VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

September 1, 2004

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

Serial No. 04-478
NL&OS/GDM R0
Docket Nos. 50-280/281
License Nos. DPR-32/37

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
FOURTH INTERVAL INSERVICE TESTING PROGRAM
REVISED RELIEF REQUESTS P-2

In a letter dated June 25, 2003 (Serial No. 03-354), Dominion submitted the fourth interval Inservice Testing (IST) Programs for Pumps and Valves for Surry Power Station Units 1 and 2. Nine relief requests for pumps and six relief requests for valves were included for Surry Unit 1, and seven relief requests for pumps and five relief requests for valves were included for Surry Unit 2. Dominion provided additional information in response to NRC questions associated with the relief requests in a subsequent letter dated December 17, 2003 (Serial No. 03-354A.)

In a July 2, 2004 letter, "Surry Power Station, Units 1 and 2 – American Society of Mechanical Engineers Inservice Testing Program (TAC Nos. MC0120 through MC0146)," the NRC staff provided their evaluations and conclusions associated with the relief requests contained in the Surry IST Program submittals referenced above. In that letter, the NRC conditionally approved Relief Requests P-2 for Surry Units 1 and 2 which addressed testing requirements for the Residual Heat Removal (RHR) pumps. The three conditions imposed on the Unit 1 and 2 Relief Requests P-2 are as follows:

1) *During either refueling outages or cold shutdowns, pumps 1/2-RH-P-1A and 1/2-RH-P-1B shall be tested prior to being put into service and declared operable. The test will remain valid for a period of 3 months.*
2) *During refueling outages or cold shutdowns that extend beyond a 3-month period, the licensee shall test these pumps once every 3 months.*
3) *During back-to-back refueling outages or cold shutdowns that extend beyond any 3-month test period, the licensee shall test these pumps once every 3 months.*

During a conference call with the NRC held on August 11, 2004, Dominion informed the NRC that the first condition was impractical to implement at Surry and provided the basis for that conclusion. The NRC concurred with Dominion's reasoning, and it was agreed that Dominion would take the following actions: 1) withdraw Relief Request P-2

for each unit, 2) submit revised relief requests that include the technical basis for the testing of the pumps as discussed during the call, and 3) state that the RHR pumps will be tested as soon as practical after containment sub-atmospheric pressure is relieved. Consequently, Dominion hereby withdraws the previously submitted and conditionally approved Surry Units 1 and 2 Relief Requests P-2. Revised Relief Requests P-2 are provided in Attachments 1 and 2 for Surry Units 1 and 2, respectively, for NRC review and approval.

Therefore, pursuant to 10 CFR 50.55a(f)(6)(i), we request relief from the specific ISTB Code requirements identified in the attached relief requests.

If you have any questions or require additional information, please contact Mr. Gary Miller at (804) 273-2771.

Very truly yours,

L. N. Hartz
Vice President – Nuclear Engineering

Attachments

Commitments made in this letter: None

cc: U.S. Nuclear Regulatory Commission
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Attachment 1

Revised Relief Request P-2
Residual Heat Removal Pumps

Surry Power Station Unit 1
Virginia Electric and Power Company
(Dominion)

RELIEF REQUEST P-2

System: Residual Heat Removal

Pump(s): 1-RH-P-1A
1-RH-P-1B

Group: A

Class: 2

Function: The Residual Heat Removal pumps remove decay heat from the reactor core and the Reactor Coolant System during plant cool down.

ISTB Code Requirements for Which Relief Is Requested

Table ISTB-3400-1 requires an inservice test be run on each Group A pump nominally every 3 months.

Basis for Relief (Table ISTB-3400-1)

The Residual Heat Removal (RHR) pumps are located inside containment. The pumps are low pressure (600 psig design pressure) pumps that take suction from and discharge to the Reactor Coolant System (RCS). The RCS is maintained at 2235 psig and the containment atmosphere is maintained at sub-atmospheric pressure during normal operation. The RHR motor operated suction and discharge isolation valves are interlocked with an output signal from RCS pressure transmitters that prevent the valves from being opened when the RCS pressure exceeds 460 psig. Therefore, testing the RHR pumps during normal operation is not possible.

As the plant goes through the process of shutting down to the cold shutdown condition, the RHR pumps must be placed in service and be operable as required by the plant technical specifications and the RCS cool down sequence before it is practical to test the pumps. According to Surry Technical Specification (TS) 3.1.A.1.d,

> "When the average reactor coolant loop temperature is less than or equal to 350°F, the following conditions shall be met:
>
> 1. A minimum of two non-isolated loops, consisting of any combination of reactor coolant loops or residual heat removal loops, shall be OPERABLE, except as specified below:
>
> (a) One RHR loop may be inoperable for up to 2 hours for surveillance testing provided the other RHR loop is OPERABLE and in operation.

