November 30, 2001

MEMORANDUM TO: William D. Beckner, Chief
Technical Specification Branch
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

FROM: Guy S. Vissing, Senior Project Manager, Section 1 ***/RA/***
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

SUBJECT: CLOSURE OF FITZPATRICK BEYOND SCOPE ISSUES (BSIs) BSI-F1, BSI-F8, BSI-F9, BSI-F10, BSI-F11, BSI-F12, AND BSI-F13 (TAC NOS. MB2383, MB2706, MB2707, MB2708, MB2709, MB2710, AND MB2711)

By letter dated May 31, 2001, Entergy Nuclear Operations (the licensee) submitted plans to modify certain instrumentation allowable values that were beyond the scope of the James A. FitzPatrick Nuclear Power Plant (FitzPatrick) Technical Specifications conversion to the Improved Standard Technical Specification format. The NRC staff has completed its review of the subject BSIs and have determined that the proposed changes in instrumentation allowable values are acceptable. The attachment provides the necessary safety evaluation to close out the subject BSIs and TACs.

Docket No. 50-333

Attachment: As stated

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

IMPROVED TECHNICAL SPECIFICATION CONVERSION LICENSE AMENDMENT

BEYOND SCOPE ISSUES

THE POWER AUTHORITY OF THE STATE OF NEW YORK

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

DOCKET NO. 50-333

1.0 INTRODUCTION

By letters dated May 20, 1999, as supplemented June 1, 1999, July 14, 1999, and October 14, 1999, the Power Authority of the State of New York (PASNY) requested an amendment to convert the current Technical Specifications (CTS) to the Improved Standard Technical Specifications (ISTS) format in the Improved Technical Specifications (ITS) for the James A. FitzPatrick Nuclear Power Plant (FitzPatrick). In support of this effort, the licensee has proposed the revision of certain instrumentation allowable values, actions, and configurations. These proposed revisions are beyond the scope of the conversion to the STS format.

2.0 EVALUATION

The following proposed ITS changes have been determined to be beyond the scope of the conversion to the STS format:

BSI-01 CTS Table 3.3-2, Item 5, Reactor Low Level (inside shroud) - ITS Table 3.3.5.1-1, Function 2.e, Low Pressure Coolant Injection System Reactor Vessel Shroud Level (Level 0)

Change Allowable Value from "$\geq$ 0.0 inches above TAF" to "$\geq$ 1 inch".

The proposed allowable value has been established consistent with the PASNY Engineering Standards Manual, IES-3, Revision 0, "Instrument Loop Accuracy and Setpoint Calculation Methodology." The methodology used to determine the allowable value is consistent with the methodology described in ISA-S67.04-1994, Part II, "Methodologies for the Determination of Setpoints for Nuclear Safety-Related Instrumentation."

The proposed allowable value was calculated by applying calibration based errors to the trip setpoint; thereby establishing an operability limit associated with the entire loop of the instrumentation function. The proposed allowable value change is within the analytical limit for

this function and does not affect the existing margin between operating conditions and the reactor trip setpoint. Therefore, the proposed allowable value change does not affect the existing licensing basis, and is, therefore, acceptable.

BSI-02 CTS Table 3.3-2, Item 9, Reactor Low Pressure - ITS Table 3.3.5.1-1, Function 1.c, Core Spray System Reactor Pressure - Low (Injection Permissive) and Table 3.3.5.1-1, Function 2.c, Low Pressure Coolant Injection System Reactor Pressure - Low (Injection Permissive)

Change Allowable Value from "≥ 450 psig" to "≥ 410 psig and ≤ 490 psig".

The proposed allowable value has been established consistent with the PASNY Engineering Standards Manual, IES-3, Revision 0, "Instrument Loop Accuracy and Setpoint Calculation Methodology." The methodology used to determine the allowable value is consistent with the methodology described in ISA-S67.04-1994, Part II, "Methodologies for the Determination of Setpoints for Nuclear Safety-Related Instrumentation."

The proposed allowable value was calculated by applying calibration based errors to the trip setpoint; thereby establishing an operability limit associated with the entire loop of the instrumentation function. The proposed allowable value change is within the analytical limit for this function and does not affect the existing margin between operating conditions and the reactor trip setpoint. Therefore, the proposed allowable value change does not affect the existing licensing basis, and is, therefore, acceptable.

BSI-03 CTS Table 3.2-2 Item 11, Core Spray Pump Start Timer (each loop) - ITS Table 3.3.5.1-1, Function 1.d, Core Spray System Core Spray Pump Start - Time Delay Relay

Change Allowable Value from "11 ± 0.6 sec." to "≥ 9.5 seconds and ≤ 12.5 seconds".

CTS Table 3.2-2 Item 12, RHR (LPCI) Pump Start Timer - ITS Table 3.3.5.1-1 Function 2.f, Low Pressure Coolant Injection System Low Pressure Coolant Injection Pump Start - Time Delay Relay

Change CTS "1st Pump (A Loop)" Allowable Value from "1.0 + 0.5 sec. (-) 0 sec." to ITS "Pump A ≥ 1.07 seconds and ≤ 1.43 seconds".

