JAN 1 4 2005

L-PI-04-136
10CFR50.55a

U S Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Prairie Island Nuclear Generating Plant Units 1 and 2
Dockets 50-282 and 50-306
License Nos. DPR-42 and DPR-60

Response to Request for Additional Information Regarding the 4th Interval Inservice Testing Plan

Reference: Letter from Nuclear Management Company, LLC to the Nuclear Regulatory Commission (NRC), "Submittal of the 4th Interval Inservice Testing Plan – Units 1 & 2," dated June 28, 2004

On June 28, 2004, Nuclear Management Company, LLC (NMC) submitted the Prairie Island Nuclear Generating Plant (PINGP) 4th Interval Inservice Testing Plan (Reference). NMC received a Request for Additional Information (RAI) on November 9, 2004. Attached to this letter is the RAI along with the information requested (Enclosure 1).

In response to the questions, it was identified that additional relief was necessary. Therefore, new relief requests are being submitted as well (Enclosure 2). These include:

- Relief Requests 6 & 7, requesting relief from the requirement of ISTB-5121 and ISTB-5123 for 11, 12, 21, 22 Component Cooling Water Pumps & 121, 122 Safeguards Chilled Water Pumps;
- Relief Request 8 to allow use of the guidelines set forth in Code Case OMN-9, "Use of a Pump Curve for Testing:"
- Relief Requests 9 & 10 to allow the flow rate on the Residual Heat Removal and Auxiliary Feedwater Pumps to be measured during refueling; and
- Relief Request 11 to allow valves CL-43-2, CL-43-3 & 2CL-43-2 to be disassembled, manually full stroked exercised and inspected once each fuel cycle, not to exceed 24 months.

In addition, Relief Request #5 requesting relief from the requirement of ISTB-3700, Position Verification Testing, for valves MV-32075, MV-32076, MV-32178, MV-32179 will be withdrawn.

In response to the questions, it was determined that certain previously submitted deferrals required revision. The revised deferrals are being submitted as well (Enclosure 3).

Please contact Jack Leveille (612-388-1121, Ext. 4142) if you have any questions related to this letter.

Summary of Commitments

This letter contains no new commitments and no revisions to existing commitments.

K Clewett for

Joseph M. Solymossy
Site Vice President, Prairie Island Nuclear Generating Plant
Nuclear Management Company, LLC

Enclosures (3)

cc: Administrator, Region III, USNRC
Project Manager, Prairie Island, USNRC
Resident Inspector, Prairie Island, USNRC

ENCLOSURE 1

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION FOR PRAIRIE ISLAND UNITS 1 &2 – 4TH INTERVAL INSERVICE TESTING PLAN

(NRC questions are in bold font, NMC responses are in normal font)

1. Relief Request 2

Relief Request 2 asks relief from the requirements of ISTB-3550 which requires that a rate or quantity meter be installed in the pump test circuit to measure flow. External recirculated flow is not required to be measured if it is not practicable to isolate, has a fixed resistance, and has been evaluated to not have a substantial effect on the results of the test.

The submittal states that an unmetered bypass line feeds a jacket cooler and a gear oil cooler with an estimated flow of 6% of reference flow and that bypass flow will be held constant during the test. Fouling of the heat exchangers will impact the system resistance and potentially mask pump degradation.

The submittal states that unmetered loads to chemical treatment and filtered water exist in the screenhouse. Flow to chemical treatment is estimated at 1.5% and flow to filtered water is estimated at 0.5% of reference flow.

a. **Please address the effect of potential jacket cooler and gear oil cooler bypass flow degradation on the quarterly Group A test acceptance criteria and the comprehensive pump test acceptance criteria.**

b. **Please describe the testing controls that ensure that jacket cooler and gear oil cooler flow is held constant during pump testing.**

c. **Please address the feasibility of installing flow instrumentation or using temporary flow instrumentation to determine flow in the jacket cooler and gear oil cooler bypass line.**

d. **Please describe the methodology used to estimate that the jacket cooler and gear oil cooler bypass flow rate is approximately 6% of reference flow.**

e. **Are the chemical treatment and filtered water bypass lines considered fixed resistance systems? If the bypass lines are considered fixed resistance systems provide the rational to support the conclusion.**

f. **Please address the effect of potential chemical treatment and filtered water bypass flow degradation on the quarterly Group A test acceptance criteria and the comprehensive pump test acceptance criteria.**

g. **Please describe the testing controls that ensure that chemical treatment and filtered water bypass flow is held constant during pump testing.**

h. **Please address the feasibility of installing flow instrumentation or using temporary flow instrumentation to determine chemical treatment and filtered water bypass flow.**

i. **Please describe the methodology used to estimate the chemical treatment and filtered water bypass flow rate as a percentage of reference flow.**

Response to #1:

The above questions designate the Diesel Driven Cooling Water Pumps as Group A pumps. They are, in fact, Group B pumps that are only operated during testing.

a. With fouling of the heat exchangers, more flow would be directed to the metered flow path causing the metered flow to increase. The pump will appear to be performing better than in previous tests or, if there is true pump degradation, it could mask the degradation.

   Routine cleaning and inspection of the heat exchangers mitigates the impact of fouling on pump test acceptance criteria. The jacket cooler heat exchanger is cleaned and inspected biennially and the gear oil cooler is cleaned and inspected annually under the Generic Letter 89-13 Program. Chronic fouling of the heat exchangers would be discovered and addressed as part of the GL 89-13 Program. Temperature indication exists for the jacket cooler heat exchanger and is recorded each test providing additional indication of fouling between inspections. These actions minimize the risk of heat exchanger fouling masking degradation of pump performance.

b. The Diesel Jacket Cooler Outlet Control Valve is included in the IST (Inservice Testing) program. It is stroke time tested as required by the IST program. By design the valve is maintained in the full open position while the engine is running.

   The Gear Oil Cooler does not have valves controlling or shutting off flow. The only valves in the piping between the pump and the discharge are manual valves that are not manipulated during or in between tests other than for maintenance.

c. While temporary flow meters could be installed, the physical layout of the piping and the installation requirements for the temporary flow meter presents a hardship for routine installation due to its accessibility. Additionally, currently owned temporary flow meters do not meet the Code accuracy requirements.

New flow instrumentation meeting Code accuracy requirements would be costly without a commensurate increase in safety.

d. Flow measurements were taken during a pump surveillance using temporary ultrasonic flow meters. The flow meters used do not meet Code accuracy requirements. The measurements were taken as part of the ISI pressure test of the system piping.

e. The chemical treatment bypass piping is not a fixed resistance system; chemical injection into the piping varies throughout the year. The filters in the filtered water system may vary the resistance in the piping system depending on the level of plugging in the filters and cannot be considered a fixed resistance system.

f. Similar to the jacket cooler and gear oil cooler with fouling of the chemical treatment or filtered water bypass more flow would be directed to the metered flow path causing the metered flow to increase. The pump will appear to be performing better than in previous tests or, if there is true pump degradation, it could mask the degradation.

   The chemical injection into the chemical treatment bypass piping is less than 1 GPM. This is negligible in relation to the 1.5% (approximately 140 GPM) of pump flow that is diverted to this system. Other than the manual valves, check valves and the piping itself there is no location were degradation would be expected.

   The filters in the filtered water system may vary the resistance in the piping system depending on the level of plugging in the filters. However, the filters for the filtered water system have a backwash function with differential pressure indication. An alarm is activated if differential pressure is greater than 15 PSID, corrective action would be taken if differential pressure across the filters were high and the backwash system was not functioning properly. Flow diverted to the filters is estimated at 0.5% of pump flow, (approximately 45 GPM). Reduced flow caused by filter plugging would not divert a sufficient amount of pump flow to affect pump test results.

g. During the test, the flow instruments are monitored for ten minutes to verify no flow transients occur from the chemical treatment, filtered water bypass or any other source prior to taking the test readings.

h. While temporary flow meters could be installed, the physical layout of the piping and the installation requirements for the temporary flow meter presents a hardship for routine installation due to its accessibility. Additionally, currently owned temporary flow meters do not meet the Code accuracy requirements. New flow instrumentation meeting Code accuracy requirements would be costly without a commensurate increase in safety.

i. Calculations, based on the hydraulic model, included in the Prairie Island calculation database were performed for the Cooling Water System that analyzed various flow configurations during accident conditions. The percentages used in the relief request were estimates derived from these accident calculations. A formal calculation has not been specifically performed to analyze the flows for the chemical treatment and filtered water bypass during normal testing alignments.

