



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

May 7, 1980

Docket No. 50-213

Mr. W. G. Council, Vice President  
Nuclear Engineering and Operations  
Connecticut Yankee Atomic Power Company  
Post Office Box 270  
Hartford, Connecticut 06101

Dear Mr. Council:

On October 14, 1979 we advised you of our requirements for the auxiliary feedwater systems at the Haddam Neck Plant. These requirements were identified during the course of the NRR Bulletins and Orders Task Force review of operating reactors, following the accident at Three Mile Island, Unit 2.

We are in the process of reviewing your response, dated December 4, 1979, to these requirements, and have identified several areas in which we have concluded that further action by you is required. The attachment to this letter details the status of our review and describes those open items which require an additional response from you.

We request that you re-evaluate your response in light of our comments and that you submit this evaluation and an associated schedule and commitment for implementation of required changes or actions for NRC staff review within thirty days of receipt of this letter. If you have any questions, please contact us.

Sincerely,

*Dennis M. Crutchfield*

Dennis M. Crutchfield, Chief  
Operating Reactors Branch #5  
Division of Licensing

Attachment:  
As stated

cc w/enclosure:  
See next page

THIS DOCUMENT CONTAINS  
POOR QUALITY PAGES

8005290331

Mr. W. G. Council

-2-

May 7, 1980

cc

Day, Berry & Howard  
Counselors at Law  
One Constitution Plaza  
Hartford, Connecticut 06103

Superintendent  
Haddam Neck Plant  
RFD #1  
Post Office Box 127E  
East Hampton, Connecticut 06424

Mr. James R. Himmelwright  
Northeast Utilities Service Company  
P. O. Box 270  
Hartford, Connecticut 06101

Russell Library  
119 Broad Street  
Middletown, Connecticut 06457

Board of Selectmen  
Town Hall  
Haddam, Connecticut 06103

Connecticut Energy Agency  
ATTN: Assistant Director  
Research and Policy  
Development  
Department of Planning and  
Energy Policy  
20 Grand Street  
Hartford, Connecticut 06106

Director, Technical Assessment  
Division  
Office of Radiation Programs  
(AX-459)  
U. S. Environmental Protection  
Agency  
Crystal Mall #2  
Arlington, Virginia 20450

U. S. Environmental Protection  
Agency  
Region I Office  
ATTN: EIS COORDINATOR  
JFK Federal Building  
Boston, Massachusetts 02203

Auxiliary Feedwater System Requirements  
Haddam Neck Plant  
Docket No. 50-213

A. Short Term Recommendations

1-4. Recommendation GS-1 thru 5

Your response to these recommendations are acceptable.

5. Recommendation GS-6

Your response to this recommendation is only partially acceptable. We require that each auxiliary feedwater train have two operators verify proper valve alignment following periodic testing or maintenance. Revise your procedures as necessary to meet this requirement.

6. Recommendation GS-8

Your responses to this recommendation is under review. We will provide the results of our review at a later date.

7. Recommendation (Plant Specific X.5.3.1.(7))

Your response to this request is acceptable.

B. Additional Short Term Recommendations

1. Your response to this recommendation is not sufficient. We require the new level indications to include redundancy from the detectors to the level

indications inside the control room plus redundant power supplies at least one of which is battery backed.

2. We have revised this recommendation such that a 48-hour pump endurance test is required rather than a 72-hour test. You should follow the enclosed revised Additional Short Term Recommendation No. 2 and provide the requested information. If, as you indicate in your response, your AFW pumps have already been operated for time periods that could be considered adequate for an endurance test, identify the length of time and respond to the requested information in the enclosure to the extent possible with your existing information. If no information is available, take the requested data at the next anticipated long-term continuous run and submit the data for our review.
3. Your response to this recommendation is being reviewed by the Lessons Learned Implementation Task Force.
4. Your response to this recommendation is acceptable.

C. Long Term Recommendations

1. Recommendation GL-2

Your response to this recommendation is not acceptable. Our recommendation was not based solely on a passive piping system failure which is the basis for your response. Our recommendation was also based on failure of the single manual valve or any other event that could result in flow blockage. You should either provide a redundant path from the tank or provide an alternate long term source of water to the pumps.

2. Recommendation GL-5

Your response to this recommendation is currently under review.

3. Recommendation (Plant Specific)

Your response to this recommendation is acceptable pending our acceptance of your alternate method of cooldown.

4 & 5. Recommendation (Plant Specific)

These items will be reviewed under the Systematic Evaluation Program.

D. Basis for Auxiliary Feedwater System Flow Requirements (Enclosure 2)

Your May 15, 1980 commitment date to respond to this enclosure is acceptable.

Revision to Recommendation No. 2 of "Additional Short Term Recommendations" Regarding Auxiliary Feedwater Pump Endurance Test

The licensee should perform an endurance test on all AFW system pumps. The test should continue for at least 48 hours after achieving the following test conditions:

- Pump/driver operating at rated speed

and

- Pump developing rated discharge pressure and flow or some higher pressure at a reduced flow but not exceeding the pump vendor's maximum permitted discharge pressure value for a 48-hour test

- For turbine drivers, steam temperature should be as close to normal operating steam temperature as practicable but in no case should the temperature be less than 400°F.

Following the 48-hour pump run, the pumps should be shut down and allowed to cool down until pump temperatures reduce to within 20°F of their values at the start of the 48-hour test and at least 8 hours have elapsed.

Following the cool down, the pumps should be restarted and run for one hour. Test acceptance criteria should include demonstrating that the pumps remain within design limits with respect to bearing/bearing oil temperatures and vibration and that ambient pump room conditions (temperature, humidity) do not exceed environmental qualification limits for safety-related equipment in the room.

The licensee should provide a summary of the conditions and results of the tests. The summary should include the following: 1) A brief description of the test method (including flow schematic diagram) and how the test

was instrumented (i.e., where and how bearing temperatures were measured).

- 2) A discussion of how the test conditions (pump flow, head, speed and steam temperature) compare to design operating conditions.
- 3) Plots of bearing/bearing oil temperature vs. time for each bearing of each AFM pump/driver demonstrating that temperature design limits were not exceeded.
- 4) A plot of pump room ambient temperature and humidity vs. time demonstrating that the pump room ambient conditions do not exceed environmental qualification limits for safety-related equipment in the room.
- 5) A statement confirming that the pump vibration did not exceed allowable limits during tests.