Change CTS "1st Pump (B Loop)" Allowable Value from "1.0 + 0.5 sec. (-) 0 sec." to ITS "Pump D ≥ 1.07 seconds and ≤ 1.43 seconds".

Change CTS "2nd Pump (A Loop)" Allowable Value from "6.0 ± 0.5 sec." to ITS "Pump B ≥ 5.15 seconds and ≤ 6.85 seconds".

Change CTS "2nd Pump (B Loop)" Allowable Value from "6.0 ± 0.5 sec." to ≥ ITS "Pump C 5.15 seconds and ≤ 6.85 seconds".

CTS Table 3.2-2 Item 13, Auto Blowdown Timer - ITS Table 3.3.5.1-1 Functions 4.b Automatic Depressurization System A Trip System Automatic Depressurization System Initiation Timer and 5.b, Automatic Depressurization System B Trip System Automatic Depressurization System Initiation Timer

Change Allowable Value from "120 sec. ± 5 sec." to "≤ 134 seconds".

The proposed allowable values are being modified to reflect the appropriate values according to a change in calibration frequency from 6 months to 24 months. The proposed change in surveillance frequency is consistent with the CTS Table 4.2-2 Item 4, Auto Sequencing Timers, frequency. The licensee has analyzed the potential drift based on a calibration frequency of 30 months and determined that the drift values do not exceed the drift allowance provided for these instruments.

The proposed allowable values have been established consistent with the PASNY Engineering Standards Manual, IES-3, Revision 0, "Instrument Loop Accuracy and Setpoint Calculation Methodology." The methodology used to determine the allowable values is consistent with the methodology described in ISA-S67.04-1994, Part II, "Methodologies for the Determination of Setpoints for Nuclear Safety-Related Instrumentation."

The proposed allowable values were calculated by applying calibration based errors to the trip setpoints; thereby establishing an operability limit associated with the entire loop of each instrumentation function. The proposed allowable value changes are within the analytical limit for each function and do not affect the existing margins between operating conditions and reactor trip setpoints. Therefore, the proposed allowable value changes do not affect the existing licensing basis, and are, therefore, acceptable.

BSI-04 CTS Table 3.2-2 Item 18, Suppression Chamber High Level - ITS Table 3.3.5.1-1 Function 3.e, Low Pressure Coolant Injection Suppression Pool Water Level - High

Change Allowable Value from "≤ 6 in. above normal level" to "≤ 14.5 feet".

The normal suppression pool water level is 13.88 to 14.00 feet. The CTS requires an allowable value of ≤ 6 inches above normal. The ITS allowable value of ≤ 14.5 is equivalent to the CTS value and is consistent with the format of the STS format. Therefore, this change is administrative since there is no technical change.

BSI-05 CTS Table 3.2-2 Item 24, Reactor Low Pressure - ITS Table 3.3.5.1-1 Function 2.d, Low Pressure Coolant Injection System Reactor Pressure - Low (Recirculation Discharge Valve Permissive)

Change Allowable Value from "285 to 335 psig" to "≥ 300 psig".

The proposed allowable value has been established consistent with the PASNY Engineering Standards Manual, IES-3, Revision 0, "Instrument Loop Accuracy and Setpoint Calculation Methodology." The methodology used to determine the allowable value is consistent with the methodology described in ISA-S67.04-1994, Part II, "Methodologies for the Determination of Setpoints for Nuclear Safety-Related Instrumentation."

The proposed allowable value was calculated by applying calibration based errors to the trip setpoint; thereby establishing an operability limit associated with the entire loop of the instrumentation function. The proposed allowable value change is within the analytical limit for this function and does not affect the existing margin between operating conditions and the reactor trip setpoint. Therefore, the proposed allowable value change does not affect the existing licensing basis, and is, therefore, acceptable.

BSI-06 CTS Table 3.2-1, HPCI Turbine Steam Line High Flow - ITS Table 3.3.6.1-1 Function 3a, High Pressure Coolant Injection System Isolation HPCI Steam Line Flow - High

Change Allowable Value from "$\leq$ 160 in. H_2O dp" to $\leq$ "161 inches of water dP".

The proposed allowable value has been established consistent with the PASNY Engineering Standards Manual, IES-3, Revision 0, "Instrument Loop Accuracy and Setpoint Calculation Methodology." The methodology used to determine the allowable value is consistent with the methodology described in ISA-S67.04-1994, Part II, "Methodologies for the Determination of Setpoints for Nuclear Safety-Related Instrumentation."

The proposed allowable value was calculated by applying calibration based errors to the trip setpoint; thereby establishing an operability limit associated with the entire loop of the instrumentation function. The proposed allowable value change is within the analytical limit for this function and does not affect the existing margin between operating conditions and the reactor trip setpoint. Therefore, the proposed allowable value change does not affect the existing licensing basis, and is, therefore, acceptable.

