



George S. Thomas
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Public Service of New Hampshire

New Hampshire Yankee Division

NYN-88084

June 17, 1988

United States Nuclear Regulatory Commission
Washington, DC 20555

Attention: Document Control Desk

- References:
- (a) Facility Operating License NPF-56, Docket No. 50-443
 - (b) USNRC Letter, dated February 3, 1987, "Inspection Report No. 50-443/86-54," E. C. Wenzinger to R. J. Harrison
 - (c) PSNH Letter (NYN-87013), dated February 9, 1987, "Request for Additional Information," G. S. Thomas to the USNRC
 - (d) PSNH Letter (NYN-87024), dated March 2, 1987, "Response to Inspection Report No. 50-443/86-54," G. S. Thomas to the USNRC
 - (e) PSNH Letter (NYN-88007), dated January 22, 1988, "Proposed Modification to Control Building HVAC (CBA) System," G. S. Thomas to the USNRC

Subject: Request for Additional Information: Proposed Modification to Control Building HVAC (CBA) System

Gentlemen:

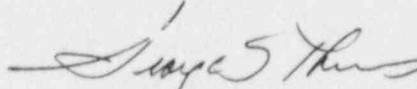
In Reference (e), New Hampshire Yankee (NHY) provided details of a proposed modification to the Control Building HVAC (CBA) System for NRC review prior to implementation. Additional information was provided during a telephone conversation on March 1, 1988. Enclosure 1 documents the additional information provided in this conversation and supplements our previous submittals. It is requested that the NRC Staff evaluate and provide concurrence by June 30, 1988, to support the present schedules and commitments to implement the modification.

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Should you have any questions regarding this information, please contact Mr. Warren J. Hall at (603) 474-9574, extension 4046.

Very truly yours,


George S. Thomas

Enclosure

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BACKGROUND

On January 22, 1988, New Hampshire Yankee (NHY) submitted a proposed modification to the Control Building HVAC (CBA) System for NRC review. As a result of this submittal, the NRC posed several questions regarding the CBA System operation. These questions were addressed on March 1, 1988 during a telephone conversation between representatives of the NRC Staff and New Hampshire Yankee.

DISCUSSION

The Control Room Makeup Air Subsystem of CBA is constructed of 12-inch Schedule 40 pipe to minimize system leakage. New bypass piping and parallel back-draft dampers have been added around the normal makeup air supply fans and associated discharge dampers to guarantee a flow path during emergency modes of operation. The bypass piping and back-draft dampers, located outside of the Control Room complex, and those portions of the system located inside the Control Room Complex (i.e., filters, fans, discharge dampers, etc) are maintained at a negative pressure during emergency conditions. The fact that the filter units are maintained at a negative pressure ensures that any system in-leakage is filtered prior to being discharged into the Control Room Complex. Each outside makeup air intake valve remains in a throttled open position for both the normal and emergency modes of operation.

In the event of a failure of either Vital Bus E5 or E6, the operating supply fan that is being powered from the failed vital bus will shut down and the opposite train damper will close resulting in a temporary loss of Control Room positive pressure. Manual actuation, from the Control Room, of the filter train powered from the unaffected bus will re-establish positive pressure using the bypass piping. The unaffected filter train would also automatically start on a high radiation or "S" signal. Therefore, Control Room pressurization will not be compromised in the case of a vital bus failure combined with a design basis accident.

The new design eliminates the need for a purging operation since both intakes remain in a throttled open position; hence, the purge lines will be capped off and their associated purge valves removed.

The calculated Control Room complex outleakage with the Control Room Exhaust and Static Pressure Control Subsystem fully isolated during emergency conditions is 165 cfm at a pressure of (+) 1/8" W.G. The nominal makeup air flow rate with the Emergency Makeup Air and Filtration Subsystem operating during emergency conditions is 600 cfm. Adjustments will be made during preoperational system balancing to ensure that the excess makeup air flow will not cause unacceptably high Control Room complex pressures and will still satisfy all associated design requirements.

ENCLOSURE 1 TO NYN-88084
(Continued)

The effects of toxic chemicals on Control Room habitability are described in FSAR Sections 2.2.3.1 and 6.4.9.2. As a result of a recent offsite fire, NHY is reevaluating nearby offsite industrial toxic chemical sources and transportation routes relative to any potential negative effects on Control Room habitability. Final results of the updated offsite chemical hazards reevaluation will be provided to the NRC Staff as soon as they become available.

The proposed modification has been reviewed against Section II.B of Appendix R to 10CFR50 and Section A.2 of Appendix A to BTP APCSB 9.5-1 to ensure that the proposed changes do not invalidate previous commitments or reduce existing design features.

Each filter unit (CBA-F-38 and -8038) is located within the Control Room complex in close proximity (approximately 100 feet) to the Main Control Board (MCB). For this reason, several instruments required by ANSI N509-1980 were not included as part of this design package. Instrumentation measuring or monitoring important system operating parameters are remotely displayed and alarmed at the MCB. Instrumentation indicating equipment or system performance is locally mounted for operator surveillance. Specific exceptions to the instrumentation requirements of ANSI N509-1980 and associated justification are as follows:

1. Local air flow rate indication has not been provided since flow rate indication is available in the Control Room. In addition, system high and low flow rate is alarmed at the MCB.
2. Remote temperature indication of the air space between the heater and the upstream HEPA filter has not been provided since high temperature alarms are provided at the MCB and local temperature indication is available.
3. Separate remote and local temperature indication and alarms for high temperature between the carbon adsorber and the downstream HEPA filter, which are intended to provide early indication of a fire, are not provided. The proposed modification includes a CO Monitoring System to perform this function. This system will alarm in the Main Control Room upon detection of high CO concentration upstream or downstream of the carbon adsorber for either filter unit.
4. Remote indication of the pressure drop across the upstream HEPA filter is not provided. Local indication is available for operator surveillance, and the total pressure drop across the filter unit is alarmed in the Main Control Room. The alarm setpoint will be chosen to ensure that filter integrity and operability will not be compromised.

Other than the exceptions discussed above, the instrumentation and controls for the filter units satisfy the requirements of ANSI N509-1980, as delineated in Table 6.5.1-1 of the Standard Review Plan (NUREG-0800).