



Public Service of New Hampshire

New Hampshire Yankee Division

George S. Thomas
Vice President-Nuclear Production

NYN- 88076

May 27, 1988

United States Nuclear Regulatory Commission
Washington, DC 20555

Attention: Document Control Desk

References: (a) Facility Operating License NPF-56, Construction Permit
CPPR-136, Docket Nos. 50-443 and 50-444

(b) USNRC Generic Letter 88-05, "Boric Acid Corrosion of Carbon
Steel Reactor Pressure Boundary Components in PWR Plants,"
dated February 17, 1988

Subject: Response to Generic Letter 88-05

Gentlemen:

The subject Generic Letter [Reference (b)] requests confirmation that a program has been implemented to address the corrosive effects of PWR Reactor Coolant System leakage at leak rates which are less than technical specification limits. A description of the Seabrook Station program, which addresses each of the specific items listed in Reference (b), is provided as an enclosure to this letter.

New Hampshire Yankee (NHY) believes that this program adequately addresses the concern stated in the Generic Letter by procedures which define the inspection and leakage reduction of systems containing dissolved boric acid. These controls provide additional assurance of Reactor Coolant System pressure boundary integrity and are commensurate with Seabrook Station ALARA objectives.

Should you have any questions regarding this matter, please contact Mr. Richard Belanger at (603) 474-9574, extension 4048.

Very truly yours,

George S. Thomas

8806030284 880527
PDR ADOCK 05000443
P DCD

A001
1/1

STATE OF NEW HAMPSHIRE

Rockingham, ss.

May 27, 1988

Then personally appeared before me, the above-named George S. Thomas who, being duly sworn, did state that he is Vice President - Nuclear Production of Public Service Company of New Hampshire, that he is duly authorized to execute and file the foregoing information in the name and on the behalf of Public Service Company of New Hampshire, and that the statements therein are true to the best of his knowledge and belief.

Beverly E. Silloway
Beverly E. Silloway, Notary Public
My Commission Expires: March 6, 1990

Mr. William T. Russell
Regional Administrator
Region I
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

Mr. Victor Nerses, Project Manager
Project Directorate I-3
Division of Reactor Projects
United States Nuclear Regulatory Commission
Washington, DC 20555

Mr. Antone C. Cerne
NRC Senior Resident Inspector
Seabrook Station
Seabrook, NH 03874

ENCLOSURE TO WYN-88076

Generic Letter 88-05 requests information to assess the operation of PWRs when reactor coolant leaks, below technical specification limits, develop and the coolant containing dissolved boric acid comes in contact with low alloy carbon steel components. A description of the Seabrook Station program for addressing this concern, as outlined by the specific items listed in the Generic Letter, follows.

Item 1:

A determination of the principal locations where leaks that are smaller than the allowable technical specification limit can cause degradation of the primary pressure boundary by boric acid corrosion. Particular consideration should be given to identifying those locations where conditions exist that could cause high concentrations of boric acid on pressure boundary surfaces.

RESPONSE:

The locations of potential pressure boundary leakage that could cause degradation of carbon steel have been identified. In the Containment Building, these locations include the area around the reactor vessel head, steam generator manways, reactor coolant pump cubicles, and reactor coolant valve packing and bonnets. Outside of the Containment Building, NHY procedure EX1801.002, "Leakage Reduction Program Surveillance," provides an extensive matrix of line numbers, locations, and descriptions.

Item 2:

Procedures for locating small coolant leaks (i.e., leakage rates at less than technical specification limits). It is important to establish the potential path of the leaking coolant and the reactor pressure boundary components it is likely to contact. This information is important in determining the interaction between the leaking coolant and reactor coolant pressure boundary materials.

RESPONSE:

Procedure EX1801.002, "Leakage Reduction Program Surveillance," requires periodic inspection, measurement and reduction of leakage in systems outside Containment that may contain primary coolant. This surveillance is performed every eighteen (18) months. The checklist in the procedure provides the matrix described in the response to Item 1 above. This matrix also requires VT-2 qualified personnel to specify satisfactory or unsatisfactory acceptance criteria, list tag ID number of the component and, if applicable, list the associated work request number for corrective action.

Procedure EX1810.101, "Class 1 RC System ISI Functional Test," is utilized to perform the system leakage examination, as required by ASME Section XI. This test is performed at normal operating pressure prior to plant startup following each reactor refueling outage, and addresses those locations inside Containment listed in the response to Item 1.

A third procedure, EX1801.006, will be developed to inspect the containment reactor coolant pressure boundary items listed in the response to Item 1 above. This inspection will be performed during shutdowns when the unit is in Mode 5, and when the inspections required by procedure EX1810.101 are not required to be performed. This procedure will be developed prior to power operation.

Item 3:

Methods for conducting examinations and performing engineering evaluations to establish the impact on the reactor coolant pressure boundary when leakage is located. This should include procedures to promptly gather the necessary information for an engineering evaluation before the removal of evidence of leakage, such as boric acid crystal buildup.

RESPONSE:

Procedures discussed in the response to Item 2 provide the method for conducting examinations. Examiners qualified to the requirements of VT-2 address acceptance criteria only. Failure to meet the acceptance criteria would require a work request for cleanup and corrective action. The work request process requires a technical evaluation prior to the start of work activities. This evaluation will address the need for any corrective action or modifications, and will provide for inspection of the affected area prior to the initiation of any cleaning activities.

Item 4:

Corrective actions to prevent recurrences of this type of corrosion. This should include any modifications to be introduced in the present design or operating procedures of the plant that (a) reduce the probability of primary coolant leaks at the locations where they may cause corrosion damage and (b) entail the use of suitable corrosion resistant materials or the application of protective coatings/claddings.

RESPONSE:

At this time we do not plan to modify the present plant design or operating procedures except as described above. Procedures described in the response to Item 2 are intended to provide timely identification of leakage. The work request process provides for engineering evaluation and corrective action as appropriate to repair leaks and to prevent recurrence. It also provides engineering evaluation of existing design and materials on an ongoing basis.