BSI-07 CTS Table 3.2-1, HPCI Steam Line Low Pressure - ITS Table 3.3.6.1-1 Function 3b, High Pressure Coolant Injection System Isolation HPCI Steam Supply Line Pressure - Low

Change Allowable Value from "100 > P > 50 psig" to "$\geq$ 61 and $\leq$ 90 psig".

CTS Table 3.2-1, RCIC Steam Line Low Pressure - ITS Table 3.3.6.1-1 Function 4b, Reactor Core Isolation Cooling System Isolation RCIC Steam Supply Line Pressure - Low

Change Allowable Value from "100 > P > 50 psig" to "$\geq$ 60 and $\leq$ 90 psig".

The proposed allowable values have been established consistent with the PASNY Engineering Standards Manual, IES-3, Revision 0, "Instrument Loop Accuracy and Setpoint Calculation Methodology." The methodology used to determine the allowable values is consistent with the methodology described in ISA-S67.04-1994, Part II, "Methodologies for the Determination of Setpoints for Nuclear Safety-Related Instrumentation."

The proposed allowable values were calculated by applying calibration based errors to the trip setpoints; thereby establishing an operability limit associated with the entire loop of each instrumentation function. The proposed allowable value changes are within the analytical limit for each function and do not affect the existing margins between operating conditions and the

reactor trip setpoints. Therefore, the proposed allowable value changes do not affect the existing licensing basis, and are, therefore, acceptable.

BSI-18 CTS 2.1.5, Main Steam Line Isolation Valve Closure Scram - ITS Table 3.3.1.1-1 Function 5, Main Steam Isolation Valve - Closure

Change Allowable Value from "≤ 10 percent valve closure from full open" to "≤ 14% closed".

The proposed allowable value has been established consistent with the PASNY Engineering Standards Manual, IES-3, Revision 0, "Instrument Loop Accuracy and Setpoint Calculation Methodology." The methodology used to determine the allowable value is consistent with the methodology described in ISA-S67.04-1994, Part II, "Methodologies for the Determination of Setpoints for Nuclear Safety-Related Instrumentation."

The proposed allowable value was calculated by applying calibration based errors to the trip setpoint; thereby establishing an operability limit associated with the entire loop of the instrumentation function. The proposed allowable value change is within the analytical limit for this function and does not affect the existing margin between operating conditions and the reactor trip setpoint. Therefore, the proposed allowable value change does not affect the existing licensing basis, and is, therefore, acceptable.

BSI-19 CTS Table 3.2-8, Item 9, Torus Bulk Water Temperature - ITS Table 3.3.3.1-1, Function 10, Suppression Pool Water Temperature

Delete Footnote (c).

In the STS the Required Channels for suppression pool water temperature is modified by footnote (c), which states, "Monitoring each [relief valve discharge location]." The STS Bases describes a suppression pool water temperature monitoring system that is different from the FitzPatrick design. The ITS Bases reflects the plant-specific suppression pool water temperature monitoring design. This plant-specific design is not based on a relationship with the relief valve discharge locations. Therefore, the deletion of Footnote (c) is appropriate.

BSI-23 CTS Table 3.2-7, ATWS-RPT - ITS 3.3.4.1, ATWS-RPT Instrumentation

Revise channel configuration.

In STS 3.3.4.2, Anticipated Transient Without Scram Recirculation Pump Trip (ATWS-RPT) Instrumentation, LCO 3.3.4.2 requires two channels per trip system for each ATWS-RPT function to be operable. The STS ATWS-RPT Bases describes a system that consists of two independent trip systems, with two channels of Reactor Pressure - High and two channels of Reactor Vessel Water Level - Low Low in each trip system. Either two Reactor Pressure - High or two Reactor Vessel Water Level - Low Low signals are needed to trip a trip system. The outputs are combined in a logic configuration so that either trip system will trip both recirculation pumps.

The FitzPatrick logic configuration is different from the configuration described in the STS Bases. The FitzPatrick configuration includes one trip system with four channels of Reactor Pressure - High and four channels of Reactor Vessel Water Level - Low Low. Two channels of

each function are powered by Division 1 and the other two channels of each function are powered by Division 2. The outputs of each channel provide input into the trip system which is one-out-of-two taken twice logic for each function. One channel from each division of the same function must trip to complete the logic. The trip system is arranged so that each function will trip both recirculation pumps.

The proposed ITS 3.3.4.1, ATWS-RPT Instrumentation, LCO 3.3.4.1 requires four channels for each ATWS-RPT function to be operable. The plant-specific ATWS-RPT configuration is described in ITS Bases B 3.3.4.1. The requirement for four channels of each function being operable is appropriate for this plant-specific application.

3.0 CONCLUSION

Based on the above evaluation, the staff concludes that the proposed changes in instrumentation allowable values, actions, and configurations incorporated in the ITS are consistent with approved topical reports, the licensee's setpoint methodology, and licensing basis, and are, therefore, acceptable.

Principal Contributor: Barry S. Marcus

Date: November 30, 2001