



George S. Thomas  
Vice President-Nuclear Production

NYN- 88028

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Public Service of New Hampshire

New Hampshire Yankee Division

United States Nuclear Regulatory Commission  
Washington, DC 20555

Attention: Document Control Desk

References: (a) Facility Operating License No. NPF-56, Docket No. 50-443

(b) PSNH Letter (SBN-1211) dated October 9, 1986, "10CFR 50.59 Evaluations" G. S. Thomas to V. S. Noonan

Subject: 10 CFR 50.59 Quarterly Report

Gentlemen:

Enclosed please find the Quarterly Report of 10 CFR 50.59 Safety Evaluations for Seabrook Station. This report covers the period of October 1, 1987, to December 31, 1987, and is being submitted pursuant to the reporting requirements outlined in Reference (b).

Should you require further information regarding this matter, please contact Mr. Warren J. Hall at (603) 474-9574, extension 4046.

Very truly yours,

George S. Thomas

Enclosure

cc: Mr. Victor Nerses, Project Manager  
Project Directorate I-3  
Division of Reactor Projects  
United States Nuclear Regulatory Commission  
Washington, DC 20555

Mr. William T. Russell  
Regional Administrator  
United States Nuclear Regulatory Commission  
Region I  
425 Allendale Road  
King of Prussia, PA 19406

Mr. Antone C. Cerne  
NRC Senior Resident Inspector  
Seabrook Station  
Seabrook, NH 03874

8803080084 880301  
PDR ADDCK 05000443  
R DCD

P.O. Box 300 • Seabrook, NH 03874 • Telephone (603) 474-9574

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ENCLOSURE TO NYN- 88028

SEABROOK STATION  
10 CFR 50.59 SAFETY EVALUATIONS  
QUARTERLY REPORT  
OCTOBER 1, 1987, TO DECEMBER 31, 1987

1. Design Changes

The below listed design changes have been made at Seabrook Station and safety evaluations have been performed pursuant to the requirements of 10 CFR 50.59.

Design Coordination Report: Number 87-124

Title: Startup Feed Pump Control Circuit Modifications

Description: In response to an engineering analysis conducted to address concerns outlined in IE Information Notice No. 86-70, a problem with the automatic start logic for the Startup Feed Pump (FW-P-113) was identified. The Startup Feed Pump can be powered from either of two busses. Normally the Startup Feed Pump is powered from Bus 4, a non-1E bus. However, if Bus 4 is lost and certain emergency conditions exist, the pump can be powered from the emergency Bus E5, a 1E bus. Design Coordination Report 87-124 was initiated to add an interlock to the Emergency Power Sequencer circuitry to prevent the Startup Feed Pump from being automatically loaded onto the Emergency Diesel Generator when a loss of off-site power occurs when the pump is aligned to Bus E5. The diesel generator reliability is improved by providing better control of the loading sequence.

Conclusion: A 10 CFR 50.59 safety evaluation was performed for this design change and it has been determined that this change will not create any unreviewed safety concerns. Changes to the Final Safety Analysis Report will be incorporated by means of a future amendment.

Design Coordination Report: Number 87-134

Title: Vent Gas Sample Points

Description: This Design Coordination Report was initiated to incorporate modifications to the Waste Gas and Vent Gas Systems, identified in Engineering Report 87-008. The purpose of the modifications are to improve operability and personnel safety when manual sampling is required. The modifications include the following:

1. Addition of a sample tubing connection at the top of the Safety Valve Surge Tank (VG-TK-108) to improve the sampling capabilities.
2. Addition of two new sample valves, one on each side of a normally closed vent valve in the hydrogenated vent header to provide a better means of post-criticality purging. The new valve upstream of the vent valve will also provide the ability to sample the system high point associated with the normally closed vent valve.
3. Addition of a high point vent/sample connection at the top of each Primary Drain Tank (BRS-TK-66A & B) to improve sampling capabilities.
4. Addition of a manual bypass valve around the pressure control valve that regulates nitrogen purge supply to the Waste Gas System. The bypass valve will allow reverse flow nitrogen purge from the hydrogen surge tank back through the carbon delay beds. This flow path allows flow from the bottom to the top of each vessel.

The four modifications outlined above are on non-safety related portions of the system; however, modifications 1 and 2 are in areas that are seismically supported and the appropriate seismic requirements have been met.

Conclusion: A 10 CFR 50.59 safety evaluation was performed for this design change and it has been determined that this change will not create any unreviewed safety concerns. Changes to the Final Safety Analysis Report will be incorporated by means of a future amendment.