(b) During REFUELING OPERATIONS the residual heat removal loop may be removed from operation as specified in TS 3.10.A.4.

2. At least one reactor coolant loop or one residual heat removal loop shall be in operation, except as specified in Specification 3.10.A.4."

(TS 3.10.A.4 applies to operation limitations during refueling operations or irradiated fuel movement in the fuel building.)

At the beginning of the RCS cool down sequence, heat is extracted from the RCS using the RCS loops and the steam generators. As the RCS temperature falls below 350°F, the steam generators become less effective at removing heat. Between the RCS temperatures of 350°F and approximately 250°F, the RHR system must be placed in service to continue the cool down process.

However, the containment sub-atmospheric pressure must be maintained until the RCS temperature is below 200°F. According to Surry TS 3.8.A.2,

"The inside and outside isolation valves in the Containment Ventilation Purge System shall be locked, sealed, or otherwise secured closed whenever the Reactor Coolant System temperature exceeds 200°F."

The containment ventilation purge system is used to relieve the containment sub-atmospheric condition.

Testing the RHR pumps requires a containment entry because the instrumentation used to measure flow and pressure must be monitored at the pump location. Also, vibration must be measured at the pump. Entering containment to perform RHR pump testing when the RCS temperature is above 200°F and the containment at sub-atmospheric pressure requires the test personnel to wear a self contained breathing apparatus (SCBA) when inside containment. The SCBA comes with a full-face mask and an air tank. The mask restricts communication and vision making readings difficult to obtain. The tank restricts range of motion and movement, making placement of the vibration probes more difficult and hazardous because the test personnel must climb up onto the pump housing to place the vibration probes. Also, personnel are under time constraints due to the limited air supply in the SCBA units thus creating additional stress.

Being in close proximity to rotating equipment while wearing a SCBA is in itself hazardous due to the restricted field of vision, and the straps and hoses of the SCBA that may become entangled by the pump. Therefore, testing the RHR pumps while test personnel are wearing SCBAs is considered difficult, hazardous and thus not practical. Testing should only be performed when the containment is not at sub-atmospheric pressure.

RELIEF REQUEST P-2 (cont.)

Alternate Testing Proposed

These pumps will be tested every cold shutdown outage and reactor refueling outage at the first practical opportunity after containment sub-atmospheric pressure is relieved, unless the pump has been tested within the previous three months. (During back-to-back cold shutdown or refueling outages, the test period remains valid for three months following each test, and no additional periodic testing needs to be performed within this three-month test period.) For a cold shutdown or reactor refueling that extends longer than three months, the pumps will be tested every three months in accordance with ISTB 3400-1.

Using the provisions of this relief request as an alternative to the impractical requirements of Table ISTB-3400-1 identified above will provide adequate indication of pump performance. Therefore, pursuant to 10 CFR 50.55a(f)(6)(i), Dominion requests relief from the specific ISTB Code requirements identified in this relief request.

Attachment 2

Revised Relief Request P-2
Residual Heat Removal Pumps

Surry Power Station Unit 2
Virginia Electric and Power Company
(Dominion)

RELIEF REQUEST P-2

System: Residual Heat Removal

Pump(s): 2-RH-P-1A
2-RH-P-1B

Group: A

Class: 2

Function: The Residual Heat Removal pumps remove decay heat from the reactor core and the Reactor Coolant System during plant cool down.

ISTB Code Requirements for Which Relief Is Requested

Table ISTB-3400-1 requires an inservice test be run on each Group A pump nominally every 3 months.

Basis for Relief (Table ISTB-3400-1)

The Residual Heat Removal (RHR) pumps are located inside containment. The pumps are low pressure (600 psig design pressure) pumps that take suction from and discharge to the Reactor Coolant System (RCS). The RCS is maintained at 2235 psig and the containment atmosphere is maintained at sub-atmospheric pressure during normal operation. The RHR motor operated suction and discharge isolation valves are interlocked with an output signal from RCS pressure transmitters that prevent the valves from being opened when the RCS pressure exceeds 460 psig. Therefore, testing the RHR pumps during normal operation is not possible.

As the plant goes through the process of shutting down to the cold shutdown condition, the RHR pumps must be placed in service and be operable as required by the plant technical specifications and the RCS cool down sequence before it is practical to test the pumps. According to Surry Technical Specification (TS) 3.1.A.1.d,

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> 1. A minimum of two non-isolated loops, consisting of any combination of reactor coolant loops or residual heat removal loops, shall be OPERABLE, except as specified below:
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> (a) One RHR loop may be inoperable for up to 2 hours for surveillance testing provided the other RHR loop is OPERABLE and in operation.

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RELIEF REQUEST P-2 (cont.)

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