2. Relief Request 3

The submittal states that unmetered loads to chemical treatment and filtered water exist in the screenhouse. Flow to chemical treatment is estimated at 1.5% and flow to filtered water is estimated at 0.5% of reference flow.

a. Are the bypass lines considered fixed resistance systems? If the bypass lines are considered fixed resistance systems provide the rational to support the conclusion.

b. Please address the effect of potential bypass flow degradation on the quarterly Group A test acceptance criteria and the comprehensive pump test acceptance criteria.

c. Please describe the testing controls that ensure that flow is held constant during pump testing.

d. Please address the feasibility of installing flow instrumentation or using temporary flow instrumentation to determine flow in the bypass line.

e. Please describe the methodology used to estimate the bypass flow rate as a percentage of reference flow.

Response to #2:

a. The chemical treatment bypass piping is not a fixed resistance system; chemical injection into the piping varies throughout the year. The filters in the filtered water system may vary the resistance in the piping system depending on the level of plugging in the filters and cannot be considered a fixed resistance system.

b. Similar to the jacket cooler and gear oil cooler with fouling of the chemical treatment or filtered water bypass more flow would be directed to the metered flow path causing the metered flow to increase. The pump will appear to be performing better than in previous tests or, if there is true pump degradation, it could mask the degradation.

The chemical injection into the chemical treatment bypass piping is less than 1 GPM. This is negligible in relation to the 1.5% (approximately 140 GPM) of

pump flow that is diverted to this system. Other than the manual valves, check valves and the piping itself there is no location were degradation would be expected.

The filters in the filtered water system may vary the resistance in the piping system depending on the level of plugging in the filters. However, the filters for the filtered water system have a backwash function with differential pressure indication. An alarm is activated if differential pressure is greater than 15 PSID, corrective action would be taken if differential pressure across the filters were high and the backwash system was not functioning properly. Flow diverted to the filters is estimated at 0.5% of pump flow, (approximately 45 GPM). Reduced flow caused by filter plugging would not divert a sufficient amount of pump flow to affect pump test results.

c. During the test, the flow instruments are monitored for ten minutes to verify no flow transients occur from the chemical treatment, filtered water bypass or any other source prior to taking the test readings.

d. While temporary flow meters could be installed, the physical layout of the piping and the installation requirements for the temporary flow meter presents a hardship for routine installation due to its accessibility. Additionally, currently owned temporary flow meters do not meet the Code accuracy requirements. New flow instrumentation meeting Code accuracy requirements would be costly without a commensurate increase in safety.

e. Calculations included in the Prairie Island calculation database were performed for the Cooling Water System that analyzed various flow configurations during accident conditions. The percentages used in the relief request were estimates derived from these accident calculations. A formal calculation has not been specifically performed to analyze the flows for the chemical treatment and filtered water bypass during normal testing alignments.

3. Relief Request 5

The relief request states that the valves are tested on a cold shutdown frequency. Per the valve table and the associated outage justification the valves are tested on a refueling outage frequency.

The submittal does not provide adequate justification to grant relief. The rational stated for relief is a general conclusion that disassembly of the valve enclosure to allow verification of valve position indication during refueling is burdensome without a compensating increase in the level of safety and quality. The submittal does not demonstrate a hardship or unusual difficulty associated with implementing the code requirement or address the quality and safety aspects of not implementing the code requirement.

a. **Please address the discrepancy between the test frequency identified in the relief request and the test frequency identified in the valve table.**

b. **Please provide further information to support a hardship or unusual difficulty and address the quality and safety aspects of not implementing the code requirement.**

Response to #3:

This is a Position Indication Test inspection required at a 2 year frequency per ISTC 3700. After discussion with industry representatives it was determined that the position verification could be performed using a boroscope through the suction line. The relief request is therefore withdrawn and the verification performed every two years.

4. **Section 4.14 of the IST program references GL 89-04, Position 2 for check valve disassembly and inspection instead of ISTC. GL 89-04, Position 2 was incorporated into the 98 OM Code. Any deviation from the requirements of ISTC requires a relief request. Does the IST program meet the requirements of ISTC for check valve disassembly and inspection?**

Response to #4:

The IST Program meets the requirements of ISTC. The references in H10.1 will be changed from 'GL 89-04, Position 2' to 'ISTC-5221(c)'.

5. **ISTC requires that check valve disassembly and inspection be conducted during refueling outages. Several check valves in the IST program are identified as being disassembled and inspected during periods when the unit is not in a refueling outage and the frequency of disassembly of certain check valves appears to exceed the ISTC required frequency. Disassembly and inspection outside of a refueling outage requires a relief request.**

   a. **Are check valves disassembled and inspected outside of refueling outages as indicated in the IST program?**

   b. **Are check valves (or 1 valve in a group of valves) disassembled and inspected every refueling outage or included in a check valve condition monitoring program as required by ISTC?**

Response to #5:

a. Yes, the Cooling Water check valves CL-43-2, CL-43-3 and 2CL-43-2 are tested every 18 months. Accompanying this letter is Relief Request #11 which

addresses the alternate testing frequency for disassembly/inspection of these check valves for testing on an 18 month frequency.

b. All other check valves in the program meet the Code requirements of ISTC and are disassembled and inspected every refueling outage in accordance with its valve grouping or are included in a check valve condition monitoring program.

6. **The IST program implements Code Case OMN-9. OMN-9 has been approved for use by the NRC, however, OMN-9 is not applicable to the 1998 Edition of the Code. Use of OMN-9 with the 1998 Edition of the Code requires relief from Code requirements. Please discuss why relief was not requested to implement Code Case OMN-9.**

Response to #6:

We agree a relief request is required. Relief Requests 6, 7, and 8 accompany this letter requesting the use of reference curves for pump flow testing consistent with the requirements of Code Case OMN-9.

7. **Section 5.5.2 of the IST program states that flow rate is not determined and recorded during the quarterly Group A test performed on the RHR pumps as required by ISTB due to hydraulic fluctuations at the flow element. Deviation from ISTB requirements requires relief. Please discuss why relief was not requested from the ISTB requirement that flow rate be determined and recorded during a Group A test.**

Response to #7:

GL 89-04 Position 9 allows for use of unmetered minimum flow lines and requires that Position 9 use be documented in the IST program. At the time of the 4th interval submittal, NUREG-1482, Rev. 1 draft had not been distributed; the submittal was consistent with the then current NRC guidance. Relief Request # 9 accompanies this letter using the guidance of GL 89-04 Position 9.

8. **Section 5.5.4 of the IST program states that cooling water pump suction pressure is determined using intake bay level and that the accuracy of the measurement is plus or minus 2%. The Code requires that pressure be determined using pressure gages. The Code also requires that instrument accuracy for comprehensive and preservice tests be plus or minus 0.5%. Please discuss why relief is not required to determine suction pressure using intake bay level and utilize a calculated pressure measurement that does not meet the code required instrument accuracy during a comprehensive or preservice test.**

Response to #8:

The plus or minus 2% accuracy in section 5.5.4 was inadvertently left in from the third interval program. The accuracy of the instrument meets the requirement of the Code and the methodology to determine its accuracy is consistent with that detailed in the draft of NUREG 1482, Rev.1, Section 5.5. The calculation will be included in the implementing procedure to ensure consistency as required by NUREG 1482, Rev. 1. Use of bay level to calculate differential pressure is specifically addressed in NUREG 1482.

