

October 3, 2003

MEMORANDUM TO: John A. Nakoski, Chief, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

FROM: Christopher Gratton, Sr. Project Manager, Section 2 */RA/*
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

SUBJECT: SURRY POWER STATION, UNITS 1 AND 2 - FACSIMILE
TRANSMISSIONS SUPPORTING CONFERENCE CALLS (TAC NOS.
MB7755 THROUGH MB7770 AND MC0120 THROUGH MC0147)

A facsimile of the questions in Attachment 1 was transmitted on August 26, 2003, to Mr. Gary Miller of Virginia Electric and Power Company. The questions supported conference calls with the licensee held on September 15, 2003 (for issues related to the licensee's December 12, 2002, Inservice Inspection program review), and September 25, 2003 (for issues related to the licensee's June 25, 2003, Inservice Testing program review). Attachment 2 was faxed to the licensee on September 25, 2003, to clarify information discussed during the September 15, 2003, conference call. This memorandum and the attached questions do not convey or represent an NRC staff position regarding the licensee's requests.

Docket Nos. 50-280 and 50-281

Attachments: 1. Requests for Additional Information, August 26, 2003
2. Requests for Additional Information, September 25, 2003

CONTACT: Christopher Gratton, NRR
(301) 415-1055

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DRAFT
REQUESTS FOR ADDITIONAL INFORMATION
LICENSE AMENDMENT REQUEST
RELIEF REQUEST
FOURTH INTERVAL INSERVICE INSPECTION PROGRAM
VIRGINIA ELECTRIC POWER COMPANY
SURRY POWER STATION UNITS 1
DOCKET NUMBER: 50-280

The following questions relate to the relief requests contained in your December 12, 2002, inservice inspection program (ISI) submittal.

CMP-001

The licensee states that any ultrasonic examination of the pressurizer surge nozzle could only be described as "best effort". The licensee also states that remote visual technology has very little if any reasonable probability of success. The licensee made similar statements when requesting the same relief on the pressurizer surge nozzle for the third 10-year ISI interval. Given that ultrasonic testing examination techniques and technology as well as remote visual technology has improved greatly in the last 10 years, please explain what steps have been taken by the licensee in the past 10 years to try to improve the level of inspection on the pressurizer surge nozzle. The staff also requests detailed drawings that show cross sectional view of the surge nozzle, thermal sleeve, basket diffuser and material specification, as well as drawings that clearly show interference on the outside of the vessel. The drawings should include dimensions.

CMP-002

The licensee states that "A remote visual examination (VT-1) of the inside diameter of the pump casing welds will be performed only if the pump is disassembled for maintenance." Please state if any of the pumps listed in relief request CMP-002 have been disassembled since original installation. The licensee states that some welds are partially accessible. Please provide a list of partially-accessible welds and indicate what percentage of the welds in the pump casing can be inspected in accordance with the American Society of Mechanical Engineers (ASME) Code requirements.

CMP-003

The licensee states that ultrasonic test (UT) calibration blocks are generally in compliance with the requirements of the applicable ASME Code, however the licensee also identifies several examples where the UT calibration blocks are not in compliance. Please provide a detailed list of all features of the currently used UT calibration blocks that are not in compliance with ASME Code. In the licensee's submittal, the licensee gives examples of components that will be inspected with the aforementioned calibration blocks. Please identify all affected components including materials and thicknesses. Please indicate if any of the UT calibration blocks referenced in CMP-003 have been used in an ASME Code, Section XI, Appendix VIII qualified procedure.

CMP-004

1. What specific paragraphs of IWA-2600 do you request relief from?
2. What is the specific relief that is requested?
3. What is the original Code of Construction? Please provide the Code, Edition and Addenda.
4. Describe the hardship or unusual difficulty that the Code requirements would impose

CMP-005

1. What specific paragraphs of IWA-2600 do you request relief from?
2. What is the specific relief that is requested?
3. What is the original Code of Construction? Please provide the Code, Edition and Addenda.
4. Paragraph III., on page 2-13 of the relief request references 10 CFR 50.55a(a)(3)(ii) for this relief request. Describe the hardship or unusual difficulty that the Code requirements would impose.
5. State the code class of the welds to be examined with this relief request.

