

**North
Atlantic**

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The Northeast Utilities System

September 6, 2002

NYN-02086

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

Seabrook Station
Response to NRC Bulletin 2002-02
“Reactor Pressure Vessel Head and Vessel Head Penetration Nozzle Inspection Programs”


NRC Bulletin 2002-02, “Reactor Pressure Vessel Head and Vessel Head Penetration Nozzle Inspection Programs” dated August 9, 2002, requests Pressurized Water Reactor (PWR) licensees to provide information pertaining to their reactor pressure vessel (RPV) head and vessel head penetration (VHP) nozzle inspection programs to ensure compliance with applicable regulatory requirements. The NRC required that addressees provide written responses to the requested information in accordance with the provisions of 10 CFR 50.54(f) within 30 days of the date of the bulletin.

The North Atlantic Energy Service Corporation (North Atlantic) responses to the requested information are provided in Enclosure 1. Commitments made by North Atlantic in response to this bulletin are provided in Enclosure 2.

Should you have any questions concerning this response, 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

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U. S. Nuclear Regulatory Commission

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

STATE OF NEW HAMPSHIRE

Rockingham, ss.

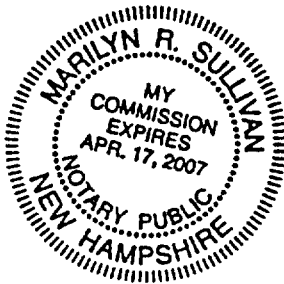
DATE *September 6, 2002*

Then personally appeared before me, the above-named Ted C. Feigenbaum, being duly sworn, did state that he is the Executive Vice President and Chief Nuclear Officer of North Atlantic Energy Service Corporation, that he is duly authorized to execute and file the foregoing information in the name and on the behalf of North Atlantic Energy Service Corporation and that the statements therein are true to the best of his knowledge and belief.

Marilyn R. Sullivan

Marilyn R. Sullivan, Notary Public

My Commission Expires: April 17, 2007



ENCLOSURE 1 TO NYN-02086

North Atlantic Response to NRC Bulletin 2002-02

BACKGROUND INFORMATION

On August 9, 2002, the Nuclear Regulatory Commission (NRC) issued Bulletin 2002-02, "Reactor Pressure Vessel Head and Vessel Head Penetration Nozzle Inspection Programs." This bulletin was issued to advise pressurized water reactor (PWR) licensees that visual examination, as a primary inspection method for the reactor pressure vessel (RPV) head and vessel head penetration (VHP) nozzles, may need to be supplemented with additional measures (e.g., volumetric and surface examinations) to demonstrate compliance with the applicable regulations. This bulletin requests PWR licensees to provide information concerning their RPV head and VHP nozzle inspection programs to ensure compliance with applicable regulatory requirements. The NRC required that addressees provide written responses to the requested information in accordance with the provisions of 10 CFR 50.54(f). Seabrook Station completed a 100% bare head visual examination during refueling outage 08 (May 2002). No head degradation was detected.

REQUESTED INFORMATION

As a result of NRC Bulletin 2002-02, North Atlantic was requested to provide responses the items identified within 30 days of the date of the bulletin. The following information is provided in response to those requests:

ITEM (1) A:

(1) *Within 30 days of the date of this bulletin:*

- A. *PWR addresses who plan to supplement their inspection programs with non-visual NDE methods are requested to provide a summary discussion of the supplemental inspections to be implemented. The summary description should include EDY, methods, scope, coverage, frequencies, qualification requirements, and acceptance criteria.*

RESPONSE TO ITEM (1) A:

North Atlantic will supplement its inspection program with non-visual NDE methods in accordance with the Example Supplemental Inspection program and applicable notes identified in the Discussion Section of NRC Bulletin 2002-02 making use of industry accepted qualification and acceptance criteria. Utilizing the methodology identified in EPRI Report TP-1006284, "PWR Materials Reliability Program Response to NRC Bulletin 2001-01 (MRP-48)," the effective degradation years (EDY) was determined, as of the date of this Bulletin (August 9, 2002), to be 1.80 EDY for Seabrook Station Unit 1. The EDY value was based upon 9.85 effective full power years (EPY) of operation at a reactor vessel head temperature of 559.9 °F.

