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

JUN 4 1975

Docket No. 50-219

George Lear, Chief, Operating Reactors Branch #3, DRL

JERSEY CENTRAL POWER & LIGHT COMPANY'S REQUEST TO WITHHOLD PROPRIETARY DOCUMENTS ENTITLED "RESPONSES TO NRC QUESTIONS ON CYCLE 5 RELOAD" AND "ADDITIONAL DATA REGARDING THE LOSS-OF-COOLANT ACCIDENT ANALYSIS FOR GE FUEL"

By letters dated April 24 and 28, 1975, Jersey Central Power & Light Company (JCPL) submitted two proprietary documents containing additional information in connection with their requests for operation of the Oyster Creek Nuclear Generating Station with Cycle 5 Reload and the Reevaluation of the ECCS. The submittal of April 24, 1975, entitled "Responses to NRC Questions on Cycle 5 Reload" contains information considered proprietary by Exxon Nuclear Company and withholding is requested for the following reasons:

1. The information reveals certain distinguishing aspects of fuel design when prevention of its use by any of Exxon Nuclear's competitors without license from Exxon Nuclear constitutes a competitive economic advantage over other companies;
2. The information contains product design data, which data secures competitive economic advantage by design optimization and improved marketability; and
3. The use of the information by a competitor would reduce his expenditure of resources or improve his competitive position in the design and manufacturer of a similar product.

The April 28, 1975, submittal entitled "Additional Data Regarding the Loss-of-Coolant Accident Analysis Reevaluation for GE Fuel" contains information considered proprietary by the General Electric Company and withholding is requested for the following reasons:

1. The figures contain information which is of the type which General Electric customarily maintains in confidence and withholds from public disclosure in accordance with the procedures and standards of the General Electric Proprietary Classification System; and



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2. The analytical methods and data which would be compromised by disclosure of these figures were developed at considerable expense to the General Electric Company and the release of the information would allow competitors to conform similar designs without incurring similar expense."

We have reviewed the data presented in Jersey Central Power & Light Company's letters requesting withholding from public disclosure of this information. We concur that the documents do contain information concerning the processes and analytical methods that are used exclusively by Exxon and General Electric and constitutes an economic advantage over other companies. The information was furnished in accordance with our requests for additional information in order for us to review the request by JCPL to operate with Cycle 5 Reload and their ECCS reevaluation. The licensee has submitted nonproprietary versions of the information by letters dated May 5 and May 8, 1975, and those documents as well as documents dated October 30, 1974, January 31, March 25, 29 and April 30, 1975 relating to the core reload and the ECCS reevaluation have been provided for inspection at the Public Document Rooms. We conclude that sufficient information is provided in these nonproprietary documents for any interested member of the public to identify the safety considerations applicable to the operation of Oyster Creek with Cycle 5 reload and the ECCS reevaluation without disclosure of the information in the proprietary documents.

Exxon and the General Electric Company have gone to considerable expense to obtain the analytical methods and data for improved fuel design and manufacture of the fuel furnished to the nuclear industry. If the data and processes were made available through public disclosure of this information to their competitors, it would reduce the competitors expenditures, improve their competitive position and give them a competitive economic advantage at the expense of Exxon and General Electric.

I find that the licensee has supplied sufficient justification for withholding this information from public disclosure. Therefore, in view of the foregoing, I have determined that disclosure of the information contained in the above referenced documents is not required in the public interest nor by 10 CFR Part 9, and that it should be withheld from public inspection pursuant to 2.790(b) of 10 CFR Part 2.

*Walter A. Paulson*

Walter A. Paulson  
Operating Reactors Branch #3  
Division of Reactor Licensing

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

JUN 3 1975

Docket No. 50-219

Licensee: Jersey Central Power & Light Company

Facility: Oyster Creek Nuclear Generating Station

SUMMARY OF MEETING HELD ON MAY 8, 1975 TO DISCUSS NRC CONCERNS REGARDING  
THE EXXON CRITICAL HEAT FLUX CORRELATION

On May 8, 1975, a meeting was held in Bethesda, Maryland with representatives of General Public Utilities Service Corporation and Exxon Nuclear Company. The purpose of the meeting was to discuss our concerns with Exxon's critical heat flux correlation. A list of attendees is enclosed.

We discussed two approaches that would be acceptable to us to account for the over prediction of critical heat flux by the Exxon critical heat flux correlation,  $XN-1 / F_{Tong}$  (where  $F_{Tong}$  is the Tong factor used to account for non-uniform axial power distribution). The two approaches are:

1. Reduce the value of critical heat flux calculated using  $XN-1 / F_{Tong}$  by a factor acceptable to us, or
2. Increase the MCHFR values that will be allowable during operation to values acceptable to us.