CC-001

In a final rule dated July 8, 2003 (68 FR40469), the NRC revised 10 CFR 50.55a to incorporate by reference, Regulatory Guide 1.147, Revision 13. Code Case N-532-1 has been conditionally accepted in Regulatory Guide (RG) 1.147, Revision 13. Please review Code Case N-532-1 with the conditions identified in RG 1.147, Rev. 13, and determine if relief is still needed.

CC-002

In a final rule dated July 8, 2003 (68 FR40469), the NRC revised 10 CFR 50.55a to incorporate by reference, Regulatory Guide 1.147, Revision 13. Code Case N-533-1 has been conditionally accepted in Regulatory Guide (RG) 1.147, Revision 13. Please review Code Case N-533-1 with the conditions identified in RG 1.147, Rev. 13, and determine if relief is still needed.

CC-003

In a final rule dated July 8, 2003 (68 FR40469), the NRC revised 10 CFR 50.55a to incorporate by reference, Regulatory Guide 1.147, Revision 13. Code Case N-566-1 has been accepted in Regulatory Guide (RG) 1.147, Revision 13. Effective August 7, 2003, relief is not required to use Code Case N-566-1.

CC-004

In a final rule dated July 8, 2003 (68 FR40469), the NRC revised 10 CFR 50.55a to incorporate by reference, Regulatory Guide 1.147, Revision 13. Code Case N-597-1 has been conditionally accepted in Regulatory Guide (RG), 1.147 Revision 13. Please review Code Case N-597-1 with the conditions identified in RG 1.147 Rev. 13, and determine if relief is still needed.

CC-005

In a final rule dated July 8, 2003 (68 FR40469), the NRC revised 10 CFR 50.55a to incorporate by reference, Regulatory Guide 1.147, Revision 13. Code Case N-623 has been accepted in Regulatory Guide (RG) 1.147, Revision 13. Effective August 7, 2003, relief is not required to use Code Case N-623.

R-001

Please provide more detail on the request to include branch connection welds. Does the licensee seek relief from the socket weld side only of branch connections ? Explain what other weld joint designs are included in the effected branch connections. Has the licensee considered performing a surface examination on High Safety Significant (HSS) socket welds and branch connections ? Please justify your decision to perform a VT-2 examination and not a surface examination. Explain how a VT-2 examination provides assurance of structural integrity. Please indicate if examinations will be performed with insulation removed.

SPT-002

In a final rule dated July 8, 2003 (68 FR40469), the NRC revised 10 CFR 50.55a to incorporate by reference, Regulatory Guide 1.147, Revision 13. Code Case N-498-4 has been conditionally accepted in Regulatory Guide (RG) 1.147, Revision 13. Please review Code Case 498-4 with the conditions identified in RG 1.147, Rev. 13, and determine relief if is still needed.

SPT-003

Please provide a list of and the configuration for the approximately 20 small diameter vent, drain and sample lines for which relief has been requested.

SPT-004

The licensee proposes to perform an alternative examination of the lower reactor vessel head for evidence of boric acid leakage/corrosion each refueling outage when the containment is at atmospheric conditions, in lieu of the ASME Code requirement to perform a VT-2 examination of this area at elevated temperature and normal operating pressure conditions. The licensee should describe their proposed alternative examination in detail, including whether or not they will inspect the bare metal surface of the lower head (i.e., above the insulation). Include in your discussion a description of the plant conditions at the time of inspection. In light of the lower reactor vessel head penetration leakage issues recently discovered at South Texas Project Unit 1, explain how your proposed alternative examination will be effective in demonstrating that lower vessel head integrity is maintained .

The following questions relate to the fourth interval ISI program in general:

1. Sections 4.5 and 5.9 of WCAP-14572, Revision 1-NP-A, *Westinghouse Owners Group Application of Risk-Informed Methods to Piping Inservice Inspection Topical Report*, February 1999, discuss periodic updates of the risk informed (RI)-ISI program. Page 243 states that, "[e]ach subsequent 10-year interval should include, as a minimum, a reevaluation of the risk informed process." Please describe your reevaluation process.
2. In a letter dated June 13, 2002, Virginia Electric and Power Company (Ref. 1) proposed to perform VT-2 exams on high safety significant socket welds and their associated branch connections, NPS 2 and smaller in lieu of the Code required surface exam or the volumetric exam directed by the Westinghouse Owners Group methodology in WCAP-14572, Revision 1-NP-A. Aside from this change, what changes in inspection locations or techniques have been implemented due to your reevaluation?

