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

BOSTON EDISON COMPANY

DOCKET NO. 50-293

PILGRIM NUCLEAR POWER STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 141
License No. DPR-35

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
   A. The application for amendment filed by the Boston Edison Company (the licensee) dated December 6, 1991 complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-35 is hereby amended to read as follows:

   Technical Specifications
   The Technical Specifications contained in Appendix A, as revised through Amendment No. 141, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Victor Nerses

Victor Nerses, Acting Director
Project Directorate I-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical Specifications

Date of Issuance: April 7, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 141

FACILITY OPERATING LICENSE NO. DPR-35

DOCKET NO. 50-293

Replace the following pages of the Appendix A Technical Specifications with the attached pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

Remove	Insert
194A	194A
200	200
201	201

4.9.A Auxiliary Electrical Equipment Surveillance (Cont'd)

1. Verifying de-energization of the emergency buses and load shedding from the emergency buses.

2. Verifying the diesel starts from ambient condition on the auto-start signal, energizes the emergency buses with permanently connected loads, energizes the auto-connected emergency loads through the load sequence, and operates for $\geq$ 5 minutes while its generator is loaded with the emergency loads.

   During performance of this surveillance verify that HPCI and RCIC inverters do not trip.

   The results shall be logged.

c. Once per operating cycle with the diesel loaded per 4.9.A.1.b verify that on diesel generator trip, secondary (offsite) AC power is automatically connected within 12 to 14 seconds to the emergency service buses and emergency loads are energized through the load sequencer in the same manner as described in 4.9.A.1.b.1.

   The results shall be logged.

BASES:

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The monthly test of the diesel generator is conducted to check for equipment failures and deterioration. Testing is conducted up to equilibrium operating conditions to demonstrate proper operation at these conditions. The diesel generator will be manually started, connected to the bus, and load picked up. The diesel generator should be loaded to at least 75% of rated load to prevent fouling of the engine. It is expected that the diesel generator will be run for one to two hours. Diesel generator experience at other generating stations indicates that the testing frequency is adequate and provides a high reliability of operation should the system be required.

Each diesel generator has one air compressor and two air receivers for starting, and one air compressor and three receiver tanks for turbo-charger assist in starting and loading. It is expected that the air compressors will run only infrequently. During the monthly check of the diesel generator, one receiver in each set of receivers will be drawn down below the point at which the corresponding compressor automatically starts to check operation and the ability of the compressors to recharge the receivers.

The diesel generator fuel consumption rate at full load is approximately 193 gallons per hour. Thus, the monthly load test of the diesel generators will test the operation and ability of the fuel oil transfer pumps to refill the day tank and will check the operation of these pumps from the emergency source.

The test of the diesel generator during the refueling outage will be more comprehensive in that it will functionally test the system; i.e., it will check diesel generator starting, closure of the diesel generator breaker, and sequencing of load on the diesel generator. The diesel generator will be started by simulation of a loss of coolant accident. In conjunction with this, an undervoltage condition will be imposed to simulate a loss of offsite power. The timing sequence will be checked to assure that the diesel generators can operate the core spray pumps at rated power within thirty seconds and the LPCI pumps at rated power within forty-three seconds. Additionally, with the diesel generator operating as described above, the capability of supplying power to the emergency bus will be further substantiated. This will be accomplished by tripping the diesel generator breaker and verifying that secondary offsite power is connected to the emergency bus and emergency loads are energized through the load sequence.

The inverters associated with the HPCI and RCIC systems provide power to the flow control mechanisms of these systems. The inverters automatically reset following a high DC input voltage trip. Loss of the RCIC inverter results in a minimum flow condition. Loss of the HPCI inverter results in HPCI going to zero flow. After the inverters reset, RCIC flow will return to normal and HPCI will restart. Demonstrating the inverters do not trip during the once per cycle diesel generator surveillance provides assurance of the successful operation of the circuits, battery chargers, batteries, and inverters.

Periodic tests between refueling outages verify the ability of the diesel generator to run at full load and the core and containment cooling pumps to

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deliver full flow. Periodic testing of the various components, plus a functional test once per cycle, is sufficient to maintain adequate reliability.

Although station batteries will deteriorate with time, utility experience indicates there is almost no possibility of precipitous failure. The type of surveillance described in this specification has been demonstrated over the years to provide an indication of a cell becoming irregular or unserviceable long before it becomes a failure. In addition, the checks described also provide adequate indication that the batteries have the specified ampere hour capability.

The diesel fuel oil quality must be checked to ensure proper operation of the diesel generators. Water content should be minimized because water in the fuel could contribute to excessive damage to the diesel engine.

The electrical protection assemblies (EPAs) on the RPS inservice power supplies, either two motor generator sets or one motor generator and the alternative supply, consist of protective relays that trip their incorporated circuit breakers on overvoltage, undervoltage, or underfrequency conditions. There are two EPAs in series per power source. It is necessary to periodically test the relays to ensure the sensor is operating correctly and to ensure the trip unit is operable. Based on experience at conventional and nuclear power plants, a six-month frequency for the channel functional test is established. This frequency is consistent with the Standard Technical Specifications.

The EPAs of the power sources to the RPS shall be determined to be operable by performance of a channel calibration of the relays once per operating cycle. During calibration, a transfer to the alternative power source is required; however, prior to switching to alternative feed, de-energization of the applicable MG set power source must be accomplished. This results in a half scram on the channel being calibrated until the alternative power source is connected and the half scram is cleared. Based on operating experience, drift of the EPA protective relays is not significant. Therefore, to avoid possible spurious scrams, a calibration frequency of once per cycle is established.