We and GPUSC have not agreed on a penalty factor that would be applicable to  $XN-1 / F_{Tong}$ .

Exxon discussed a critical power ratio analysis and how it might be applied to the Oyster Creek Cycle 5. Exxon proposed a minimum critical power ratio of 1.28 for 7x7 fuel and 1.31 for 8x8 fuel. Exxon stated that they would determine a translator to go from MCHFR to MCPR. Exxon also stated that the rod withdrawal error transient may have to be redone using the critical power ratio analysis. We stated that the minimum critical power ratios

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proposed are not adequately supported by the Oyster Creek Cycle 5 reload submittals. We stated that it is our position that the values proposed are too low and therefore, they are unacceptable. We stated that in the absence of more data we would accept either a penalty factor of 0.5 applied to  $XN-1/F_{Tong}$  or an equivalent penalty factor of 2 times the present MCHFR limit of 1.33. Furthermore, if the critical power procedure is now going to be used, without a penalty being applied to  $XN-1/F_{Tong}$ , we would accept a limiting CPR of 1.5.

W. A. Paulson  
Operating Reactors Branch #3  
Division of Reactor Licensing

Enclosure:  
List of Attendees

ENCLOSURE

List of Attendees

MEETING WITH GENERAL PUBLIC UTILITIES SERVICE CORPORATION AND EXXON  
NUCLEAR COMPANY

MAY 8, 1975

Nuclear Regulatory Commission

W. Paulson  
R. Schemel  
T. Novak  
D. McPherson  
R. Frahm

Exxon Nuclear Company

G. Owsley  
G. Sofer

General Public Utilities Service Corporation

T. Crimmins  
G. Bond  
T. Robbins (Pickard Lowe & Associates)  
W. Lowe (Pickard Low & Associates)

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

Docket No 50-219

DISTRIBUTION OF MEETING SUMMARY

G. F. Trowbridge, Esquire  
Shaw, Pittman, Potts, Trowbridge & Madden  
Barr Building  
910 17th Street, N. W.  
Washington, D. C. 20006

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

Anthony Z. Roisman, Esquire  
Berlin, Roisman & Kessler  
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Jersey Central Power & Light Co.  
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Vice President -Generation  
Madison Avenue at Punch Bowl Rd.  
Morristown, New Jersey 07960

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

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Docket File  
NRC PDR  
Local PDR  
ORB#3 Rdg  
V. Moore  
R. DeYoung  
D. Skovholt  
D. Muller  
R. Denise  
J. Stolz  
K. Kniel  
A. Schwencer  
D. Vassallo  
W. Butler  
K. Goller  
T. Speis  
R. Clark

D. Ziemann  
G. Lear  
P. Collins  
G. Knighton  
G. Dicker  
B. Youngblood  
W. Regan, Jr.  
S. Varga  
F. Williams  
F. Schroeder  
R. Maccary  
V. Stello  
R. Tedesco  
H. Denton  
J. P. Knight  
S. Pawlicki  
L. Shao  
NRC Participants  
R. Purple

T. Novak  
D. Ross  
R. W. Houston  
T. Ippolito  
C. Long  
G. Lainas  
V. Benaroya  
R. Vollmer  
B. Grimes  
W. Gammill  
J. Kastner  
M. Spangler  
R. Ballard  
O. Parr  
ACRS (16)  
S. A. Teets  
OELD  
~~OI&E (3)~~  
Project Manager



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

JUN 3 1975

Docket No. 50-219

LICENSEE: JERSEY CENTRAL POWER & LIGHT COMPANY

FACILITY: OYSTER CREEK NUCLEAR GENERATING STATION

SUMMARY OF MEETING HELD ON MAY 5, 1975 TO DISCUSS THE EXXON NUCLEAR CORPORATION'S CRITICAL HEAT FLUX CORRELATION

On May 5, 1975, a meeting was held in Bethesda with representatives of General Public Utilities Service Corporation (GPUSC) and Exxon Nuclear Company. The purpose of the meeting was to discuss our concerns with Exxon's KN-1 critical heat flux correlation. A list of attendees is enclosed.

BACKGROUND

Jersey Central Power and Light Company has submitted transient analyses in Amendment 76 to the Oyster Creek PDSAR in support of the Oyster Creek Cycle 5 reload application. Based on our review of the information submitted, we found that Exxon's KN-1 correlation apparently non-conservatively overpredicts critical heat flux by 40 to 60%. A meeting was held with GPUSC and Exxon on Sunday, May 4, 1975 to discuss the bases for our conclusions. The meeting on May 5, 1975 was to discuss some additional information presented by Exxon on May 4, 1975.

