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March 23, 1982

L. G. Hulman, Chief  
Accident Evaluation Branch  
Division of Systems Integration  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Hulman:

FIN NO. B2323  
TMI ACTION PLAN: III.D.3.4  
CONTROL ROOM HABITABILITY EVALUATION  
MAINE YANKEE NUCLEAR POWER STATION  
MAINE YANKEE ATOMIC POWER COMPANY  
DOCKET NO. 50-309

Based upon PNL review of the information submitted by the licensee in response to NUREG-0660, NUREG-0737, and other NRC Guidance, the control room meets the requirements of SRP 2.2.1 - 2.2.2, 2.2.3, and 6.4; and therefore meets the requirements of General Design Criteria (GDC) 4 and 19. The conclusions are based on the present plant system and presumes implementation of effective HVAC modifications addressed by the licensee and incorporation of the recommendations of this evaluation.

The licensee states that the thyroid and whole body doses to control room operators meet the guidelines of GDC 19. The licensee has committed to automating the initiation of the "control room breathing air supply" upon a control room isolation signal. Based on this modification, the licensee has determined that whole-body and thyroid radiation doses following a loss-of-coolant accident meet the requirements of 10 CFR 50.

The control room ventilation system appears to have adequate redundancy as to fans and dampers when the control room only is isolated as the emergency zone. When isolation of the "alternate Technical Support Center," which includes the computer room, occurs, it is assumed exhaust fan 15 would be deactivated. This would allow an undamped duct from the computer room which may present a back-flow path permitting contaminated air to enter the computer room in the event positive pressurization is not maintained. Redundant dampers should be placed on intake and exhaust ductwork which has direct access to the atmosphere.



L. G. Hulman  
March 23, 1982  
Page 2

The licensee has determined that control room operators are adequately protected against hazardous chemicals without the need for a toxic chemical detector. The licensee states that there is sufficient time for operators to take protective action, i.e., utilization of breathing apparatus, either as a result of prior warning or by olfactory detection of the odor in the control room.

Adequate procedures should be established and adequate training provided to ensure that the operators have adequate knowledge to make the necessary decision to isolate the control room. Training should insure that personnel can don breathing apparatus within two minutes.

A self-contained breathing apparatus of at least one-half hour capacity be provided for each operator in the control room. Additional air capacity should be provided if a chemical hazard can exist larger than one-half hour. There should be one extra unit for every three required to meet single failure criteria.

Therefore, based on the submittal, the implementation of the proposed modifications and incorporation of the above recommendations. We conclude that the control room habitability system is adequate to provide safe, habitable conditions within the control room under both normal and accident conditions, including loss-of-coolant accidents, and that occupancy can be maintained under accident conditions. Therefore, the applicant's proposed program meets the criteria identified in Item No. III.D.3.4, "Control Room Habitability" of NUREG-0737 and is, therefore, acceptable.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Dennis W. Murphy", written over a horizontal line.

Dennis W. Murphy, Ph.D.  
Senior Research Scientist  
Dosimetry Technology Section

DWM/l sb

cc: H.E.P. Krug, NRC  
T.R. Quay, NRC

SEP 1 1982

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Docket No. 50-309

Mr. John H. Garrity, Senior Director  
Nuclear Engineering and Licensing  
Maine Yankee Atomic Power Company  
83 Edison Drive  
Augusta, Maine 04335

Dear Mr. Garrity:

Subject: Request for Additional Information on Control Room Habitability  
(NUREG-0737, Item III.B.3.4)

We have reviewed your submittal dated August 11, 1981 on control room habitability. In reviewing this submittal, a number of specific recommendations were made, which will be required to make the Maine Yankee Control room acceptable.

These include:

- 1) Placement of redundant dampers on the intake and exhaust ductworks which have direct access to the atmosphere.
- 2) Providing sufficient self-contained breathing apparatus to satisfy the guidelines of RG 1.78.
- 3) Establishing proper procedures and providing acceptable operator training to ensure the operators can appropriately respond to toxic chemical conditions.

Please indicate how you will respond to each of these requirements within 60 days of the receipt of this letter. A copy of the contractor comments on your submittal of August 11, 1981 is enclosed.

OMB clearance for this request is not needed because ten or fewer respondents are involved.

Sincerely,

Original signed by  
Robert A. Clark

Robert A. Clark, Chief  
Operating Reactors Branch #3  
Division of Licensing

Enclosure:

OFFICE	As stated	ORB #3 <i>Kreutzer</i>	ORB #3 <i>Heitner/tcm</i>	ORB #3 <i>RAClark</i>		
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DATE	See next page	9/1/82	9/1/82	9/1/82		