



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402-2801

January 31, 2007

10 CFR 50.55a

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Gentlemen:

In the Matter of _____)
Tennessee Valley Authority)

Docket Nos. 50-327
50-328
50-390

**SEQUOYAH NUCLEAR PLANT (SQN) UNITS 1 AND 2 AND WATTS BAR
NUCLEAR PLANT (WBN) UNIT 1 - INSPECTION AND MITIGATION OF ALLOY
600/82/182 PRESSURIZER BUTT WELDS**

In October of 2006, while performing inspection of its pressurizer Alloy 600/82/182 butt welds in accordance with Materials Reliability Program (MRP)-139, a Pressurized Water Reactor (PWR) licensee discovered several circumferential indications in its pressurizer surge, safety and relief nozzles. Because of the potential importance of this issue, TVA is submitting this letter to commit to the following actions taken or planned for inspecting or mitigating Alloy 600/82/182 butt welds on pressurizer spray, surge, safety, and relief lines. These actions are as follows:

SQN Unit 1

Inspection of pressurizer Alloy 600/82/182 butt welds at Sequoyah Unit 1 has not yet been completed, but TVA intends to complete inspections and mitigation on these locations by the end of 1RFOC15 currently scheduled to end 10/30/2007. Details concerning Sequoyah Unit 1's inspection and mitigation activities are provided in Enclosure 1. Results of completed inspections are also provided in Enclosure 1.

In addition to the inspection and mitigation actions described in Enclosure 1 tables, enhanced monitoring of the primary system leakage is used at SQN Unit 1. Surveillance Instruction 0-SI-OPS-068-137.0, "Reactor Coolant System Water Inventory," is used for this enhanced leakage monitoring.

SQN Surveillance Instruction 0-SI-OPS-068-137.0, "Reactor Coolant System Water Inventory," is required to be performed every 72 hours, but is scheduled for performance every 48 hours.

A110

This procedure requires that actions be taken when the unidentified primary system leakage exceeds 0.25 gpm, increases more than 0.05 gpm from the previous measurement, or demonstrates a sustained increasing trend above typical values. The required actions are as follows:

1. Evaluate recent activities for possible causes of the increase leakage,
2. Contact System Engineering, and
3. Initiate Abnormal Operating Procedure (AOP)-R.05, "RCS Leak and Leak Source Identification."

This enhanced guidance will provide adequate assurance that structural integrity is maintained and that any primary system pressure boundary leakage is discovered in a timely manner.

SQN Unit 2

Pressurizer Alloy 600/82/182 butt welds have been inspected and mitigated. Details concerning these actions are provided in Enclosure 2.

WBN Unit 1

Pressurizer Alloy 600/82/182 butt welds have been inspected. Details concerning the locations inspected are provided in Enclosure 3.

Future inspections of pressurizer butt welds at SQN Units 1 and 2 and WBN Unit 1 will be performed in accordance with industry guidance (MRP-139). The results of future inspection or mitigation of pressurizer Alloy 600/82/182 butt weld locations will be reported to the NRC within 60 days of startup from the outage during which they were performed. The NRC will be informed prior to revision to the information contained in this letter. The commitments made by this letter are provided in Enclosure 4. TVA's staff is available to meet with the NRC to discuss any of the information in this letter.

If there are any questions, please contact Rob Brown at (423) 751-7228.

Sincerely,



Beth A. Wetzel
Manager, Corporate Licensing
and Industry Affairs

Enclosure
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Enclosure

cc: (Enclosure):

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ENCLOSURE 1
SQN UNIT 1 INSPECTION AND MITIGATION SUMMARY
ALLOY 600/82/182 PRESSURIZER BUTT WELDS

Nozzle		MRP-139 Volumetric Inspection Requirement Met or to be Met		Mitigation Completed or to be Completed	Comments
Function / Designation	Susceptible Material Description	Outage Designation	Start Date	Outage Designation	
4 inch - Spray: DM Weld No. RCW-24-SE; Valve Nos. PCV-68-340B & PCV-68-340D	Nozzle to Safe end weld and butter	1RFO15	October, 2007	1RFO15	The required MRP-139 volumetric inspection will be assisted by application of a full structural weld overlay.
14 inch - Surge: DM Weld RCW-29-SE	Nozzle to Safe end weld and butter	1RFO15	October, 2007	1RFO15	This weld will be examined volumetrically in accordance with MRP-139 guidelines prior to application of a full structural weld overlay.
6 inch - Safety: DM Weld No. RCW-27-SE; Valve No. VLV-68-563	Nozzle to Safe end weld and butter	1RFO15	October, 2007	1RFO15	The required MRP-139 volumetric inspection will be assisted by application of a full structural weld overlay.
6 inch - Safety: DM Weld No. RCW-28-SE; Valve No. VLV-68-564	Nozzle to Safe end weld and butter	1RFO15	October, 2007	1RFO15	The required MRP-139 volumetric inspection will be assisted by application of a full structural weld overlay.
6 inch - Safety: DM Weld No. RCW-25-SE; Valve No. VLV-68-565	Nozzle to Safe end weld and butter	1RFO15	October, 2007	1RFO15	The required MRP-139 volumetric inspection will be assisted by application of a full structural weld overlay.
6 inch - Relief: DM Weld No. RCW-26-SE; Valve Nos. PCV-68-340A & PCV-68-334	Nozzle to Safe end weld and butter	1RFO15	October, 2007	1RFO15	The required MRP-139 volumetric inspection will be assisted by application of a full structural weld overlay.