9. **Section 5.5.5 of the IST program states that the AFW pumps are tested quarterly using an uninstrumented mini-flow line and a full flow test is performed each refueling outage. The AFW pumps are identified as Group A pumps. ISTB requires that flow rate be determined and recorded during quarterly group A tests. Deviation from ISTB requirements requires relief. Please discuss why relief was not requested from the ISTB requirement that flow rate be determined and recorded during the AFW pump Group A test.**

Response to #9:

GL 89-04 Position 9 allows for use of unmetered minimum flow lines and requires that Position 9 use be documented in the IST program. At the time of the 4th interval submittal, NUREG-1482, Rev. 1 draft had not been distributed; the submittal was consistent with the then current NRC guidance. Relief Request # 10 accompanies this letter using the guidance of GL 89-04 Position 9.

10. **ISTC requires bi-directional testing of check valves. Numerous check valves listed in the valve table and program deferrals are identified as only being tested to the open or closed position (CTO or CTC).**

    a. **Are check valves in the IST program being tested in both the open and closed directions as required by ISTC?**

    b. **Please discuss the testing methodology used to verify check valve obturator movement.**

Response to #10:

a. Yes, bi-directional testing of check valves is described in section 6.3.7 of H10.1, 'Testing Categories and Frequency' which reads "Exercising Tests for Check Valves: ISTC requires active Category C check valves to be exercised by performing bi-directionally testing at least once per 92 days with methods for testing allowing verification of obturator position. Where it is not practicable to perform this testing at least once per 92 days, alternate frequencies are permissible provided the reason for impracticality is documented and the

alternate testing is implemented. See ISTC-3522 for more information". The reference to CTO and CTC was included to clarify the safety function of the check valve.

b. Prairie Island uses many diverse methods to verify check valve obturator movement allowed by the Code including but not limited to: passing required flow through the valve or the flow required to make the valve full open as determined by the manufacturer, verification that a parallel centrifugal pump does not spin in reverse, monitoring an upstream pressure indicator, monitoring a tank level, measuring a flow rate through a redundant train, opening an upstream vent or drain, electronic non-intrusive techniques, and disassembly and inspection. The technique used for any given check valve is described in its test procedure.

11. Check valve deferrals and the IST program are inconsistent with respect to partial stroke exercising requirements. Some deferrals address the feasibility to partial stroke valves at power and cold shutdowns, however, numerous deferrals do not address partial stroke exercising. Please discuss the IST program requirements with respect to partial stroke exercising of valves and verify that the requirements have been adequately incorporated into the IST program and the IST program deferrals.

Response to #11:

The reference to partial stroke testing was mistakenly left in from the third interval program. Partial stroke exercising will only be performed on valves as post maintenance testing following maintenance if a full stroke cannot be performed in accordance with ISTC-5221(c)(4). Reference to partial stroke exercising will be removed from all deferrals.

12. The charging pumps and boric acid transfer pumps are not included in the IST program. ISTB-1100 states that Subsection ISTB applies to certain centrifugal and positive displacement pumps that have an emergency power source. ISTA-1100 states that the requirements apply to pumps that are required to perform a specific function in shutting down a reactor to the safe shutdown condition, in maintaining the safe shutdown condition, or mitigating the consequences of an accident.

a. Are the boric acid transfer pumps and charging pumps required to be operable and capable of supplying a boration flow path to shutdown the reactor and maintain a safe shutdown condition?

b. Please provide further justification as to why the pumps are not required to be included in the IST program.

Response to #12:

a. The charging system (including charging pumps and boric acid transfer pumps) is not relied upon to shutdown the reactor or maintain it in a safe shutdown condition.

b. The Safety Injection pumps with suction from the Refueling Water Storage Tanks are relied upon to perform this safety related function. Reactivity control during unit operation and normal shutdown/cooldown operations is considered an operational feature rather than a safety feature. During normal operation, this function will be performed by the charging system. During abnormal events, the charging system will be used; however, a fully qualified system (Safety Injection) is available for reactivity control in the event of a charging system malfunction.

13. The EDG fuel oil transfer pumps are not included in the IST program. ISTB-1100 states that Subsection ISTB applies to certain centrifugal and positive displacement pumps that have an emergency power source. ISTA-1100 states that the requirements apply to pumps that are required to perform a specific function in shutting down a reactor to the safe shutdown condition, in maintaining the safe shutdown condition, or mitigating the consequences of an accident. Section 5.5.8 of the IST program states that the pumps are safety related but not ASME Code Class and are considered a skid system even though the pumps are not located on a skid and that the operational readiness of the pumps is adequately demonstrated during EDG testing.

a. Do the fuel oil transfer pumps meet the requirements of ISTA and ISTB with respect to inclusion of the pumps in the IST program?

b. Please provide further justification as to why the pumps are not required to be included in the program, discuss why the pumps are considered skid mounted equipment, and describe the testing presently conducted to determine the operational readiness of the pumps.

Response to #13:

a. The fuel oil transfer pumps meet the requirements of ISTA-1100 and ISTB-1100 since they are required in order to maintain the reactor in a safe condition. Per the discussion in the response to (b) the fuel oil transfer pumps are not Code classified equipment.

b. Regulatory Guide 1.26, Quality Classifications and Standards for Water, Steam and Radioactive Waste Containing Components of Nuclear Power Plants, does not cover the classification of diesel engines and their generators and auxiliary support systems, therefore the Emergency Diesel Generators (EDGs) and their support

systems are not Code Class equipment. Similar to other safety related equipment such as emergency ventilation, the ASME Code does not apply to the fuel oil transfer pumps.

These pumps are considered skid mounted because they are integral to the EDG operation. They operate intermittently in order to maintain an adequate level of fuel oil in the day tank. Without these transfer pumps the EDG day tanks would not have enough fuel to complete the monthly surveillance test required by the Technical Specifications. Therefore testing of the EDG is an adequate test of the function of the fuel oil transfer pumps. This is consistent with the guidance provided in the draft of NUREG-1482, Rev 1.

14. Section 5.5.2 of the IST program references Relief Request #7. The Unit 1 valve table (page 6 of 64) references Relief Request #8 for valve CA-11-1. The IST program as submitted does not contain relief requests 7 or 8. Are relief requests 7 and 8 required for the 4th 10-year interval?

Response to #14:

The relief requests referenced in Section 5.5.2 were determined to not be required prior to the submittal but inadvertently not deleted from the program document. The references to RR #7 & #8 will be removed from H10.1 section 5.5.2 and from the valve table. Note that there are new relief requests submitted with this letter that use the numbers 7 and 8. These are not related to the relief requests referenced in Section 5.5.2.

15. Deferral 2AF7 states that valve AF-15-11 will be exercised each refueling outage. The valve table identifies a frequency of cold shutdown. Please address the discrepancy between the deferral and the valve table.

Response to #15:

The deferrals (AF7, AF8, 2AF7, 2AF8) have been revised to perform the test on a cold shutdown frequency.

16. Deferral CC15 and 2CC15 do not provide adequate justification to defer testing. The justification for deferral addresses testing in the closed direction whereas the test frequency addresses testing in the open position. The justification does not provide a logical rational to defer testing in the open direction. Please provide additional information to support the deferral.

Response to #16:

The deferrals (CC15 & 2CC15) have been revised to clarify the deferral justification. Due to system configuration and accessibility, the closed test can only be conducted at refueling. Since the bi-directional test cannot be completed until both open and closed tests are performed, the test is being deferred to a refueling frequency. The deferrals now read "It is not practicable to perform the obturator travel to the closed position portion of the bi-directional OPEN test of (check Valve) at least once per 92 days or at Mode 5, Cold Shutdown since the valve does not have remote position indication and the valve is inaccessible during normal operation. Leak rate testing or water pressure downstream of the valve is used to verify the capability of the valve to close. Setup and performance limitations (air/water source, test equipment movement) of the leak rate test also make it impracticable to perform this test at Mode 5, Cold Shutdown since installation and removal of the test equipment may delay startup. This position is consistent with the position in NUREG-1482."