SUMMARY

Exxon presented an error analysis for the 23 pertinent data points in the Nuclear Services Corporation status report (Progress Report on Nonuniform CHF, April 15, 1975) which was given to us in the May 4, 1975 meeting. The Exxon error analysis showed an average overpower prediction of 12.7% at departure from nucleate boiling and an average of 50% overprediction of CHF. We stated that the current version of KN-1 is not acceptable for use in predicting critical heat flux (CHF) for either 7 x 7 or 8 x 8 fuel assemblies.

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We agreed on a method to account for the effect of cold rods in predicting critical heat flux. Exxon describe the iterative method that they use in predicting average power at burnout. We agreed to make a comparison of predicted versus measured values (either using average critical heat flux or critical power) using the Exxon iterative predictive technique.

Walter A. Paulson  
Operating Reactors Branch #3  
Division of Reactor Licensing

Enclosure:  
List of Attendees

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Docket  
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Local PDR  
ORB-3 Reading  
NRR Reading



ENCLOSURE

LIST OF ATTENDEES

MEETING WITH GENERAL PUBLIC UTILITIES SERVICE CORPORATION

AND EXXON NUCLEAR COMPANY

MAY 5, 1975

NUCLEAR REGULATORY COMMISSION

W. Paulson  
T. Novak  
D. McPherson  
D. Ross  
W. Minners

EXXON NUCLEAR CORPORATION

K. Galbraith  
G. Owsley  
G. Sofer

GENERAL PUBLIC UTILITIES SERVICE CORPORATION

G. Bond  
T. Robbins (Pickard Lowe & Associates)

NUCLEAR SERVICES CORPORATION

F. Schraub  
G. Demoto

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

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Barr Building  
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Jersey Central Power & Light Co.  
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Vice President -Generatio  
Madison Avenue at Punch Bowl Rd.  
Morristown, New Jersey 07960

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

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B. Grimes  
W. Gammill  
J. Kastner  
M. Spangler  
R. Ballard  
O. Parr  
ACRS (16)  
S. A. Teets  
OELD  
~~OT&E (3)~~  
Project Manager



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JUN 9 1975

Docket No. 50-219

Licensee: Jersey Central Power & Light Company

Facility: Oyster Creek Nuclear Generating Station

SUMMARY OF MEETING HELD ON MAY 15, 1975 WITH JERSEY CENTRAL POWER  
& LIGHT COMPANY AND GENERAL PUBLIC UTILITIES SERVICE CORPORATION

On May 15, 1975, a meeting was held in Bethesda, Maryland, with representatives of Jersey Central Power & Light Company (JCP&L) and General Public Utilities Service Corporation (GPU). The purpose of the meeting was to discuss JCP&L's submittal dated May 14, 1975 which proposes establishing minimum critical power ratio (MCPR) thermal limit criteria for the Oyster Creek Cycle 5. All previous cycle 5 reload submittals were based on minimum critical heat flux ratio (MCHFR) thermal criteria. A list of attendees is enclosed.

Based on our preliminary review of the submittal dated May 14, 1975, which was received about three hours prior to the meeting, we decided that we will need a step-by-step sample calculation showing the relationship between minimum critical power ratio and minimum critical heat flux ratio. We agreed that we would review with GPUSC the details of the calculational methods that we used to evaluate test data.

Our position continues to be that the MCPR of 1.4 proposed by JCP&L is not supported by the information submitted to date. We further indicated that a MCPR of 1.5 would be acceptable to us.

JCP&L representatives stated that they were planning to do their hydrostatic test of the RCS pressure boundary on May 15, 1975; if the test is successful they would be ready to start-up on May 17, 1975. If the test is not successful, JCP&L estimated that they would be ready to start-up on May 20, 1975, assuming that we approve their application.

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We also discussed the proposed Technical Specification regarding the minimum allowable control rod density. We stated that the Specification as proposed is not acceptable because it specifically excludes the necessity for NRC review of any future relaxation of the proposed 3.5 percent rod density limit. It is our position that we should review any proposed reduction in the allowable control rod density.

W. A. Paulson  
Operating Reactors Branch #8  
Division of Reactor Licensing

Enclosure  
List of Attendees

ENCLOSURE

List of Attendees

NRC

W. Paulson  
R. Woods  
D. McPherson  
G. Lear  
D. Fieno  
R. Schemel  
R. Frahm

JCP&L

I. Finfrock, Jr.  
D. Ross  
W. Lowe (Pickard Lowe & Associates)  
T. Robbins (Pickard Lowe & Associates)

GPUSC

T. Crimmins  
G. Bond

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