

# NORTHEAST UTILITIES



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

General Offices • Selden Street, Berlin, Connecticut

P.O. BOX 270  
HARTFORD, CONNECTICUT 06101  
(203) 666-6911

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Director of Nuclear Reactor Regulation  
Attn: Mr. Robert A. Clark, Chief  
Operating Reactors Branch #3  
Mr. Dennis M. Crutchfield, Chief  
Operating Reactors Branch #5  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555

- References:
- (1) E. L. Conner letter to W. G. Council, dated May 14, 1982.
  - (2) W. G. Council letter to D. G. Eisenhut, dated June 10, 1982.

Gentlemen:

HADDAM NECK PLANT  
MILLSTONE NUCLEAR POWER STATION, UNIT NOS. 1 AND 2  
REVIEW OF CONFERENCE CALLS  
NUREG-0737 ITEMS II.F.1.4, II.F.1.5 AND II.F.1.6

In Reference (1), records of telephone conversations between our respective Staffs were transmitted to Connecticut Yankee Atomic Power Company (CYAPCO) and Northeast Nuclear Energy Company (NNECO) for review. These conversations related to the containment pressure monitor, water level monitors and hydrogen monitors installed at the Haddam Neck Plant, Millstone Unit No. 1 and Millstone Unit No. 2 in accordance with NUREG-0737 Action Items II.F.1.4, II.F.1.5 and II.F.1.6.

CYAPCO and NNECO have reviewed the records of the phone conversations included in Reference (1) and provide the following corrected information.

HADDAM NECK PLANT

Question 1

The review we are discussing is the Containment Systems Branch (CSB) part of the total review discussed in NUREG-0737. The CSB review consists of all items discussed under "Position" and "Clarification" except the review of compliance to the Appendix B criteria, and the review of the measurement system completion dates. In the submittals we received to date, you have not indicated that you plan to take exception to any of the NUREG-0737 criteria in our area of review. Are you planning any exceptions in our area of review of which we are not aware?

Response

The information documented in Reference (1), in response to Question 1 is correct for NUREG-0737 Items II.F.1.4, II.F.1.5 and II.F.1.6. Subsequent to those conversations, however, CYAPCO and NNECO have been re-evaluating the recommendation for hydrogen monitoring in the containment at the Haddam Neck Plant and in the dry-well at Millstone Unit No. 1. Additional information concerning CYAPCO's and NNECO's positions regarding item II.F.1.6 of NUREG-0737 is provided in Reference (2).

Question 2

What is the accuracy of your pressure monitor? State this for both the indicator and the recorder.

Response

The information concerning the containment pressure monitor at the Haddam Neck Plant is correct with the exception of the listed component accuracies. The following information is provided:

Transmitter:	$\pm 1.0\%$ of Span *	Dead Band = $\pm 0.05\%$ **
Recorder:	$\pm 2.0\%$ of Span *	Dead Band = $\pm 0.25\%$ **

Accuracy: = RSS (1.0%, 2.0%) + 0.05% + 0.25% =  $\pm 2.5\%$  of Span \*

\* At operating conditions

\*\* Manufacturers Specification -will not be verified at the plant.

RSS is root-sum-square

Question 4

What is the accuracy of your water level monitor? State this for both the wide range instrument and the narrow range instrument.

Response

The accuracies of the components and the overall containment water level monitor at the Haddam Neck Plant are listed below:

Sump Transmitter:                     $\pm 1.0\%$  of Span \*  
(narrow range)

Containment Transmitter:         $\pm 1.19\%$  of Span \*  
(wide range)

Indicators:                             $\pm 2.0\%$  of Span \*

\*     At operating conditions

Question 7

What is the accuracy of your hydrogen monitor?

Response

The original hydrogen monitors possessed insufficient qualification data and are currently undergoing qualification inspection by the vendor. As discussed in Response to Question 1, CYAPCO is re-evaluating the recommendation of Item II.F.1.6 of NUREG-0737. Additional information regarding this Action Item is contained in Reference (2).

MILLSTONE UNIT NO. 1

Question 1

The review we are discussing is the Containment Systems Branch (CSB) part of the total review discussed in NUREG-0737. The CSB review consists of all items discussed under "Position" and "Clarification" except the review of compliance to the Appendix B criteria, and the review of the measurement system completion dates. In the submittals we received to date, you have not indicated that you plan to take exception to any of the NUREG-0737 criteria in our area of review. Are you planning any exceptions in our area of review of which we are not aware?

