

NORTHEAST UTILITIES



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

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April 9, 1984

Docket No. 50-423
B11121

Director of Nuclear Reactor Regulation
Mr. B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Reference: B. J. Youngblood letter to W. G. Council, Draft SER, dated
December 20, 1983.

Gentlemen:

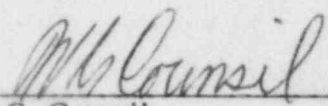
Millstone Nuclear Power Station, Unit No. 3
Response to Chemical Engineering Branch DSER Open Item

Attached is Northeast Nuclear Energy Company (NNECO) response to the Chemical Engineering Branch DSER open item CMEB01(#90) concerning the Post Accident Sampling System (PASS), contained in the above reference. We expect this response will resolve the Staff's concerns regarding the open item.

If there are any questions, please contact our licensing representative.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY



W. G. Council
Senior Vice President

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STATE OF CONNECTICUT)
) ss. Berlin
COUNTY OF HARTFORD)

Then personally appeared before me W. G. Counsil, who being duly sworn, did state that he is Senior Vice President of Northeast Nuclear Energy Company, an Applicant herein, that he is authorized to execute and file the foregoing information in the name and on behalf of the Applicant herein and that the statements contained in said information are true and correct to the best of his knowledge and belief.

Lerrain J. D'Amico
Notary Public

My Commission Expires March 31, 1988

Open Item
Chemical Engineering Branch

CMEB01 Post Accident Sampling System, Draft SER 9.3.2.2

The staff concludes that the postaccident sampling system meets 5 of the 11 criteria in Item ILB.3 of NUREG-0737. Additional information is needed to complete the staff's review of the remaining six criteria:

- (1) Provide for an alternate power source during loss of offsite power to meet the 3-hour sampling and analysis time limit.
- (2) Provide a plant-specific procedure to estimate the extent of core damage.
- (4) Provide for direct monitoring for dissolved oxygen within 30 days consistent with ALARA.
- (8) Make provisions for a licensed shipping container to transport samples to the Haddam Neck Plant.
- (10) Provide information on performance of the PASS instrumentation and analytical procedures in an accident environment. Clarify gross activity and gamma spectrum accuracy. Justify that annual training is sufficient for PASS operators to be adequately prepared to obtain and analyze PASS samples.
- (11) Provide for obtaining a representative sample from containment atmosphere sample lines.

Responses

Criterion 1

An alternate IE power source will be available during a loss of offsite power to meet the 3-hour sampling and analysis time limit.

Criterion 2

Plant-specific procedures to estimate the extent of core damage will be generated by Radiological Engineering and available by September 1, 1984.

Criterion 4

Direct monitoring for dissolved oxygen will be provided by an oxygen measuring system by ORBISPHERE.

Criteria 8

This requirement is applicable only to licensees who perform PASS analysis on-line. A MP-3 reactor coolant sample will be analyzed in the MP-3 chemistry laboratory. The backup chemical and radiochemical analysis will be performed on site in the chemistry laboratory for MP-1 and MP-2.

Criteria 10

It is our position that the accuracies recommended in the clarification are achievable during normal conditions but not during post accident conditions. Accuracies and ranges that we conclude are appropriate in post accident conditions are listed below.

- o Gross activity, gamma spectrum: A reasonable accuracy is a factor of two (2).
- o Boron: ± 50 ppm below 1000 ppm and $\pm 5\%$ above
- o Chloride: $\pm 10\%$ for concentrations between 0.5 and 20.0 ppm and $\pm 20\%$ between 50 and 2000 cc/kg and ± 10 cc/kg from 50 to 30cc/kg, the lower level of detection for our system.
- o Total gas: $\pm 20\%$ between 50 and 2000 cc/kg and ± 10 cc/kg from 50 to 30cc/kg, the lower level of detection for our system.
- o Oxygen: $\pm 10\%$ between 0.5 and 20.0 ppm and ± 0.05 ppm below 0.5 ppm.
- o PH: ± 0.3 pH units between 5 and 9, ± 0.5 pH units for other ranges.

The analytical instrumentation selected for post accident sampling (i.e. ICP-AA 5000, Gas Chromatograph and EGG Polographic Analyzer model 384-4) was chosen for its ability to operate in the post accident sampling environment. These instruments were tested satisfactorily using the standard test matrix.

PASS operator training is consistent with emergency plant training and shall be performed annually. Technical Specifications regarding the PASS will be submitted as requested per Generic Letter No. 83-37.

Criterion (11):

The containment air sample takes suction from the Hydrogen Recombiner supply lines which are heat traced so that plateout of iodine in the containment air sample should not be a problem.