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

Dresden Nuclear Power Station, Units 2 and 3
Facility Operating License Nos. DPR-19 and DPR-25
NRC Docket Nos. 50-237 and 50-249

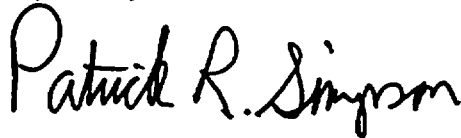
Subject: Additional Information Regarding Inservice Inspection Program Relief
Request I4R-02

- References: (1) Letter from R. J. Hovey (Exelon Generation Company, LLC) to U. S. NRC, "Dresden Nuclear Power Station, Units 2 and 3, Fourth Interval Inservice Inspection Program Plan," dated September 6, 2002
- (2) Letter from U. S. NRC to J. L. Skolds (Exelon Generation Company, LLC), "Dresden Nuclear Power Station, Units 2 and 3 – Request for Additional Information Regarding Inservice Inspection Program Relief Request I4R-02," dated April 29, 2003

In Reference 1, Exelon Generation Company, LLC requested relief from certain requirements of 10 CFR 50.55a, "Codes and standards," for the fourth interval inservice inspection program plan for Dresden Nuclear Power Station, Units 2 and 3. In Reference 2, the NRC requested additional information regarding proposed relief request I4R-02. The attachment to this letter provides the requested information.

Should you have any questions concerning this letter, please contact Mr. Allan R. Haeger at (630) 657-2807.

Respectfully,



Patrick R. Simpson
Manager – Licensing
Mid-West Regional Operating Group

Attachment

cc: NRC Regional Administrator – Region III
NRC Senior Resident Inspector – Dresden Nuclear Power Station
Office of Nuclear Facility Safety – Illinois Department of Nuclear Safety

A047

Dresden Nuclear Power Station (DNPS), Units 2 and 3
Additional Information Regarding Inservice Inspection Program Relief Request I4R-02

Question #1

Have any welds that were selected for inspection in the Risk-Informed Inservice Inspection (RI-ISI) program that was approved by the staff in Reference 1 been removed from the population of welds that will be inspected during the fourth ten-year interval? If so, why was [were] the weld[s] removed from the population of welds to be inspected.

Response

Changes in inspection populations are addressed in the response to Question #2 below.

Question #2

Have any welds that were not selected for inspection in the RI-ISI program that was approved by the staff in Reference 1 been selected for inspection during the fourth ten-year interval? If so, why was [were] the weld[s] added to the population of welds to be inspected.

Response

DNPS has made changes to the weld selections in the RI-ISI program that was approved by the NRC in Reference 1 for the following reasons.

- Substitutions were made when an alternate weld would provide significantly better access or increase examination coverage. These substitutions were made within pipe segments which are subject to the same degradation mechanisms and consequences. Therefore, the number of welds within each risk category was not impacted.
- A portion of the main steam drain line (1½" nominal pipe size (NPS)) had been exempted from examination during the third inspection interval in accordance with American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," Subparagraph IWB-1220(a). During fourth interval program development, the flow make up calculation that is utilized to exempt components, based upon the capacity of make up systems in accordance with IWB-1220(a) was revised, and, as a result, the 1½" NPS main steam drain line welds were incorporated into the RI-ISI program. The addition of these welds resulted in selection of additional high risk category welds for both Units 2 and 3.
- An updated probabilistic risk assessment (PRA) model was incorporated into the RI-ISI program resulting in the recategorization of piping elements. Weld selections were adjusted, prorated by system, so that 25% of the welds in each high risk category and 10% of the welds in each medium risk category are selected for inspection during the interval.

The following table summarizes the changes in inspection populations (additions and removals) between the RI-ISI program that was approved by the NRC in Reference 1 and the population of welds that will be inspected during the fourth ten-year interval.

**Dresden Nuclear Power Station (DNPS), Units 2 and 3
Additional Information Regarding Inservice Inspection Program Relief Request I4R-02**

DNPS Unit 2

Risk Category	Number of Welds - Initial RI-ISI Program	Number of Welds - 4th Interval RI-ISI Program	Description of Weld Selection Changes
High	42	49	<ul style="list-style-type: none"> • Eight welds were substituted within the high risk category. • Nine welds were added due to incorporation of the main steam drain line. • One weld was removed due to a PRA model update. • One weld was recategorized from High to Medium due to a PRA model update.
Medium	53	47	<ul style="list-style-type: none"> • Five welds were substituted within the medium risk category. • Three welds were added due to a PRA model update. • Ten welds were removed due to a PRA model update. • One weld was recategorized from High to Medium due to a PRA model update.