Response

The Staff is referred to the Response to Question 1 for the Haddam Neck Plant

Question 2

What is the accuracy of your pressure monitor? State this for both the indicator and the recorder.

Response

The Millstone Unit No. 1 pressure monitor system has one readout device, the strip chart recorder in the control room, which also serves as an indicator. The vendor provided accuracy for the system components are as follows:

Transmitter = + 0.25% of Span	Transmitter repeatability = 0.1%
Recorder = + 0.5% of Span	Recorder Deadband = 0.25%

Question 4

What is the accuracy of your water level monitor? State this for both the wide range instrument and the narrow range instrument.

Response

At Millstone Unit No. 1, there is both a Narrow Range (NR) and a Wide Range (WR) water level monitor in the torus. The NR system has only one readout device, an indicator in the control room. Each redundant WR system has one readout device, a strip chart recorder in the control room, which also serves as an indicator.

The accuracy parameters for the system components are as follows:

NR System: Transmitter = + 0.5%	NR Indicator = + 2.0%
WR System: Transmitter = + 0.25%	WR Recorder = + 0.5%
	Recorder Deadband = 0.25%

QUESTION 7

What is the accuracy of your hydrogen monitor?

Response

The original hydrogen monitors possessed insufficient qualification data and are currently undergoing qualification inspection by the vendor. As discussed in Response to Question 1, NNECO is re-evaluating the recommendation of Item II.F.1.6 of NUREG-0737. Additional information regarding this Action Item is contained in Reference (2).

MILLSTONE UNIT NO. 2

Question 2

What is the accuracy of your pressure monitor? State this for both the indicator and the recorder.

Response

The accuracy of the components of the pressure monitoring system at Millstone Unit No. 2 are listed below:

Transmitter = $\pm 0.5\%$ of Span	Transmitter Deadband = $0.5\%$ of Span
Recorder = $\pm 0.5\%$	Recorder Deadband = $0.25\%$

Question 4

What is the accuracy of your water level monitor? State this for both the wide range instrument and the narrow range instrument.

Response

The component and system accuracies for the water level monitors at Millstone Unit No. 2 are listed below:

Sump Transmitter:  $\pm 0.5\%$  Indicator =  $\pm 2.0\%$  of Span  
(narrow range)

Containment Transmitter:  $\pm 1.19\%$  Indicator =  $\pm 1.0\%$  of Span  
(wide range)

The containment transmitter is accurate to  $\pm 1$  inch over an 84-inch span. This system will be calibrated to  $\pm 6$  inches.

Sump water level monitor: RSS (0.5%, 2.0%) =  $\pm 2.06\%$   
Containment Water Level Monitor: RSS (1.19%, 1.0%) =  $\pm 1.55\%$

Question 5

Where are the hydrogen sample ports placed?

Response

There are 2 hydrogen sample ports placed at the suction of the containment post incident hydrogen control recirculating fans which draw samples from the dome of the containment. Sample points are so placed to minimize sample transit time.

Question 6

Is there any obstruction which would prevent hydrogen escaping from the core, from reaching the hydrogen sample ports quickly?

Response

The hydrogen monitor sample ports are located on the post incident hydrogen control system. The vent and suction lines for the post incident hydrogen control fans isolate as part of the containment isolation scheme. The containment isolation set point is 4.75 psig. These valves can be manually reset to open.

Question 7

What is the accuracy of your hydrogen monitor?

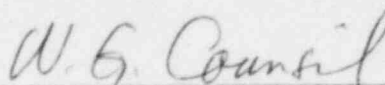
Response

The accuracy of the hydrogen monitor at Millstone Unit No. 2 is + 5% of Span.

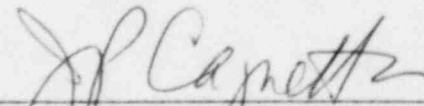
We trust you find this information clarifies that provided in Reference (1).

Very truly yours,

CONNECTICUT YANKEE ATOMIC POWER COMPANY  
NORTHEAST NUCLEAR ENERGY COMPANY



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W. G. Council  
Senior Vice President



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By: J. P. Cagnetta  
Vice President Nuclear and  
Environmental Engineering