they contained requirements for post-test restoration and performance of a physical check of sensing lines, he had checked the sensing lines and observed both lines to be open in the containment building. He commented that the placement of red plastic information and caution tags on the sensing lines was a good practice,

but he noted that one of the tags was broken. This was the first time she had been made aware of the problem. Although the Inspector's observations actually had been made a few weeks earlier, the Operations Engineer incorrectly assumed that he was referring to an inspection completed shortly before his conversation with her. Because she interpreted his comments as representative of plant start-up conditions at the time of his report, she did not attach a significant priority to the repair of the broken tag since no further work activities would be undertaken in that area for a while and she, therefore, believed the sensing lines were in the proper condition for start-up and operation.

Written notification of the event was made to the NRC by Reference 3. The follow-up report was submitted in Reference 4.

CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED

As discussed above, the cap was promptly removed after discovery on May 27, 1983. The requirements of Technical Specifications 4.2.2.18 and 3.0.3 were met at that time. A new tag was placed on the sensing line that day.

The Plant Superintendent met with Shift Supervisors to discuss this and other incidents. The written reports on the incident have been routed to all members of the Operations Department to help prevent a repeat occurrence of this event. Plant procedures governing maintenance request and equipment tag-out have been revised to specify that if an apparent discrepancy is noted during the second verification check, the individual who discovers the discrepancy must contact the person who performed the initial check and his supervisor. Other procedures requiring a second verification are being revised to include the above actions.

It is believed that had the Shift Supervisor been alerted to the precaution to be observed as a result of noticing a legible tag or had he later reviewed the apparent discrepancy he had corrected and also discussed his action with other members of the operating staff, including his supervisor, the violation would not have occurred.

Following this incident, the arrangement of the containment building pressure switches was reviewed. It was determined that improvements in redundancy could be achieved for automatic pump starts, valve actions and containment isolation functions by relocating Pressure Switch 37-35-703 to the sensing line passing through Electrical Penetration Unit 2B. (See Attachment 5 - Sketch.) The relocation has been accomplished.

CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

A Facility Change has been initiated to modify the ends of the sensing lines inside containment to help prevent the installation of screwed caps whenever the fittings are not used for testing. The importance and manner of handling Resident Inspector concerns which may be brought to the attention of plant personnel will be stressed.

DATE FULL COMPLIANCE ACHIEVED

May 27, 1983

A one week extension of time to file this response was granted to Mr. James W. Taylor by Mr. A. B. Davis of Region III Headquarters on Wednesday, September 7, 1983. The new filing date therefore is September 18, 1983.

If there are any questions concerning this response, please contact us. In accordance with the provisions of 10 CFR 2.205 we are filing a separate response which protests the Civil Penalty and seeks mitigation of the amount of the penalty.