17. Deferrals CC8, 2CC8, CC9, and 2CC9 do not provide enough information to determine the adequacy of the determination that deferral to refueling is justified. Please provide additional information to support the deferral.

Response to #17:

We agree and have identified testing methodology to perform these tests quarterly. The deferrals (CC8, CC9, 2CC8, 2CC9) have been deleted but the numbers have been maintained so that the other deferrals will not have to be renumbered and tables revised.

18. Deferrals CS1, CS2, CS3, CS4, 2CS1, 2CS2, 2CS3, and 2CS4 state that the associated valves are partial stroke opened every 92 days. The valve table does not identify that the valves are partial stroked open quarterly. Please address the discrepancy between the deferral and the valve table.

Response to #18:

Deferrals CS1, CS2, CS3 and CS4 have been deleted because of the recently completed modification which allows containment spray full flow testing on Unit 1. Deferrals 2CS1, 2CS2, 2CS3 & 2CS4 have been revised to remove the partial stroke test. In addition, the same modification is expected to allow containment spray full flow testing on Unit 2 by the end of the next refueling outage.

19. Deferrals RH4 and 2RH4 state that the associated valve will be tested at cold shutdown. The valve table identifies that the valve is tested at refueling. Please address the discrepancy between the deferral and the valve table.

Response to #19:

The deferrals RH4 & 2RH4 were to clarify the wording. The table has been corrected to indicate testing at a cold shutdown frequency.

20. Deferrals RH5 and 2RH5 state that the associated valve will be tested at cold shutdown. The valve table identifies that the valve is tested at refueling. Please address the discrepancy between the deferral and the valve table.

Response to #20:

The deferrals RH5 & 2RH5 were revised to clarify the wording. The table has been corrected to indicate testing at a cold shutdown frequency.

21. Deferrals CA1 and 2CA1 state that the valve will be disassembled and inspected on a refueling basis. The valve table states disassembly is every 36 months. Please address the discrepancy between the deferral and the valve table.

Response to #21:

The valve table has been revised to indicate REFUELING frequency.

ENCLOSURE 2

RELIEF REQUESTS

RR#6, REQUEST FOR RELIEF FOR USE OF A REFERENCE CURVE DURING IN LIEU OF A REFERENCE POINT, 2 pages

RR#7, REQUEST FOR RELIEF FOR USE OF A REFERENCE CURVE DURING IN LIEU OF A REFERENCE POINT, 2 pages

RR#8, REQUEST FOR RELIEF FOR USE OF A REFERENCE CURVE DURING IN LIEU OF A REFERENCE POINT, 2 pages

RR#9, REQUEST FOR RELIEF FROM PERFORMING INSERVICE TESTING REQUIRING FLOW MEASUREMENTS DURING QUARTERLY GROUP A TESTS, 2 pages

RR#10, REQUEST FOR RELIEF FROM PERFORMING INSERVICE TESTING REQUIRING FLOW MEASUREMENTS DURING QUARTERLY GROUP A TESTS, 2 pages

RR#11, REQUEST FOR RELIEF FROM PERFORMING INSERVICE TESTING REQUIRING VIBRATION MEASUREMENTS ON VERTICAL LINE SHAFT PUMPS, 2 pages

12 pages follow

REQUEST FOR RELIEF FOR USE OF A REFERENCE CURVE DURING IN LIEU OF A REFERENCE POINT

COMPONENT IDENTIFICATION

UNIT: 1/2
SYSTEM: Cooling Water System (CL)
PUMPS: 11, 12, 21, 22 Component Cooling Water Pump

ASME CODE TEST REQUIREMENT

American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code, 1998 Edition with 2000 Addenda, OMa Subsection ISTB, Inservice Testing of Pumps in Light Water Reactor Nuclear Power Plants, Section ISTB-5121 and ISTB-5123 requires that testing shall be conducted with the pump operating at a specified reference point.

RELIEF REQUESTED

NMC is requesting relief from the requirement of ISTB-5121 and ISTB-5123, which requires pump testing performed with the pump operating at a specified reference point.

PROPOSED ALTERNATIVE TESTING

Pursuant to 10 CFR 50.55a(a)(3)(ii), NMC proposes using a reference curve in lieu of a reference point during the performing the CC Pump Testing per the following:

The guidelines set forth in Code Case OMN-9, "Use of a Pump Curve for Testing," will be followed. The pumps will be tested in a range of flows, and the results compared to acceptance criteria based upon a portion of the pump curve and the hydraulic acceptance criteria given in ISTB. This alternative to the requirements of ISTB-5121 and ISTB-5123 provides an acceptable level of quality and safety.

BASIS FOR RELIEF

The Component Cooling System does not allow performance of hydraulic tests at specific reference points. Because of changing system loading conditions it is not practical to duplicate the exact reference point for each pump test. Some of the variable flows are the result of the cycling of flow control valves for system cooling demand. Examples of these variable loads are the spent fuel heat exchanger and letdown and excess letdown heat exchangers. Plotting pump curves for flow and differential pressure over the range of conditions expected during the systems' normal operation would allow evaluation of the pump in as-found system conditions.

DURATION RELIEF IS REQUESTED

This alternative would be in effect during the entire 4th Ten Year IST Program Interval.

PRECEDENTS

Similar alternatives were previously requested for the 3rd Ten Year IST Interval as relief request number 12. The requests were approved for relief request 12 under TAC Nos. M88470 & M88471 in a letter dated March 15, 1994. The piping design of the test circuit has not changed from the previous interval, the ability to vary system resistance has not changed.

The NRC per Regulatory Guide 1.192 approves Code Case OMN-9, Use of Pump Curve for Testing, for use. The requirements in the test procedure section of the Code have not significantly changed with regard to pump operation from the 1989 Edition of the Code to the 1998 Edition, 2000 addenda of the Code. Both versions require varying either the differential pressure or flow rate until the reference point is reached.

REQUEST FOR RELIEF FOR USE OF A REFERENCE CURVE DURING IN LIEU OF A REFERENCE POINT

COMPONENT IDENTIFICATION

UNIT: 1/2
SYSTEM: Safeguards Chilled Water (ZH)
PUMPS: 121, 122 Safeguards Chilled Water Pumps

ASME CODE TEST REQUIREMENT

American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code, 1998 Edition with 2000 Addenda, OMa Subsection ISTB, Inservice Testing of Pumps in Light Water Reactor Nuclear Power Plants, Section ISTB-5121 and ISTB-5123 requires that testing shall be conducted with the pump operating at a specified reference point.

RELIEF REQUESTED

NMC is requesting relief from the requirement of ISTB-5121 and ISTB-5123, which requires pump testing performed with the pump operating at a specified reference point.

PROPOSED ALTERNATIVE TESTING

Pursuant to 10 CFR 50.55a(a)(3)(ii), NMC proposes using a reference curve in lieu of a reference point during the performing the ZH Pump Testing per the following:

The guidelines set forth in Code Case OMN-9, "Use of a Pump Curve for Testing," will be followed. The pumps will be tested in a range of flows, and the results compared to acceptance criteria based upon a portion of the pump curve and the hydraulic acceptance criteria given in ISTB. This alternative to the requirements of ISTB-5121 and ISTB-5123 provides an acceptable level of quality and safety.

BASIS FOR RELIEF

The Safeguards Chilled Water does not allow performance of hydraulic tests at specific reference points. Flow within the system is constantly changing due to temperature control valves in the system that are continuously repositioning due to changes in heat loads in the serviced rooms. It is not desirable to adjust the flow to a known reference value because the pump discharge valve, which would be used for the adjustment, is a gate valve not designed for throttle applications. Plotting a pump curve for flow and differential pressure over the range of conditions expected during the systems' normal operation would allow evaluation of the pump in as-found system conditions. The proposed alternatives will give indication of pump degradation.

DURATION RELIEF IS REQUESTED

This alternative would be in effect during the entire 4th Ten Year IST Program Interval.

