

ATTACHMENT I
PROPOSED TECHNICAL SPECIFICATION CHANGES
RELATED TO
REACTOR PROTECTION SYSTEM
ELECTRICAL PROTECTION ASSEMBLIES

POWER AUTHORITY OF THE STATE OF NEW YORK
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
DOCKET NO. 50-333

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3.9 (cont'd)

3. From and after the time both power supplies are made or found inoperable the reactor shall be brought to cold condition within 24 hours.

G. REACTOR PROTECTION SYSTEM ELECTRICAL PROTECTION ASSEMBLIES

Two RPS electrical protection assemblies for each inservice RPS MG set and inservice alternate source shall be operable except as specified below:

1. With one RPS electrical protection assembly for an inservice RPS MG set or an inservice alternate power supply inoperable, restore the inoperable channel to operable status within 72 hours or remove the associated RPS MG set or alternate power supply from service.
2. With two RPS electrical protection assemblies for an inservice RPS MG set or an inservice alternate power supply inoperable, restore at least one to operable status within 30 minutes or remove the associated RPS MG set or alternate power supply from service.

4.9 (cont'd)

G. REACTOR PROTECTION SYSTEM ELECTRICAL PROTECTION ASSEMBLIES

The RPS electrical protection assemblies instrumentation shall be determined operable by:

1. At least once every 6 months, performing a channel functional test.
2. At least once per operating cycle, demonstrating the operability of over-voltage, under-voltage and under-frequency protective instrumentation by performance of a channel calibration including simulated automatic actuation of the protective relays, tripping logic and output circuit breakers and verifying the following set points:

	<u>RPS MG SET SOURCE</u>
OVER-VOLTAGE	$\leq 132V$ $\leq 4s$ Time Delay
UNDER-VOLTAGE	$\geq 108V$ $\leq 4s$ Time Delay
UNDER-FREQUENCY	$\geq 57HZ$ $\leq 4s$ Time Delay

3.9.G (cont'd)

3. With the reactor in the RUN mode, at least one (1) RPS division shall be powered from the MG set except as specified below:

With both RPS divisions powered from the alternate sources, at least one division power source shall be restored to a MG set with operable electrical protection assemblies within seven (7) days or the reactor shall be brought to the cold condition within the subsequent 24 hours.

4.9.G (cont'd)

	<u>ALTERNATE SOURCE</u>
OVER-VOLTAGE	$\leq 132V$ $\leq 4s$ Time Delay
UNDER-VOLTAGE	$\geq 108V$ $\leq 4s$ Time Delay
UNDER-FREQUENCY	$\geq 57HZ$ $\leq 4s$ Time Delay

3.9 BASES (cont'd)

F. Reactor Protection System Power Supplies

Each of two RPS divisions may be supplied power from it's respective RPS MG set or from an alternate source which derives power from the same electrical division. The MG sets and alternate sources for both divisions are provided with redundant, seismic qualified, class 1E electrical protection assemblies 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 one or both of the electrical protection assemblies producing a half scram on that RPS division and retaining full scram capability in the other RPS division.

Limiting operating conditions in Section 3.9.G provide a high degree of assurance that RPS buses are protected as described above.

4.9 BASES (cont'd)

D. Battery System

Measurements and electrical tests are conducted at specified intervals to provide indication of cell condition and to determine the discharge capability of the batteries.

E. LPCI MOV Independent Power Supply

Measurement and electrical tests are conducted at specified intervals to provide indication of cell condition, to determine the discharge capability of the battery.

F. Reactor Protection Power Supplies

Functional testes of the electrical protection assemblies are conducted once each six (6) months utilizing a built-in test device and once per operating cycle by performing an instrument calibration which verifies operation within the limits of Section 4.9.G.

ATTACHMENT II
SAFETY EVALUATION
RELATED TO
REACTOR PROTECTION SYSTEM
ELECTRICAL PROTECTION ASSEMBLIES

POWER AUTHORITY OF THE STATE OF NEW YORK
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
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Section I - Description of the Change

This proposed amendment to Appendix A of the James A. FitzPatrick Nuclear Power Plant Facility Operating License includes two new Sections, 3.9.G and 4.9.G, on pages 222c and 222d. These sections add operability and surveillance requirements for Reactor Protection System (RPS) Electrical Protection Assemblies. Corresponding Bases Sections have been added on pages 224a and 226 which describe the purpose of each limiting condition or surveillance requirement.

The associated equipment is described in References (b), (e) and (m).