DNPS Unit 3

Risk Category	Number of Welds - Initial RI-ISI Program	Number of Welds - 4th Interval RI-ISI Program	Description of Weld Selection Changes
High	36	41	<ul style="list-style-type: none"> • Ten welds were substituted within the high risk category. • Eight welds were added due to incorporation of the main steam drain line. • Two welds were removed due to a PRA model update. • One weld was recategorized from High to Medium due to a PRA model update.
Medium	58	50	<ul style="list-style-type: none"> • Three welds were substituted within the medium risk category. • Five welds were added due to a PRA model update. • Fourteen welds were removed due to a PRA model update. • One weld was recategorized from High to Medium due to a PRA model update.

**Dresden Nuclear Power Station (DNPS), Units 2 and 3
Additional Information Regarding Inservice Inspection Program Relief Request I4R-02**

Question #3

The relief request includes the following paragraph:

"The Risk Impact Assessment completed as part of the original baseline RI-ISI Program was an implementation/transition check on the initial impact of converting from a traditional ASME Section XI program to the new RI-ISI methodology. For the Fourth Interval ISI update, there is no transition occurring between two different methodologies, but rather, the currently approved RI-ISI methodology and evaluation will be maintained for the new interval. As such, the initial screening of the risk impact assessment is not a part of the living program process and is not required to be continually updated."

The staff does not concur with the implication that, if there is no change in methodology, the change in risk assessment is not part of the living process. RG 1.178, SRP 3.9.8, and the EPRI Topical report (Refs. 2, 3, and 4) require an evaluation of the change in risk arising from the proposed change in the ISI program. Please provide a discussion on the potential change in risk between the RI-ISI program proposed for implementation in the fourth interval and the ASME Section XI requirements from which relief was granted in Reference 1. If inspections were discontinued or relocated between the third and the fourth intervals' RI-ISI programs, please provide an estimate of the change in risk.

Response

The DNPS response to NRC Questions 1 and 2 summarizes the changes in weld selections that would impact the risk assessment. An updated PRA model for the fourth ten-year interval, which has been incorporated into the RI-ISI program, has also impacted the risk assessment. The following table provides the results of the changes in core damage frequency (CDF) and large early release frequency (LERF) from the initial risk assessment for the RI-ISI program implemented in the third interval and the risk assessment for the RI-ISI program proposed for implementation in the fourth interval. These risk assessments evaluate the change in risk between the RI-ISI programs and the ASME Section XI requirements from which relief was granted in Reference 1.

DNPS Unit 2

Initial RI-ISI Program		4 th Interval RI-ISI Program	
Δ CDF/yr	Δ LERF/yr	Δ CDF/yr	Δ LERF/yr
3.14E-09	7.57E-10	2.50E-09	2.23E-09

DNPS Unit 3

Initial RI-ISI Program		4 th Interval RI-ISI Program	
Δ CDF/yr	Δ LERF/yr	Δ CDF/yr	Δ LERF/yr
2.89E-09	1.32E-09	1.57E-09	1.42E-09

The change in risk between the RI-ISI program proposed for implementation in the fourth interval and the ASME Section XI requirements from which relief was granted in Reference 1 is well within the guidelines of Regulatory Guide 1.174, "An Approach for Using Probabilistic Risk

**Dresden Nuclear Power Station (DNPS), Units 2 and 3
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Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," and Reference 4 (1.0E-06/yr and 1.0E-07/yr for CDF and LERF, respectively). In addition, each system was found to meet the acceptance criteria for changes in CDF and LERF (1.0E-07/yr and 1.0E-08/yr for CDF and LERF respectively).

As shown by the comparison in the above table the change in risk between the third and the fourth intervals, which takes into account inspections which were discontinued or relocated as well as an updated PRA model, the RI-ISI program proposed for implementation in the fourth interval does not represent a significant change in risk.

DNPS will continue to maintain the delta risk assessment between the current RI-ISI fourth interval program and the ASME Section XI requirements from which relief was granted in Reference 1 consistent with the methodology described in Reference 4.

References

1. Letter from U. S. NRC to O. D. Kingsley (Exelon Generation Company, LLC), "Safety Evaluation of Third Interval Risk-Informed Inservice Inspection Program Relief Request," dated September 5, 2001
2. U.S. Nuclear Regulatory Commission, "An Approach for Plant-Specific Risk-Informed Decision Making: Inservice Inspection of Piping," Regulatory Guide 1.178, September 1998
3. U.S. Nuclear Regulatory Commission, "Standard Review Plan for Trial Use for the Review of Risk-Informed Inservice Inspection of Piping," NUREG-0800, SRP Chapter 3.9.8, May 1998
4. Electric Power Research Institute, "Revised Risk-Informed Inservice Inspection Evaluation Procedure, EPRI TR-112657," Revision B-A, January 2000