

FEB 14 1975

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Docket No. 50-219

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

Gentlemen:

The Commission has issued the enclosed Amendment No. 7 to Provisional Operating License No. DPR-16 for the Oyster Creek Nuclear Generating Station. The amendment includes Change No. 23 to the Technical Specifications and is in response to your request of November 26, 1974.

The amendment permits the lowering of the Main Steamline Isolation Valve low main steamline pressure closure set point.

A copy of the related Safety Evaluation and the Federal Register Notice are also enclosed.

Sincerely,

George Lear, Chief  
Operating Reactors Branch #3  
Division of Reactor Licensing

Enclosures:

1. Amendment No. 7 & Change No. 23
2. Safety Evaluation
3. Federal Register Notice

cc: See next page

CP  
(1)

*with changes  
as indicated by Kaufman LB*

OFFICE >	ORB#3	ORB#3	ORB#3	OELD	L:AD/ORs
SURNAME >	saTeets/dg	WPaulson	GLear SL	M Kaufman	KRGoller
DATE >	2/5 75	2/5 75	2/5 75	2/13 75	2/13 75

cc: w/enclosures

Jersey Central Power & Light Company  
ATTN: Mr. Thomas M. Crimmins, Jr.  
Safety and Licensing Manager  
GPU Service Corporation  
260 Cherry Hill Road  
Parsippany, New Jersey 07054

G. F. Trowbridge, Esquire  
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The Honorable W. M. Mason  
Mayor, Lacey Township  
P. O. Box 475  
Forked River, New Jersey 08731

Ocean County Library  
15 Hooper Avenue  
Toms River, New Jersey 08753

Honorable William F. Hyland  
Attorney General  
State of New Jersey  
State House Annex  
Trenton, New Jersey 08601

Mr. Paul Arbesman  
Environmental Protection Agency  
Region II Office  
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Anthony Z. Roisman, Esquire  
Berlin, Roisman & Keisler  
1712 N Street, N. W.  
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OFFICE >						
SURNAME >						
DATE >						

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

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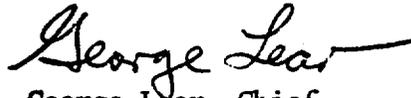
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Washington, D. C. 20036

UNITED STATES NUCLEAR REGULATORY COMMISSION

JERSEY CENTRAL POWER AND LIGHT COMPANY

DOCKET NO. 50-219

OYSTER CREEK NUCLEAR GENERATING STATION

AMENDMENT TO PROVISIONAL OPERATING LICENSE

Amendment No. 7

License No. DPR-16

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Jersey Central Power and Light Company (the Licensee) dated November 26, 1974, 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

2. Accordingly, the license is amended by a change 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:

"(B) Technical Specifications

The Technical Specifications contained in Appendix A, as revised, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications, as revised by issued changes thereto through Change No. 23!

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

*Karl R. Goller*

Karl R. Goller, Assistant Director  
for Operating Reactors  
Division of Reactor Licensing

Attachment:  
Change No. 23 to the  
Technical Specifications

Date of Issuance: **FEB 14 1975**

ATTACHMENT TO LICENSE AMENDMENT NO.7

CHANGE NO. 23 TO THE TECHNICAL SPECIFICATIONS

PROVISIONAL OPERATING LICENSE NO. DPR-16

DOCKET NO. 50-219

Replace pages 2.3-2, 2.3-5 and 2.3-6 with the attached revised pages.

## FUNCTION

## LIMITING SAFETY SYSTEM SETTINGS

- |  |   |
|--|---|
| 2) a) APRM (Continued)   | <p>For recirculation flow, <math>W &gt; 61 \times 10^6</math> lb/hr: <math>\leq 106</math> percent of rated neutron flux for total peaking factors <math>\leq 2.97</math></p> <p><math>\leq 106</math> <math>\left[ \frac{2.97}{PF} \right]</math> percent of rated neutron flux for total peaking factors, PF <math>&gt; 2.97</math></p> |
| 3) Reactor High Pressure, Scram  | $\leq 1060$ psig.   |
| 4) Reactor High Pressure, Relief Valves Initiation                       | $\leq 1070$ psig.   |
| 5) Reactor High Pressure, Isolation Condenser Initiation                 | $\leq 1060$ psig with time delay $\leq 15$ seconds.   |
| 6) Reactor High Pressure, Safety Valve Initiation                        | <p>4 @ 1212 psig</p> <p>4 @ 1221 psig            <math>\pm 12</math> psi</p> <p>4 @ 1230 psig</p> <p>4 @ 1239 psig</p>  |
| 7) Low Pressure Main Steam Line, MSIV Closure                            | $\leq 825$ psig   |
| 8) Main Steam Line Isolation Valve Closure, Scram                        | $\leq 10\%$ Valve Closure from full open  |
| 9) Reactor Low Water Level, Scram  | $> 11'5''$ above the top of the active fuel as indicated under normal operating conditions.   |
| 10) Reactor Low-Low Water Level, Main Steam Line Isolation Valve Closure | $> 7'2''$ above the top of the active fuel as indicated under normal operating conditions.  |
| 11) Reactor Low-Low Water Level, Core Spray Initiation                   | $> 7'2''$ above the top of the active fuel.   |
| 12) Turbine Trip Scram   | 10 percent turbine stop valve(s) closure from full open.  |
| 13) Generator Load Rejection Scram                                       | Initiate upon loss of oil pressure from turbine acceleration relay.   |