Therefore, Seabrook Station is considered to be a low susceptibility plant and will perform the following inspections as a plant with <8 EDY:

Inspections	Frequency/Time
100% Ultrasonic Testing of CRDM Nozzle Base Material and;	within 5 years, then at least once every 60 full power months
100% Eddy Current Testing or Dye Penetrant testing of all J-Groove Weld and CRDM Penetration Material Wetted Surfaces and;	within 5 years, then at least once every 60 full power months
100% Bare Metal Visual Examination of CRDM to RPV Junction at Top of RPV Head	within 3 years, then at least once every 60 full power months

ITEM (1) B:

(1) *Within 30 days of the date of this bulletin:*

B. PWR addresses who do not plan to supplement their inspection programs with non-visual NDE methods are requested to provide a justification for continued reliance on visual examinations as the primary method to detect degradation (i.e., cracking, leakage, or wastage). In your justification, include a discussion that addresses the reliability and effectiveness of the inspections to ensure that all regulatory and technical specification requirements are met during the operating cycle, and that addresses the six concerns identified in the Discussion Section of this bulletin. Also include in your justification a discussion of your basis for concluding that unacceptable vessel head wastage will not occur between inspection cycles that rely on qualified visual inspections. You should provide all applicable data to support your understanding of the wastage phenomenon and wastage rates.

RESPONSE TO ITEM (1) B:

This item is not applicable since North Atlantic will supplement the inspection program with non-visual NDE methods. Refer to the response provided to Item (1) A.

ITEM (2) A:

(2) *Within 30 days after plant restart following the next inspection of the RPV head and VHP nozzles to identify the presence of any degradation, all PWR addresses are requested to provide:*

- A. *the inspection scope and results, including the location, size, extent, and nature of any degradation (e.g., cracking, leakage, and wastage) that was detected; details of the NDE used (i.e., method, number, type, and frequency of transducers or transducer packages, essential variables, equipment, procedure and personnel qualification requirements, including personnel pass/fail criteria); and criteria used to determine whether an indication, "shadow," or "blackwall anomaly" is acceptable or rejectable.*

RESPONSE TO ITEM (2) A:

North Atlantic will provide the information requested in Item (2) A within 30 days after plant restart following the next inspection of the RPV head and VHP nozzles to identify the presence of any degradation as specified in the response to Item (1) A. This information will include the details of the inspection scope and results, including the location, size, extent, and nature of any degradation (e.g., cracking, leakage, and wastage) that was detected; details of the NDE used (i.e., method, number, type, and frequency of transducers or transducer packages, essential variables, equipment, procedure and personnel qualification requirements, including personnel pass/fail criteria); and criteria used to determine whether an indication, "shadow," or "blackwall anomaly" is acceptable or rejectable.

ITEM (2) B:

- (2) *Within 30 days after plant restart following the next inspection of the RPV head and VHP nozzles to identify the presence of any degradation, all PWR addresses are requested to provide:*
- B. *the corrective actions taken and the root cause determination for any degradation found.*

RESPONSE TO ITEM (2) B:

North Atlantic will provide the requested information in Item (2) B within 30 days after plant restart following the next inspection as specified in the response provided to Item (1) A, of the RPV head and VHP nozzles to identify the presence of any degradation. This information will include the corrective actions taken and the root cause determination for any degradation found.

ENCLOSURE 2 TO NYN-02086

**North Atlantic Commitments in Response to NRC Bulletin 2002-02
“Reactor Pressure Vessel Head and Vessel Head Penetration Nozzle Inspection Programs”**

Condition Report	Commitment
02-13131	North Atlantic will supplement its inspection in accordance with the time schedule delineated in the Example Supplemental Inspection Program identified in the Discussion Section of NRC Bulletin 2002-02.
02-13131	North Atlantic will provide the requested information in Item (2) A within 30 days after plant restart following the inspections delineated in the Example Supplemental Inspection Program identified in the Discussion Section of NRC Bulletin 2002-02.
02-13131	North Atlantic will provide the requested information in Item (2) B within 30 days after plant restart following the inspections delineated in the Example Supplemental Inspection Program identified in the Discussion Section of NRC Bulletin 2002-02.