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New York Power Authority

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August 4, 1992
JAFP-92-0578

Director, Office of Enforcement
U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

SUBJECT: James A. FitzPatrick Nuclear Power Plant
Docket No. 50-333
Revision to Notice of Violation and Notice of Deviation Inspection 50-333/92-81

REFERENCES:

1. NYPA letter, H.P. Salmon to the NRC, dated July 13, 1992, (JAFP-92-0527), replies to a Notice of Violation and a Notice of Deviation, Inspection 50-333/92-81."

2. NRC letter, M.W. Hodges to H.P. Salmon, dated June 11, 1992, "NRC Inspection Report 50-333/92-81."

Dear Sir:

This letter provides a clarification to Reference 1, the Authority's written response to NRC Inspection Report 50-333/92-81 (Reference 2). The inspection report contained one Notice of Violation and one Notice of Deviation identified during the NRC's Safety System Functional Inspection of the Emergency Service Water System conducted April 13 through May 1, 1992 at the James A. FitzPatrick Nuclear Power Plant.

This letter supersedes Reference 1 with changes noted through the use of revision bars. The Authority has determined additional information is required to correctly document the corrective steps that have been taken in response to the violation, and the date when full compliance will be achieved.

If you have any questions, please contact Mr. M. Colomb.

Very truly yours,

HARRY P. SALMON, JR.

HPS/MTC/tmk

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NOTICE OF VIOLATION

During an NRC Emergency Service Water (ESW) Safety System Functional Inspection (SSFI) conducted April 13 through May 1, 1992 the following violation of NRC requirements was identified:

10CFR50.59 (a) allows the holder of a license to make changes to the facility as described in the safety analysis report (SAR) without prior Commission approval unless it involves an unreviewed safety question. 10CFR50.59 (b) requires, in part, that the records of a change to the facility be maintained by the licensee and must include a written safety evaluation which provides the basis for the determination that the change does not involve an unreviewed safety question.

Contrary to the above, the safety evaluation JAF-SE-90-067, which downgraded the control room chiller condensers from safety related to non-safety related did not provide an adequate basis for the determination that the change does not involve an unreviewed safety question. The evaluation did not include an evaluation of flooding and was performed based in part on a 1970 control room heat generation analysis, which did not account for changes made to the control room since 1970. An updated control room heat generation rate analysis indicated that the control room temperature could exceed the maximum design temperature.

This is a Severity Level IV Violation.

RESPONSE TO NOTICE OF VIOLATION

VIOLATION

The control room chiller condenser reclassification from safety related to non-safety related did not provide an adequate basis for the determination that the change does not involve an unreviewed safety question.

ADMISSION OR DENIAL OF THE ALLEGED VIOLATION

The Authority agrees with the violation, however the following clarification needs to considered.

Safety Evaluation JAF-SE-90-067, Revision 0, dated June 16, 1990 is not the documentation basis that reclassified the control room and relay room chiller condensers. JAF-SE-90-067 consolidated existing emergency service water design basis information into a single document. The chiller condensers were reclassified in accordance with Modification Control Manual procedure MCM-6A, "Component Classification and System Safety Function Control (JAF)", May 22, 1990. See Attachment V for a description of MCM-6A.

THE REASONS FOR THE VIOLATION

Flooding Concern:

Personnel error was the primary cause for the inappropriate downgrade of a safety related pressure boundary. MCM-6A does not specifically require interfacing systems be identified and evaluated. This procedural weakness contributed to the violation.

MCM-6A provides a formal process and step by step instructions necessary to determine the correct QA classification of structures and components. The procedure requires an evaluation to determine if the component functions as a pressure boundary for any portion of the system being used to accomplish a safety function.

The Control Room and Relay Room Ventilation and Cooling System is safety related and has a safety function to cool the rooms with emergency service water (ESW) supplying the air handling units (AHUs). The reclassification of the control room and relay room chiller condensers failed to conclude that the service water piping supplying the chiller condensers provides a safety related pressure boundary for the ESW system supplying the AHUs. Had the safety related pressure boundary been recognized, the reclassification of the chiller condensers would have been limited to system function (heat removal capability) only and the pressure boundary would have remained QA Category I.