anticipated maneuvers associated with power plant startup. There are a few possible sources of rapid reactivity input to the system in the low power low flow condition. Effects of increasing pressure at zero or low void content are minor, cold water from sources available during startup is not much colder than that already in the system, temperature coefficients are small, and control rod patterns are constrained to be uniform by operating procedures backed up by the rod worth minimizer. Worth of individual rods is very low in a uniform rod pattern. Thus, of all possible sources of reactivity input, uniform control rod withdrawal is the most probable cause of significant power rise. Because the flux distribution associated with uniform rod withdrawals does not involve high local peaks, and because several rods must be moved to change power by a significant percentage of rated, the rate of power rise is very slow. Generally the heat flux is in near equilibrium with the fission rate. In an assumed uniform rod withdrawal approach to the scram level, the rate of power rise is no more than five percent of rated per minute, and the IRM system would be more than adequate to assure a scram before the power could exceed the safety limit. The IRM scram remains active until the mode switch is placed in the run position at which time the trip becomes a coincident IRM upscale, APRM downscale scram. The Reactor Protection System is designed such that reactor pressure must be above 825 psig to successfully transfer into the RUN mode, thus assuring protection for the fuel cladding safety limit.

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The settings on the reactor high pressure scram, anticipatory scrams, reactor coolant system relief valves and isolation condenser have been established to assure never reaching the reactor coolant system pressure safety limit as well as assuring the system pressure does not exceed the range of the fuel cladding integrity safety limit. In addition, the APRM neutron flux scram and the turbine bypass system also provide protection for these safety limits, e.g., turbine trip and loss of electrical load transients (8). In addition to preventing power operation above 1060 psig, the pressure scram backs up the other scrams for these transients and other steam line isolation type transients. With the addition of the anticipatory scrams, the transient analysis for operation at 1930 MWt shows that the turbine trip with failure of the bypass system transient is the worst case transient with respect to peak pressure. Analysis of this transient shows that the relief valves limit the peak pressure to 1188 psig (10), well below the 1250 psig range of applicability of the fuel cladding integrity safety limit and the 1375 psig reactor coolant system pressure safety limit. Actuation of the isolation condenser during these transients removes the reactor decay heat without further loss of reactor coolant thus protecting the reactor water level safety limit.

The reactor coolant system safety valves offer yet another protective feature for the reactor coolant system pressure safety limit since these valves are sized assuming no credit for other pressure relieving devices. In compliance with Section I of the ASME Boiler and Pressure Vessel Code, the safety valves must be set to open at a pressure no higher than 103% of design pressure, and they must limit the reactor pressure to no more than 110% of design pressure. The safety valves are sized according to the code for a condition of turbine stop valve closure while operating at 1930 MW(t), followed by (1) a delay of all scrams, (2) failure of the turbine bypass valves to open, and (3) failure of the isolation condensers and relief valves to operate. Under these conditions, a total of 16 safety valves are required to turn the pressure transient. For analysis purposes, the void reactivity coefficient was also pessimistically increased by 50%, i.e., a void coefficient 1.5 times normal. With the safety valves set as specified herein the maximum vessel pressure (at the bottom of the pressure vessel) would be about 1301 psig (9); maximum pressure at the lowest point in the recirculation loop is approximately 1315 psig which is 60 psi below the safety limit. The ASME B&PV Code allows a  $\pm 1\%$  of working pressure (1250 psig) variation in the pop point of the valves. This variation is recognized in Specification 4.3.

The low pressure isolation of the main steam lines at 825 psig was provided to give protection against fast reactor depressurization and the resulting rapid cool-down of the vessel. Advantage was taken of the scram feature which occurs when the main steam line isolation valves are closed, to provide for reactor shutdown so that high power operation at low reactor pressure does not occur, thus providing protection for the fuel cladding integrity safety limit. Operation of the reactor at pressures lower than 825 psig requires that the reactor mode switch be in the startup position where protection of the fuel cladding integrity safety limit is provided by the IRM high neutron flux scram. Thus, the combination of main steam line low pressure isolation and isolation valve closure scram assures the availability of neutron flux scram protection over the entire range of applicability of the fuel cladding integrity safety limit. In addition the isolation valve closure scram anticipates the pressure and flux transients which occur during normal or inadvertent isolation valve closure.

With the scrams set at 10% valve closure, there is no increase in neutron flux and the peak pressure is limited to 1110 psig (9).