Design Coordination Report: Number 87-214

Title: Seismic Monitoring Response Spectrum Recorder Annunciation

Description: The Seismic Monitoring Response Spectrum Recorder (1-SM-XR-6705) is mounted on the containment foundation and provides Main Control Room indication when 70% and 100% of the Operating Basis Earthquake (OBE) level has been reached. Seabrook Station is committed to Regulatory Guide 1.12 (Rev. 1), that in turn endorses ANSI/ANS 2.2 (1978), that requires Main Control Room annunciation when the OBE level has been exceeded as sensed by the response spectrum recorder. During normal review of the Seabrook Station Seismic Monitoring System, it was identified that the Main Control Room annunciation for 100% OBE was in fact set at 70% OBE. The as-found 70% OBE level is actually a more conservative alarm level than the required 100% OBE level. To comply with the requirements as outlined in ANSI/ANS 2.2, this Design Coordination Report was initiated to increase the 70% OBE Main Control Room annunciation level to 100% OBE.

Conclusion: A 10 CFR 50.59 safety evaluation was performed for this design change and it has been determined that this change will not create any unreviewed safety concerns. Changes to the Final Safety Analysis Report will be incorporated by means of a future amendment.

Design Coordination Report: Number 87-223

Title: Primary Component Cooling Water Heat Exchanger Tube Inlet Erosion

Description: During recent eddy-current testing and visual inspection of the Primary Component Cooling Water (PCCW) Heat Exchanger (1-CC-E-17A), it was identified that there was uniform tube inlet degradation. An engineering evaluation has concluded that the degradation is a result of velocity induced erosion-corrosion of the 90/10 copper-nickel (CuNi) tube inlet ends.

This Design Coordination Report was initiated to facilitate modifications of the tube ends by using a 70/30 CuNi tube insert (sleeve) to preclude further degradation. The 70/30 CuNi sleeve is less sensitive to velocity induced erosion-corrosion and will provide better protection of the tube end and seal weld. The 70/30 CuNi sleeve material is compatible with the existing material for the PCCW Heat Exchanger.

Conclusion: A 10 CFR 50.59 safety evaluation was performed for this design change and it has been determined that this change will not create any unreviewed safety concerns.

Design Coordination Report: Number 87-258

Title: Freeze Protection of Steam Generator Blowdown System

Description: This Design Coordination Report was initiated to add heat tracing to two lines in the Steam Generator Blowdown System. These lines are exposed to the elements and have previously experienced problems with freezing, requiring extensive maintenance to thaw them out.

A review of the additional electrical loads added to panels HT-CP-432 and HT-CP-433 has indicated that they will not exceed the panel capacity limited by the 15 KVA transformer feeding each of the panels. The Steam Generator Blowdown System is a non-safety related system.

Conclusion: A 10 CFR 50.59 safety evaluation was performed for this design change and it has been determined that this change will not create any unreviewed safety concerns. Changes to the Final Safety Analysis Report will be incorporated by means of a future amendment.

Design Coordination Report: Number 87-319

Title: Procedure TP-14 Update

Description: A review of the valve stroke times for motor operated valves listed in Procedure TP-14, FSAR Table 6.2.83 (Containment Isolation System Design Information), and FSAR Table 16.3-4 (Technical Requirement 6 for Containment Isolation Valves) revealed inconsistencies between the three documents. When an inconsistency was identified, the associated valve was reviewed to identify the correct stroke time and the appropriate document(s) revised as required for consistency.

In addition to the updating of the three documents, the motor overload heaters for eight Emergency Feedwater Flow Control Valves were identified as requiring an upgrade to a larger size because of an increase in the stroke times. Procedure TP-14 originally stated that the eight valves would have a stroke time of 14-18 seconds, non-critical, but actual stroke time was 18.3 to 18.4 seconds. When TP-14 was changed to reflect a new stroke time of 14-20 seconds, non-critical, the motor overload heaters were increased accordingly.

Conclusion: A 10 CFR 50.59 safety evaluation was performed for this design change and it has been determined that this change will not create any unreviewed safety concerns. Changes to the Final Safety Analysis Report will be incorporated by means of a future amendment.

Design Coordinator Report: Number 87-344

Title: Post Accident Sample System Panel Argon Gas Isolation Valves

Description: This Design Coordination Report was initiated to replace two valves on the Post Accident Sample System (PASS) panel with different style valves. A previously identified 10 CFR 50.59 design change redesignated the function of two metering valves as shutoff valves for the argon gas supply. The metering valves were not designed to operate as shutoff valves and have started to leak. The valves were replaced with soft seat valves that are designed for repeated shutoff service. The PASS panel has been seismically qualified and each component mounted on the panel is considered seismically mounted. The replacement valves size and weight are similar to the metering valves and did not require a change in the mounting for the new valves. This design change will improve the PASS panel operation by providing positive shutoff for the argon gas supply.

Conclusion: A 10 CFR 50.59 safety evaluation was performed for this design change and it has been determined that this change will not create any unreviewed safety concerns. Changes to the Final Safety Analysis Report will be incorporated by means of a future amendment.