RESPONSE TO NOTICE OF VIOLATION

Control Room Heat Loads:

The Authority's failure to establish and maintain as-built control room heat loads contributed to using 1970 design data to support calculation JAF-90-058. At the time of the reclassification, May 1990, the control room design heat loads were the best available information to perform the heat load analysis in calculation JAF-90-058. The Authority recognized the need to obtain as-built control room heat loads as part of the Generic Letter 89-13 program design review for the FitzPatrick Plant. Safety Evaluation JAF-90-067 Revision 0, dated June 16, 1990 acknowledged calculation JAF-90-058 assumed design control room heat loads and using engineering judgement concluded the following:

> During August 1988, when lake water temperature reached 80°F, the actual performance of the control room chillers with normal operating loads (normal heat loads exceeded accident heat loads) was acceptable indicating the as-built loads were within the capacity of the chillers. As the design loads used to size the chillers are the same as were used to size the AHUs the ability of the Air Handling Units to maintain room temperatures with as-built heat loads was confirmed.

This qualitative analysis was considered appropriate based on the information available at the time, however to validate the above conclusions the Authority contacted Stone & Webster in August 1990 to provide a comprehensive study of as-built heat loads for the control room. This analysis was completed during the ESW Safety System Functional Inspection.

THE CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

Flooding Concern:

MCM-6A Safety Function Sheet for control and relay room ventilation and cooling (system 70) has been approved by the Plant Operating Review Committee to identify the service water/emergency service water pressure boundary supplying the chiller condensers and the chiller room air handling units as a safety related function. The revision being implemented will ensure the pressure boundary safety function is evaluated during future system 70 component classifications.

The Authority has initiated a QA classification upgrade for the service water/emergency service water pressure boundary supplying the control room and relay room chiller condensers, the chiller room air handling units and associated valves. In the interim a preliminary flood analysis has been performed assuming a failure of the pressure boundary and the results indicate that no safety related equipment would be affected by the failure.

RESPONSE TO NOTICE OF VIOLATION

Control Room Heat Loads:

The as-built control room heat loads have been determined through field testing and analysis. Maximum steady state control room temperatures have been established, based on percent lighting energized, and 82°F lake water supplying the control room AHUs.

The results of this analysis concluded that with all heat loads, including 100% of room lighting energized, the control room temperature would reach 102°F. This is 2°F greater than the control room temperature referenced in FSAR Section 9.9.3.11. To limit the control room temperature to less than 100 F, the following administrative controls have been established:

- Approximately 40% of control room lighting is secured. (The secured lights are not required to provide adequate lighting in the control room)

- Plant operating procedures have been revised to secure or verify secure these lights when ESW is supplying the control room AHUs.

THE CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

Flooding Concern:

The following short term corrective actions will be taken to ensure interfacing systems are identified and evaluated during component classifications.

- MCM-6A will be revised to ensure the appropriate personnel (System Engineers and/or Nuclear Engineering Department) are assigned to the review. [Due date - 10/31/92]

- MCM-6A will be revised to provide additional guidance to ensure interfacing safety related systems are identified and evaluated during component classifications. [Due date - 10/31/92]

- Training on the revised procedure will be provided. [Due date - 12/31/92]

RESPONSE TO NOTICE OF VIOLATION

Control Room Heat Loads:

As part of the Design Basis Document (DBD) program a heating ventilation and air conditioning (HVAC) DBD is scheduled to be developed starting September 1992. This DBD will document heat loads and HVAC capabilities in the various buildings and the control/relay rooms. This document will ensure the effect of future modification heat loads will be evaluated.

THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance will be achieved when the service water/emergency service water pressure boundary supplying the control room and relay room chiller condensers and the chiller room air handling units are reclassified as QA Category I. Included in the upgrade is a revision to the Master Equipment List in accordance with procedure MCM-6A. An engineering evaluation verifying the acceptability of the installed components to meet QA Category I requirements is being performed in accordance with Engineering Design Procedure EDP-31, "Component QA Classification Upgrade Evaluation Procedure."

The Authority will complete the upgrade prior to startup from the 1992 refuel outage.

NOTICE OF DEVIATION

During an NRC Emergency Service Water (ESW) Safety System Functional Inspection (SSFI) conducted April 13 through May 1, 1992 the following deviation of the FitzPatrick Final Safety Analysis Report (FSAR) was identified.

FSAR Table 9.7-1, sheet 1 of 3, Emergency Service Water Equipment - Flow Rates and Operating Modes, states that the minimum required flow to each crescent area unit cooler is 24 GPM.

Contary to the above, during performance of procedure ST-8Q, emergency service water flow rates to individual crescent area unit coolers were not adjusted to greater than the minimum value of 24 gallons per minute that is specified by Table 9.7-1 of the Final Safety Analysis Report. For example, on July 28, 1991, the emergency service water flow rate to west crescent area unit cooler 66UC-22G was left at 21 gallons per minute and the emergency service water flow rate to east crescent area unit cooler 66UC-22F was left at 22.8 gallons per minute, on September 10, 1991.

