REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

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Office of Nuclear Reactor Regulation

SUBJECT: Responds to NRC 800223 request for info re primary coolant sys pressure isolation valves. Valve configuration for RHR & core spray sys is check valve in series w/normally closed & normally open motor operated valves. Oversize drawings encl.

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NORTHERN STATES POWER COMPANY

MINNEAPOLIS, MINNESOTA 55401

March 7, 1980

Director of Nuclear Reactor Regulation
U S Nuclear Regulatory Commission
Washington, DC 20555

MONTICELLO NUCLEAR GENRATING PLANT
Docket No. 50-263 License No. DPR-22

Primary Coolant System Pressure Isolation Valves

In a letter dated February 23, 1980 from Mr Darrell Eisenhut, Acting Director, Division of Operating Reactors, USNRC, we were requested to provide information related to primary coolant system pressure isolation valves at Monticello. The following information is provided in response to this request:

1. The RHR (which includes LPCI) and Core Spray Systems are the only low pressure piping systems outside primary containment that connect to the high pressure primary coolant system. The valve configuration for the LPCI System is shown on FSAR Figure 6-2-6. The valve configuration for the Core Spray System is shown on FSAR Figure 6-2-2. The configurations are not the same as the examples given for an Event V isolation valve configuration. The configuration for both of these systems is one check valve in series with one normally closed motor operated valve and one normally open motor operated valve.

2. For both systems there is continuous surveillance of each loop and periodic leak tests are conducted. Continuous surveillance is accomplished by pressure switches mounted on each injection line upstream of the isolation valves. These switches each provide annunciation in the main control room if high pressure is sensed (400 psig in the LPCI loops or 325 psig in the Core Spray Loops). Periodic leak tests consist of full pressure tests of each check valve and normally closed motor operated valve in accordance with Section XI of the ASME Boiler and Pressure Vessel Codes. In addition the normally closed and normally open motor operated isolation valves in the Core Spray System are tested each refueling outage in accordance with Appendix J to 10CFR50. The first section XI tests were conducted during the 1978 refueling outage. One of the Core Spray System check valves failed to pass the test. The leaking valve was disassembled, cleaned, reassembled and leak tested. It then passed the Section XI test. During the present refueling outage both Core Spray System

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check valves failed to pass the Section XI leak test (the LPCI check valves have not yet been tested). It is believed that the valves failed primarily due to problems associated with the test technique rather than functional integrity of the valves. The test involves slow pressurization of the volume using a low flow hydro pump. If the check valve is not fully seated the test fluid will leak making it impossible to pressurize the volume. It is felt that the check valves will seat if a high differential pressure can be achieved across the seat. The normally closed motor operated isolation valves have never failed a Section XI or Appendix J leak test. The normally open motor operated isolation valves have never failed an Appendix J leak test. It is further noted that there are relief valves installed on each injection line to prevent overpressurization of the piping.

3. Plant procedures will be revised to require closure of the normally open motor operated isolation valve if a system high pressure alarm is received. Possible modifications are being considered to improve the Section XI leak testing technique for the check valves.

