Nebraska Public Power District

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September 29, 1981

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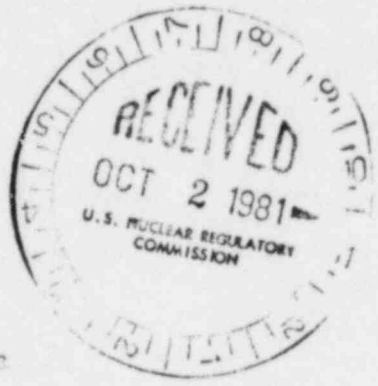

Director, Nuclear Reactor Regulation
Attention: Mr. Thomas A. Ippolito, Chief
Operating Reactors Branch No. 2
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: RPS Power Monitoring System Design Modification

Reference: T. A. Ippolito (NRC) to J. M. Pilant (NPPD) letter dated July 22, 1981, same subject

Dear Mr. Ippolito:

As requested in the reference letter, NPPD is submitting the additional information pertaining to the modification of RPS MG sets. The following items refer to the items of request in enclosure (1) to the reference letter.

1. Submit detailed drawings of the proposed design modification to the monitoring system for the RPS power supplies (MGs and alternate source). The drawings should include component ratings, and schematic and wiring diagrams. Detailed relay information may be submitted in the form of the manufacturers Technical Bulletin.

   Response:

   The following documents are enclosed for your review.

   (a) GE 915E296, RPS MG Set Control Elementary Diagram
   (b) GE 914E175, Electrical Protection Assembly Instruction Manual

2. Submit a current revision of the electrical one-line diagram of the on-site distribution system and a schematic/elementary diagram that includes the RPS power distribution buses.

   Response:

   The following drawings are enclosed for your review.

   (a) B&R 3010, Vital One Line Diagram
   (b) GE 3300C15A4558, Elementary & Control Diagram

3. Provide justification that proposed time delays, if any, will not result in damage to RPS system components or affect the performance of required safety functions.

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Send Drawings
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Response:

The time delay for the trip of RPS buses when their voltage and/or frequency exceeds their limits is desirable to allow power transfer without an unnecessary scram of the reactor. The vendor (General Electric Co.) proposes a 3-4 second time delay. This short time is not sufficient to cause damage to any RPS component or affect the performance of required safety functions.

4. Provide justification that the design modification and components will meet the requirements of GDC 2 and GDC 21 of 10 CFR Part 50, Appendix A.

Response:

(a) GDC 2:

Electrical Protection Assemblies (EPA's) are designed to withstand the effects of natural phenomena. Shop tests to be performed by the manufacturer will verify that this equipment can safely function under the following conditions:

OBE of 5.0G
SSE of 7.0G
Frequency Spectrum of 1Hz to 33Hz

(b) GDC 21:

Two EPA's, connected in series, will be added to each RPS bus feeder. Each EPA has its own sensor and trip circuits and has the provision for testing. A single failure does not prevent the RPS from performing its function.

5. Specify monitoring system over-voltage, under-voltage, and under-frequency trip setpoints.

Response:

The trip setpoints for the RPS are as follows:

Overvoltage $\geq$ 132V
Undervoltage $\leq$ 108V
Underfrequency $\leq$ 57Hz

It is planned to complete this modification by the end of the 1982 refueling outage. Technical Specifications per the guidance given in the referenced letter will be submitted when the minor design change is finalized and approved.

If you should require additional information, please contact me.

Sincerely,

Jay M. Pilant
Division Manager of Licensing
and Quality Assurance

JMP:cmk

Enclosure