

# New Hampshire Yankee

Ted C. Feigenbaum  
President and  
Chief Executive Officer

NYN-91087

May 31, 1991

United States Nuclear Regulatory Commission  
Washington, D.C. 20555

Attention: Document Control Desk

- References:
- (a) Facility Operating License No. NPF-86, Docket No. 50-443
  - (b) NUREG-0896, Supplement No. 4, "Safety Evaluation Report Related to the Operation of Seabrook Station, Units 1 and 2" dated May 1986
  - (c) NUREG-0896, Supplement No. 9, "Safety Evaluation Report Related to the Operation of Seabrook Station, Units 1 and 2" dated March 1991

Subject: Completion of Control Room Design Review, NUREG-0737, Item I.D.1

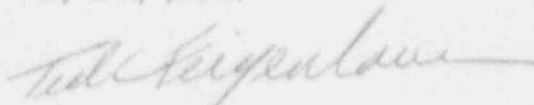
Gentlemen:

The NRC concluded in NUREG-0896, Section 18.1, [References (b) and (c)], that the detailed control room design review (DCRDR) for Seabrook Station Unit 1 satisfactorily met the requirements of Supplement 1 to NUREG-0737, "Clarification of TMI Action Plan Requirements". The NRC Staff required that a final evaluation of the control room environment (temperature, humidity, airflow, acoustic noise, auditory signals) be completed and reported to the NRC within one year after the commencement of commercial operation.

Pursuant to this requirement, the final evaluation of the control room environment is provided in the Enclosure.

Should you require further information on this matter, please contact Mr. Terry L. Harpster, Director of Licensing Services, at (603) 474-9521, extension 2765.

Very truly yours,

  
Ted C. Feigenbaum

Enclosure

TCF:WJT/ssl

9106060054 910531  
PDR ADCK 05000443  
PDR

0 313

New Hampshire Yankee Division of Public Service Company of New Hampshire  
P.O. Box 300 • Seabrook, NH 03874 • Telephone (603) 474-9521

4003

United States Nuclear Regulatory Commission  
Attention: Document Control Desk

May 31, 1991  
Page two

cc: Mr. Thomas T. Martin  
Regional Administrator  
United States Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, PA 19406

Mr. Gordon E. Edison, Sr. Project Manager  
Project Directorate I-3  
Division of Reactor Projects  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Mr. Noel Dudley  
NRC Senior Resident Inspector  
P.O. Box 1149  
Seabrook, NH 03874

INPO  
Records Center  
1100 Circle 75 Parkway  
Atlanta, GA 30339

New Hampshire Yankee  
May 31, 1991

ENCLOSURE TO NYN-91087

NUREG-0896, Supplement Nos. 4 and 9, "Safety Evaluation Report Related to the Operation of Seabrook Station", required that the following information be provided to allow the Staff to complete its review of the control room design review (TMI Action Plan Item I.D.1). A human factors review team consisting of an instrumentation & control (I&C) engineer, a human factors consultant, and an individual from the Operations Department who possesses a Senior Reactor Operator's License conducted this evaluation in accordance with the guidance provided in NUREG-0700, "Guidelines for Control Room Design Reviews".

#### TEMPERATURE/HUMIDITY/AIRFLOW

The temperature/humidity survey revealed that the control room is maintained at 70° Fahrenheit and approximately 40% relative humidity. The temperature and humidity distributions were determined to meet or exceed the NUREG-0700 guidelines. Additionally, the air quality and velocity were determined to meet or exceed the NUREG guidelines. No findings resulted from this review.

#### ACOUSTICS/AUDITORY SIGNALS

During the acoustic review, it was determined that the background noise level was well below the maximum acceptable level of NUREG-0700. In addition, noise distractions, reverberation, signal meaning, auditory coding, direction of sound, frequency, and propagation of signals were determined by the review team to meet or exceed the NUREG guidelines.

One finding resulted during this review. Specifically, the fire alarm panel horn was not in the primary operating area and the tone was less than 10 db above background as required by NUREG-0700 when measured in the primary operating area. As a result of this finding, the fire panel alarm horn will be moved to the primary control area during the first refueling outage. Subsequent to the relocation of the alarm horn, the tone will be adjusted to produce a tone between 10 and 20 db above normal ambient background in the primary operating area.

#### LIGHTING

The lighting survey included a review of the normal lighting, the ac and dc emergency lighting, and the dc-only emergency lighting. The lighting survey revealed that the ambient lighting levels are uniform throughout the control room and are within the recommended limits of NUREG-0700. The overall normal and emergency lighting was determined by the review team to meet or exceed the NUREG guidelines. In addition to the overall lighting levels, the luminance ratio and reflectance were calculated and determined to meet or exceed the NUREG guidelines. However, a shadow line was found to exist along the main control board approximately six feet above the floor and some minor glare was found on some meters along the shadow line. The shadow and glare were determined by the review team to be a minor inconvenience that does not impair the operator's ability to read the meters and has no safety significance.