

New Hampshire Yankee

Ted C. Feigenbaum
Vice President

NYN-89087

July 12, 1989

United States Nuclear Regulatory Commission
Washington, DC 20555

Attention: Document Control Desk

References: a) Facility Operating License No NPF-67, Docket No. 50-443
b) USNRC Generic Letter 89-06 dated April 12, 1989, "Task
Action Plan Item I.D.2 - Safety Parameter Display System"

Subject: Response to Generic Letter 89-06

Gentlemen:

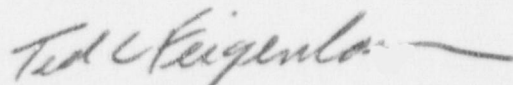
Generic Letter 89-06 requested information pursuant to 10 CFR 50.54(f) regarding the implementation of Safety Parameter Display System (SPDS) requirements. New Hampshire Yankee (NHY) has reviewed the design, operation and related aspects of the Seabrook Station SPDS against the requirements of NUREG-0737, Supplement 1, taking into account the information provided in NUREG-1342. New Hampshire Yankee certifies that the Seabrook Station SPDS meets the requirements of NUREG-0737, Supplement 1, taking into account the information provided in NUREG-1342 with the exceptions noted in Enclosure 1. In addition to the noted exceptions, Enclosure 1 describes two minor concerns effecting the reliability of the SPDS discovered as a result of normal operation. It also describes the potential for improvement of instrumentation calibration procedures. Action will be taken to correct the exceptions, and correct or review the additional items as described in Enclosure 1 in order that the Seabrook Station SPDS will fully meet the above requirements.

Documentation upon which the above certification is based including the completed checklist and photographs shall be maintained for at least three years.

If you have any questions regarding this matter, please contact Mr. Geoffrey Kingston at (603) 474-9521, extension 3371.

Very truly yours,

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Ted C. Feigenbaum

Enclosure

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cc: Mr. William T. Russell
Regional Administrator
United States Nuclear Regulatory Commission
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475 Allendale Road
King of Prussia, PA 19405

Mr. Victor Nerses, Project Manager
Project Directorate I-3
United States Nuclear Regulatory Commission
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Washington, DC 20555

NRC Senior Resident Inspector
P.O. Box 1149
Seabrook Station, NH 03874

STATE OF NEW HAMPSHIRE

Rockingham, ss.

July 12, 1989

Then personally appeared before me, the above-named Ted C. Feigenbaum who, being duly sworn, did state that he is Vice President Engineering, Licensing and Quality Programs of New Hampshire Yankee, that he is duly authorized to execute and file the foregoing information in the name and on the behalf of New Hampshire Yankee, and that the statements therein are true to the best of his knowledge and belief.

Mary E. Sloan

Mary E. Sloan, Notary Public
My Commission Expires: January 8, 1992

Exceptions to SPDS Implementation Requirements at Seabrook Station

EXCEPTION 1: SPDS Availability Data

New Hampshire Yankee has committed to collect SPDS availability data during the first operating cycle and report this data to the NRC prior to startup following the first refueling outage. The purpose of this data collection is to determine SPDS reliability under operating plant conditions. This data collection cannot be completed until Seabrook Station Unit 1 completes its first cycle of operation. Preliminary data is being collected and results for the first half of 1989 indicate SPDS availability greater than 99.4 percent.

EXCEPTION 2: SPDS Response Time

The response time of the SPDS under heavily loaded conditions has not been evaluated. Heavily loaded conditions are conditions of high demand imposed upon the main plant computer system (MPCS) such as during a plant transient which initiates many alarms and results in increased operator information demand. A test will be performed to evaluate the response time of the SPDS under heavily loaded conditions; and the test results will be reported to the NRC prior to startup following the first refueling outage.

EXCEPTION 3: RDMS Fuse-Dependent Isolation Devices

The Seabrook Radiation Data Management System (RDMS) employs isolation devices which depend upon a fuse in order to perform the electrical isolation function. These fuse-dependent isolation devices have been accepted by the NRC for interim use and are expected to be replaced with non-fuse-dependent isolation devices by September 30, 1989.

Minor Concerns Effecting the Reliability of the SPDS at Seabrook Station

Steam Generator Wide Range Level Density Compensation

A recent design modification provided density compensation for steam generator wide range control room level indication. The design modification did not make the density compensated level measurement available to the MPCPS inputs. The density compensated level measurement will be provided to the MPCPS inputs by means of a software change by August 31, 1989.

RVLIS Full Range Level Reliability Interpretation

Reactor Vessel Level Indicating System (RVLIS) full range level is the indicated reactor vessel level under conditions during which reactor coolant pumps (RCP's) are not operating. Whenever RCP's are operating, RVLIS full range level is driven to an off-scale high value. Because this is an expected condition, the SPDS is designed to recognize the off-scale high level as a reliable indication. However, it has been discovered that the implementation of this design feature resulted in the SPDS continuing to identify this off scale high level as an unreliable indication. The above-described condition has been identified as an SPDS software problem and is expected to be corrected by August 31, 1989.

Potential for the Improvement of Instrumentation Calibration Procedures

The SPDS review identified the potential for improvement of the programmatic requirements for instrumentation loop calibration where MPCPS inputs are involved. Current instrument calibration procedures ensure that a calibrated measurement is available to the MPCPS input portion of applicable process control and protection systems. However, calibration procedures do not specifically require follow-up action in the event that the MPCPS output values of a given parameter do not agree with the expected value. In practice to date, suspect MPCPS output indications observed during instrument calibration or normal operation have been subject to follow-up action. Furthermore, data validity checks built into the SPDS software remove inputs that are unreliable and, where applicable, remove inputs that fail an engineering range check or bandwidth check. Observation of MPCPS input performance over time has demonstrated a high degree of accuracy and reliability. Although this does not represent a deficiency in the performance of the SPDS, a more formal program will be evaluated and, if deemed appropriate, corrective action shall be completed by December 31, 1989.