PRECEDENTS

Similar alternatives were previously requested for the 3rd Ten Year IST Interval as relief request number 19. The requests were approved for relief request 19 under TAC Nos. M90655 and M90656 in a letter dated August 11, 1995. The piping design of the test circuit has not changed from the previous interval, the ability to vary system resistance has not changed.

The NRC per Regulatory Guide 1.192 approves Code Case OMN-9, Use of Pump Curve for Testing, for use. The requirements in the test procedure section of the Code have not significantly changed with regard to pump operation from the 1989 Edition of the Code to the 1998 Edition, 2000 addenda of the Code. Both versions require varying either the differential pressure or flow rate until the reference point is reached.

REQUEST FOR RELIEF FOR USE OF A REFERENCE CURVE DURING IN LIEU OF A REFERENCE POINT

COMPONENT IDENTIFICATION

UNIT: 1/2
SYSTEM: Cooling Water System (CL)
PUMPS: 12, 22 Diesel Driven Cooling Water Pumps (DDCWP)
121 Motor Driven Cooling Water Pump (MDCWP)

ASME CODE TEST REQUIREMENT

American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code, 1998 Edition with 2000 Addenda, OMa Subsection ISTB, Inservice Testing of Pumps in Light Water Reactor Nuclear Power Plants, ISTB-5221, ISTB-5222 and ISTB-5223 requires that testing shall be conducted with the pump operating at a specified reference point.

RELIEF REQUESTED

NMC is requesting relief from the requirement of ISTB-5221, ISTB-5222 and ISTB-5223, which requires pump testing performed with the pump operating at a specified reference point.

PROPOSED ALTERNATIVE TESTING

Pursuant to 10 CFR 50.55a(a)(3)(ii), NMC proposes using a reference curve in lieu of a reference point during the performing the CL Pump Testing per the following:

The guidelines set forth in Code Case OMN-9, "Use of a Pump Curve for Testing," will be followed. The pumps will be tested in a range of flows, and the results compared to acceptance criteria based upon a portion of the pump curve and the hydraulic acceptance criteria given in ISTB. This alternative to the requirements of ISTB-5221, ISTB-5222 and ISTB-5223 provides an acceptable level of quality and safety.

BASIS FOR RELIEF

The cooling water pumps operate during a variety of flow rates, differential pressure conditions and system demands resulting in the inability to easily establish a stable flow rate or differential pressure for evaluation against reference values. Varying the flow rate of the cooling water pumps is impractical during normal plant operation due to the potential loss of adequate flow to various components dependent upon cooling water for heat removal. The potential interruption of cooling water flow to these components is burdensome and could result in a reactor transient or a trip.

DURATION RELIEF IS REQUESTED

This alternative would be in effect during the entire 4th Ten Year IST Program Interval.

PRECEDENTS

Similar alternatives were previously requested for the 3rd Ten Year IST Interval as relief request number 5. The requests were approved for relief request 5 under TAC Nos. M86807 and M86808 in a letter dated December 8. The piping design of the test circuit has not changed from the previous interval, the ability to vary system resistance has not changed.

The NRC per Regulatory Guide 1.192 approves Code Case OMN-9, Use of Pump Curve for Testing, for use. The requirements in the test procedure section of the Code have not significantly changed with regard to pump operation from the 1989 Edition of the Code to the 1998 Edition, 2000 addenda of the Code. Both versions require varying either the differential pressure or flow rate until the reference point is reached.

REQUEST FOR RELIEF FROM PERFORMING INSERVICE TESTING REQUIRING FLOW MEASUREMENTS DURING QUARTERLY GROUP A TESTS

COMPONENT IDENTIFICATION

UNIT: 1/2
SYSTEM: Residual Heat Removal (RHR)
PUMPS: 11, 12, 21, 22 Residual Heat Removal Pumps

ASME CODE TEST REQUIREMENT

American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code, 1998 Edition with 2000 Addenda, OMa Subsection ISTB, Inservice Testing of Pumps in Light Water Reactor Nuclear Power Plants, Table ISTB-3000-1 specifies the following parameters be measured for during a quarterly Group A test:

- Speed
- Differential pressure
- Flow rate
- Vibration

RELIEF REQUESTED

NMC is requesting relief from the requirement of Table ISTB-3000-1, which requires flow rate be measured during inservice Group A tests.

PROPOSED ALTERNATIVE TESTING

Pursuant to 10 CFR 50.55a(a)(3)(ii), NMC proposes performing tests for these Group A pumps accordance with the following:

For the Residual Heat Removal Pumps a path exists during Refueling Shutdown to measure flow rate. A test meeting the all the requirements of a Group A test will be done at Refueling Shutdown. During the quarterly pump testing differential pressure and vibration will be measured.

BASIS FOR RELIEF

During power operation the only circuit available for quarterly testing of these pumps is the minimum flow recirculation line. The RHR pump recirculation line used during quarterly testing is designed with flow metering however the installed instrumentation cannot be accurately read to meet the Code requirements due to hydraulic fluctuations at the orifice. Hydraulic instability is believed to be caused from pump suction and discharge recirculation and minor cavitation. Another cause of the hydraulic instability is the designed location of the flow orifice, which is not located free from any local flow obstructions. Even though instrumentation on the recirculation line meets the Code requirements it cannot be read with sufficient accuracy for repeatable Code testing and is of little value to trending the pump parameters. Flow measurements of the RHR pump require supplying water to the Reactor Coolant System. RCS pressure is above the shutoff head of the RHR pump so no flow to the RCS is possible when the RCS is pressurized.

Measurements of differential pressure and vibration during the quarterly pump test and a test meeting the all requirements of a Group A test done during or upon the exit of a refueling outage provide adequate information to determine and trend pump degradation. The RHR pumps use a constant drives therefore measurement of the speed is not required.

DURATION RELIEF IS REQUESTED

This alternative would be in effect during the entire 4th Ten Year IST Program Interval.

PRECEDENTS

Generic Letter 89-04 position 9 provided guidance on flow testing of pumps when the only flow path available for quarterly testing is a non-instrumented minimum-flow return line. The generic letter states:

> *In cases where flow can only be established through a non-instrumented minimum-flow path during quarterly pump testing and a path exists at cold shutdowns or refueling outages to perform a test of the pump under full or substantial flow condition the staff has determine that the increased interval is an acceptable alternative to the Code requirements provided that pump differential pressure, flow rate, and bearing vibration measurements are taken during this testing and that quarterly testing also measures at least pump differential pressure and vibration is continued.*

REQUEST FOR RELIEF FROM PERFORMING INSERVICE TESTING REQUIRING FLOW MEASUREMENTS DURING QUARTERLY GROUP A TESTS

COMPONENT IDENTIFICATION

UNIT: 1/2
SYSTEM: Auxiliary Feed Water (AFW)
PUMPS: 11, 22 Turbine Driven Auxiliary Feed Water Pump
12, 21 Motor Driven Auxiliary Feed Water Pump

ASME CODE TEST REQUIREMENT

American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code, 1998 Edition with 2000 Addenda, OMa Subsection ISTB, Inservice Testing of Pumps in Light Water Reactor Nuclear Power Plants, Table ISTB-3000-1 specifies the following parameters be measured for during a quarterly Group A test:

- Speed
- Differential pressure
- Flow rate
- Vibration

RELIEF REQUESTED

NMC is requesting relief from the requirement of Table ISTB-3000-1, which requires flow rate me measured during inservice Group A tests.

PROPOSED ALTERNATIVE TESTING

Pursuant to 10 CFR 50.55a(a)(3)(ii), NMC proposes performing tests for these Group A pumps accordance with the following:

For the Auxiliary Feed Water Pumps a path exists for measuring flow rate during plant startup and shutdown. A test meeting all the requirements of a Group A test will be done upon exiting a refueling outage. During quarterly pump testing speed, for the turbine driven pumps, differential pressure and vibration will be measured.