Sincerely,

Frank Linder

FL:daj

Attachments

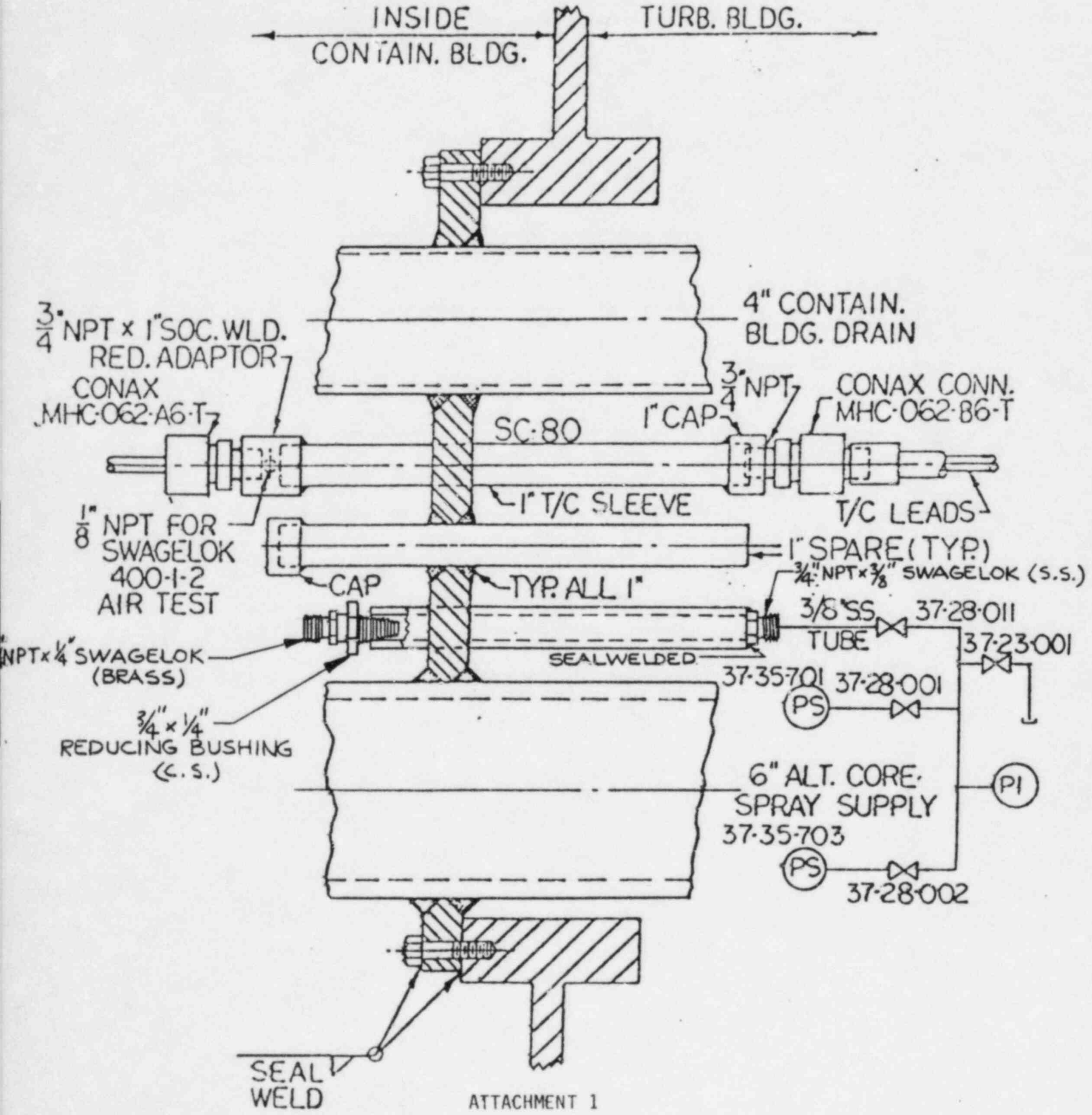
cc: Mr. James G. Keppler
Regional Administrator
U. S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

STATE OF WISCONSIN)
)
COUNTY OF LA CROSSE)

Personally came before me this 19th day of September, 1983, the above named Frank Linder, to me known to be the person who executed the foregoing instrument and acknowledged the same.

Ann J. Malin

Notary Public, La Crosse County, Wisconsin.
My Commission Expires 2/26/84.



