JERSEY CENTRAL POWER & LIGHT COMPANY
OYSTER CREEK NUCLEAR GENERATING STATION
PROVISIONAL OPERATING LICENSE DPR-16
(DOCKET NO. 50-219)

Applicant hereby requests the Commission to change Appendix A to the above captioned license as follows:

1. Sections to be changed:
   Section 3.7 and 4.7.

2. Extent of changes:
   Change Section 3.7 to be consistent with 125V DC modification and make Section 4.7 consistent with current surveillance requirements.

3. Changes requested:
   Replace page 3.7-1 with the attached page 3.7-1
   Replace page 3.7-2 with the attached page 3.7.2
   Replace page 3.7-3 with the attached page 3.7-3
   Replace page 4.7-1 with the attached page 4.7-1

4. Discussion:
   A description of a modification to the 125V DC distribution system at Oyster Creek Nuclear Generating Station was submitted by letter dated April 14, 1978 from Ivan R. Finfrock, Jr. to the Director of Nuclear Reactor Regulations.

   The safety related loads which are presently powered from 125V DC distribution center "A", will be powered from 125V DC distribution center "C". The safety related loads presently powered from Panel E will be powered from Panel DC-F. An additional motor control center, DC-2, will be added. The changes to Section 3.7 are editorial changes to reflect these new power supplies for safety related loads.

   The change to Section 4.7 updates the surveillance requirements regarding load testing the battery to reflect today's standards. This specification also requires that the battery be tested only when the reactor is shutdown. Therefore, at all times when the plant is operating, both batteries will be at full capacity.

3.7 AUXILIARY ELECTRICAL POWER

Applicability: Applies to the operating status of the auxiliary electrical power supply.

Objective: To assure the operability of the auxiliary electrical power supply.

Specification: A. The reactor shall not be made critical unless all of the following requirements are satisfied:

1. The following buses or panels energized.

   a. 4160 volt buses 1C and 1D in the turbine building switchgear room.
   b. 460 volt buses 1A2, 1B2, 1A21, 1B21 vital MCC 1A2 and 1B2 in the reactor building switch gear room; 1A3 and 1B3 at the intake structure; 1A21A, 1B21A, 1A21B, and 1B21B and isolation valve MCC 1AB2 on 23'6" elevation in the reactor building; 1A24 and 1B24 at the stack.
   c. 208/120 volt panels 3, 4, 4A, 4B, 4C and VACP-1 in the reactor building switchgear room.
   d. 120 volt protection panel 1 and 2 in the cable room.
   e. 125 volt DC distribution centers A and B, and panel D Panel DC-F, isolation valve motor control center DC-1, and 125V DC motor control center DC-2.

   f. 24 volt D.C. power panels A and B in the cable room.

2. One 230 KV line is fully operational and switch gear and both startup transformers are energized to carry power to the station 4160 volt AC buses and carry power to or away from the plant.

3. An additional source of power consisting of one of the following is in service connected to feed the appropriate plant 4160 V bus or buses:

   a. A second 230 KV line fully operational.
   b. One 34.5 KV line fully operational.

4. The station batteries B and C are available for normal service and a battery charger is in service for each battery.

B. The reactor shall be placed in the cold shutdown condition if the availability of power falls below that required by Specification A above, except that the reactor may remain in operation for a period not to exceed 7 days in any 30 day period if a startup transformer is out of service. To

be considered operational none of the engineered safety feature equipment normally fed by the transformer may be out of service.

C. Standby Diesel Generators

1. The reactor shall not be made critical unless both diesel generators are operable and capable of feeding their designated 4160 volt buses.

2. If one diesel generator becomes inoperable during power operation, repairs shall be initiated immediately and the other diesel shall be operated at least one hour every 24 hours at greater than 20% rated power until repairs are completed. The reactor may remain in operation for a period not to exceed 7 days in any 30-day period if a diesel generator is out of service. During the repair period none of the engineered safety features normally fed by the operational diesel generator may be out of service or the reactor shall be placed in the cold shutdown condition.

3. If both diesel generators become inoperable during power operation, the reactor shall be placed in the cold shutdown condition.