BASIS FOR RELIEF

During power operation the only circuit available for quarterly testing of these pumps is the non-instrumented minimum flow recirculation line. Testing of the AFW pumps using the currently installed instrumented would require injecting cold auxiliary feedwater into the steam generators when the Unit is on line. Injection of cold auxiliary feedwater causes a thermal shock to the steam generator nozzle, which needlessly reduces the nozzle design life. Furthermore, injection of cold water will cause a reactivity addition, making it necessary to compensate for the change. Compliance with the requirements of the Code would require installation of the flow measuring devise on the minimum flow recirculation line.

Measurements of differential pressure, vibration and speed, for the turbine driven pumps, during the quarterly pump test and a test meeting the all requirements of a Group A test done during or upon the exit of a refueling outage provide adequate information to determine and trend pump degradation.

DURATION RELIEF IS REQUESTED

This alternative would be in effect during the entire 4th Ten Year IST Program Interval.

PRECEDENTS

Generic Letter 89-04 position 9 provided guidance on flow testing of pumps when the only flow path available for quarterly testing is a non-instrumented minimum-flow return line. The generic letter states:

> *In cases where flow can only be established through a non-instrumented minimum-flow path during quarterly pump testing and a path exists at cold shutdowns or refueling outages to perform a test of the pump under full or substantial flow condition the staff has determine that the increased interval is an acceptable alternative to the Code requirements provided that pump differential pressure, flow rate, and bearing vibration measurements are taken during this testing and that quarterly testing also measures at least pump differential pressure and vibration is continued.*

REQUEST FOR RELIEF FOR ALTERNATIVE TESTING FREQUENCY OF DISASSEMBLY/INSPECTION OF COOLING WATER CHECK VALVES

COMPONENT IDENTIFICATION

UNIT: 1/2
SYSTEM: Cooling Water System (CL)
VALVES: CL-43-2, CL-43-3, 2CL-43-2

ASME CODE TEST REQUIREMENT

American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code, 1998 Edition with 2000 Addenda, OMa Subsection ISTC, Inservice Testing of Valves in Light Water Reactor Nuclear Power Plants, Section ISTC-5221(c), Valve Obturator Movement, requires;

> *If the test methods in ISTC-5221(a) and ISTC-5221(b) are impractical for certain check valves, or if sufficient flow cannot be achieved or verified, a sample disassembly examination program shall be used to verify valve obturator movement... (3) At least one valve from each group shall be disassembled and examined at each refueling outage; all valves in each group shall be disassembled and examined at least once every 8 years.*

RELIEF REQUESTED

NMC is requesting relief from the requirement of ISTC-5221(c), Valve Obturator Movement, which requires that at least one valve from each group shall be disassembled and examined at each refueling outage.

PROPOSED ALTERNATIVE TESTING

Pursuant to 10 CFR 50.55a(a)(3)(i), NMC proposes performing the disassembly and inspection once per operating cycle instead of once per refueling cycle per the following:

Each valve will be disassembled, manually full stroked exercised and inspected once each fuel cycle. All valves will be considered a group of one.

BASIS FOR RELIEF

It has been determined that disassembly and inspection of valves CL-43-2, CL-43-3 and 2CL-43-2 every refueling outage would be burdensome due to the plant specific cooling water system configuration. The cooling water pumps and supply headers are safeguards train specific not unit specific, and therefore, have operability requirements for both units. That is, during a refueling outage on one unit, the safeguards pumps and supply headers are still required to be operable for the operating unit. In an effort to balance shutdown safety assessment, outage complexity and on-line risk, Prairie Island has determined that the preferred time to perform the periodic preventive maintenance on the safety-related cooling water pumps is on-line. This preventive maintenance occurs every 18 months and is an opportune time to perform the check valve inspections in order to limit the system unavailability. With numerous combinations of safeguards pumps and power supplies out of service for maintenance during an outage, maintaining the safeguards cooling water pumps operable enhances shutdown safety.

An acceptable testing frequency can be maintained without being tied to the refueling outage. Inservice testing on a frequency that maintains the acceptable time period between testing activities during the fuel cycle is consistent with the intent of ISTC-5221(c).

DURATION RELIEF IS REQUESTED

This alternative would be in effect during the entire 4th Ten Year IST Program Interval.

ENCLOSURE 3

REVISED DEFERRALS

Unit 1 (H10.1, Appendix C)
AF7, Page 8 of 121
AF8, Page 9 of 121
CA1, Page 11 of 121
CC15, Page 18 of 121
CC8, Page 23 of 121
CC9, Page 24 of 121
CS1, Page 30 of 121
CS2, Page 31 of 121
CS3, Page 32 of 121
CS4, Page 33 of 121
RH4, Page 65 of 121
RH5, Page 66 of 121

Unit 2 (H10.1, Appendix F)
2AF7, Page 8 of 119
2AF8, Page 9 of 119
2CA1, Page 11 of 119
2CC15, Page 18 of 119
2CC8, Page 23 of 119
2CC9, Page 24 of 119
2CS1, Page 29 of 119
2CS2, Page 30 of 119
2CS3, Page 31 of 119
2CS4, Page 32 of 119
2RH4, Page 63 of 119
2RH5, Page 64 of 119

24 pages follow

Deferral No.: AF7

Valve ID: AF-15-9 11 AUX FW PUMP DISCH CHK

System ID: AF Aux Feedwater

Function: Valve is open to provide AFW flow to the steam generators

Justification: It is not practicable to full stroke exercise AF-15-9 open at least once per 92 days because this testing would require injecting cold auxiliary feedwater into the steam generators when the Unit is on line. Injection of cold auxiliary feedwater causes a thermal shock to the steam generator nozzle which needlessly reduces the nozzle design life. Furthermore, injection of cold water will cause a reactivity addition, making it necessary to compensate for the change.

It is not practicable to perform the bi-directionally test AF-15-9 obturator travel to the closed position at least once per 92 days. Closed valve position cannot be verified because there is no valve position indication. The proposed testing methods either render the entire AFW system inoperable since it is necessary to isolate AFW to both steam generators and requires setup of external pressure sources and test equipment which could delay plant startup. During cold shutdown periods the AFW pumps are frequently used for filling the steam generators for appropriate chemistry control. Additionally, aligning an external pressure source would require both AFW pumps to taken out of service to protect the individuals performing the test from an unplanned auto-start of the AFW pumps.

Test Frequency: AF-15-9 will be full stroke exercised open/obturator travel to the closed position at Mode 5, Cold Shutdown in accordance with ISTC-3522(b).

Deferral No.: AF8

Valve ID: AF-15-10 12 AUX FW PUMP DISCH CHK

System ID: AF Aux Feedwater

Function: Valve is open to provide AFW flow to the steam generators

Justification: It is not practicable to full stroke exercise AF-15-10 open at least once per 92 days because this testing would require injecting cold auxiliary feedwater into the steam generators when the Unit is on line. Injection of cold auxiliary feedwater causes a thermal shock to the steam generator nozzle which needlessly reduces the nozzle design life. Furthermore, injection of cold water will cause a reactivity addition, making it necessary to compensate for the change.

It is not practicable to perform the bi-directionally test of AF-15-10 obturator travel to the closed position at least once per 92 days. Closed valve position cannot be verified because there is no valve position indication. The proposed testing methods either render the entire AFW system inoperable since it is necessary to isolate AFW to both steam generators and requires setup of external pressure sources and test equipment which could delay plant startup. During cold shutdown periods the AFW pumps are frequently used for filling the steam generators for appropriate chemistry control. Additionally, aligning an external pressure source would require both AFW pumps to taken out of service to protect the individuals performing the test from an unplanned auto-start of the AFW pumps.

Test Frequency: AF-15-10 will be full stroke exercised open/obturator travel to the closed position at Mode 5, Cold Shutdown in accordance with ISTC-3522(b).

Deferral No.: CA1

Valve ID: CA-11-1 CAUSTIC ADDITION TO 11 & 12 CS PUMPS

System ID: CA Chemical Addition

Function: Valve is open to provide caustic addition to Containment Spray Pumps.

