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JAN 25 1980

Docket No. 50-219

Mr. I. R. Finfrock, Jr.  
 Vice President - Generation  
 Jersey Central Power & Light Company  
 Madison Avenue at Punch Bowl Road  
 Morristown, New Jersey 07960

Dear Mr. Finfrock:

The Commission has issued the enclosed Amendment No. 45 to Provisional Operating License No. DPR-16 for the Oyster Creek Nuclear Generating Station. This amendment consists of changes to the Technical Specifications and is in response to your application dated September 24, 1979, and supplement dated December 6, 1979.

This amendment allows the Oyster Creek torus to be drained earlier in the outage than previously permitted. As a result of the change more work can be performed on the torus during a fixed outage interval.

In reviewing your application certain changes to your proposal were found to be necessary. We have discussed these changes with representatives of your staff and they are agreeable to the changes.

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

Sincerely,

Dennis L. Ziemann, Chief  
 Operating Reactors Branch #2  
 Division of Operating Reactors

**Enclosures:**

1. Amendment No. 45 to License No. DPR-16
2. Safety Evaluation
3. Notice of Issuance

cc w/enclosure:  
 See next page

80021 10708

OFFICE	DOR:ORB #2	DOR:ORB #2	DOR:RSE	OELD	DOR:ORB #2	DOR:RAD/SEP
SURNAME	SJNowicki:ah	HSmith	Rcheck	DLZiemann	DLZiemann	RHVollmer
DATE	1/15/80	1/17/80	1/21/80	1/22/80	1/24/80	1/25/80



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

January 25, 1980

Docket No. 50-219

Mr. I. R. Finfrock, Jr.  
Vice President - Generation  
Jersey Central Power & Light Company  
Madison Avenue at Punch Bowl Road  
Morristown, New Jersey 07960

Dear Mr. Finfrock:

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In reviewing your application certain changes to your proposal were found to be necessary. We have discussed these changes with representatives of your staff and they are agreeable to the changes.

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

Sincerely,

A handwritten signature in cursive script that reads "Dennis L. Ziemann".

Dennis L. Ziemann, Chief  
Operating Reactors Branch #2  
Division of Operating Reactors

Enclosures:

1. Amendment No. 45 to  
License No. DPR-16
2. Safety Evaluation
3. Notice of Issuance

cc w/enclosure:  
See next page

cc w/enclosures:

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

GPU Service Corporation  
ATTN: Mr. E. G. Wallace  
Licensing Manager  
260 Cherry Hill Road  
Parsippany, New Jersey 07054

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

Steven P. Russo, Esquire  
248 Washington Street  
P. O. Box 1060  
Toms River, New Jersey 08753

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

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

Mark L. First  
Deputy Attorney General  
State of New Jersey  
Department of Law and Public Safety  
Environmental Protection Section  
36 West State Street  
Trenton, New Jersey 08625

Joseph T. Carroll, Jr.  
Plant Superintendent  
Oyster Creek Nuclear Generating  
Station  
P. O. Box 388  
Forked River, New Jersey 08731

Director, Technical Assessment  
Division  
Office of Radiation Programs  
(AW-459)  
U. S. Environmental Protection  
Agency  
Crystal Mall #2  
Arlington, Virginia 20460

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

Robert M. Lazo, Esq., Chairman  
Atomic Safety and Licensing Board  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

\*\*W/cy of filings dtd. 9/24/79 and 12/6/79

Mr. I. R. Finfrock, Jr.

- 3 -

January 25, 1980

cc w/enclosures:

Dr. Hugh C. Paxton, Member  
Los Alamos Scientific Laboratory  
P. O. Box 1663  
Los Alamos, New Mexico 87544

Dr. Paul W. Purdom, Member  
Director, Center for Urban  
Research and Environmental  
Studies  
Drexel University  
32nd and Chestnut Streets  
Philadelphia, Pennsylvania 19104



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. 45  
License No. DPR-16

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Jersey Central Power & Light Company (the licensee) dated September 24, 1979, as supplemented December 6, 1979, 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;
  - 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.

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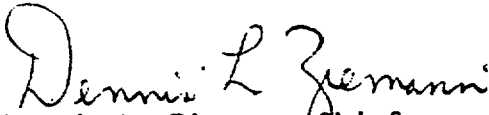
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 3.B. of Provisional Operating License No. DPR-16 is hereby amended to read as follows:

3.B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 45, 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 L. Ziemann, Chief  
Operating Reactors Branch #2  
Division of Operating Reactors

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: January 25, 1980

ATTACHMENT TO LICENSE AMENDMENT NO. 45

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 the captioned amendment number and contain vertical lines indicating the area of change.

