



Northern States Power Company

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July 6, 1981

Director of Nuclear Reactor Regulation  
US Nuclear Regulatory Commission  
Washington, DC 20555

PRAIRIE ISLAND NUCLEAR GENERATING PLANT  
Docket Nos. 50-282 License Nos. DPR-42  
50-306 DPR-60

Information Submitted in Response to  
TMI Action Plan Items II.B.1 and II.D.1



The following is submitted in response to the documentation requirements of  
NUREG-0737, items II.B.1 and II.D.1:

NUREG-0737, Item II.B.1, Reactor Coolant System Vents

The reactor coolant system vent system consists of six remotely operated solenoid valves which can vent either the reactor head or pressurizer steam space to one of two locations, the pressurizer relief tank (PRT) or directly to the containment environment. The normal flow path during fill and vent operations will be from the reactor & pressurizer to the PRT. The flow path to the containment environment is provided so that large amounts of noncondensibles (such as hydrogen) can be released from the RCS and freely mix with the containment atmosphere. This would keep the hydrogen gas concentration in containment diluted below the combustible limit. Good mixing with the containment will also preclude the gas from collecting in pockets.

The six solenoid valves are located in the containment building on the main operating floor at the 755' level. This location was selected for ease of access and to keep new piping runs as short as possible. The valves are a Target Rock one-inch, pilot operated solenoid valve, Model 80B-001. The valves are a fail-closed design with an energize to open scheme. All the system piping is one inch, sch. 160, type 304 stainless steel and both RCS system tie-ins are orificed to reduce the vent flow to less than the capacity of one charging pump.

The power supply for the solenoid valves is from station DC safeguards power. Normal supply is from two inverters (train A and train B) which convert 480 VAC to 125 VDC for the valves. During a loss of AC incident the inverters switch to the station batteries for power giving the valves an emergency power source. Parallel valves powered off alternate power sources are provided at both vent sources to assure a vent path exists in the event of a single failure of either a valve or a power source.

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# NORTHERN STATES POWER COMPANY

Director of NRR

July 6, 1981

Page -2-

Results of analyses for loss-of-coolant accidents initiated by a break in the new vent piping have not been included in this submittal. It is our belief that no LOCA analysis is necessary as the orifices limit mass loss in the event of vent line break to less than the LOCA definition of 10 CFR 50.46.

Procedures for the use of the reactor vent system are not yet in their final form. Work to finalize the procedures is still being performed by the Westinghouse Owners Group and NSP. Copies of background information and preliminary operating procedures are attached. It is anticipated that final procedures will be available by January, 1981.

The design of the system has incorporated most of the design criteria discussed in the clarification section of NUREG-0737. Deviations from the criteria are as follows:

- Item (11) ASME operability testing of the vent system can be accomplished as required. However according to subsection IWV, valves shall be exercised once every 3 months unless it is not practical during plant operation. We do not believe it is practical to test these valves during plant operation, therefore the valve operability testing should be accomplished during refueling.
- Item (12) The human factor analysis of the displays and controls added to the control room has not as yet been performed. It is anticipated that the analysis will be performed following the release of NUREG-0700, which will be used for guidance in our control board review.

Schematics and diagrams of the final installation are as yet not finalized so they cannot be included in this submittal. A preliminary flow diagram is attached.

It is our intent to meet qualification requirements of the Staff position relating to environmental qualification. The specific qualification of electrical equipment will be provided in our revised response to Bulletin 79-01B by August 26, 1981.

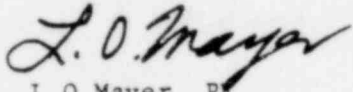
## NUREG-0737, Item II.D.1, Relief and Safety Valve Test Requirements

By letter dated July 1, 1981, R C Youngdahl of Consumers Power Company transmitted the Interim Data Report for the EPRI PWR Safety and Relief Valve Test Program. This report summarizes the test data collected to date on relief valves (safety valve data is still not available). Northern States Power will submit final evaluations and other plant specific data on a schedule consistent with the R C Youngdahl letters of December 15, 1980 and July 1, 1981.

NORTHERN STATES POWER COMPANY

Director of NRR  
July 6, 1981  
Page -3-

Please contact us if you have any questions related to the information we have supplied.