Design Coordination Report: Number 87-348

Title: Motor Control Center Feeder Breaker Change for Lighting Panel EL31

Description: Lighting Panel EL31 ED-MM-170C is powered from safety-related motor control center MCC-E513, utilizing a 40-amp circuit breaker. Additional loads had been added to Panel EL31 resulting in the 40 amp breaker being undersized for the new loads.

This Design Coordination Report was initiated to replace the 40 amp breaker with a 60-amp breaker. The 60-amp breaker is sized to carry the new loads added to EL31. The MCC loading, diesel generator loading, and voltage regulation have been evaluated and no adverse effects were identified as a result of this design change.

Conclusion: A 10 CFR 50.59 safety evaluation was performed for this design change and it has been determined that this change will not create any unreviewed safety concerns. Changes to the Final Safety Analysis Report will be incorporated by means of a future amendment.

Design Coordination Report: Number 87-349

Title: Residual Heat Removal Mini-Flow Line Vibration

Description: This Design Coordination Report was initiated to remove the four instrument root valves associated with the pressure breakdown orifices in the Residual Heat Removal (RHR) mini-flow lines and cap the connections. Excessive vibration on the RHR mini-flow line had caused socket welds on the orifice flange pressure taps for FE-2474 to fail. The flow elements, FE-2473 and FE-2474, were used for flow balancing during pre-operational testing. No further flow measurements will be taken through the use of these valves.

Removal of the one-half inch root valves will reduce stresses in the pressure tap line. An Engineering evaluation was performed on the mini-flow line and vibration readings were taken during three basic flow conditions of the mini-flow line. The results of the evaluation and the data from the vibration readings show the vibration to be within acceptable limits as established by the Seabrook Station Preoperational Test Program.

Conclusion: A 10 CFR 50.59 safety evaluation was performed for this design change and it has been determined that this change will not create any unreviewed safety concerns. Changes to the Final Safety Analysis Report will be incorporated by means of a future amendment.

Design Coordination Report: Number 87-377

Title: Verification of Motor Load List with Circuit Protection Calculation

Description: During the performance of a routine surveillance procedure, the as-found breaker trip setting for motor operated valve 1-SI-V-77 (SI-P-6B to Hot Leg Discharge Isolation Valve) was found to be inconsistent with the setting specified in the Motor Load List. An engineering evaluation was performed to identify the correct trip setting. This Design Coordination Report was initiated to incorporate the new higher trip coil rating.

An increase in the trip coil rating will not degrade the function of the valve 1-SI-V-77, rather it will prevent temperature tripping and prolong the availability of the valve.

Conclusion: A 10 CFR 50.59 safety evaluation was performed for this design change and it has been determined that this change will not create any unreviewed safety concerns. Changes to the Final Safety Analysis Report will be incorporated by means of a future amendment.

## 2. Temporary Modifications

The below listed Temporary Modifications have been made at Seabrook Station and evaluations have been performed pursuant to the requirements of 10 CFR 50.59.

Temporary Modification Request: Number 87-062

Title: Temporary Power to Security System Lighting Panel ED-MM-212B

Description: The Security Guardhouse Essential Lighting Panel ED-MM-212B is normally powered from Motor Control Center MCC-523. Due to a scheduled outage of MCC-523, it was necessary to provide temporary power to Lighting Panel ED-MM-212B from MCC-211. This temporary modification involved replacing the normal power feed to the Guardhouse Essential Lighting Panel, ED-MM-212B, from EDE-MCC-523 with temporary power cables from a spare circuit breaker in ED-MCC-211. The power cables were not electrically connected in any way to MCC-523 bus work and the supply breaker to MCC-523 was tagged open during the period the change was installed. The additional load on MCC-211 was evaluated and there was no significant effect on load distribution features such as circuit breaker coordination.

During this temporary modification, Diesel Generator backup to ED-MM-212B was not be available. Compensatory measures were incorporated in the unlikely event that a loss of offsite power should occur during the performance of the scheduled outage. This temporary modification has been removed and the system has been restored to its normal configuration.

Conclusion: A 10 CFR 50.59 Safety Evaluation was performed and it has been determined that installation of this temporary modification will not create any unreviewed safety concerns.

Temporary Modification Request: Number 87-071

Title: Service Water to Diesel Generator 1B Water Jacket Heat Exchanger Flow Instrumentation Modification

Description: Flow transmitters 1-SW-FT-1681 and 1-SW-FT-1691 have experienced faulty indications due to air pockets forming at high points in the instrument process lines. To eliminate this problem, Temporary Modification 87-071 was initiated to revise the location of the Annubar flow element taps and instrument lines from the top of the service water line flanged connections to the bottom flanged connections.