PAGES

3.4-1a\*

3.4-1b

3.5-1a

\*There are no changes to the provisions on this page. It has been retyped for administrative purposes only.

- a. At least one core spray pump, and system components necessary to deliver rated core spray to the reactor vessel, must remain operable to the extent that the pump and any necessary valves can be started or operated from the control room or from local control stations.
  - b. The fire protection system is operable, and
  - c. These systems are demonstrated to be operable on a weekly basis.
8. If necessary to accomplish maintenance or modifications to the core spray systems, their power supplies or water supplies, reduced system availability is permitted when the reactor is in the refuel mode with the reactor coolant system maintained at less than 212 F or in the startup mode for the purposes of low power physics testing. Reduced core spray system availability is defined as follows:
- a. At least one core spray pump in each loop, and system components necessary to deliver rated core spray to the reactor vessel, must remain operable to the extent that the pump and any necessary valves in each loop can be started or operated from the control room or from local control stations.
  - b. The fire protection system is operable and,
  - c. Each core spray pump and all components in 3.4.A.8a are demonstrated to be operable every 72 hours.
9. If Specifications 3.4.A.7 and 3.4.A.8 cannot be met, the requirements of Specification 3.4.A.6 will be met and work will be initiated to meet minimum operability requirements of 3.4.A.7 and 3.4.A.8.
10. The core spray system is not required to be operable when the following conditions are met:
- a. The reactor mode switch is locked in the "refuel" or "shutdown" position.
  - b.(1) There is an operable flow path capable of taking suction from the condensate storage tank and transferring water to the reactor vessel, and
  - (2) The fire protection system is operable.



c. The reactor coolant system is maintained at less than 212 F and vented.

d. At least one core spray pump, and system components necessary to deliver rated core spray flow to the reactor vessel, must remain operable to the extent that the pump and any necessary valves can be started or operated from the control room or from local control stations, and the torus is mechanically intact.

e.(1) No work shall be performed on the reactor or its connected systems which could result in lowering the reactor water level to less than 4'8" above the top of the active fuel and the condensate storage tank level is greater than thirty (30) feet (360,000 gallons). At least two redundant systems including core spray pumps and system components must remain operable as defined in d. above.

OR

(2) The reactor vessel head, fuel pool gate, and separator-dryer pool gates are removed and the water level is above elevation 117 feet.

NOTE: When filling the reactor cavity from the condensate storage tank and draining the reactor cavity to the condensate storage tank, the 30 foot limit does not apply provided there is sufficient amount of water to complete the flooding operation.

#### B. Automatic Depressurization System

1. Five electromatic relief valves of the automatic depressurization system shall be operable when the reactor is pressurized above 110 psig, except as specified in 3.4.B.2.

c. The reactor coolant system is maintained at less than 212 F and vented.

d. At least one core spray pump, and system components necessary to deliver rated core spray flow to the reactor vessel, must remain operable to the extent that the pump and any necessary valves can be started or operated from the control room or from local control stations, and the torus is mechanically intact.

e.(1) No work shall be performed on the reactor or its connected systems which could result in lowering the reactor water level to less than 4'8" above the top of the active fuel and the condensate storage tank level is greater than thirty (30) feet (360,000 gallons). At least two redundant systems including core spray pumps and system components must remain operable as defined in d. above.

OR

(2) The reactor vessel head, fuel pool gate, and separator-dryer pool gates are removed and the water level is above elevation 117 feet.

NOTE: When filling the reactor cavity from the condensate storage tank and draining the reactor cavity to the condensate storage tank, the 30 foot limit does not apply provided there is sufficient amount of water to complete the flooding operation.

3. Primary containment integrity shall be maintained at all times when the reactor is critical or when the reactor water temperature is above 212° F and fuel is in the reactor vessel except while performing low power physics tests at atmospheric pressure during or after refueling at power levels not to exceed 5 MWt.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 45 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 letter dated September 24, 1979 (Reference 1), Jersey Central Power & Light Company (the licensee) has requested a Technical Specification change to allow draining the Oyster Creek torus under less restrictive conditions than currently required.

The torus is being drained so that modifications to the Mark I containment can be made during the upcoming cycle 9 refueling outage and the following cycle 10 refueling outage. The planned modifications will improve the capability of the torus to withstand the stresses anticipated during blowdown of steam into the torus.