Justification: It is not practicable to full stroke exercise CA-11-1 open at least once per 92 days, at Mode 5, Cold Shutdown or during Mode 6, Refueling because all test connections do not allow full accident flow through the valve.

Test Frequency: CA-11-1 will be disassembled and inspected every refueling cycle.

Deferral No.: CC15

Valve ID: CC-23-1 11 EXCS LTDN HX INLT

System ID: CC Component Cooling

Function: This check valve is located inside reactor containment in the CC supply line to the shellside of the excess letdown heat exchangers. This valve has an ACTIVE safety functions in the OPEN direction to provide thermal overpressure protection for the piping between MV-32095 and CC-23-1 when CC to the heat exchangers is isolated. Air operated valve CV-31252 is located downstream and serves as a containment isolation valve for penetration 40. This air operated valve automatically closes upon receipt of a containment isolation "C" signal. Should valve CV-31252 receive an auto close signal, relief valve CC-37-14 would provide protection from overpressurization which could occur as a result of thermal expansion of trapped CC between CV-31252 and MV-32095. This function maintains the integrity of the containment penetration piping and components.

Justification: It is not practicable to perform the obturator travel to the closed position portion of the bi-directional OPEN test of CC-23-1 at least once per 92 days or at Mode 5, Cold Shutdown since the valve does not have remote position indication and the valve is inaccessible during normal operation. Leak rate testing or water pressure downstream of the valve is used to verify the capability of the valve to close. Setup and performance limitations (air/water source, test equipment movement) of the leak rate test also make it impracticable to perform this test at Mode 5, Cold Shutdown since installation and removal of the test equipment may delay startup. This position is consistent with the position in NUREG-1482.

Test Frequency: CC-23-1 obturator travel to the open position will be tested each refueling outage in accordance with ISTC-3522(c). If an extended cold extended Mode 5, Cold Shutdown shutdown occurs the feasibility of testing CC-23-1 will be evaluated and implemented if it does not substantially impact the outage.

Deferral No.: CC8

Valve ID: CC-5-1 RETURN LINE TO 11 COMP COOLING PUMP CHK

System ID: CC Component Cooling

Function: The valve performs a ACTIVE safety function in the OPEN position provide component cooling flow path for various safeguards components. Valve is closed upon a postulated single failure of a component cooling pump to start to prevent bypassing RCP component cooling flow to the idle component cooling loop.

Justification: Deleted

Test Frequency: Deleted

Deferral No.: CC9

Valve ID: CC-5-2 RETURN LINE TO 12 COMP COOLING PUMP CHK

System ID: CC Component Cooling

Function: The valve performs a ACTIVE safety function in the OPEN position provide component cooling flow path for various safeguards components. Valve is closed upon a postulated single failure of a component cooling pump to start to prevent bypassing RCP component cooling flow to the idle component cooling loop.

Justification: Deleted

Test Frequency: Deleted

Deferral No.: CS1

Valve ID: CS-16 11 CONT SPRAY PUMP SUCT CHK

System ID: CS Containment Spray

Function: Valve is open to provide RWST water and flow to the CS pumps.

Justification: Deleted per the Containment Spray Full Flow Mod 03CS02.

Test Frequency:

Deferral No.: CS2

Valve ID: CS-17 12 CONT SPRAY PUMP SUCT CHK

System ID: CS Containment Spray

Function: Valve is open to provide RWST water and flow to the CS pumps.

Justification: Deleted per the Containment Spray Full Flow Mod 03CS02.

Test Frequency:

Deferral No.: CS3

Valve ID: CS-18 11 CONT SPRAY PUMP DISCH CHK VLV

System ID: CS Containment Spray

Function: Valve is open to provide containment spray flow to containment on a high containment pressure signal. Valve is closed for containment isolation purposes if containment spray is not required or if a CS pump fails to start.

Justification: Deleted per the Containment Spray Full Flow Mod 03CS02.

Test Frequency:

Deferral No.: CS4

Valve ID: CS-19 12 CONT SPRAY PUMP DISCH CHK VLV

System ID: CS Containment Spray

Function: Valve is open to provide containment spray flow to containment on a high containment pressure signal. Valve is closed for containment isolation purposes if containment spray is not required or if a CS pump fails to start.

Justification: Deleted per the Containment Spray Full Flow Mod 03CS02.

Test Frequency:

Deferral No.: RH4

Valve ID: RH-3-1 RHR PUMP #12 SUCT LINE CHECK

System ID: RH Residual Heat Removal

Function: Valve is closed to provide train separation for the RHR trains.

Justification: It is not practicable test RH-3-1 obturator travel to the closed position at least once per 92 days. Testing at least once per 92 days is not practicable because it would be necessary to pressurize the RHR train and enter containment to open a manual containment isolation valve to verify obturator position. Once the valve is tested closed, there is no possible mechanism to reopen the valve without placing the RHR system in service. More frequent testing provides no meaningful information.

Test Frequency: RH-3-1 obturator travel will be tested to the closed position at Mode 5, Cold Shutdown in accordance with ISTC-3522(b).

Deferral No.: RH5

Valve ID: RH-3-2 RHR PUMP #11 SUCT LINE CHECK

System ID: RH Residual Heat Removal

Function: Valve is closed to provide train separation for the RHR trains.

Justification: It is not practicable test RH-3-2 obturator travel to the closed position at least once per 92 days. Testing at least once per 92 days is not practicable because it would be necessary to pressurize the RHR train and enter containment to open a manual containment isolation valve to verify obturator position. Once the valve is tested closed, there is no possible mechanism to reopen the valve without placing the RHR system in service. More frequent testing provides no meaningful information.

Test Frequency: RH-3-2 obturator travel will be tested to the closed position at Mode 5, Cold Shutdown in accordance with ISTC-3522(b).

Deferral No.: 2AF7

Valve ID: AF-15-11 21 AUX FW PUMP DISCH CHK

System ID: AF Aux Feedwater

Function: Valve is open to provide AFW flow to the steam generators

Justification: It is not practicable to full stroke exercise AF-15-11 open at least once per 92 days because this testing would require injecting cold auxiliary feedwater into the steam generators when the Unit is on line. Injection of cold auxiliary feedwater causes a thermal shock to the steam generator nozzle which needlessly reduces the nozzle design life. Furthermore, injection of cold water will cause a reactivity addition, making it necessary to compensate for the change.

It is not practicable to perform the bi-directionally test AF-15-11 obturator travel to the closed position at least once per 92 days. Closed valve position cannot be verified because there is no valve position indication. The proposed testing methods either render the entire AFW system inoperable since it is necessary to isolate AFW to both steam generators and requires setup of external pressure sources and test equipment which could delay plant startup. During cold shutdown periods the AFW pumps are frequently used for filling the steam generators for appropriate chemistry control. Additionally, aligning an external pressure source would require both AFW pumps to taken out of service to protect the individuals performing the test from an unplanned auto-start of the AFW pumps.

Test Frequency: AF-15-11 will be full stroke exercised open/obturator travel to the closed position at Mode 5, Cold Shutdown in accordance with ISTC-3522(b).

Deferral No.: 2AF8

Valve ID: AF-15-12 22 AUX FW PUMP DISCH CHK

System ID: AF Aux Feedwater

Function: Valve is open to provide AFW flow to the steam generators

Justification: It is not practicable to full stroke exercise AF-15-12 open at least once per 92 days because this testing would require injecting cold auxiliary feedwater into the steam generators when the Unit is on line. Injection of cold auxiliary feedwater causes a thermal shock to the steam generator nozzle which needlessly reduces the nozzle design life. Furthermore, injection of cold water will cause a reactivity addition, making it necessary to compensate for the change.

It is not practicable to perform the bi-directionally test AF-15-12 obturator travel to the closed position at least once per 92 days. Closed valve position cannot be verified because there is no valve position indication. The proposed testing methods either render the entire AFW system inoperable since it is necessary to isolate AFW to both steam generators and requires setup of external pressure sources and test equipment which could delay plant startup. During cold shutdown periods the AFW pumps are frequently used for filling the steam generators for appropriate chemistry control. Additionally, aligning an external pressure source would require both AFW pumps to taken out of service to protect the individuals performing the test from an unplanned auto-start of the AFW pumps.