Results of Previous Inspections

The Table below (with the addition of the surge nozzle information) was provided in TVA's supplemental response to NRC Bulletin 2004-01 and summarizes the previously performed ASME Section XI examinations performed prior to the issue of MRP-139.

Note: The below Ultrasonic Testing (UT) inspections were performed prior to Performance Demonstration Initiative (PDI) qualification.

ASME Section XI Examinations

WELD NUMBER	EXAM CATEGORY AND ITEM NUMBER	EXAM METHOD/ REPORT NUMBER	CYCLE (EXAM DATE)	EXAM COVERAGE ACHIEVED	REJECTABLE INDICATIONS
RCW-24-SE spray nozzle to safe-end	B-F, B5.40 B-F, B5.40	UT (R6930) PT (R6914)	U1C8 (4/97) U1C8 (3/97)	UT 100 percent PT 100 percent	NO NO
RCW-29-SE Pressurizer Surge Nozzle	B-F, B5.20 B-F, B5.20 B-F, B5.40 B-F, B5.40	UT (R0402) PT (R0257) UT (R6887) PT (R6863)	U1C1 (10/82) U1C1 (10/82) U1C8 (3/97) U1C8 (3/97)	UT 100 percent PT 100 percent UT 92 percent PT 100 percent	NO NO NO NO
RCW-27-SE safety nozzle to safe-end	B-F, B5.20 B-F, B5.20	UT (R5064) PT (R5173)	U1C5 (10/91) U1C5 (10/91)	UT 75 percent PT 100 percent	NO NO
RCW-28-SE safety nozzle to safe-end	B-F, B5.20 B-F, B5.40	UT (R5065) PT (R7968)	U1C5 (10/91) U1C12 (3/03)	UT 75 percent PT 100 percent	NO NO - This was the third successive examination following cycle 5.
RCW-25-SE safety nozzle to safe-end	B-F, B5.20 B-F, B5.20	UT (R2334) PT (R5340)	U1C3 (9/85) U1C5 (10/91)	UT 80 percent PT 100 percent	NO NO
RCW-26-SE relief nozzle to safe-end	B-F, B5.20 B-F, B5.20	UT (R2333) PT (R5340)	U1C3 (9/85) U1C5 (10/91)	UT 80 percent PT 100 percent	NO NO

In addition, Bare Metal Visual (BMV) inspections were performed on each location listed in the above Table during 1RFO13 and 1RFO14. Neither of the visual inspections identified any leakage from the dissimilar metal welds.

ENCLOSURE 2
SQN UNIT 2 INSEPECTION AND MITIGATION SUMMARY
ALLOY 600/82/182 PRESSURIZER BUTT WELDS

Nozzle		MRP-139 Volumetric Inspection Requirement Met or to be Met		Mitigation Completed or to be Completed	Comments
Function / Designation	Susceptible Material Description	Outage Designation	Start Date	Outage Designation	
4 inch - Spray: DM Weld No. RCW-24-SE; Valve Nos. PCV-68-340B & PCV-68-340D	Nozzle to Safe end weld and butter	2RFO14	December, 2006	2RFO14	The required MRP-139 volumetric inspection was assisted by application of a full structural weld overlay.
14 inch - Surge: DM Weld No. RCW-29-SE	Nozzle to Safe end weld and butter	2RFO14	December, 2006	2RFO14	This weld was volumetrically examined in accordance with MRP-139 guidelines prior to application of a full structural weld overlay. No recordable indications were found.
6 inch - Safety: DM Weld No. RCW-26-SE; Valve No. VLV-68-563	Nozzle to Safe end weld and butter	2RFO14	December, 2006	2RFO14	The required MRP-139 volumetric inspection was assisted by application of a full structural weld overlay.
6 inch - Safety: DM Weld No. RCW-25-SE; Valve No. VLV-68-564	Nozzle to Safe end weld and butter	2RFO14	December, 2006	2RFO14	The required MRP-139 volumetric inspection was assisted by application of a full structural weld overlay.
6 inch - Safety: DM Weld No. RCW-28-SE; Valve No. VLV-68-565	Nozzle to Safe end weld and butter	2RFO14	December, 2006	2RFO14	The required MRP-139 volumetric inspection was assisted by application of a full structural weld overlay.
6 inch - Relief: DM Weld No. RCW-27-SE; Valve Nos. PCV-68-340A & PCV-68-334	Nozzle to Safe end weld and butter	2RFO14	December, 2006	2RFO14	The required MRP-139 volumetric inspection was assisted by application of a full structural weld overlay.

Results of Previous Inspections

The Table below (with the addition of the surge nozzle information) was provided in TVA's supplemental response to NRC Bulletin 2004-01 and summarizes the previously performed ASME Section XI examinations performed prior to the issue of MRP-139.