2.0 DISCUSSION

The Oyster Creek suppression pool (torus) water serves two functions. During power operation the torus water acts as the emergency heat sink for postulated accident or transient conditions involving a release of primary system energy through relief valves, safety valves, or coolant system breaks. Under these conditions steam discharges into the suppression pool several feet below the surface of the water and is condensed. The torus water is also the normal source of water for the emergency core spray system. During events involving loss of reactor coolant inventory, a low water level signal initiates transfer of torus water through the core spray pumps into the reactor vessel.

Because loss of coolant inventory from the reactor vessel could occur during refueling from an event such as failure of a control rod blade seal and because a low level of decay heat is generated in the exposed fuel even after shutdown, the core spray system is normally maintained fully operable which requires available torus water. However, the current Technical Specifications allow the torus to be drained provided the vessel inventory is increased to the 117 ft. level with the vessel head, the fuel pool gate and the separator-dryer gate removed. This

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assures that the worst credible leakage rate (1300 gallons per minute due to removal of a control rod blade and drive) from the vessel can be controlled to maintain an adequate level of water (4'8") above the top of the active fuel.

With the proposed change these measures would not be required, provided an adequate water supply resides in the condensate storage tank, and work which could result in lowering the reactor water level to 4'8" above the top of the active fuel is prohibited.

The proposed Technical Specification change would allow the torus to be drained earlier in the refueling outages, and would permit an accelerated schedule for the Mark I modifications.

In support of the request for a change in Technical Specifications the licensee has submitted an initial analysis (Reference 1) and answers (Reference 2) to our request for additional information (Reference 3).

### 3.0 EVALUATION

The current Technical Specifications permit the core spray system to be inoperable, including the torus being-drained, provided certain conditions are met. Approval for this was given in a previous license amendment (Reference 4).

Reference 1 contains the proposed changes to the Oyster Creek Technical Specifications. The licensee requested that Specification 3.4.A.10 and 3.5-1a be changed to permit the core spray system to be inoperable, i.e., the torus to be drained, when alternate conditions are met. The alternate conditions are that (1) no work shall be performed which could result in lowering the reactor water level less than 4'8" above the top of the fuel and (2) the condensate storage tank (the makeup source of any lost reactor water) must contain a minimum of 360,000 gallons of water.

In Reference 3 we requested the licensee to identify the ways that loss of reactor vessel water could occur during refueling. Their reply, Reference 2, indicated that the vessel penetrations which include the control rod drive system, the recirculation system, the liquid poison system and the instrument lines are all designed to remain functional and withstand a Safe Shutdown Earthquake (SSE). Furthermore, with the reactor vented and the coolant system at less than 212°F, pipe breaks or system failure due to high pressure and temperature will not occur. Only leaks inside the drywell need be considered. All leaks outside the drywell will be terminated by automatic reactor isolation initiated when the water level reaches 7'2" above the top of the active fuel.

Leaks from the recirculation system could occur through failed seals on the recirculation pumps. However, even in the unlikely situation that the double seals on a given pump should fail simultaneously the leakage would be limited to a few gallons per minute by the metal thrust seal.

Systems connected to the recirculation system (including the emergency condenser system, the reactor shutdown cooling system, cleanup demineralizer system), can be isolated from the recirculation system with SSE qualified components.

Large leaks from the reactor vessel could occur during maintenance to the control rod drive system or by improper valve operation. The current Technical Specifications (Specification 3.4.7) prohibit such work during periods of reduced core spray system availability and the proposed change maintains this restriction.

The most severe postulated leak would result from complete removal of a control blade following removal of its drive (Reference 2). This is precluded by administrative control of maintenance activities. The resulting leakage rate of this very unlikely event, 1300 gallons per minute, has been used as a basis for judging the capability of the system and the operators to mitigate losses of inventory.

Assuming a loss of primary system coolant inventory, the first indication from the reactor protection system would occur when the water level reaches 7'2" above the top of the active fuel. At a postulated net loss rate of 1300 gpm it would take 15 minutes for the water level to reach the safety limit (4'8" above the top of the active fuel). Actuation of a single core spray pump (3400 gpm) during this time would be sufficient to prevent the safety limit from being exceeded. The only operator action required during the 15 minute interval is to realign the core spray system to use water from the condensate storage tank. This realignment only requires manual operation of one valve and 15 minutes is considered adequate time for this operator action. However, we requested that there be at least two operable core spray pumps and system components to deliver rated core spray from the condensate storage tank to the reactor vessel when the vessel head is on the reactor and the reactor cavity is not flooded with water to the 117 foot elevation. The licensee has agreed and the proposed technical specification will be modified to include this requirement.

