



Serial: HNP-08-134
10 CFR 50.90

JAN 9 2009

U.S. Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT NO. 1
DOCKET NO. 50-400/LICENSE NO. NPF-63
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION REGARDING RELIEF
REQUEST I3R-02 FOR THE THIRD 10-YEAR INSERVICE INSPECTION INTERVAL

- References:
1. Letter from D. H. Corlett to the Nuclear Regulatory Commission (Serial: HNP-08-038), "Third Interval Inservice Inspection Program Submittal," dated April 29, 2008
 2. Letter from D. H. Corlett to the Nuclear Regulatory Commission (Serial: HNP-08-067), "Supplement to Third Interval Inservice Inspection Relief Request I3R-02 Submittal," dated June 19, 2008
 3. Letter from M. Vaaler, Nuclear Regulatory Commission, to C. L. Burton, "Request for Additional Information Regarding Relief Request I3R-02 for the Third 10-Year Inservice Inspection Interval (TAC NO. MD8742)," dated December 9, 2008

Ladies and Gentlemen:

On December 09, 2008, the Harris Nuclear Plant (HNP) received a request from the NRC (Reference 3) for additional information needed to facilitate the review of proposed Third Interval Inservice Inspection Relief Request I3R-02. This original request was submitted as HNP-08-038 (Reference 1) and supplemented via HNP-08-067 (Reference 2).

Attachment 1 provides the requested additional information.

This document contains no new or revised Regulatory Commitments.

Please refer any question regarding this submittal to me at (919) 362-3137.

Sincerely,

D. H. Corlett
Supervisor – Licensing/Regulatory Programs
Harris Nuclear Plant

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Attachment: 1. HNP's Response to the Request for Additional Information Regarding Relief Request I3R-02 for the Third 10-Year Inservice Inspection Interval

cc: Mr. J. D. Austin, NRC Sr. Resident Inspector, HNP
Mr. L. A. Reyes, NRC Regional Administrator, Region II
Ms. M. G. Vaaler, NRC Project Manager, HNP

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REGARDING RELIEF REQUEST I3R-02 FOR THE THIRD 10-YEAR
INSERVICE INSPECTION INTERVAL

Request 1: *In section 4.0 of relief request I3R-02, "Reason for Request," the last full paragraph on page 3 of 6 of the April 29, 2008, submittal states:*

The Risk Impact Assessment completed as part of the original baseline RISI [Risk-Informed Inservice Inspection] Program was an implementation/transition check on the initial impact of converting from a traditional ASME [American Society of Mechanical Engineers] Section XI program to the new RISI methodology. For the Third Interval ISI [Inservice Inspection] update, there is no transition occurring between two different methodologies, but rather, the currently approved RISI methodology and evaluation will be maintained for the new interval. As such, the original risk impact assessment process is not impacted by the new interval and does not require update.

The staff believes that the original risk impact assessment is in fact impacted because the selection of welds and timing of inspections is different during the fourth ISI interval. In addition, the living process approved for the Risk-Informed Inservice Inspection (RI-ISI) program requires this revised risk assessment. Furthermore, the submittal is requesting relief to implement a RI-ISI program instead of a traditional ASME program for the third ISI interval, so there is a change from the methodology that would normally be used (i.e., without a relief request).

NRC Regulatory Guide 1.178, "An Approach for Plant-Specific Risk-Informed Decision making for Inservice Inspection of Piping," and the Electric Power Research Institute Topical Report, EPRI TR-112657, Revision B-A, "Revised Risk-Informed Inservice Inspection Evaluation Procedure," require an evaluation of the change in risk arising from the proposed change to the ISI program.

Please provide an estimate of the potential change in risk between the RI-ISI program proposed for implementation during the third ISI interval and the ASME Section XI requirements that existed prior to the implementation of the first RI-ISI program.

Response: The Safety Evaluation (SE) (Reference 2) for HNP's original RI-ISI program (Reference 1) authorized the implementation of HNP's RI-ISI program for the remainder of the second 10-year ISI interval. As documented in the SE, HNP's RI-ISI program is founded on the EPRI RI-ISI methodology contained in the NRC-approved Electric Power Research Institute (EPRI) topical report (TR) EPRI TR-112657 Revision B-A.

HNP's original RI-ISI (Reference 1) was developed in accordance with the EPRI TR-112657 guidelines. Per this EPRI document, the program is maintained as a living RI-ISI program, requiring feedback of new relevant information to ensure the appropriate identification of high

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safety significant piping locations. Such maintenance includes, as a minimum, the review and adjustment of risk ranking of piping segments on an ASME period basis. To meet this objective, plant changes and PRA updates, including the continual assessment of the change-in-risk against the pre-risk-informed 1989 ASME Section XI Program (as required by Section 3.7 of EPRI TR-112657), are reviewed for impact on the RI-ISI program.

There is substantial margin between the total change in risk of $7.43E-09$ (Core Damage Frequency or CDF) and $2.05E-10$ (Large Early Release Frequency or LERF) contained in HNP's original RI-ISI submittal (Reference 1) and the EPRI TR-112657 acceptance criteria of $1E-06$ (CDF) and $1E-07$ (LERF). Since the updates for the Third 10-year interval only identified minor changes in the PRA input, the resultant risk impacts of the changes were also determined to be minor.

Incorporating the latest inputs, the potential change in risk between the RI-ISI program proposed for implementation during the third ISI interval and the ASME Section XI requirements that existed prior to the implementation of the first RI-ISI program result in a risk impact of $1.51E-09$ (CDF) and $4.59E-11$ (LERF). Since these values are less than the pre-risk-informed 1989 ASME Section XI Program risk impact, the change in risk assessment from HNP's original RI-ISI submittal (Reference 1) bounds the risk impact of continuing to implement the RI-ISI program at HNP for the third 10-year inspection interval.

Request 2: *In section 4.0 of relief request I3R-02, "Reason for Request," the paragraph that starts as the last paragraph on page 3 of 6 of the April 29, 2008, submittal states:*

As an added measure of assurance, any new systems, portions of systems, or components being included in the RISI Program for the Third Inspection Interval will be added to the Risk Impact Assessment performed during the previous interval. These components will be addressed within the evaluation at the start of the new interval to assure that the new Third Inspection Interval RISI element selection provides an acceptable overall change-in-risk when compared to the old ASME Section XI population of exams which existed prior to the implementation of the first RISI Program.

The evaluations described above should have already been performed and the results of the evaluations used to support the development of the proposed RI-ISI program. Please provide a brief description of these evaluations and an overview of the results.

Response: A review of design changes was conducted as part of fulfilling the objective of a living program (reference above response to RAI #1). This review covered the period from October 2004 to February 2008. These design changes did not result in any change in the scope of the RI-ISI program. Since that review, no major modifications have been made affecting the

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RI-ISI program scope. In addition, no new plant systems have been added or removed from the boundaries subject to the RI-ISI evaluation process.

- References:
1. Letter from T. C. Morton to the Nuclear Regulatory Commission (Serial: HNP-05-049), "Relief Request to Use a Risk-Informed Inservice Inspection Program for Class 1 and 2 Piping Welds," dated April 27, 2005
 2. Letter from M. L. Marshall, Nuclear Regulatory Commission, to C. J. Gannon, "Request for Relief from the Requirements of the ASME Code (TAC NO. MC6850)," dated March 8, 2006

- Precedent:
1. Hope Creek Generating Station, Docket No. 50-354, "Response to Request for Additional Information Related to Relief Requests HC-I3R-01 and HC-I3R-02," dated June 11, 2008, and the corresponding NRC Safety Evaluation dated October 16, 2008