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NRC-97-0001

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D. C. 20555

- References:
- 1) Fermi 2  
NRC Docket No. 50-341  
NRC License No. NPF-43
  - 2) NRC Inspection Report 50-341/96006,  
dated September 26, 1996

Subject: Inservice Testing Program (Plan) For Pumps And Valves  
Relief Requests VR-63 and VR-64

Please find attached Relief Requests VR-63, service water minimum flow valves and VR-64, emergency equipment cooling water temperature control valves. VR-63 requests relief from stroke time testing requirements of the minimum flow valves of the Residual Heat Removal, Emergency Diesel Generator Service Water and Emergency Equipment Service Water systems minimum flow valves. VR-64 requests relief from stroke time testing requirements of the temperature control valves of the Emergency Equipment Cooling Water system. These Relief Requests address Inspection Follow-Up Item 96-006-04 of Reference 2.

If you have any questions, please contact Mr. Bruce J. Sheffel at (313) 586-1848.

Sincerely,

180048

Attachment

cc: A. B. Beach w/attch.  
J. Colaccino w/attch.  
A. Dunlop w/attch.  
G. A. Harris w/attch.  
M. J. Jordan  
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Attachment to  
NRC-97-0001

**Relief Requests**

**VR-63 and VR-64**

## RELIEF REQUEST NUMBER VR-63

**SYSTEM:** RHRSW, EDGSW, & EESW

**VALVES:**

Valve	Code Class	ISI Drawing
E11F400A	B	6M721-5813-3
E11F400B	B	6M721-5813-3
E11F400C	B	6M721-5813-3
E11F400D	B	6M721-5813-3
R30F400	B	6M721-5813-3
R30F401	B	6M721-5813-3
R30F402	B	6M721-5813-3
R30F403	B	6M721-5813-3
P45F400	B	6M721-5813-3
P45F401	B	6M721-5813-3

**FUNCTION:** Minimum flow valves assure minimum pump flow requirements are maintained for the RHRSW, DGSW and EESW systems and thus assure the pumps are not damaged should the normal flow path be isolated or restricted. The subject valves are air-to-open and spring-to-close valves which fail closed on loss of air. These valves are normally closed and their safety function is to assure primary safety system flow is not diverted through the minimum flow lines. All three systems start against open flow paths so that the minimum flow valve function to open is not required when the pumps are started from their normal valve lineup positions.

**SECTION XI CODE REQUIREMENTS FOR WHICH RELIEF IS REQUESTED:**

Per paragraph IWV-3413(b) of Section XI of the ASME B & PV Code, the stroke time of all power operated valves shall be measured to the nearest second, for stroke times 10 seconds or less, or 10% of the specified limiting stroke time for full stroke times longer than 10 seconds whenever such a valve is full-stroke tested.

**BASIS FOR RELIEF:** All 10 minimum flow valves have a control logic that does not provide for stroke time testing. These valves automatically open when pump discharge pressure is high and close when pressure decreases. High discharge pressure indicates that the normal pump flow path is either closed or severely restricted. Low pressure indicates a viable flow path is available.

Current fail-safe testing of the subject valves is accomplished by actually restricting flow with the appropriate pump running such that the minimum flow valve opens. As flow is restored, the minimum flow valve closes as discharge pressure decreases below the set-point pressure and control air pressure is reduced to approximately zero (hard on the stop of the pressure gauge) psig. The valve closes when the control air supply is removed from the valve diaphragm, and the remaining spring force closes the valve.

These valves have no remote position indicating devices and are only equipped with a local pointer on the stem which is, at best, a gross measure of position. From this indicator there is no way of knowing the exact starting open position of the valve or the exact travel distance from open to close. Also, the exact open starting position would vary from test to test as the exact position would be a result of varying pressure within a range of the control valve. This would make test repeatability impossible without significant modification to the valve and its control logic.

In order to accurately and precisely stroke time these valves, it would be necessary to modify the control circuitry to allow for manual override operation. However, the installation of such controls would not improve system operation or contribute to protecting the health and safety of the public. In fact, it would make operation more complicated by adding additional hardware whose only function is to allow stroke time testing of the valves.

**ALTERNATE TESTING:** None. The current practice of exercising these valves from the open to close position every 92 days for the fail-safe test position is all that is necessary to assure the valves perform their required safety function of going closed from the open position. No additional testing for stroke time testing will be performed.

## RELIEF REQUEST NUMBER VR-64

**SYSTEM:** EECW

**VALVES:**

Valve	Code Class	ISI Drawing
P44F400A	B	6M721-5828-1
P44F400B	B	6M721-5828-2

**FUNCTION:** The EECW (Emergency Equipment Cooling Water) temperature control valve(s) control EECW temperature by modulating the flow of the EESW (Emergency Equipment Service Water) through the service water side(s) of the EECW Heat Exchanger(s). These are air-to-close and spring-to-open valves which fail to open on loss of air. They are mechanically blocked from going full closed in order to assure that a minimum flow path is always available. These valves are normally open and their safety function is to open.

**SECTION XI CODE REQUIREMENTS FOR WHICH RELIEF IS REQUESTED:**

Per paragraph IWV-3413(b) of Section XI of the ASME B & PV Code, the stroke time of all power operated valves shall be measured to the nearest second, for stroke times 10 seconds or less, or 10% of the specified limiting stroke time for full-scale stroke times longer than 10 seconds whenever such a valve is full-stroke tested.

**BASIS FOR RELIEF:** Both of these temperature control valves have a control logic and automatic/manual control station that does not make stroke time testing practical. Valve actuation is accomplished from the control room by using a manual/automatic controller. These controllers are not suitable for stroke timing to the accuracy (to the nearest second) required by Code. Because there is no light indication at the beginning or end of the valve stroke, start and stop of the measured stroke time would vary with each test yielding varying test results. The varying test results would negate any meaningful trending to detect valve degradation. The installed hardware does not provide for accurate and repeatable stroke time testing.

Finally, these valves have mechanical stops that physically prevent the valve from going greater than approximately 86% closed. These valves are prevented from going fully closed so that a minimum flow path will always be available without totally eliminating the EECW/EESW heat exchanger heat removal capability. Installation of the control alternatives necessary to measure accurate stroke times from the mechanical stop to full open would unnecessarily complicate the system with no additional protection to the health and safety of the public being achieved.

**ALTERNATE TESTING:** None. The current practice of exercising these valves from the closed to open position every 92 days is all that is necessary to assure the valves perform their required safety function of going open from the closed position.