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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July 5, 1985

Docket Nos. 50-213
50-245
B11586

Director of Nuclear Reactor Regulation
Attn: Mr. John A. Zwolinski, Chief
Operating Reactors Branch #5
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

References: (1) W. A. Paulson letter to W. G. Counsil, dated July 30, 1984.

(2) W. G. Counsil letter to W. A. Paulson, dated October 24, 1984.

(3) W. G. Counsil letter to D. M. Crutchfield, dated July 17, 1984.

Gentlemen:

Haddam Neck Plant
Millstone Nuclear Power Station, Unit No. 1
NUREG-0737, II.F.1 Items

In Reference (1), the NRC Staff forwarded a Safety Evaluation regarding Item II.F.1.6 in NUREG-0737, Containment Hydrogen Monitoring System, for Millstone Unit No. 1. This Safety Evaluation concluded that our containment hydrogen monitoring system meets all the criteria of Item II.F.1.6, except the redundancy criterion. We responded to the NRC Staff's Safety Evaluation via Reference (2) and provided justification for our single channel monitor. As a result of the NRC Staff's review of Reference (2), we were requested to submit additional information. This information will be provided to the NRC Staff no later than August 30, 1985.

Section 5.0 of the NRC Staff's Safety Evaluation noted that we would document our telephone conversations with the NRC Staff regarding Item II.F.1.6. We acknowledged in Reference (2) our intention to document these conversations and to clarify a few items contained in the subject Safety Evaluation. The purpose of this submittal is to provide that information and also to document similar telephone conversations regarding Items II.F.1.4, Containment Pressure Monitoring System, and II.F.1.5, Containment Water Level Monitoring System, for the Haddam Neck Plant. This information can be found in Attachments No. 1 and No. 2 for Millstone Unit No. 1 and the Haddam Neck Plant, respectively.

Although our telephone discussions with the NRC Staff also related to Item II.F.1.6, Containment Hydrogen Monitoring System, for the Haddam Neck

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Plant, we believe it is premature to document these discussions since this system has not been installed and is currently included in the Integrated Safety Assessment Program (ISAP). Inclusion in this submittal of that information would simply be a documentation of past plans. Our plans related to Item II.F.1.6 for the Haddam Neck Plant will be provided to the NRC Staff as part of the ISAP process.

Should you have any questions, please feel free to contact us.

Very truly yours,

CONNECTICUT YANKEE ATOMIC POWER COMPANY
NORTHEAST NUCLEAR ENERGY COMPANY

J. F. Opeka
Senior Vice President

Docket No. 50-245

Attachment No. 1

Millstone Nuclear Power Station, Unit No. 1

Containment Hydrogen Monitoring System

July, 1985

CONTAINMENT HYDROGEN MONITORING SYSTEM (CHMS)

(1) The Millstone Unit No. 1 CHMS has only one channel.

(2) The CHMS consists of a Comsip Delphi Model K-4 Thermal Conductivity Hydrogen and Oxygen Analyzer with various remote readouts and controls. The K-4 has two parallel circuits within the unit so that both hydrogen and oxygen concentrations can be measured simultaneously.

(3) The K-4 has two hydrogen ranges: 0% to 10% and 0% to 30%, and two oxygen ranges: 0% to 10% and 0% to 25%. The K-4 is currently set at the 0% to 10% ranges for both hydrogen and oxygen concentration.

(4) The K-4 has indicator readouts for hydrogen and oxygen attached to the K-4 unit itself. The hydrogen and oxygen concentrations are also displayed on a recorder-indicator in the control room. The K-4 remote control panel is located in the computer room which is about 100 feet from the control room. The remote control panel has indicator readouts for hydrogen and oxygen and enough control and calibration capability to perform a channel calibration of the K-4.

(5) The K-4 analyzer is located in the reactor building about 300 feet from the control room.

(6) Using any of the readout devices, the accuracy of the CHMS is ±5% of scale for both hydrogen and oxygen.

(7) The CHMS has three sample ports, one at the top of the torus, a second low in the drywell and the third high in the drywell. The CHMS has valving to sample from any of the three ports, with the valve positions controlled from the control room.

(8) Both the hydrogen and oxygen portions of the CHMS can be calibrated in about 3 to 4 hours. During our telephone conversations we had indicated that this could be accomplished within about 15 minutes. However, due to the use of new catalyst beds, calibration time has increased. Plant procedures currently require that channel calibration be performed weekly. This frequency may be decreased depending upon the results obtained.

Clarification of Items Contained in the NRC Staff's Safety Evaluation, Dated July 30, 1984

Section 3.1:

The Comsip Delphi analyzer, which utilizes hydrogen and oxygen as reagent gases, is used during normal operation to determine the oxygen concentration within the drywell in accordance with Technical Specification 4.7.A.6. During normal operation, effluents from this analyzer are released to the Millstone Unit No. 1 stack. However, during post-LOCA operation this system becomes a closed system and the reagent gases are released to the containment. Accordingly, when this system is utilized post-LOCA to measure containment hydrogen and oxygen concentrations, limited amounts of oxygen and hydrogen will be released to the containment. We indicated in Reference (3) that duty cycles for the operation of this system would be established such that these

additional post-LOCA oxygen and hydrogen sources would have a negligible effect on our previously docketed combustible gas control evaluation. Analysis showed that this criterion could be met with a 100% duty cycle for up to seven (7) days following initiation of an event and a long-term duty cycle of 25%. It was decided, however, that an acceptable alternative to specifying duty cycles was to procedurally designate a maximum allowable containment oxygen concentration (i.e., 4.5%) for which the equipment could be used. This approach was considered acceptable because it restricts monitor use to below a specific limit and provides a clear limit for specifying operator action. Whenever continuous operation of the analyzer would no longer be allowed, periodic use of the analyzer and/or the Post-Accident Sampling System could be utilized to determine containment hydrogen and oxygen concentrations.

Section 3.5:

NNECO currently has no plans to convert to Standard Technical Specifications for Millstone Unit No. 1. In addition, based upon the function of the hydrogen/oxygen analyzer during accident conditions as described in Reference (2), we do not currently plan to propose any technical specification changes regarding this analyzer.

The ability to calibrate each hydrogen and oxygen channel within about three (3) to four (4) hours, as opposed to fifteen (15) minutes, is discussed above.

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Attachment No. 2

Haddam Neck Plant

Containment Pressure Monitoring System
Containment Water Level Monitoring System

July, 1985

CONTAINMENT PRESSURE MONITORING SYSTEM (CPMS)

(1) The two CPMS channels are essentially identical.

(2) The containment is concrete with a design pressure of 40 psig. The range of the CPMS is -5 to 120 psig.

CONTAINMENT WATER LEVEL MONITORING SYSTEM (CWLMS)

(1) The two CWLMS channels are essentially identical.

(2) At the Haddam Neck Plant, the total available water supply that could flood the containment is 375,000 gallons. Nevertheless, the as-built CWLMS has a range of 600,000 gallons as suggested by NUREG-0737, which corresponds to measuring water to a height of seven (7) feet inside containment.