

NORTHEAST UTILITIES



THE CONNECTICUT LIGHT AND POWER COMPANY
THE HARTFORD ELECTRIC LIGHT COMPANY
WESTERN MASSACHUSETTS ELECTRIC COMPANY
HOLYOKE WATER POWER COMPANY
NORTHEAST UTILITIES SERVICE COMPANY
NORTHEAST NUCLEAR ENERGY COMPANY

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April 21, 1980

Docket No. 50-245

Mr. Boyce H. Grier, Director
Region 1
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

- References:
- (1) B. H. Grier letter to W. G. Council dated January 21, 1980, transmitting I&E Bulletin No. 80-02.
 - (2) D. C. Switzer letter to D. J. Skovholt dated December 19, 1972, transmitting "Chloride Intrusion Incident", Special Report.
 - (3) D. C. Switzer letter to D. J. Skovholt dated June 12, 1973, transmitting "Feedwater Sparger Failure, Interim Report".

Gentlemen:

Millstone Nuclear Power Station, Unit No. 1
Response to I&E Bulletin No. 80-02

This letter responds to I&E Bulletin No. 80-02, and also summarizes a meeting of April 16, 1980, held in the NRC's offices in Bethesda, Maryland, to review the quality assurance aspects of the feedwater spargers planned for use in Millstone Unit No. 1. The responses to the bulletin items are attached. Representatives of Northeast Nuclear Energy Company (NNECO) and General Electric Company (GE) met with the Staff on April 16, 1980, to review our planned response to these items. Also attached are the slides used during the meeting.

In summary, feedwater spargers manufactured by the Marvin Engineering Company have not been used at Millstone Unit No. 1. During the fall, 1980 refueling outage, new triple-sleeve, double piston-ring, interference fit spargers manufactured by Marvin will be installed. The program described in

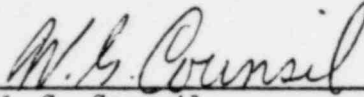
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the attached response to Item 3 (and also discussed at the meeting) will provide spargers with more than adequate quality to ensure safe operation.

Should you have any questions, please contact us.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY



W. G. Council
Vice President

Attachment

ATTACHMENT

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 1

RESPONSE TO I&E BULLETIN NO. 80-02

APRIL, 1980

Item 1.a.

Have reactor feedwater spargers and thermal sleeves manufactured and/or fabricated by the Marvin Engineering Company been purchased and/or installed in your facility? Since Marvin Engineering is principally a subcontracting company, determine if your equipment originated with the Marvin Company and was eventually supplied to your facility through another contractor/supplier.

Response

Feedwater spargers and thermal sleeves were ordered from General Electric Company on October 24, 1978, for installation at Millstone Unit No. 1. This hardware fabrication was completed by Marvin Engineering. Northeast Utilities has not yet received this hardware, but at this time, anticipates receipt by the September, 1980 refueling outage. Our intention is to install this hardware during the September, 1980 outage. Neither the existing spargers and thermal sleeves nor any others previously installed in Millstone Unit No. 1 were manufactured by Marvin Engineering Company.

Item 1.b.

Provide a description of this equipment to include its purchase date and its design function during both normal and accident conditions.

Response

The feedwater spargers ordered in October, 1978, provide mechanical means to equally distribute the returning condensate within the reactor vessel. The feedwater flow is divided equally among four spargers located every 90 degrees around the reactor vessel circumference.

The feedwater coolant injection system (FWCI) is the high pressure ECCS system at Millstone Unit No. 1, which will supply make-up water into the reactor vessel in the event of a loss-of-coolant accident. FWCI is designed primarily for a small break in the reactor coolant system.

A safety evaluation of a sparger failure from incipient through complete failure was given in References (1) and (2). In these references, the safety consequences of the following events were considered:

- (1) Fuel bundles flow blockage by small pieces;
- (2) Damage of ECCS core spray line due to a broken sparger falling against it;
- (3) Damage to the jet pump from a falling sparger;
- (4) Disengagement of the thermal sleeve from the feedwater nozzle; and
- (5) Operation of the FWCI subsystem with a failed feedwater sparger.

There are no major changes in the new sparger from the previous designs that could alter the conclusion that the safety consequences of a feedwater sparger failure are acceptable.

In summary, the ability to inject high pressure ECCS following a LOCA would not be compromised by sparger failure.

Item 2

For each piece of identified equipment, provide the performance history associated with its usage. This should include the cause of any failures or malfunctions and the frequency of such events.

Response

The hardware in question has not yet been installed, thus, no performance history is available.

Item 3

Provide information on the supplier's and receiver's QA/QC program in effect at the time of purchase. This information should be discussed in terms of it providing sufficient bases for judging that the integrity of the equipment is sufficient to permit plant operation during normal and accident conditions.

Response

The supplier's QA program has been shown acceptable, but his compliance to this program in the Millstone Contract is known to be deficient. In an effort to quantify the implications of the deficiencies, a complete audit and records' review is being done at Marvin Engineering. Those items known now to be suspect are:

- (1) Control of Weld Procedures
- (2) Qualification of Welders
- (3) In-Process Inspection
- (4) Material Traceability
- (5) Weld Material

In order to assure no degradation of hardware due to Items 1 - 3, all structural welds in the sparger assembly will be radiographed and L.P. examined. Indications will be evaluated and repaired as required in accordance with approved procedures.

Material which is not traceable will be tested or replaced, thus, traceability will be assured for all material. The weld material will be identified initially by the records' review at Marvin. By means of this review, we

will identify what weld materials were available for use at Marvin, and by metallographic examination, we will further identify the weld material. Once this identification is completed, an engineering evaluation will be made of its acceptability.

We feel that upon completion of this program, the sparger assemblies for Millstone will be of more than adequate quality to assure safe operation in normal and accident conditions.

We have reviewed GE's program to ensure it provides the necessary monitoring of Marvin's implementation of their own QA program and the acceptability of that program. Final acceptance of the spargers for installation at Millstone will be conditional upon the resolution of all findings from our scheduled audits/surveillance of Marvin Engineering and GE's programs.