Test Frequency: AF-15-12 will be full stroke exercised open/obturator travel to the closed position at Mode 5, Cold Shutdown in accordance with ISTC-3522(b).

Deferral No.: 2CA1

Valve ID: 2CA-11-1 CAUSTIC ADDITION TO 21 & 22 CS PUMPS

System ID: CA Chemical Addition, Liquid Sampling, and Post Accident Sampling

Function: Valve is open to provide caustic addition to CSP.

Justification: It is not practicable to full stroke exercise 2CA-11-1 open at least once per 92 days, at Mode 5, Cold Shutdown or during Mode 6, Refueling because all test connections do not allow full accident flow through the valve.

Test Frequency: 2CA-11-1 will be disassembled and inspected every refueling cycle.

Deferral No.: 2CC15

Valve ID: 2CC-23-1 21 EXCS LTDN HX INLT

System ID: CC Component Cooling

Function: This check valve is located inside reactor containment in the CC supply line to the shellside of the excess letdown heat exchangers. This valve has an ACTIVE safety functions in the OPEN direction to provide thermal overpressure protection for the piping between MV-32130 and 2CC-23-1 when CC to the heat exchangers is isolated. Air operated valve CV-31253 is located downstream and serves as a containment isolation valve for penetration 40. This air operated valve automatically closes upon receipt of a containment isolation "C" signal. Should valve CV-31253 receive an auto close signal, relief valve 2CC-37-14 would provide protection from overpressurization which could occur as a result of thermal expansion of trapped CC between CV-31253 and MV-32130. This function maintains the integrity of the containment penetration piping and components.

Justification: It is not practicable to perform the obturator travel to the closed position portion of the bi-directional OPEN test of 2CC-23-1 at least once per 92 days or at Mode 5, Cold Shutdown since the valve does not have remote position indication and the valve is inaccessible during normal operation. Leak rate testing or water pressure downstream of the valve is used to verify the capability of the valve to close. Setup and performance limitations (air/water source, test equipment movement) of the leak rate test also make it impracticable to perform this test at Mode 5, Cold Shutdown since installation and removal of the test equipment may delay startup. This position is consistent with the position in NUREG-1482.

Test Frequency: 2CC-23-1 obturator travel to the open position will be tested each refueling outage in accordance with ISTC-3522(c). If an extended cold extended Mode 5, Cold Shutdown shutdown occurs the feasibility of testing 2CC-23-1 will be evaluated and implemented if it does not substantially impact the outage.

Deferral No.: 2CC8

Valve ID: 2CC-5-1 RETURN LINE TO 21 COMP COOLING PUMP CHK

System ID: CC Component Cooling

Function: Valve is open to provide component cooling flow path for various safeguards components. Valve is closed upon a postulated single failure of a component cooling pump to start to prevent bypassing RCP component cooling flow to the idle component cooling loop.

Justification: Deleted

Test Frequency: Deleted

Deferral No.: 2CC9

Valve ID: 2CC-5-2 RETURN LINE TO 22 COMP COOLING PUMP CHK

System ID: CC Component Cooling

Function: Valve is open to provide component cooling flow path for various safeguards components. Valve is closed upon a postulated single failure of a component cooling pump to start to prevent bypassing RCP component cooling flow to the idle component cooling loop.

Justification: Deleted

Test Frequency: Deleted

Deferral No.: 2CS1

Valve ID: CS-46 22 CONT SPRAY PUMP SUCT CHK

System ID: CS Containment Spray

Function: Valve is open to provide RWST water and flow to the CS pumps.

Justification: It is not practicable to full stroke exercise CS-46 open at least once per 92 days or at Mode 5, Cold Shutdown. Full stroke exercising of CS-46 requires draining the containment spray pump and associated piping to develop sufficient water velocity to open the valve. The valve lineup necessary for the test also requires a breach of the containment boundary. Additionally, non-intrusive testing is needed to assure the obturator position is verified.

Test Frequency: CS-46 will be disassembled and inspected on the frequency described in Section 4.14.1 of H10.1.

Deferral No.: 2CS2

Valve ID: CS-47 21 CONT SPRAY PUMP SUCT CHK

System ID: CS Containment Spray

Function: Valve is open to provide RWST water and flow to the CS pumps.

Justification: It is not practicable to full stroke exercise CS-47 open at least once per 92 days or at Mode 5, Cold Shutdown. Full stroke exercising of CS-47 requires draining the containment spray pump and associated piping to develop sufficient water velocity to open the valve. The valve lineup necessary for the test also requires a breach of the containment boundary. Additionally, non-intrusive testing is needed to assure the obturator position is verified.

Test Frequency: CS-47 will be disassembled and inspected on the frequency described in Section 4.14.1 of H10.1.

Deferral No.: 2CS3

Valve ID: CS-48 22 CONT SPRAY PUMP DISCH CHK VLV

System ID: CS Containment Spray

Function: Valve is open to provide containment spray flow to containment on a high containment pressure signal. Valve is closed for containment isolation purposes if containment spray is not required or if a CS pump fails to start.

Justification: It is not practicable to full stroke exercise CS-48 open at least once per 92 days or at Mode 5, Cold Shutdown. Full stroke exercising of CS-48 requires draining the containment spray pump and associated piping to develop sufficient water velocity to open the valve. The valve lineup necessary for the test also requires a breach of the containment boundary. Additionally, non-intrusive testing is needed to assure the obturator position is verified.

Test Frequency: CS-48 will be disassembled and inspected on the frequency described in Section 4.14.2 of H10.1.

Deferral No.: 2CS4

Valve ID: CS-49 21 CONT SPRAY PUMP DISCH CHK VLV

System ID: CS Containment Spray

Function: Valve is open to provide containment spray flow to containment on a high containment pressure signal. Valve is closed for containment isolation purposes if containment spray is not required or if a CS pump fails to start.

Justification: It is not practicable to full stroke exercise CS-49 open at least once per 92 days or at Mode 5, Cold Shutdown. Full stroke exercising of CS-49 requires draining the containment spray pump and associated piping to develop sufficient water velocity to open the valve. The valve lineup necessary for the test also requires a breach of the containment boundary. Additionally, non-intrusive testing is needed to assure the obturator position is verified.

Test Frequency: CS-49 will be disassembled and inspected on the frequency described in Section 4.14.2 of H10.1.

Deferral No.: 2RH4

Valve ID: 2RH-3-1 RHR PUMP #22 SUCT LINE CHECK

System ID: RH Residual Heat Removal

Function: Valve is closed to provide train separation for the RHR trains.

Justification: It is not practicable test 2RH-3-1 obturator travel to the closed position at least once per 92 days. Testing at least once per 92 days is not practicable because it would be necessary to pressurize the RHR train and enter containment to open a manual containment isolation valve to verify obturator position. Once the valve is tested closed, there is no possible mechanism to reopen the valve without placing the RHR system in service. More frequent testing provides no meaningful information.

Test Frequency: 2RH-3-1 obturator travel will be tested to the closed position at Mode 5, Cold Shutdown in accordance with ISTC-3522(b).

Deferral No.: 2RH5

Valve ID: 2RH-3-2 RHR PUMP #21 SUCT LINE CHECK

System ID: RH Residual Heat Removal

Function: Valve is closed to provide train separation for the RHR trains.

Justification: It is not practicable test 2RH-3-2 obturator travel to the closed position at least once per 92 days. Testing at least once per 92 days is not practicable because it would be necessary to pressurize the RHR train and enter containment to open a manual containment isolation valve to verify obturator position. Once the valve is tested closed, there is no possible mechanism to reopen the valve without placing the RHR system in service. More frequent testing provides no meaningful information.

Test Frequency: 2RH-3-2 obturator travel will be tested to the closed position at Mode 5, Cold Shutdown in accordance with ISTC-3522(b).