Section II - Purpose of Change

Reference (i) describes deficiencies identified by the NRC in the design of the Hatch 2 regulator system for the motor generator (MG) sets which supply power to the reactor protection system (RPS). The problem involved the possibility of the MG producing power of a quality outside the limits acceptable to the RPS. The Authority responded to the Commission's concern via Reference (j). The NRC reviewed the Authority response and determined that FitzPatrick plant could experience the same adverse conditions. Modifications to provide fully redundant Class 1E protection at the interface of the non-class 1E power supplies and RPS were prescribed. The NRC further stated that the conceptual design proposed for modification of Hatch 1 was an acceptable solution. In Reference (f), the Authority committed to upgrade the RPS based on General Electric's Hatch 1 modification. Conceptual design information for this modification was submitted to the NRC via Reference (b). Model Technical Specifications were originally provided to the Authority in Reference (c) and later revised by Reference (h). Additional information and drawings requested by Reference (c) were supplied via References (e) and (m).

These proposed changes incorporate applicable portions of the sample Technical Specifications included with Reference (h).

Section 4.9.G requires the functional test of the electrical protection assemblies every six months and a demonstration of the operability of over-voltage, under-voltage and under-frequency protection once per operating cycle.

The Electrical Protection Assemblies (EPA) trip setpoints are within the limits described in Reference (l). Reference (l) will be revised by General Electric Co. in the near future to reflect a four second allowable time delay.

These Technical Specification amendments, if approved, will fulfill the commitments referred to in References (b), (e) and (m).

Section III - Impact of the Change

The proposed changes to the Technical Specifications impose new surveillance requirements. The changes improve the reliability of the RPS to more closely meet the criterion of IEEE Standard 379-1977, Reference (g).

In accordance with Reference (i), the Authority has been conducting a program of augmented surveillance since August 11, 1978 on the RPS power supply system. The installation of this protective equipment and the attached technical specifications eliminate the need for this additional surveillance. Therefore, this surveillance will be discontinued upon approval of these changes.

These changes to the FitzPatrick Technical Specifications, along with the RPS power supply modifications described in References (b), (e) and (m) will eliminate the possibility of the MG set producing power of a quality outside the limits acceptable for the RPS. The modifications provide redundant Class 1E protection at the interface of the non-Class 1E power supplies and RPS. The Technical Specifications changes proposed will ensure the reliability and operability of this equipment.

Section IV - Implementation of the Change

The change, as proposed, will not impact the ALARA or Fire Protection Program at FitzPatrick. The proposed change will not impact the environment.

Section V - Conclusion

The incorporation of these changes: a) will not change the probability nor the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Safety Analysis Report; b) will not increase the possibility of an accident or malfunction of a different type than any evaluated previously in the Safety Analysis Report; c) will not reduce the margin of safety as defined in the basis for any Technical Specification; and d) does not constitute an unreviewed safety question.

Section VI - References

- (a) James A. FitzPatrick Nuclear Power Plant Final Safety Analysis, revised July 14, 1982.
- (b) May 13, 1981 letter, J.P. Bayne (PASNY) to T.A. Ippolito (NRC) regarding Reactor Protection System Power Supply Upgrade (JPN-81-36).
- (c) September 2, 1981 letter, T.A. Ippolito (NRC) to G.T. Berry (PASNY) regarding Reactor Protection System (RPS) Power Monitoring System Design Modification.

- (d) September 24, 1980 letter, T.A. Ippolito (NRC) to G.T. Berry (PASNY).
- (e) November 2, 1981 letter, J.P. Bayne (PASNY) to T.A. Ippolito (NRC) (JPN-81-87).
- (f) January 19, 1981 letter, J.P. Bayne (PASNY) to T.A. Ippolito (NRC) regarding RPS Power Supply (JPN-81-8).
- (g) IEEE Standard 379-1977, "IEEE Standard Application of the Single-Failure Criterion to Nuclear Power Generating Station 1E Systems."
- (h) July 28, 1982 letter, D.B. Vassallo (NRC) to L.W. Sinclair (PASNY) regarding RPS Power Monitoring System Design Modification.
- (i) August 7, 1978 letter, T.A. Ippolito (NRC) to G.T. Berry (PASNY).
- (j) October 6, 1978 letter, P.J. Early (PASNY) to T.A. Ippolito (NRC), (JNRC-78-49).
- (k) James A. FitzPatrick Nuclear Power Plant, Special Engineering Test Report TP-1, Revision 1, "RPS Electrical Components Undervoltage Withstand Test"
- (l) General Electric Company, Installation Specification No. 22A7730
- (m) February 23, 1982 telecon, J. Hegner (NRC) to L. Guaquil (PASNY), J. Escarzaga (PASNY), I. Ahmed (NRC) and J. Selan (LLNL)