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ComEd

May 22, 1996
JSPLTR #96-0076

U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attn: Document Control Desk

Subject: Dresden Nuclear Power Station Unit 3
Submittal of Core Shroud Inspection Plan for Dresden Unit 3
NRC Docket No. 50-249

References:
(1) NRC Generic Letter 94-03, "Intergranular Stress Corrosion Cracking of Core Shrouds in Boiling Water Reactors"

(2) BWRVIP document GENE-523-113-0894, BWR Core Shroud Inspection and Evaluation Guidelines, dated September 1994.

(3) BWRVIP Document BWRVIP-03, Reactor Vessel and Internals Examination Guidelines, dated October, 1995.

(4) BWRVIP Document BWRVIP-07, Guidelines for Reinspection of BWR Core Shrouds, Dated February, 1996.

(5) J. Stang (NRR) letter to D.L. Farrar, Safety Evaluation Regarding Core Shroud Repair - Dresden Nuclear Power Station, Units 2 and 3 (TAC Nos. M91301, M91302 and M93584), dated December 6, 1995.

The purpose of this letter is to provide the Core Shroud Inspection Plan for Dresden Unit 3 to the NRC staff per the requirements of Reference (1). As stated in the Generic Letter, the NRC has encouraged licensees to follow the guidance developed for this issue by the BWROG (and subsequently the BWR Vessel Internals Project (BWRVIP). ComEd has been and will continue to be an integral part of the BWRVIP. Dresden Station will also continue to follow the guidance provided by the BWRVIP with respect to inspections, flaw assessment, evaluations, and repair options as this guidance is provided. This response provides reference to these documents where applicable. In referencing these items, it is not intended that they supersede the design basis analysis of record at the Station.

ComEd has reviewed the BWRVIP "BWR Core Shroud Inspection and Flaw Evaluation Guidelines" [Reference (2)] and has concluded that Dresden Unit 3 is a Category C plant. As such, a comprehensive inspection of shroud welds H1 through H7 is required. However, ComEd will be installing a core shroud repair that structurally replaces the core shroud circumferential welds H1 through H7 and accounts for cracking of the H8 weld. The core shroud repair design was developed considering through wall 360 degree circumferential cracks at the H1 through H8 welds. Reference (5) provided NRC staff approval to install the repair as an alternative to the ASME Boiler and Pressure Vessel Code, Section XI, pursuant to 10 CFR 50.55a(a)(3)(i). Dresden is presently planning to install the core shroud repair hardware on Unit 3 during the upcoming D3R14 refueling outage. Therefore, the inspection plan for Unit 3 has been developed in accordance with Section 4 of Reference (4), which addresses the reinspection (and pre-repair inspection) of BWRs with repaired

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core shrouds. This inspection plan was also developed to interface with the core shroud repair design to assure that structural integrity of the core shroud is maintained.

The following discussion provides the ComEd response to the reporting requirements of Reference (1). For convenience, the appropriate reporting requirements of Reference (1) have been restated, followed by the ComEd response to that requirement.

Reporting Requirements

2.No later than 3 months prior to performing the Core Shroud inspections, provide the following information:

2.(a)The inspection plan requested in item 3 of the Requested Actions.

"Item 3 of the Requested Actions section of the Generic Letter requires the development of an inspection plan which addresses:

(a)All shroud welds (from attachments to the vessel to the top of the Shroud) and/or, provides a justification for the elimination of particular welds from consideration; and (b) examination methods ..."

The inspection plan will be implemented during the fourteenth refuel outage for Dresden Unit 3 currently scheduled to begin in September, 1996. The shroud inspection will be performed in conjunction with the comprehensive repair of the core shroud. The inspection plan has been developed to comply with the Reference (4) guidelines.

Table 1 identifies each of the design reliant structures associated with the comprehensive core shroud repair, provides a synopsis of the design reliant function of the structures, and outlines the type and extent of inspection that will be employed to verify integrity of the structure.

Justification for deferring inspection of the remaining shroud welds, including attachment welds (i.e., shroud to support leg and support leg to bottom head) is provided in Reference (2).

2.(b)Plans for evaluation or repair of the Core Shroud based on the inspection results.

