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SUBJECT: Forwards request for relief from ASME Boiler & Pressure Vessel Code Section XI, Section IAW-4400 re delay of 110% hydrostatic testing of coolant pressure boundary.

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

Request for Relief from ASME Boiler & Pressure Vessel Code,
Section XI, Section IWA-4400 Pressure Testing Requirements

The purpose of this letter is to request NRC review and approval to delay 110% hydrostatic testing of the Monticello reactor coolant pressure boundary following work to be performed during the upcoming refueling outage. Specifically, this is a request for relief from the pressure testing requirements of IWA-4400 of Section XI of the ASME Boiler and Pressure Vessel Code, 1986 Edition.

The following repair work will be performed during the upcoming outage:

High Pressure Coolant Injection (HPCI) System

The eight inch in-board HPCI containment isolation valve, MO-2034, will be replaced. In response to NRC Generic Letter 89-10, Supplement 3, NSP documented the operability of the existing MO-2034; however, the margin between actual stresses in the valve body and maximum allowable stresses is less than desired. The new valve will provide additional margin.

Reactor Water Clean Up (RWCU) System

The four inch RWCU suction valve, RC-1, off the Recirculation Line will be replaced with an improved design. The existing valve has suffered persistent packing leakage.

Reactor Vessel 2" Drain Line

The reactor vessel 2" drain line will be cut to install a flanged tee assembly to be used for measurement of the electrochemical potential of the coolant. This measurement will be used to gauge the effectiveness of the Hydrogen Injection System in preventing Intergranular Stress Corrosion Cracking (IGSCC) in the lower portion of the Reactor Vessel.

Section IWA-4400 of the ASME Boiler and Pressure Vessel Code specifies that a hydrostatic test be performed following repairs to the reactor coolant pressure boundary. Sections IWA-5214 and IWB-5222 of the Code require that the test be conducted at 110% (1100 psig in this instance) of system normal

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operating pressure (1000 psig). Due to the configuration of plant piping, the items noted above cannot be isolated from the Reactor Vessel. Consequently, any pressure test of the inboard (reactor side) field installation welds would require subjecting the reactor vessel and attached piping to the same test pressure. This would require that the main steam safety/relief valves be either removed and replaced with blank flanges or gagged by installing gagging devices to prevent valve actuation.

Neither of these options is considered to be prudent or desirable. Information supporting this conclusion is as follows:

Removal and Blanking of Safety/Relief Valves

It is estimated that removal and replacement of the safety/relief valves would require approximately 400 person-hours of maintenance work. Considering the current radiation fields in the work areas, this would result in an occupational radiation exposure of approximately 10 person-Rem. It is estimated that this work would take six days to complete. Three of these days are on the refueling outage critical path. Extending the outage three days to complete this test would result in additional outage related costs of approximately \$600,000.00.

Use of Safety/Relief Valve Gagging Devices

Monticello has eight three-stage Target Rock safety/relief valves installed in the main steam lines. Although the valve manufacturer indicates that a gagging device design does exist for this type of valve, installation requires valve bonnet cap removal and introduces the possibility of disturbing the set pressure adjusting ring. Accordingly, Monticello does not consider it prudent to use this gagging device due to the possibility of introducing setpoint error.

We would like to defer performing the 110% (1100 psig) hydrostatic test required by ASME Section XI until the 1993 refueling outage. The specific welds to which this request applies are:

- The butt welds on the reactor side of valves RC-1 and MO-2034, and;
- A single 2" socket weld on the reactor side of a coupling used for the tee installation in the Reactor Vessel Drain Line.

Delaying performance of the 110% test is considered to be technically acceptable based on the following considerations:

- All three welds will be subjected to visual and liquid penetrant inspection. In addition, the butt welds of valves RC-1 and MO-2034 will be subjected to ultrasonic and radiographic inspection.

- All three welds will be subjected to a 100% (1000 psig) system leakage test prior to startup. Neither gagging nor removal of the safety/relief valves is required for this test. In addition, the valves will both be subjected to a 2175 psig pressure test by the manufacturer, and the coupling will be tested to 1704 psig by NSP prior to installation.
- The subject welds will undergo a 110% (1100 psig) hydrostatic test during the 1993 refueling outage in conjunction with the 10 year reactor coolant system ISI hydro.

In the NRC Safety Evaluation Report dated October 6, 1989 (which involved a similar Section XI relief request for HPCI venturi work), it was incorrectly stated that the Monticello reactor coolant system 10 year ISI hydrostatic pressure test was scheduled to occur during the next (1991) refueling outage. This statement was based on information provided by NSP that was incorrect. The next 10 year In-service Inspection hydrostatic test of the reactor coolant system was, and is, scheduled for the early 1993 refueling outage. It is not considered desirable to perform an additional 110% hydro at this time since this would subject the reactor coolant system to an extra over-pressure fatigue cycle.

In summary, performing the 100% (1000 psig) system leakage test in addition to the extensive weld inspection will ensure the pressure boundary integrity of the reactor coolant system. Approval of this request will avoid the additional occupational radiation exposure, cost and schedule impact associated with performing the 110% (1100 psig) ASME Boiler and Pressure Vessel Code hydrostatic test during the 1991 refueling outage.

The reactor coolant system pressure boundary leakage test is currently scheduled for May 16, 1991. NRC staff review and approval of this request for relief is needed prior to April 1, 1991 to allow time for outage planning should the staff not concur.

Please contact us if you have any questions concerning this request.



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