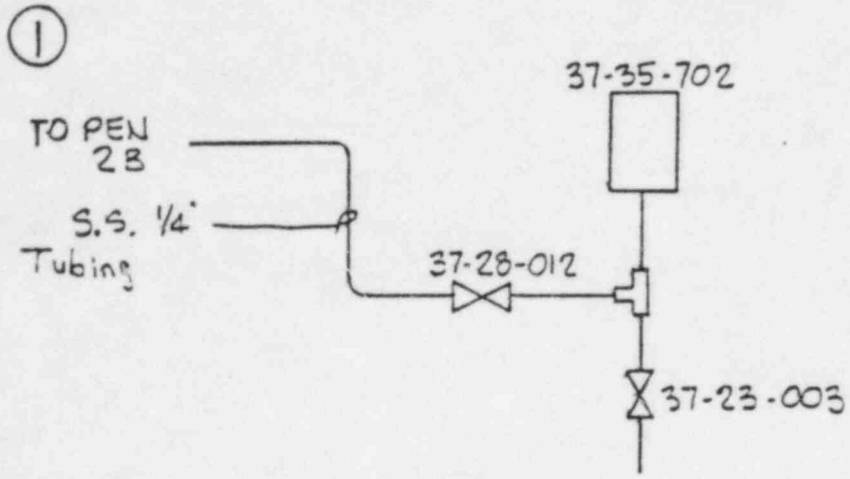
ATTACHMENT 1

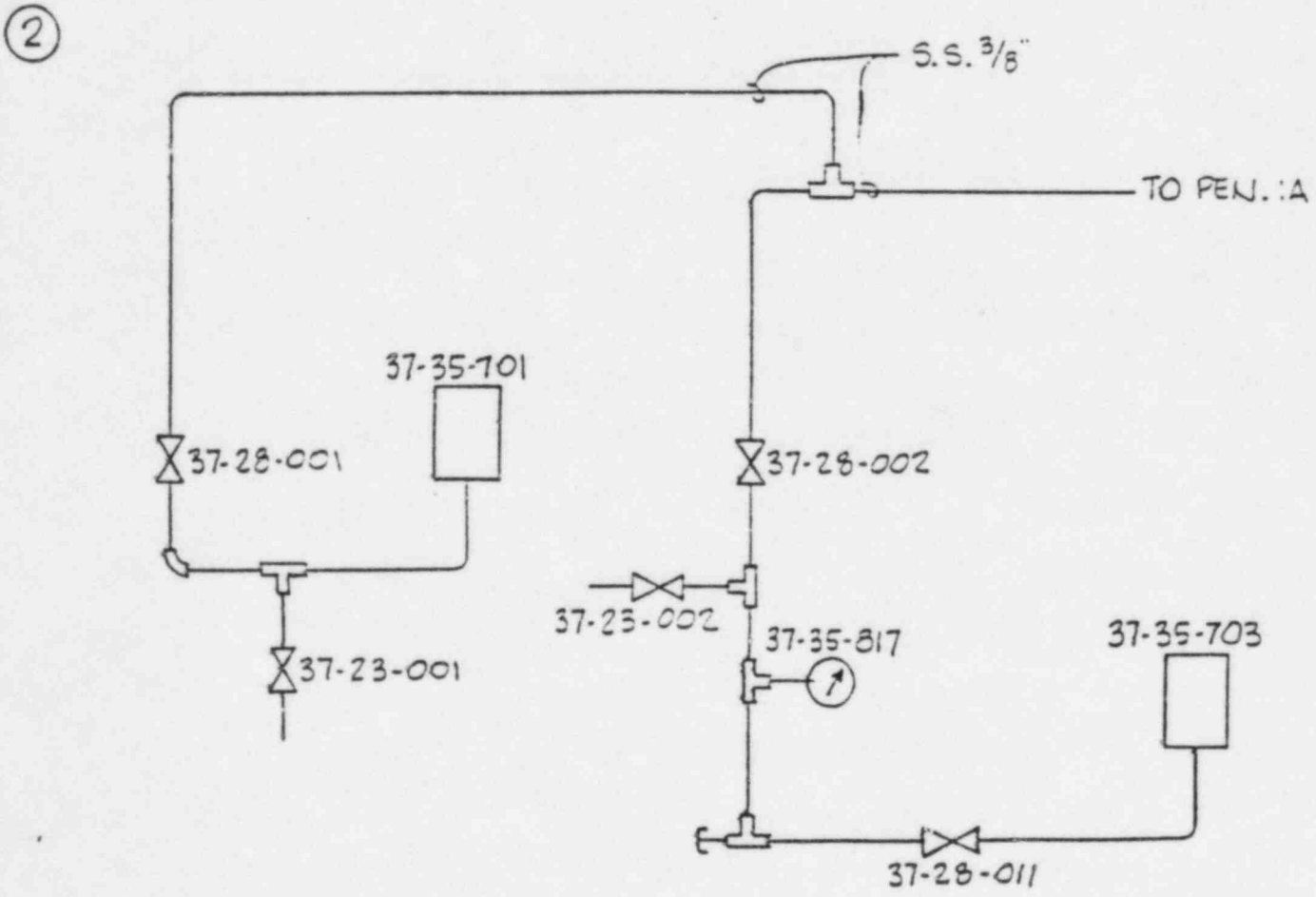
ELECTRICAL PENETRATION UNIT NO. 1A

9/16/83

Ref. LAC-9287

EXISTING CONFIGURATION





ATTACHMENT 2

ATTACHMENT 3

CONTAINMENT BUILDING PRESSURE SENSING LINE
AT ELECTRICAL PENETRATION UNIT 1A
LEADING TO PRESSURE SWITCHES 37-35-701 AND 37-35-703

LAC-9287
09/16/83
Sheet 1

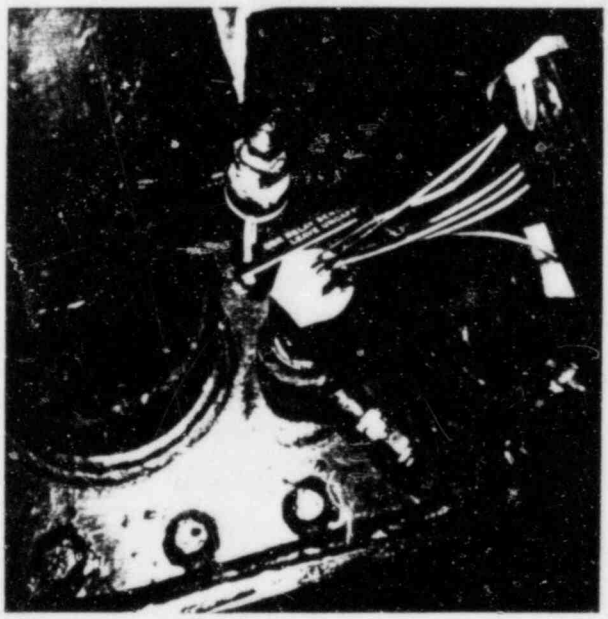
Equipment Activated By Pressure Switch	Other Signals Which Automatically Activate Same Equipment	Other Signals Which Activate Redundant Equipment	Comments
1A High Pressure Core Spray Pump (37-35-701 for Relay CBX1A)	Ch 1 Low Reactor Water Level Ch 2 Low Reactor Water Level Ch 3 Low Reactor Water Level Manual Control Switch	Ch 1, Ch 2, or Ch 3 Low Reactor Water Level or Pressure Switch 37-35-702 for Relay CBX23 starts HPCS Pump 1B	
1A Alternate Core Spray Pump (Diesel Service Water Pump 1A) (37-35-701 for Relay CBX1)	High Pressure Service Water System-Low Pressure Manual Control Switch	Pressure Switch 37-35-702 for Relay CBX23 or low HPSW pressure starts 1B ACS Pump Diesel Service Water Pump 1B	
Alternate Core Spray DC Valve (1/2 the required signal,) Ch1 or Ch2 low reactor water level also required) (37-35-701 for Relay CBX1)	Keyswitch	Pressure Switch 37-35-702 for Relay CBX23 plus Ch. 1 or Ch. 2 low reactor water level open ACS AC Valve	
Containment Building Inlet (2) and Outlet (2) Ventilation Dampers (37-35-701 for Relay CBX1) (37-35-703 for Relay CBX2)	High Gas Activity-Containment Building High Immed. or Delayed Particulate Activity-Containment Building Ch 1 High Reactor Pressure Ch 2 High Reactor Pressure Ch 1 Low Reactor Water Level Ch 2 Low Reactor Water Level Manual Control Switch		
Reactor Off Gas Header Valve (37-35-703 for Relay CBX2) (37-35-701 for Relay CBX1)	Same as for Ventilation Dampers, except for manual control switch		Outside manual valve was closed
Retention Tank Discharge Valve (37-35-701 for Relay CBX1) (37-35-703 for Relay CBX2)	Ch 1 Low Reactor Water Level Ch 2 Low Reactor Water Level		Between the time the reactor was taken critical on 5/26 & the time the sensing line was uncapped a manual valve downstream of the automatic valve was closed.

