



**North
Atlantic**

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The Northeast Utilities System

November 9, 2001

NYN-01090

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Seabrook Station
"Response to Request for Information Regarding the
Risk-Informed Inservice Inspection Program"

On March 16, 2001, North Atlantic Energy Services Corporation (North Atlantic) forwarded a letter to the Nuclear Regulatory Commission (NRC) requesting approval to implement a Risk-Informed Inservice Inspection (RI-ISI) program. The proposed RI-ISI program is an alternative to the current ASME Section XI inspection requirements for Class 1 code category B-F and B-J piping welds. North Atlantic requested NRC approval of the RI-ISI program by October 31, 2001 to support the implementation of inspection activities during Refueling Outage 08 in May 2002.

As a result of the NRC review of the RI-ISI program, North Atlantic was requested to provide additional information (RAI) to facilitate the NRC's review of the submittal. The North Atlantic responses to the RAIs are provided in the enclosed.

Should you have any questions concerning this issue, please contact Mr. James M. Peschel, Manager - Regulatory Programs, at (603) 773-7194.

Very truly yours,

NORTH ATLANTIC ENERGY SERVICE CORP.

Ted C. Feigenbaum
Executive Vice President
and Chief Nuclear Officer

A047
Rec'd
01/23/02

cc: H. J. Miller, NRC Region I Administrator
G.F. Wunder, NRC Project Manager, Project Directorate I-2
G.T. Dentel, NRC Senior Resident Inspector

Enclosure to NYN-01090

Request for Additional Information

RAI No. 1 (1)

Section 4 of the submittal indicates that EPRI is currently working with the industry to develop guidelines for reviewing and updating risk-informed programs generated using EPRI TR-112657; however, there is no statement of an updating review period for the program.

- (1) *Will you review and adjust the risk ranking of piping segments and the associated selection of welds for the RI-ISI program at a minimum on an ASME Code, Section XI specified ISI period basis?*

Response to RAI 1 (1)

Yes. Review and adjustment of risk ranking of piping segments and selected welds for the RI-ISI program will be performed on an ASME Code, Section XI specified ISI period.

RAI No. 1 (2)

- (2) *Will the RI-ISI program be updated every 10 years and submitted to the NRC consistent with the current ASME Code, Section XI requirements?*

Response to RAI 1 (2)

Yes. The RI-ISI program will be updated and submitted to the NRC every 10 years consistent with ASME Code, Section XI requirements.

RAI 1 (3)

- (3) *Under what conditions will the RI-ISI program be resubmitted to the NRC before the end of any 10-year ISI interval?*

Response to RAI 1 (3)

As discussed in Section 4 of the RI-ISI submittal, EPRI is currently working with the industry to develop guidelines for reviewing and updating risk-informed programs generated using EPRI TR-112657. In this light, a meeting was recently held between NRC, NEI and the industry to discuss living program requirements (including NRC notification/approval). It is anticipated that those changes that affect the basis for the NRC's plant specific approval of the RI-ISI application (i.e. safety evaluation) will require re-submittal to the NRC. Examples include (1) a change in methodology or (2) an extension of the application to additional classes of piping (e.g. Class 2 piping).

Request for Additional Information

RAI No. 2 (1)

Page 7 of your submittal presents the criteria for engineering evaluation and additional examinations if unacceptable flaws or relevant conditions are found during examinations. The submittal states that the evaluation will include whether or not other elements in the segment or segments are subject to the same root cause conditions. The submittal further states that additional examinations will be performed on these elements up to a number equivalent to the number of elements required to be inspected on the segment or segments initially. Please address the following:

- (1) Please clarify the term "initially." Specifically, does it refer to inspections planned for the current outage or the current interval?*

Response to RAI No. 2 (1)

The term "initially" refers to inspections planned for the current outage.

RAI No. 2 (2)

- (2) Please clarify how will the elements be selected for additional examinations. Specifically, please verify that the elements will be selected based on the root cause or damage mechanism and include high risk significant as well as medium risk significant elements (if needed) to reach the required number of additional elements.*

Response to RAI No. 2 (2)

The elements selected for additional examinations will be selected based on the root cause or damage mechanism and will include high risk significant elements and medium risk significant elements (if needed).

RAI No. 3

Page 4 of your submittal states that a deviation to EPRI RI-ISI methodology has been implemented in the failure potential assessment for thermal stratification, cycling and striping (TASCS). Please state if your revised methodology for assessing TASCS potential is in conformance with the updated criteria described in EPRI letter to NRC dated March 28, 2001. Also, please confirm that as stated in the subject letter, once the final MRP guidance has been developed, the RI-ISI program will be updated for the evaluation of susceptibility to TASCS, as appropriate.

Request for Additional Information

Response to RAI No. 3

Yes, the revised methodology for assessing TASCs potential is in conformance with the updated criteria described in EPRI letter to NRC dated March 28, 2001. Once the final EPRI-MRP guidance has been developed, the RI-ISI program will be updated for the evaluation of susceptibility to TASCs, as appropriate.

RAI No. 4

The safety evaluation of the Seabrook IPE stated that the loss of instrument air initiating event was not included, but would be included in a future update. However, this initiating event is not identified as having been included in the subsequent updates identified in Section 1.2 of the submittal. Has this initiating event been incorporated into the current model? If not, please explain what impact this has on this application.

Response to RAI No. 4

The NRC staff evaluation of the Seabrook IPE did not state that the loss of instrument air initiator would be included in future updates, but rather stated that instrument air would be included in the dependency matrix. Instrument air is included in the dependency matrix for the Seabrook PRA model. Additionally, while instrument air is not explicitly modeled in the event tree analysis, its failure is implicitly included in the initiating events that would result from a loss of instrument air.

RAI No. 5

Section 3.3 of EPRI TR-112657 Rev. B-A requires the consideration of external events (e.g., seismic events) and operation modes outside the scope of the PRA (e.g., shutdown) in the categorization of segments. Were external events and operation modes outside the scope of the PRA systematically considered? Please describe how these areas were considered in the categorization process.

Response to RAI No. 5

As discussed in TR-112657, an assessment of the impact of non-power operation and external events on the RI-ISI results is required. These impacts are typically evaluated using:

- IPEE reports
- Shutdown PRA, if available
- Shutdown guidance documents and procedures
- At-power PRA

Request for Additional Information

The same approach used to evaluate at-power operation and internal events is used. This method is described in TR-112657. It consists of the following:

- Evaluation of the importance of the initiating events caused by a pipe break
- Evaluation of the availability of the mitigating systems, given a pipe break
- Evaluation of the impact on the containment performance

For the Seabrook RI-ISI application, these events and configurations were considered during the consequence evaluation portion of the RI-ISI analyses.

RAI No. 6

Section 3.6.1 of the submittal indicates that the pressure boundary failure likelihoods are consistent with the RI-ISI pilot applications at ANO-2 and Vermont Yankee. Were the probability of detection (POD) values used also consistent with these applications? If not, please provide the POD values used and provide a justification for the acceptability of these values as used in this application.

Response to RAI No. 6

Yes, the POD values used in the Seabrook RI-ISI application were consistent with those POD values used at ANO-2 and Vermont Yankee.