The licensee has also considered the adequacy of the combined water volume in the condensate storage tank and the reactor vessel. There must be sufficient water to keep the core covered to the 4'8" level and assurance that the core spray system will function to replace any water lost through a postulated leak. The core spray can operate if there is water in the condensate storage tank or enough leakage water in the drywell to drain into the torus and fill the suction header of the core spray system. The licensee determined that 360,000 gallons of water in the condensate storage tank will be adequate. This limit will be incorporated in the Technical Specifications and on this basis the proposed change is acceptable.

#### 4.0 SUMMARY

Major leaks from the Oyster Creek reactor vessel while the torus is drained are very unlikely because: (1) the temperature and pressure of the primary system is low since the reactor is in cold shutdown and vented to atmospheric pressure, (2) the system penetrations are seismically qualified, and (3) special administrative controls are in effect when the torus is drained to prohibit maintenance which could cause major leaks. Leaks outside the drywell could be terminated by automatic reactor isolation and therefore would not uncover the top of the active fuel. The most severe leak inside the drywell would not uncover the top of the active fuel or exceed the safety limit since adequate water inventory is provided to fill the bottom of the drywell, spill into the torus, and recirculate back to the reactor through the core spray system.

The proposed change in the Oyster Creek Technical Specifications will not result in an increase in the probability or consequences of an accident or transient previously considered and does not involve a decrease in safety margin. We therefore conclude that the change is acceptable.

#### 5.0 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.

#### 6.0 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: January 25, 1980

References

1. Letter from Ivan R. Finfrock, Jr. of Jersey Central Power & Light Company (JCPL) to Director of NRR, September 24, 1979.
2. Letter from Ivan R. Finfrock, Jr. of JCPL to Dennis L. Ziemann of NRC, December 6, 1979.
3. Letter from Dennis L. Ziemann of NRC to I. R. Finfrock, Jr. of JCPL, November 15, 1979.
4. License Amendment No. 21 to License No. DPR-16, February 4, 1977.

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. 45 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.

The amendment allows the Oyster Creek torus to be drained under less restrictive conditions than currently required.

The application for amendment complies 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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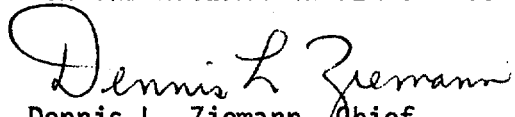


- 2 -

For further details with respect to this action, see (1) the application for amendment dated September 24, 1979, and supplement thereto dated December 6, 1979, (2) Amendment No. 45 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 Operating Reactors.

Dated at Bethesda, Maryland, this 25th day of January, 1980.

FOR THE NUCLEAR REGULATORY COMMISSION

  
Dennis L. Ziemann, Chief  
Operating Reactors Branch #2  
Division of Operating Reactors

William O. Miller, Chief  
License Fee Management Branch, ADM

Date: 10/30/79  
Amended Form Date: 1/25/80

FACILITY AMENDMENT CLASSIFICATION - DOCKET NO(S). 50-219

Licensee: Jensen Central

Plant Name and Unit(s): Oyster Creek

License No(s): DPR-16 Mail Control No: 7910 020376

Request Dated: 9/24/79 Fee Remitted: Yes  No

Assigned TAC No: 12328

Licensee's Fee Classification: Class I , II , III , IV , V , VI ,  
None .

Amendment No. 45 Date of Issuance 1/25/80

1. This request has been reviewed by DOR/DPM in accordance with Section 170.22 of Part 170 and is properly categorized.

OUR INITIAL FEE DETERMINATION HAS BEEN REASSESSED AND IS HEREBY AFFIRMED.

2. This request is incorrectly classified and should be properly categorized as Class     . Justification for classification or reclassification:     

3. Additional information is required to properly categorize the request:     

4. This request is a Class      type of action and is exempt from fees because it:

(a)      was filed by a nonprofit educational institution,

(b)      was filed by a Government agency and is not for a power reactor,

(c)      is for a Class      (can only be a I, II, or III) amendment which results from a written Commission request dated      for the application and the amendment is to simplify or clarify license or technical specifications, has only minor safety significance, and is being issued for the convenience of the Commission, or

(d)      other (state reason therefor):     

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S. Nowicki 10/30/79  
Nowicki*

*Final  
S. Nowicki  
11/5/80*

*Richard J. Silver for DL Ziemann 10/30/79  
- Division of Operating Reactors/Project Management*

The above request has been reviewed and is exempt from fees.