The Light company
Houston Lighting & Power South Texas Project Electric Generating Station P. O. Box 289 Wadsworth, Texas 77483

October 9, 1995
ST-HL-AE-5203
File No.: G09.06
10CFR50.90, 50.92

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, STN 50-499
Additional Information Regarding Proposed Amendment to
Technical Specification Surveillance 4.8.1.1.2.e.7

Reference: Correspondence from J. F. Groth to Document Control Desk, dated May 22, 1995 (ST-HL-AE-5089)

In the reference correspondence, the South Texas Project proposed that Surveillance Requirement 4.8.1.1.2.e.7 be revised to allow performing the surveillance with the plant at power. The Nuclear Regulatory Commission staff subsequently requested additional information regarding the proposed change. The Nuclear Regulatory Commission questions and the South Texas Project responses are attached.

If there are any questions regarding this response, please contact Mr. A. W. Harrison at (512) 972-7298 or me at (512) 972-7239.

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AWH/lf

Attachment: Response to Nuclear Regulatory Commission Questions

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Response to Nuclear Regulatory Commission Questions

Question 1:

Demonstrate that during the 24-hour test of the Standby Diesel Generator, no other Standby Diesel Generator will be connected in parallel with the grid and the remaining redundant divisions are supplied from a separate off-site source.

Answer 1:

Having more than one Standby Diesel Generator in a unit connected to the grid would not be a planned condition at the South Texas Project. The South Texas Project places the Standby Diesel Generators on the grid for routine surveillance testing. The station has established a normal twelve week rolling schedule in which testing and maintenance of each unit's three Engineered Safety Feature trains are rotated such that only one train is tested at a time. Use of this schedule will ensure that only one Standby Diesel Generator is tested at a time. With regard to supplying the remaining redundant divisions from a separate offsite source, the South Texas Project will make procedure changes to align the redundant Standby Diesel Generators of the affected unit to a separate Auxiliary or Standby transformer.

Question 2:

Assuming a Loss of Offsite Power and a single failure of the Standby Diesel Generator being tested, demonstrate adequate capacity is available in the remaining Standby Diesel Generators to power the remaining divisions, and that the remaining divisions have the required equipment operable to mitigate the consequences of a Design Basis Accident or Loss of Offsite Power condition.

Answer 2:

At South Texas, the onsite ac power system consists of three independent divisions of safety-related distribution systems. Two of the three divisions are sufficient to mitigate the consequences of a design-basis accident. The design meets the single-failure criterion as failure of any one of the three divisions will not jeopardize the safety function of the onsite AC power system. Therefore, as shown in the South Texas Project Updated Final Safety Analysis Report and as accepted in the Nuclear Regulatory Commission's Safety Evaluation Report, the South Texas Project can mitigate all Design Bases Accidents with the two remaining trains should a single failure occur.

To provide assurance that cross-train components are available in the unlikely case of an event while the diesel is running, STP will not perform planned maintenance on required components of the other Engineered Safety Feature trains or the Auxiliary Feedwater System while the 24 hour diesel run is underway. Routine surveillance activities may proceed, as necessary.

Question 3:

Demonstrate how the Standby Diesel Generators will be prevented from paralleling the grid during severe weather or unstable grid conditions.

Answer 3:

The procedure for testing the diesel will include a requirement to assess the potential for unstable grid conditions, including local severe weather, prior to performing the test.

Question 4:

The application states (on page 1 of 4), "If a loss of offsite power occurs during the surveillance test, the diesel generator output breaker will be tripped by the directional over-current relay on the Engineered Safety Feature transformer." Are other relays available to protect the Standby Diesel Generator from damage in the event the over-current relay fails? If so, what are their functions?

Answer 4:

When a Loss of Offsite Power occurs with a Standby Diesel Generator connected to offsite power through the Auxiliary Engineered Safety Feature transformer, the primary means of disconnecting the Standby Diesel Generator from offsite power is the Directional Overcurrent Relay provided on the 4160 V side of the Auxiliary Engineered Safety Feature transformer. This protection scheme functions to trip the Standby Diesel Generator output circuit breaker upon detection of an overcurrent condition but allows the Standby Diesel Generator to continue running. When the Engineered Safety Feature bus undervoltage relays detect the loss of voltage, they will trip the offsite source feeder breaker to the Engineered Safety Feature bus and initiate Standby Diesel Generator load sequencing.

Should the Directional Overcurrent Relay protection scheme fail to detect or trip to remove the overcurrent condition caused by a Loss of Offsite Power, there are at least two (2) other relays which will function to protect the Standby Diesel Generator from damage when it is connected to offsite power. These relays are listed in the following sections along with a brief description of their functions.

Time Overcurrent Relay with Voltage Restraint Settings - 51V (IFCV)

The primary purpose of this relay is to provide for system backup protection to minimize the damage resulting from a fault if the primary protective device (i.e., the directional overcurrent relays) fails to operate. This relay is used when it is necessary to distinguish between abnormal excessive current and a normal maximum load current condition. The 51V relay does not trip on normal Standby Diesel Generator load current because system voltage is maintained. When the Standby Diesel Generator load current is excessive (e.g., as in a Loss of Offsite Power), the system voltage drops and the relay trips in accordance with its setpoints to prevent damage from occurring if the primary protective device fails to operate.

Generator Underfrequency Relay - 81

During a Loss of Offsite Power scenario, the Standby Diesel Generator frequency will decay permitting the Generator Underfrequency Relay to also function as a backup to the primary protective device (i.e., the directional overcurrent relays). Should Standby Diesel Generator frequency decay to preset setpoints due to excessive Standby Diesel Generator loading caused by a Loss of Offsite Power, this protective relay scheme will trip the Standby Diesel Generator output circuit breaker to prevent damage from occurring if the primary protective device fails to operate.