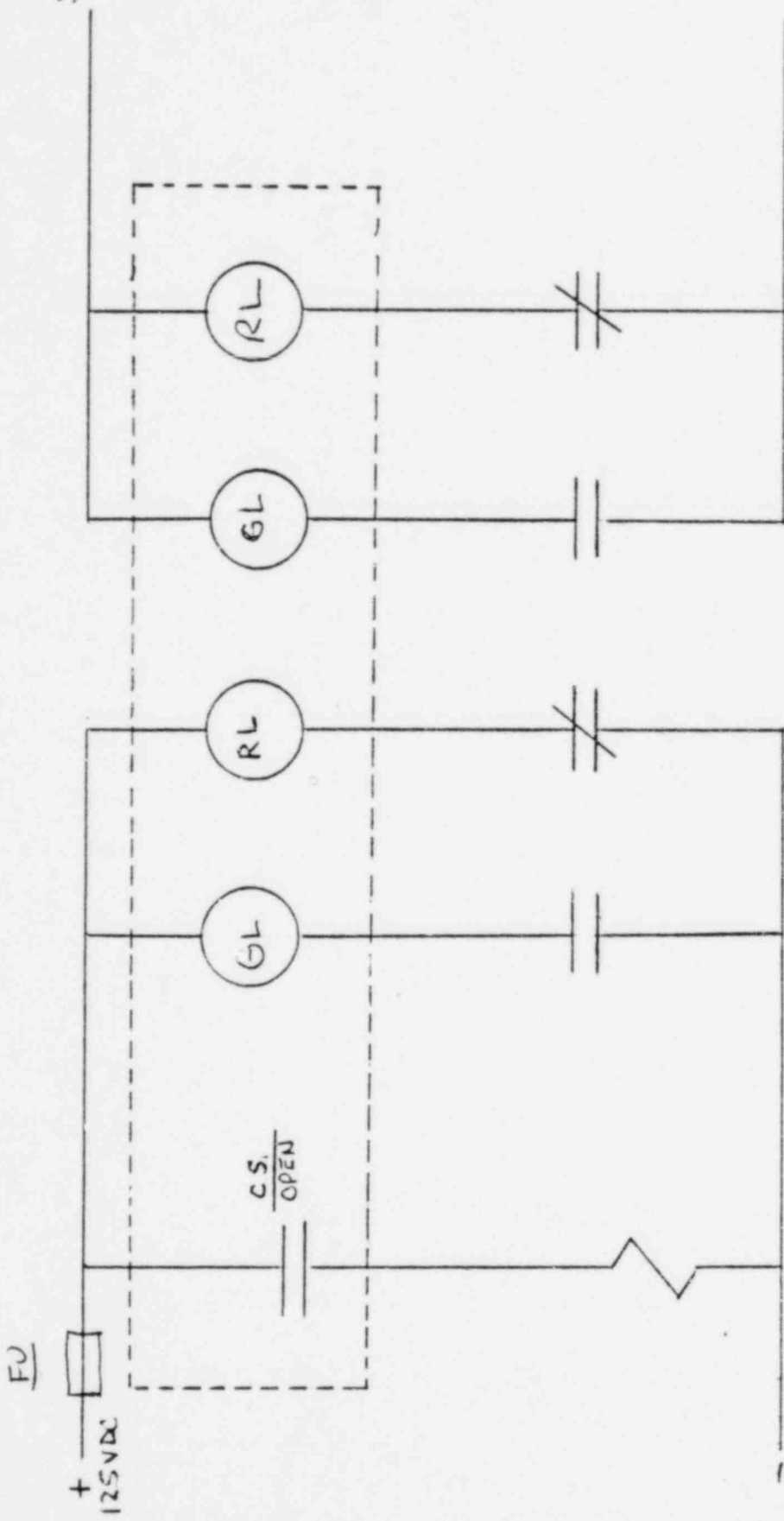
L O Mayer, PE  
Manager of Nuclear Support Services

LOM/DMM/jh

cc J G Keppler  
G Charnoff  
NRC Resident Inspector

Attachments





SOLENOID VALVE ELECTRICAL SCHEMATIC