4. For the diesel generators to be considered operable there shall be a minimum of 14,500 gallons of diesel fuel in the standby diesel generator fuel tank.

Bases:

The general objective is to assure an adequate supply of power with at least one active and one standby source of power available for operation of equipment required for a safe plant shutdown, to maintain the plant in a safe shutdown condition and to operate the required engineered safety feature equipment following an accident.

AC power for shutdown and operation of engineered safety feature equipment can be provided by any of four active (two 230 KV and two 34.5 KV lines) and either of two standby (two diesel generators) sources of power. Normally all six sources are available. However, to provide for maintenance and repair of equipment and still have redundancy of power sources the requirement of one active and one standby source of power was established. The plant's main generator is not given credit as a source since it is not available during shutdown. The plant 125V DC power is normally supplied by two batteries, each with two associated full capacity chargers. These chargers are active sources and supply the normal 125V DC requirements with the batteries as standby sources. (1)

In applying the minimum requirement of one active and one standby source of AC power, since both 230 KV lines are on the same set of towers, either one or both 230 KV lines are considered as a single active source.

The probability analysis in Appendix "L" of the FDSAR was based on one diesel and shows that even with only one diesel the probability of requiring engineered safety features at the same time as the second diesel fails is quite small. This analysis used information on peaking diesels when synchronization was required which is not the case for Oyster Creek. Also the daily test of the second diesel when one is temporarily out of service tends to improve the reliability as does the fact that synchronization is not required.

As indicated in Amendment 18 to the Licensing Application, there are numerous sources of diesel fuel which can be obtained within 6 to 12 hours and the heating boiler fuel in a 75,000 gallon tank on the site could also be used. Since the requirements for operation of the required engineered safety features after an accident or for safe shutdown can be supplied by one diesel generator the specification requirement for 14,500 gallons of diesel fuel can operate one diesel at a load of 2640 KW for 3 days. As indicated in Amendment 32 of the Licensing Application, the load requirement for the loss of offsite power would require 11,750 gallons for a three day supply. For the case of loss of offsite power plus loss-of-coolant plus bus failure 11,300 gallons would be required for a three day supply. In the case of loss of offsite power plus loss-of-coolant with both diesel generators starting the load requirements (all equipment operating) shown there would not be three days' supply. However, not all of this load is required for three days and, after evaluation of the conditions, loads not required on the diesel will be curtailed. It is reasonable to expect that within 8 hours conditions can be evaluated and the following loads curtailed:

1. One Reactor Building Closed Cooling Water Pump.
2. One Core Spray Pump.
3. One Core Spray Booster Pump.
4. One Control Rod Drive Pump.
5. One Service Water Pump.
6. One Containment Spray Pump.
7. One Emergency Service Water Pump.

With these pieces of equipment taken off at 8 hours after the incident it would require a total consumption of 14,230 gallons for a three day supply.

References:

(1) Letter, Ivan R. Finfrock, Jr. to the Director of Nuclear Reactor Regulations dated April 14, 1978.

4.7 AUXILIARY ELECTRICAL POWER

Applicability: Applies to surveillance requirements of the auxiliary electrical supply.

Objective: To verify the availability of the auxiliary electrical supply.

Specification:

A. Diesel Generator

1. Each diesel generator shall be started and loaded to not less than 20% rated power every two weeks.

2. The two diesel generators shall be automatically actuated and functionally tested during each refueling outage. This shall include testing of the diesel generator load sequence timers listed in Table 3.1.1.

3. Each diesel generator shall be given a thorough inspection at least annually.

4. The diesel generators' fuel supply shall be checked following the above tests.

5. The diesel generators' starting batteries shall be tested and monitored the same as the station batteries, Specification 4.7.b.

B. Station Batteries

1. The specific gravity and voltage of the designated pilot cell, the temperature of the adjacent cell, and the overall battery voltage shall be measured weekly.

2. The voltage of each cell shall be measured monthly to the nearest 0.01 volt.

3. The specific gravity of each cell, the temperature reading of every fifth cell, the height of electrolyte, and the amount of water added shall be measured every 3 months.

4. The batteries shall be load tested at least once per 18 months, including monitoring the battery voltage as a function of time.