ATTACHMENT 3

CONTAINMENT BUILDING PRESSURE SENSING LINE
AT ELECTRICAL PENETRATION UNIT 1A
LEADING TO PRESSURE SWITCHES 37-35-701 AND 37-35-703

Equipment Activated By Pressure Switch	Other Signals Which Automatically Activate Same Equipment	Other Signals Which Activate Redundant Equipment	Comments
Reactor Demineralized Water Isolation Valve (Isolates non-essential feeds only) (37-35-701 for Relay CBX1) (37-35-703 for Relay CBX2)			Demin. water pressure is above Containment Building pressurization. Check valve upstream is passive containment isolation valve.
Reactor Building High Pressure Service Water Valve (Isolates non-essential feeds only) (37-35-701 for Relay CBX1) (37-35-703 for Relay CBX2)			HPSW pressure is above Containment Building maximum design pressurization. Check valve is containment iso. valve.
Decay Heat Valve (37-35-701 for Relay CBX1) (37-35-703 for Relay CBX2)	Ch 1 Low Reactor Water Level Ch 2 Low Reactor Water Level Manual Control Switch		Check valve upstream is containment isolation valve.
Heating Steam Condensate Valve - Solenoids (37-35-701 for Relay CBX1A) (37-35-703 for Relay CBX2A)	Ch 1 Low Reactor Water Level Ch 2 Low Reactor Water Level		Heating System Condensate Shutoff manual valve is maintained closed during Operating Conditions 1 and 2
Shutdown Condensor Condensate Leg Drain Valve (37-35-701 for Relay CBX1) (37-35-703 for Relay CBX2)	Ch 1 Low Reactor Water Level Ch 2 Low Reactor Water Level		
Reactor Building Pressure Hi-Alarm C4-4 (37-35-701 for Relay CBX1) (37-35-703 for Relay CBX2)		Pressure Switch 37-35-702 for Relay CBX2B	
Screen Wash Valves (37-35-701 for Relay CBX1) (37-35-703 for Relay CBX2)			

Electrical Penetration Unit 1A
Pressure Sensing Line for
Pressure Switches 37-35-701 and 37-35-703
(Note Special Fitting for Penetration Leak Tests

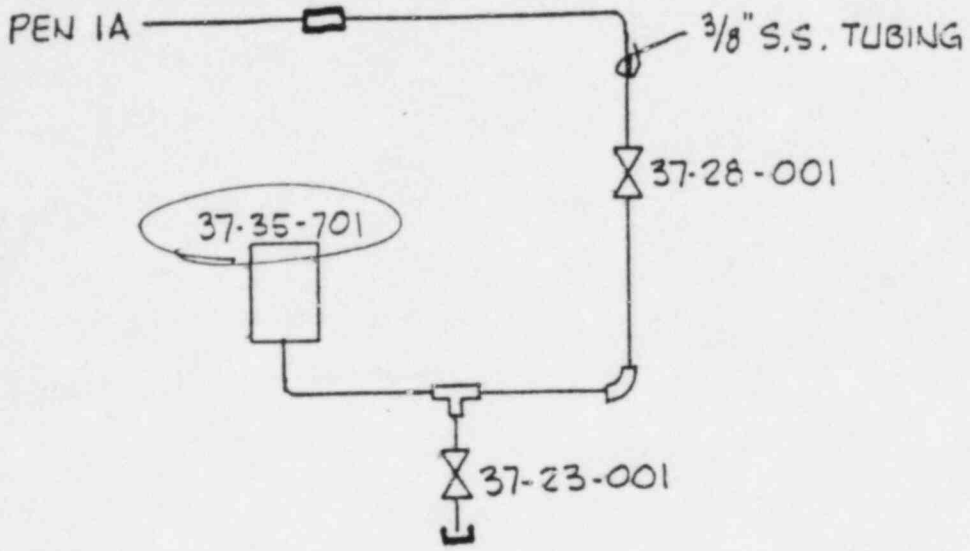


9/16/83

Ref. LAC-9287

NEW CONFIGURATION

(1)



(2)