



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 245 TO FACILITY OPERATING LICENSE NO. DPR-59

POWER AUTHORITY OF THE STATE OF NEW YORK

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

DOCKET NO. 50-333

1.0 INTRODUCTION

By letter dated February 6, 1998, the New York Power Authority (the licensee) requested the approval of changes to the Technical Specifications (TS) revising the Reactor Protection System (RPS) normal supply Electrical Protection Assembly (EPA) undervoltage trip setpoints. Each of the two Reactor Protection System (RPS) divisions may be supplied from its respective RPS motor generator (MG) set or from an alternate power source which derives power from same electrical division. The MG sets and alternate sources for both divisions are provided with redundant, seismic qualified, Class 1E electrical protection assemblies (EPA) between the power source and the RPS bus. Any abnormal output type failure in either of the MG sets or alternate sources (if in service) would result in a trip of the EPA producing a half scram on that RPS division and retaining full scram capability in the other RPS division. The RPS bus is a 120-vac power distribution bus which mainly supplies power to instrument power supplies and normally energized relay coils and solenoids. The EPA trip settings have time delays to prevent transients from deenergizing the bus. The licensee proposed to increase the undervoltage trip setpoints for the normal supply source from ≥ 112.3 Vac for Channels "A" and "B" to ≥ 112.5 Vac for Channel "A" and ≥ 113.9 Vac for Channel "B."

2.0 EVALUATION

The licensee performed a calculation to determine the total channel uncertainties associated with the normal RPS EPA trip setpoints over a 24-month operating cycle. The calculation analyzed the impact of voltage drop from the EPAs to the scram pilot valve solenoids and other relays, based on voltage measurements taken at RPS system loads. The calculation concluded that the RPS scram pilot valve solenoids require the highest minimum voltage to ensure proper operation. Due to the location of the normal supply EPA (turbine building electric bays), the licensee discovered that the feeder cable run between the supply and the scram pilot valve solenoids will result in a significant voltage drop. The voltage drop assessment calculated the "A" and "B" channels separately due to their applicable differences. The licensee determined that the minimum undervoltage trip values of 112.5 and 113.5 volts for the normal supply "A" and "B" EPAs, respectively, are required to assure minimum allowable voltage at the scram pilot valve solenoids. The licensee raised the field trip setpoint for the normal RPS EPA undervoltage trip to address the issue of the voltage drop. However, the setpoint specified in TS 4.9.G.2 was not revised at that time. Therefore, the licensee proposed to increase the TS undervoltage trip setpoints for the normal supply source from ≥ 112.3 Vac for Channels "A" and "B" to ≥ 112.5 Vac for Channel "A" and ≥ 113.9 Vac for Channel "B." The time delay associated with this change is unaffected.

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