The original Annubar sensing lines were ASME Section III Class 3, Seismic Category I. The temporary tubing and tubing supports are not seismically supported and are not fully designed to ASME Section III Class 3 requirements.

The temporary modification was only installed for use during Cold Shutdown (Mode 5) and prior to initial criticality. The temporary modification will be incorporated into an approved design change prior to entry into Mode 4.

Conclusion: A 10 CFR 50.59 Safety Evaluation was performed and it has been determined that installation of this temporary modification will not create any unreviewed safety concerns.

Temporary Modification Request: Number 87-072

Title: Temporary Cooling Water Supply to Instrument Air Dryer 1A-E-109B

Description: The three-way emergency supply isolation valves (1-SCC-V-318 and 1-SCC-V-319) that isolate the Fire Protection System and the Secondary Component Cooling Water System (SCC) have been leaking and causing contamination of the SCC System from Fire Protection System. This temporary modification provides a temporary cooling water supply from the Demineralized Water System (DM) to the Instrument Air Dryer IA-E-109B mounted on skid IA-SKD-18B. The temporary connections assures that the required 7-1/2 gpm (max.) cooling water supply will be available during the maintenance of 1-SCC-V-318 and 1-SCC-V-319.

Conclusion: A 10 CFR 50.59 Safety Evaluation was performed and it has been determined that installation of this temporary modification will not create any unreviewed safety concerns.

### 3. Technical Requirements Manual

The below listed changes have been made to the Seabrook Station Technical Requirements Manual and evaluations have been performed pursuant to the requirements of 10 CFR 50.59.

Technical Requirements Manual Change Request: Number 87-002

Title: Technical Requirements Number 6 - Table 16.3-4 and  
Number 14 - Table 16.3-9

Description: Changes to Seabrook Station's Technical Requirement 6, Table 16.3-4, "Containment Isolation Valves" and Technical Requirement 14, Table 16.3-9, "Motor Operated Valves with Thermal Overload Protection Devices Operable at All Times" have been made to incorporate information identified in DCR 87-319. As described in Section 2 of this report, a consistency review between three documents that identify the maximum isolation time for selected containment isolation valves was performed and the correct value times revised in the documents. The change to Technical Requirement 6 is the result of that review.

The second change, Technical Requirement 14, incorporates the information for the upgrade of the eight emergency feedwater valve motor overload heaters. This increase in the overload heater sizing was identified in Section 2, DCR 87-319.

Conclusion: A 10 CFR 50.59 Safety Evaluation was performed for the change to the Technical Requirements Manual and it has been determined that this change will not create any unreviewed safety concerns. Changes to the Final Safety Analysis Report will be incorporated by means of a future amendment.

Technical Requirements Manual Change Request: Number 87-003

Title: Technical Requirement Number 6 - Table 16.3-4

Description: In Sealock Station Safety Evaluation Report, Supplement 6, approval was granted to eliminate the trending requirements of ASME Section XI for rapid acting solenoid operated valves with the condition that a maximum limiting stroke time of 2 seconds be assigned to certain ASME Section XI valves. This Technical Requirements Manual Change Request was issued to incorporate the 2 second maximum stroke time change for nineteen containment isolation valves listed in Technical Requirement 6, Table 16.3-4.

Conclusion: A 10 CFR 50.59 Safety Evaluation was performed for the change to the Technical Requirements Manual and it has been determined that this change will not create any unreviewed safety concerns. Changes to the Final Safety Analysis Report will be incorporated by means of a future amendment.

Technical Requirements Manual Change Request: Number 87-005

Title: Technical Requirement Number 15 - Table 16.3-10

Description: A change to Technical Requirement Number 15, Table 16.3-10, "Protective Devices for Non Class 1E Circuits Connected to Class 1F Sources" was made to incorporate information identified in DCR 87-348. As described in Section 2 of this response, the supply breaker to EL31 ED-MM-170C was increased in size to a 60 amp breaker. The larger breaker required that the test setpoint for the "long time" trip setting of the breaker be increased from 120 amps to 180 amps as identified in Table 16.3-10.

Conclusion: A 10 CFR 50.59 Safety Evaluation was performed for the change to the Technical Requirements Manual and it has been determined that this change will not create any unreviewed safety concerns. Changes to the Final Safety Analysis Report will be incorporated by means of a future amendment.

4. Final Safety Analysis Report

No revisions have been submitted for the Final Safety Analysis Report during this reporting period.

5. Procedure Changes

Procedure changes that require review and approval by the Station Operation Review Committee (SORC) have been subjected to the requirements of 10 CFR 50.59. No procedure changes have been made at Seabrook Station during this reporting period that would require a change to the final Safety Analysis Report.

6. Test or Experiments

There were no tests or experiments performed during this reporting period that require evaluations in accordance with 10 CFR 50.59.