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

L. O. Mayer

L O Mayer, PE
Manager of Nuclear Support Services

LOM/DMM/jh

cc: J G Keppler
G Charnoff

Attachment

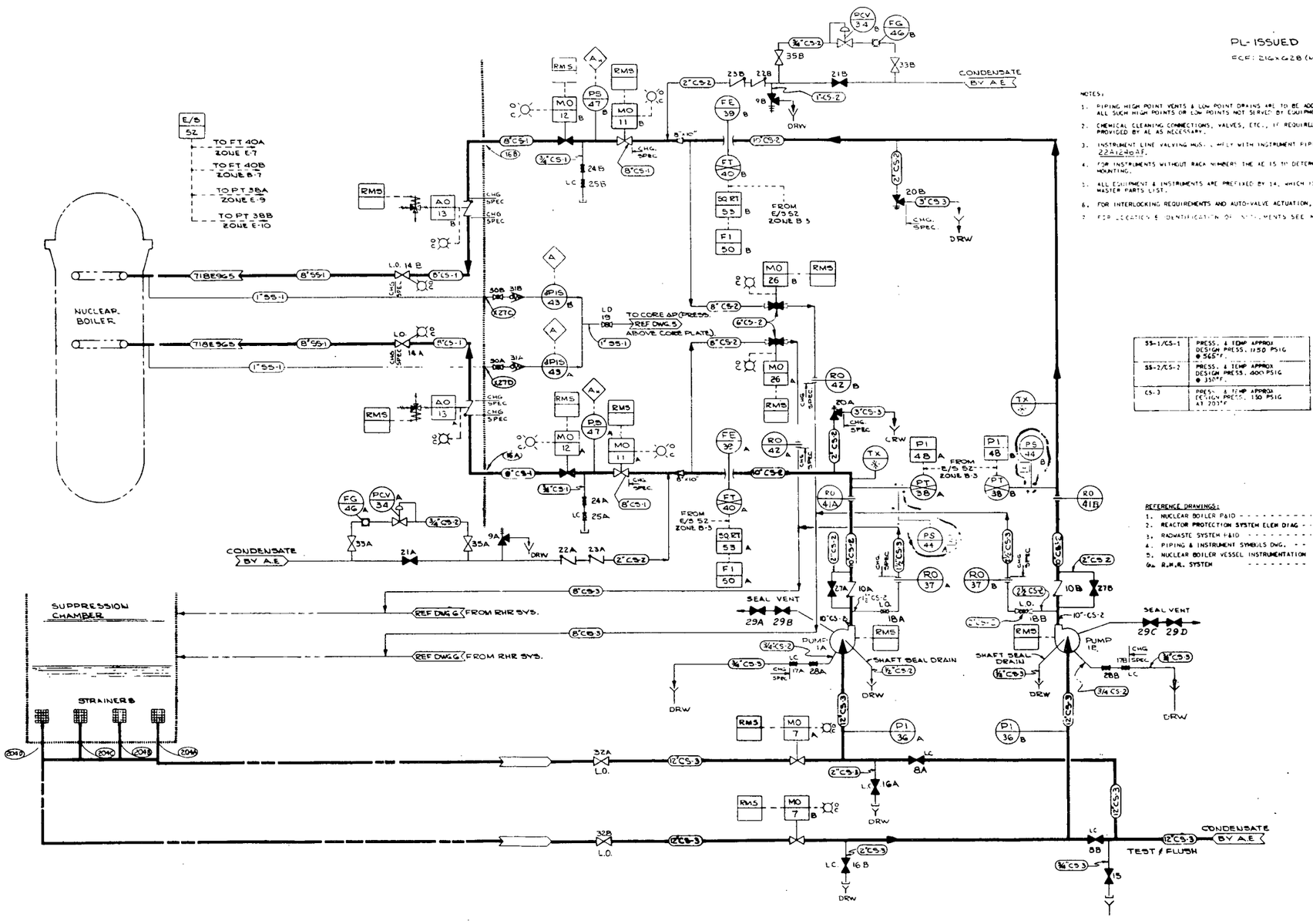

Figure 6-2-2 Core Spray P&ID

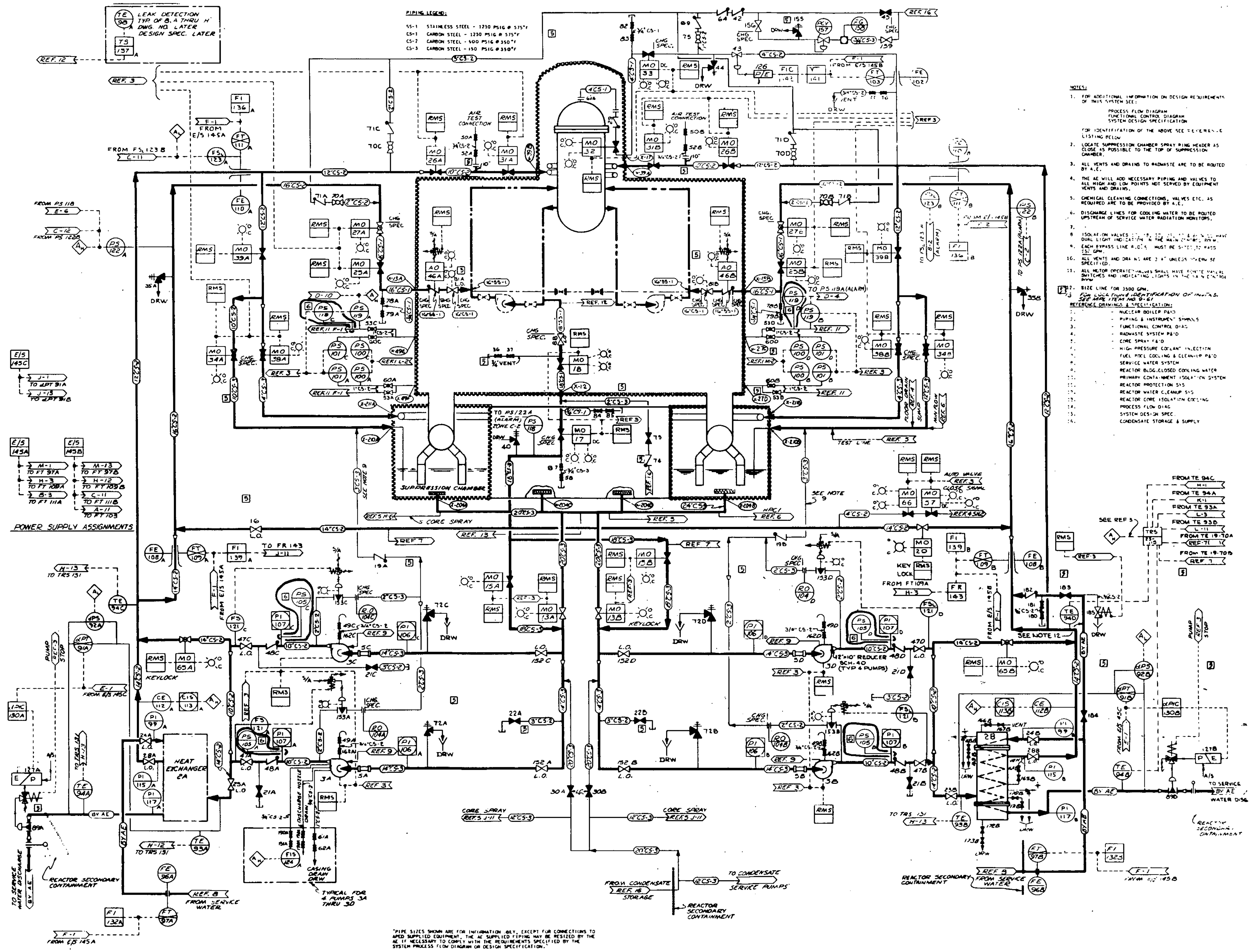

Figure 6-2-6 RHR System P&ID

UNITED STATES NUCLEAR REGULATORY COMMISSION

NORTHERN STATES POWER COMPANY

MONTICELLO NUCLEAR GENERATING PLANT

Docket No. 50-263

License No. DPR-22

LETTER DATED MARCH 7, 1980
RESPONDING TO NRC REQUEST
FOR INFORMATION ON PRIMARY COOLANT SYSTEM PRESSURE ISOLATION VALVES

Northern States Power Company, a Minnesota corporation, by this letter dated March 7, 1980 hereby submits information in response to NRC request dated February 23, 1980 for information on primary coolant system pressure isolation valves.

This request contains no restricted or other defense information.

NORTHERN STATES POWER COMPANY

By L.O. Mayer
L O Mayer
Manager of Nuclear Support Services

On this 7th day of March, 1980, before me a notary public in and for said County, personally appeared L O Mayer, Manager of Nuclear Support Services, and being first duly sworn acknowledged that he is authorized to execute this document on behalf of Northern States Power Company, that he knows the contents thereof and that to the best of his knowledge, information and belief, the statements made in it are true and that it is not interposed for delay.

Jeanne M Hacker

JEANNE M. HACKER
NOTARY PUBLIC - MINNESOTA
HENNEPIN COUNTY
My Commission Expires May 6, 1986