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

SAFETY EVALUATION BY THE DIVISION OF REACTOR LICENSING

SUPPORTING AMENDMENT NO. 7 TO THE PROVISIONAL OPERATING LICENSE NO. DPR-16

CHANGE NO. 23 TO THE TECHNICAL SPECIFICATIONS

JERSEY CENTRAL POWER AND LIGHT COMPANY

OYSTER CREEK NUCLEAR GENERATING STATION

DOCKET NO. 50-219

Introduction

By letter dated November 26, 1974, Jersey Central Power and Light Company (the Licensee) requested a change to the Technical Specifications, Appendix A of Provisional Operating License No. DPR-16, for the Oyster Creek Nuclear Generating Station (OCNGS). The requested change would lower the Main Steamline Isolation Valve low main steamline pressure closure set point from  $\geq 850$  psig as presently specified to  $\geq 825$  psig. Consistent with this proposed change to the Technical Specifications, the licensee has also proposed appropriate changes to the Bases to the Technical Specifications.

During discussions with representatives of the licensee, the reason for this requested change was identified: The main steamline pressure variations, particularly during frequent stop valve testing, result in short duration pressure transients as low as 870 psig. Thus, to meet Technical Specification requirements and also to prevent inadvertent MSIV closure, the pressure switch settings currently must be maintained in a narrow band between 850 psig and 870 psig. The licensee believes that implementation of the proposed change would provide adequate margin above the fuel cladding integrity safety limit of 600 psia and that inadvertent MSIV closure from the pressure switch trip would be unlikely.

Discussion

The Technical Specifications for the OCNGS specify that the MSIV closure set point for low main steamline pressure shall be greater than or equal to 850 psig. This automatic low pressure isolation of the main steamlines is provided to protect against fast reactor vessel depressurization through the main steamlines with resulting rapid cooldown of the reactor vessel; such events might occur as a result of a steamline break or turbine bypass valves sticking open. Also, because closure of the main steamline when the reactor is in the Run mode results in a reactor scram, high power operation is prevented at a low reactor vessel pressure; thus, the low pressure isolation feature indirectly provides protection of the fuel cladding integrity.

The proposed change by the licensee to lower the MSIV closure set point from  $\geq 850$  psig to  $\geq 825$  psig is not considered significant by the licensee since this 25 psi reduction results in a steam saturation temperature change of only about 3°F. Note that a reduction in pressure from operating conditions, about 1035 psig, to 850 psig results in a saturation temperature reduction of about 25°F; the

increment of change or 3° amounts to only 12% of the latter (reduction). Moreover, the relative insignificance of this proposed change is highlighted when compared to the average rate of reactor vessel coolant cooldown (or heatup) limitation specified in the Technical Specifications, ie: 100°F in any one hour period.

In his request the licensee refers to a letter from the General Electric Company which states that the proposed change "will result in negligible added requirement in terms of fuel duty and vessel cooldown". Thus, the licensee does not consider either increasing the potential rapid cooldown by 3°F or the possible operation at the lower pressure (permitted by the proposed change) to be significant with respect to thermal shock on either the vessel or the fuel. Also, the licensee reports that the General Electric Company stated that this proposed change will not invalidate transient safety analyses previously submitted for the OCNGS.

Based upon our review of this request and the technical justification provided, we concur with the licensee that the reduction from 850 psig to 825 psig for the minimum MSIV low main steamline pressure closure setpoint would not significantly affect vessel cooldown or fuel performance. We also consider that the 825 psig trip point provides ample margin with respect to the fuel cladding integrity safety limit which requires that the reactor pressure level be 600 psia or greater for power levels greater than 354 MWt.

#### Conclusion

We have concluded, based on the consideration discussed above, that: (1) because the change 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 change 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 the amendment will not be inimical to the common defense and security or to the health and safety of the public.

FEB 14 1975

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-219

JERSEY CENTRAL POWER AND LIGHT COMPANY

NOTICE OF ISSUANCE OF AMENDMENT TO PROVISIONAL  
OPERATING LICENSE

Notice is hereby given that the U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 7 to Provisional Operating License No. DPR-16 issued to Jersey Central Power & Light Company which revised Technical Specifications for operation of the the Oyster Creek Nuclear Generating Station, located in Lacey Township, Ocean County, New Jersey. The amendment is effective as of its date of issuance.

The amendment permits lowering the main steamline isolation valve low main steamline pressure closure set point.

The application for the 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 is not required since the amendment does not involve a significant hazards consideration.

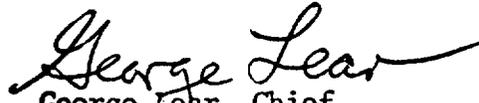
For further details with respect to this action, see (1) the application for amendment dated November 26, 1974, (2) Amendment No. 7 to License No. DPR-16 with Change No. 23, and (3) The Commission's related Safety Evaluation. All of these items are available for public

inspection at the Commission's Public Document Room 1717 H Street, N. W., Washington, D. C. and at the Ocean County Library, 15 Hooper Avenue, Toms River, New Jersey.

A 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 Reactor Licensing.

Dated at Bethesda, Maryland, this 14. day of ~~Feb~~, 1974.

FOR THE NUCLEAR REGULATORY COMMISSION

  
George Lear, Chief  
Operating Reactors Branch #3  
Division of Reactor Licensing