RESPONSE TO NOTICE OF DEVIATION

DEVIATION

During performance testing of crescent area unit coolers, flow rates were not adjusted to greater than the FSAR Table 9.7-1 specified 24 gallons per minute.

THE REASONS FOR THE DEVIATION

The original design for crescent area cooling consisted of five unit coolers operating at a design ESW flow rate. In 1988 the Authority became aware of silting problems in the crescent area unit coolers and its effect on reducing ESW flows through the coolers. Recognizing ESW flow through individual coolers will vary over time the Authority performed analyses that defined operability requirements for crescent area coolers based on heat transfer capability.

Technical Specification 3.11.B, 4.11.B, and Technical Specification Interpretation No. 19 define the operability requirements for the crescent area coolers. Operability of the crescent area unit coolers is demonstrated through thermal performance testing in accordance with Surveillance Test ST-19C. Operability of an individual cooler is based on its ability to remove heat (UA > 12,500 BTU/hour °F). Operability of the crescent area cooler train is based on its total heat removal capability, East Crescent > 672,750 BTU/hr and West Crescent > 588,655 BTU/hr. Only four out of the five unit coolers need to be effective in removing heat for a train to be considered operable. This allows monitoring of cooler performance to effectively schedule removal from service one cooler in each train for cleaning.

Operability of the coolers is independent of the ST-8Q ESW flow rate acceptance criteria. Crescent cooler ESW flow rates are measured and adjusted during surveillance test ST-8Q to monitor and maintain the ESW system hydraulic flow balance and to reduce/prevent silt build up. The ST-8Q acceptance criteria for the crescent area unit coolers is 120 gallons per minute per train which ensures ESW system flows are properly balanced. While attempts were made to establish 24 gallons per minute to each cooler the Authority recognized the increased time and exposure to achieve the design flow rate did not justify the incremental improvement in cooler heat removal performance. Operability of crescent area unit coolers was verified during 1991 with biweekly thermal performance testing.

RESPONSE TO NOTICE OF DEVIATION

THE CORRECTIVE STEPS THAT HAVE BEEN TAKEN TO AVOID FURTHER DEVIATIONS

The following corrective actions will be taken to ensure current plant configuration and procedures are in agreement with the FSAR.

- FSAR Section 9.7-1 will be revised to include both the design specifications and the operability requirements of the crescent area unit coolers. [Due date - 1993 FSAR Update]

- The Authority has established a Nuclear Generation Business Plan Objective to review its internal procedures used to maintain and update the FSAR. Included in this review will be an assessment of the FSAR level of detail based on recommendations in Reg Guide 1.70. [Due date - 9/30/92]

- The Authority has established a Nuclear Generation Business Plan Objective to enhance the process for review and revision of the FSAR to reflect current plant configuration and Design Basis Documents. [Due date - 12/30/92]

- The Authority will formally document the FSAR deviation in accordance with Nuclear Generation Procedure NGP-38.

MCM-6A COMPONENT CLASSIFICATION PROCEDURE

MCM-6A, "Component Classification and System Safety Function Control (JAF)", ensures the appropriate quality classification is assigned to systems, structures and components, rather than to document design changes to the facility. A reclassification does not establish new or revised design functions rather it reviews existing safety related system functions and evaluates the effect a component or structure failure would have on preventing performance of a safety related function.

Generic Letter 83-28, "Required Action Based on Generic Implications of Salem ATWS Events", required that FitzPatrick review and update its equipment safety classifications. JAF-SE-88-052 evaluated the methodology for this project (Master Equipment List or MEL) and became a basis for FSAR Section 12.A, "Safety Related Functional Analysis" and the development of a long term component classification control procedure, MCM-6A.

MCM-6A, provides the guidance and documentation to perform the following:

- Determine the correct QA classification of systems, structures and components.
- Maintain and control System Safety Function Sheets for applicable plant systems, structures and components.
- Evaluate the effect of changing the System Safety Function Sheets or QA Classifications.

The procedure identifies the safety related functions for each system at FitzPatrick. System Safety Function Sheets have been prepared based on the MEL program effort including the Safety Related Functional Analysis document in FSAR Section 12.A. Those sheets identify system safety related and non-safety related functions.

A component classification is established by reviewing the System Safety Function Sheets and by answering specific questions for a given component type (mechanical, electrical, instrumentation, or structural). The questions are designed to determine if the component or structure supports a system safety function Any affirmative response to the safety related questions requires the component or structure be classified as safety related.