

August 13, 1981

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Docket No. 50-219
LS05-81-08-030

Mr. I. R. Finfrock, Jr.
Vice President
Jersey Central Power & Light Company
Post Office Box 388
Forked River, New Jersey 08731

Dear Mr. Finfrock:

The Commission has issued the enclosed Amendment No. 55 to Provisional Operating License No. DPR-16 for the Oyster Creek Nuclear Generating Station. This amendment consists of changes to the Technical Specifications in response to your applications dated October 10, 1978 and August 11, 1980, as modified by letter dated March 19, 1981.

The amendment authorizes a change to the Auxiliary Electrical Power Section of the Appendix A Technical Specifications, which reflects modifications made previously to the 125 VDC power distribution system. This amendment also updates station surveillance procedures to make them consistent with IEEE STD. 450.

The proposed changes pertaining to grid under voltage protection remain under our review, and will be handled by a separate license amendment.

Copies of our related Safety Evaluation and the Notice of Issuance are also enclosed.

Sincerely,

Original signed by

Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
Division of Licensing

Enclosures:

1. Amendment No. 55 to License No. DPR-16
2. Safety Evaluation
3. Notice of Issuance

cc w/enclosures:
See next page



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*Amendment 55
notice*

OFFICE	DL: ORB #5	DL: ORB #5	OELD	DL: ORB #5	DL: AD/SA		
SURNAME	HSmith:cc	JLombardo	<i>C Woodley</i>	DCrutchfield	GLainas		
DATE	8/6/81	8-7-81	8-11-81	8/13/81	8/13/81		

Mr. I. R. Finfrock, Jr.

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August 13, 1981

CC

G. F. Trowbridge, Esquire
Shaw, Pittman, Potts and Trowbridge
1800 M Street, N. W.
Washington, D. C. 20036

J. B. Lieberman, Esquire
Berlack, Israels & Lieberman
26 Broadway
New York, New York 10004

Natural Resources Defense Council
917 15th Street, N. W.
Washington, D. C. 20006

J. Knubel
BWR Licensing Manager
Jersey Central Power & Light Company
Madison Avenue at Punch Bowl Road
Morristown, New Jersey 07960

Joseph W. Ferraro, Jr., Esquire
Deputy Attorney General.
State of New Jersey
Department of Law and Public Safety
1100 Raymond Boulevard
Newark, New Jersey 07012

Ocean County Library
Brick Township Branch
401 Chambers Bridge Road
Brick Town, New Jersey 08723

Mayor
Lacey Township
P. O. Box 475
Forked River, New Jersey 08731

Commissioner
Department of Public Utilities
State of New Jersey
101 Commerce Street
Newark, New Jersey 07102

U. S. Environmental Protection
Agency
Region II Office
ATTN: EIS COORDINATOR
26 Federal Plaza
New York, New York 10007

Gene Fisher
Bureau Chief
Bureau of Radiation Protection
380 Scotts Road
Trenton, New Jersey 08628

Commissioner
New Jersey Department of Energy
101 Commerce Street
Newark, New Jersey 07102

Licensing Supervisor
Oyster Creek Nuclear Generating
Station
P. O. Box 388
Forked River, New Jersey 08731

Resident Inspector
c/o U. S. NRC
P. O. Box 445
Forked River, New Jersey 08731



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

JERSEY CENTRAL POWER & LIGHT COMPANY

DOCKET NO. 50-219

OYSTER CREEK NUCLEAR GENERATING STATION, UNIT NO. 1

AMENDMENT TO PROVISIONAL OPERATING LICENSE

Amendment No. 55
License No. DPR-16

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The applications for amendment by Jersey Central Power and Light Company (the licensee) dated October 10, 1978 and August 11, 1980, as modified March 19, 1981, comply 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 applications, 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;
 - 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 Provisional Operating License No. DPR-16 is hereby amended to read as follows:

3.B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 55, 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 the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 13, 1981

ATTACHMENT TO LICENSE AMENDMENT NO. 55

PROVISIONAL OPERATING LICENSE NO. DPR-16

DOCKET NO. 50-219

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

<u>REMOVE</u>	<u>INSERT</u>
3.7-1	3.7-1
---	3.7-1a*
3.7-2	3.7-2
3.7-3	3.7-3
4.7-1	4.7-1*
---	4.7-1a
4.7-2	4.7-2

* No changes involved; included for format and pagination purposes only.

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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 switchgear room; 1A3 and 1B3 at the intake structure; 1A21A, 1B21A, 1A21B, and 1B21B and vital 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 C 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 shut-down position 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.

None of the engineered safety feature-equipment fed by the remaining 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 shut-down condition.
3. If both diesel generators become inoperable during power operation, the reactor shall be placed in the cold shut-down 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. One charger on each battery is in service at all times with the second charger available in the event of charger failure. These chargers are active sources and supply the normal 125V DC requirements with the batteries and 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.

Basis: The biweekly tests of the diesel generators are primarily to check for failures and deterioration in the system since last use. The manufacturer has recommended the two week test interval, based on experience with many of their engines. One factor in determining this test interval (besides checking

Amendment No. 15,
February 24, 1976

B. Station Batteries

1. Weekly surveillance will be performed to verify the following:
 - a. The active metallic surface of the plates shall be fully covered with electrolyte in all batteries,
 - b. The designated pilot cell voltage is greater than or equal to 2.0 volts and
 - c. The overall battery voltage is greater than or equal to 120 volts (Diesel battery; 112 volts).
 - d. The pilot cell specific gravity, corrected to 77 °F, is greater than or equal to 1.190.