A comprehensive Core Shroud repair will be installed on Dresden Unit 3 during the upcoming refuel outage (D3R14). The design package for this repair was submitted to the NRC under separate letter. Reference (5) provided NRC staff approval of the design. Evaluation of the inspection results will be performed in accordance with the Reference (4) guidelines along with the shroud repair design criteria.

Within thirty days after completion of the shroud inspections, the results will be provided to the NRC staff.

It should be noted that the inspection plan presented herein does not address future inservice inspection of the core shroud or the installed core shroud repair components, as the detailed plan for future inspection has not yet been finalized. Dresden will submit this plan to the NRC staff within 6 months after restart of Dresden Unit 3 from the D3R14 refueling outage.

Please contact this office should you have any further comments or questions regarding this matter.

Sincerely,

J Stephen Perry
Site Vice President
Dresden Station

Subscribed and Sworn to before me
on this 22nd day of
May, 1996.

Janice M. Tondini
Notary Public

"OFFICIAL SEAL"
JANICE M. TONDINI
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 2/21/97

cc: H.J. Miller, Regional Administrator - RIII
J. F. Stang, Project Manager - NRR
C.L. Vanderniet, Senior Resident Inspector - Dresden
Office of Nuclear Facility Safety - IDNS
File / numerical

TABLE 1
Dresden Unit 3 Core Shroud Inspection Plans

Weld / Component Description	Design Reliant Function	Type & Extent of Inspection
H1 - H7	None	None. Horizontal welds structurally replaced by repair hardware.
H8	Vertical & horizontal restraint for jet pump support plate connection to the shroud	Enhanced VT-1 at 4 attachment locations (Note 1)
H9	Vertical, rotational & horizontal restraint for jet pump support plate connection to RPV	Enhanced VT-1 at 4 attachment locations (Note 2)
Vertical shroud welds	- Resistance to differential pressures & hoop stresses - Lateral Stability of shroud cylinder	Enhanced VT-1 of 25% of the equivalent length of all vertical welds (Note 3)
Ring segment welds	- Resistance to differential pressures & hoop stresses - Distribute bending stresses - Lateral stability of shroud cylinder	Enhanced VT-1 of 25% of the ring segment welds (Note 4)
Installed repair hardware	Structural replacement of welds H1 - H7	VT-3 of hardware to ensure that all installation tolerances have been met

Note 1: The H8 weld connects the jet pump support plate to the shroud support ring. Although not required by Reference (4), in anticipation of future access problems following hardware installation, Dresden currently plans to perform an enhanced visual examination [per Reference (3)] of this weld from the jet pump annulus region in the area of the four repair hardware attachment locations. It is anticipated that approximately 8 inches to 12 inches of coverage can be achieved at each location.

Note 2: The H9 weld connects the jet pump support plate to the reactor vessel. Although not required by Reference (4), in anticipation of future access problems following hardware installation, Dresden currently plans to perform an enhanced visual examination [per Reference (3)] of this weld from the jet pump annulus region in the area of the four repair hardware attachment locations. It is anticipated that approximately 8 inches to 12 inches of coverage can be achieved at each location.

Note 3: The shroud is made up of 4 cylindrical shell courses with 3 vertical welds per shell course, for a total of 12 vertical welds. Current plans are to inspect these welds per Reference (4), Section 4.4.1, Option B, which calls for enhanced visual inspection [per Reference (3)] of 25% of the equivalent length of all vertical welds that are not structurally replaced by existing hardware and/or the repair, from either the ID or OD surface of the welds. If any cracking is detected, expansion and flaw evaluation will be performed per the Option B recommendations.

Note 4: The shroud contains three rings that were fabricated from rolled plate that was cut into arced segments, welded, and machined to form the rings. The number of welds per ring is as follows:

Shroud Head Flange Ring:	4 welds
Top Guide Support Ring:	6 welds
Core Plate Support Ring:	6 welds

Current plans are to inspect these welds per Reference (4), Section 4.4.2, Option B, which calls for enhanced visual inspection [per Reference (3)] of 25% of the ring segment welds that are not structurally replaced by existing hardware and/or the repair, from all accessible surfaces of the welds. If any cracking is detected, expansion and flaw evaluation will be performed per the Option B recommendations.