Note: The below UT examinations were performed prior to PDI qualification.

ASME Section XI Examinations

WELD NUMBER	EXAM CATEGORY AND ITEM NUMBER	EXAM METHOD/ REPORT NUMBER	CYCLE (EXAM DATE)	EXAM COVERAGE ACHIEVED	REJECTABLE INDICATIONS
RCW-24-SE spray nozzle to safe-end	B-F, B5.40	UT (R5658)	U2C7 (5/96)	UT 100 percent	NO
	B-F, B5.40	PT (R5624)	U2C7 (5/96)	PT 100 percent	NO
RCW-29-SE Pressurizer surge nozzle	B-F, B5.20	UT (R0869)	U2C1 (8/83)	UT 100 percent	NO
	B-F, B5.20	PT (R0870)	U2C1 (8/83)	PT 100 percent	NO
	B-F, B5.40	UT (R5667)	U2C7 (4/96)	UT 100 percent	NO
	B-F, B5.40	PT (R5574)	U2C7 (4/96)	PT 100 percent	NO
RCW-26-SE safety nozzle to safe-end	B-F, B5.20	UT (R3445, R3512)	U2C3 (2/89)	UT 70 percent	NO
	B-F, B5.20	PT (R3391)	U2C3 (2/89)	PT 100 percent	NO
RCW-25-SE safety nozzle to safe-end	B-F, B5.20	UT (R3444, R3511)	U2C3 (2/89)	UT 70 percent	NO
	B-F, B5.20	PT (R3391)	U2C3 (2/89)	PT 100 percent	NO
RCW-28-SE safety nozzle to safe-end	B-F, B5.20	UT (R4472)	U2C5 (4/92)	UT 80 percent	NO
	B-F, B5.20	PT (R4544)	U2C5 (3/92)	PT 100 percent	NO
RCW-27-SE relief nozzle to safe-end	B-F, B5.20	UT (R4471)	U2C5 (4/92)	UT 80 percent	NO
	B-F, B5.20	PT (R4538)	U2C5 (3/92)	PT 100 percent	NO

In addition, BMV examinations were performed on each location listed in the above table during 2RFO13 and 2RFO14. Neither of the visual examinations identified any leakage from the dissimilar metal welds.

ENCLOSURE 3
WBN UNIT 1 INSPECTION AND MITIGATION SUMMARY
ALLOY 600/82/182 PRESSURIZER BUTT WELDS

Nozzle		MRP-139 Volumetric Inspection Requirement Met or to be Met		Mitigation Completed or to be Completed	Comments
Function / Designation	Susceptible Material Description	Outage Designation	Start Date	Outage Designation	
4 inch - Spray: DM Weld No. WP-11-SE; Valve Nos. PCV-68-340B & PCV-68-340D	Nozzle to Safe end weld and butter	1RFO7	September, 2006	1RFO8 or 1RFO9	TVA is currently in the process of evaluating mitigation strategies for this location.
14 inch - Surge: DM Weld No. WP-10-SE	Nozzle to Safe end weld and butter	1RFO7	September, 2006	1RFO8 or 1RFO9	TVA is currently in the process of evaluating mitigation strategies for this location.
6 inch - Safety: DM Weld No. WP-15-SE; Valve No. RFV-68-563	Nozzle to Safe end weld and butter	1RFO7	September, 2006	1RFO8 or 1RFO9	TVA is currently in the process of evaluating mitigation strategies for this location.
6 inch - Safety: DM Weld No. WP-13-SE; Valve No. RFV-68-565	Nozzle to Safe end weld and butter	1RFO7	September, 2006	1RFO8 or 1RFO9	TVA is currently in the process of evaluating mitigation strategies for this location.
6 inch - Safety: DM Weld No. WP-14-SE; Valve No. RFV-68-564	Nozzle to Safe end weld and butter	1RFO7	September, 2006	1RFO8 or 1RFO9	TVA is currently in the process of evaluating mitigation strategies for this location.
6 inch - Relief: DM Weld No. WP-12-SE; Valve Nos. PCV-68-340A & PCV-68-334	Nozzle to Safe end weld and butter	1RFO7	September, 2006	1RFO8 or 1RFO9	TVA is currently in the process of evaluating mitigation strategies for this location.

One-hundred percent coverage was obtained for the welds listed above and no recordable indications were found.

Results of Previous Inspections

In addition to the above inspections, TVA reported in supplemental response to NRC Bulletin 2004-01 the completion of a BMV examination of each location listed in the above Table during 1RFO5.

Since the response to 2004-01, TVA also performed a BMV examination of the above listed locations during 1RFO6. Neither of the visual examinations identified any leakage from the dissimilar metal welds.

ENCLOSURE 4
LIST OF COMMITMENTS

1. Future inspections of pressurizer butt welds at SQN Unit 1 and 2 and WBN Unit 1 will be performed in accordance with industry guidance (MRP-139).
2. The results of future inspection or mitigations of pressurizer Alloy 600/82/182 butt weld locations will be reported to the NRC within 60 days of startup from the outage during which they were performed.