2. Quarterly Surveillance will be performed to verify the following:
 - a. The active metallic surface of the plates shall be fully covered with electrolyte in all batteries,
 - b. The voltage of each connected cell is greater than or equal to 2.0 volts under float charge and
 - c. The specific gravity, for each cell, is greater than or equal to 1.190 when corrected to 77 °F. The electrolyte temperature of every fifth cell (Diesel; every fourth cell) shall be recorded for surveillance review.

3. At least once per 18 months during shutdown, the following tests will be performed to verify battery capacity.
 - a. Battery capacity shall be demonstrated to be at least 80% of the manufacturers' rating when subjected to a battery capacity discharge test.
 - b. Battery low voltage annunciators are verified to pick up at 115 volts \pm 1 volt and to reset at 125 volts \pm 1 volt (Diesel; 112 volts \pm 1 volt).

Basis:

The biweekly tests of the diesel generators are primarily to check for failures and deterioration in the system since last use. The manufacturer has recommended the two week test interval, based on experience with many of their engines. One factor in determining this test interval (besides checking whether or not the engine starts and runs) is that the lubricating oil should be circulated through the engine approximately every two weeks. The diesels should be loaded to at least 20% of rated power until engine and generator temperatures have stabilized (about one hour). The minimum 20% load will prevent soot formation in the cylinders and injection nozzles. Operation up to an equilibrium temperature ensures that there is no over-heat problem. The tests also provide an engine and generator operating history to be compared with subsequent engine-generator test data to identify and correct any mechanical or electrical deficiency before it can result in a system failure.

The test during refueling outages is more comprehensive, including procedures that are most effectively conducted at that time. These include automatic actuation and functional capability tests, to verify that the generators can start and assume load in less than 20 seconds and testing of the diesel generator load sequence timers which provide protection from a possible diesel generator overload during LOCA conditions. The annual, thorough inspection will detect any signs of wear long before failure.

The manufacturer's instructions for battery care and maintenance with regard to the floating charge, the equalizing charge, and the addition of water will be followed. In addition, written records will be maintained of the battery performance. Station batteries will deteriorate with time, but precipitous failure is unlikely. The station surveillance procedures follow the recommended maintenance and testing practices of IEEE STD. 450 which have demonstrated, through experience, the ability to provide positive indications of cell deterioration tendencies long before such tendencies cause cell irregularity or improper cell performance.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 55 TO PROVISIONAL OPERATING LICENSE NO. DPR-16

JERSEY CENTRAL POWER & LIGHT COMPANY

OYSTER CREEK NUCLEAR GENERATING STATION

DOCKET NO. 50-219

1.0 INTRODUCTION

By letters dated October 10, 1978 and August 11, 1980, as modified March 19, 1981, Jersey Central Power & Light Company (the licensee) requested an amendment to Provisional Operating License No. DPR-16 for the Oyster Creek Nuclear Generating Station. This amendment would provide a change to the Appendix A Technical Specifications by modifying Section 3.7 to be consistent with the 125V DC plant modification installed during the 1978 refueling outage. This change would also clarify the surveillance requirements of Section 4.7 to show consistency with current 125V DC system surveillance practices of IEEE STD. 450.

The changes requested with regard to grid undervoltage protection remain under NRC review; this request will be addressed in a subsequent license amendment.

2.0 DISCUSSION AND EVALUATION

The Oyster Creek Technical Specification Section 3.7 applies to the operating status of the auxiliary electrical power to assure adequate power supply for operation of equipment required for safe plant shutdown. The licensee has performed a plant modification which included changing the 125V DC power distribution for safety related loads from distribution center A to C. The safety related loads previously powered from panel E are now powered from panel DC -F. We have reviewed the proposed changes to the Technical Specification and find them to be administrative in nature. Thus, we conclude that these changes are acceptable.

Section 4.7 applies to the surveillance requirements for the Auxiliary Electrical Power System. The change request basically updates the battery surveillance practices as presented in IEEE STD. 450. The change also requires that the batteries be tested only when the reactor is shutdown. When the plant is operating both batteries are at full capacity.

Based on the above, we find the proposed changes acceptable.

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3.0 ENVIRONMENTAL CONSIDERATION

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

4.0 CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: August 13, 1981

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NO. 50-219JERSEY CENTRAL POWER & LIGHT COMPANYNOTICE OF ISSUANCE OF AMENDMENT TO PROVISIONAL
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 55 to Provisional Operating License No. DPR-16, issued to Jersey Central Power & Light Company (the licensee), which revised the Technical Specifications for operation of the Oyster Creek Nuclear Generating Station (the facility) located in Ocean County, New Jersey. The amendment is effective as of its date of issuance.

This amendment (1) authorizes a change to the Appendix A Technical Specifications to reflect modifications to the 125V DC power distribution system, and (2) updates station surveillance procedures to make them consistent with IEEE STD. 450.

The applications for the amendment comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.


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For further details with respect to this action, see (1) the application for amendment dated October 10, 1978 and August 11, 1980, and a modification thereto dated March 19, 1981, (2) Amendment No. 55 to License No. DPR-16, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C., and at the Ocean County Library, Brick Township Branch, 401 Chambers Bridge Road, Brick Town, New Jersey 08723. A single copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 13th day of August, 1981.

FOR THE NUCLEAR REGULATORY COMMISSION


Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
Division of Licensing