References

1. Letter dated June 13, 2002, L.N. Hartz (Virginia Electric and Power Company, Vice President, Nuclear Engineering and Services) to U.S. Nuclear Regulatory Commission, containing updated relief request R-1 for North Anna Units 1 and 2, and Surry Unit 2. Also, contains relief request R-1 for Surry Unit 1.

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REQUESTS FOR ADDITIONAL INFORMATION
LICENSE AMENDMENT REQUEST
RELIEF REQUEST
FOURTH INTERVAL INSERVICE TESTING (IST) PROGRAM
VIRGINIA ELECTRIC POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
DOCKET NUMBER: 50-280

The Nuclear Regulatory Commission (NRC) staff has reviewed the June 25, 2003, Virginia Electric and Power Company submittal regarding changes to the Surry Nuclear Power Plant Units 1 and 2 Fourth 10 Year IST Program and has the following questions and comments regarding relief requests contained within the submittal:

1. Relief Request P-1 (Units 1 and 2)

The Basis for Relief does not address pump operating speed. Pump operating speed is a critical component in the evaluation of vibration acceptance criteria. Please provide operating speed for the components listed in Table 1.

2. Relief Request P-1 (Units 1 and 2)

The Basis for Relief notes that: "If the measured V_r is greater than 0.05 [inches per second] ips, the requirements of ISTB-3300 will be applied even if the pump is listed in Table P-1. Conversely, if the measured V_r is less than 0.05 ips, a minimum value of 0.05 ips will be used for V_r even if the pump is not listed in Table P-1." For those pumps assigned a minimum value of 0.05 ips, how do you ensure each application of this guidance will be fully reviewed and evaluated to confirm the appropriateness of 0.05 ips as the minimum value?

3. Relief Request P-2 (Units 1 and 2)

The Alternate Testing Proposed states that testing would be performed "...not more frequently than once every three months." Discuss how this guidance meets the intent of OM Table ISTS 3400-1, which requires testing nominally every 3 months when a component is in an operable condition. Include in your discussion how the testing will be performed for pumps in service longer than 3 months.

4. Relief Requests P-8 and P-9 (Unit 1) and P-6 and P-7 (Unit 2)

It is noted in the Basis for Relief that pre-construction tests were performed on the subject pumps. Please provide test results and evaluation from construction pre-operational test

5. Relief Requests P-8 and P-9 (Unit 1) and P-6 and P-7 (Unit 2)

It is noted in the Basis for Relief that the subject pumps are include in the Surry Predictive Maintenance Program. Provide a history of results from the Predictive Maintenance Program

6. Relief Requests P-8 and P-9 (Unit 1) and P-6 and P-7 (Unit 2)

In Alternative Testing Proposed it is stated that the reference pumps "will be subject to additional testing, trending, and diagnostic analysis of the Surry Predictive Maintenance Program." Please provide details of proposed additional testing, trending, diagnostic evaluations and proposed actions if parameters are determined to be out of range.

7. Relief Requests P-8 and P-9 (Unit 1) and P-6 and P-7 (Unit 2)

The Basis for Relief states that re-establishing test loops 'lor the purpose of periodic testing would require plant modifications ..." Please provide an estimate of the cost to perform modifications to meet the Code required testing.

8. Relief Request V-2 (Units 1 and 2)

The Basis for Relief refers, in general terms, to each valves permissible leakage rates and to situations where that leakage rate may have been exceeded. Please provide a 10-year history of the past valve leakage and the acceptance criteria.

9. Relief Request V-2 (Units 1 and 2)

The Basis for Relief refers to an allowable Reactor Water Storage Tank (RWST) system leakage rate. Please provide "allowable RWST system" leakage acceptance criteria and basis for acceptance criteria

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REQUESTS FOR ADDITIONAL INFORMATION
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FOURTH INTERVAL INSERVICE INSPECTION PROGRAM
VIRGINIA ELECTRIC POWER COMPANY
SURRY POWER STATION UNITS 1
DOCKET NUMBER: 50-280

Per our conversation on September 25, 2003, the following information is being provided to clarify the request for information discussed during our conference call on September 15, 2003:

For the R-001 relief request, provide a list of all High Safety Significant branch connections for which relief is requested and include their weld joint designs(dimensions). For the branch connection weld joint designs that contain full penetration welds, please explain why a Ultrasonic Testing examination cannot be performed. Please discuss any industry initiatives to develop more efficient ways of inspecting socket welds.