



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

June 20, 1974

RO(3) VZB-2

Docket No. 50-219

LICENSEE: JERSEY CENTRAL POWER AND LIGHT COMPANY

FACILITY: OYSTER CREEK NUCLEAR PLANT

SUMMARY OF MEETING HELD WITH APPLICANT ON 8 X 8 LEAD FUEL ASSEMBLIES

Introduction

On May 22, 1974, representatives of Jersey Central Power and Light Company (JCP&L) met with the Regulatory staff to present requested information regarding Exxon 8 x 8 UO₂ lead fuel assemblies for use in the Oyster Creek facility. JCP&L had proposed to load four 8 x 8 assemblies into the Oyster Creek core during the present spring refueling outage. A list of attendees is attached.

Discussion

JCP&L presented an agenda for their presentation of information regarding the Exxon 8 x 8 UO₂ fuel assemblies. Presentations were made by General Public Utilities Service Company (GPUSC) and Exxon personnel. A copy of the agenda is enclosed.

The performance of the 8 x 8 Exxon fuel assemblies was based upon information from 495 fuel assemblies operating in various reactors, 493 of which were operated in Boiling Water Reactors. The performance was shown to be without fuel failure.

Design aspects relative to 7 x 7 fuel were discussed. The significant new design aspects were:

1. 1% dishing in the fuel pellets for expansion.
2. Low L/D ratio to reduce cocking of the fuel.
3. Upper tie plate design permits easier disassembly.
4. Four passive zirconium rods in each assembly provides increase in water droplet cooling in the event of a LOCA.

These design features are incorporated in the lead 8 x 8 fuel assemblies.

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The four 8 x 8 fuel assemblies proposed to be loaded into the Oyster Creek core are lead assemblies and the small number are considered by Exxon, GPU SC and the staff to have no significant affect on the operation of the core. However, several areas of concern need to be addressed for our review prior to the use of a significant number of 8 x 8 Exxon fuel assemblies for core reloads. These are:

1. Spray cooling tests and results of tests.
2. Flow blockage effects.
3. Temperature transient plots for fuel rods during operation of ECCS for various size breaks, particularly with comparison to 7 x 7 fuel assemblies.
4. Clad collapse calculations for 8 x 8 fuel as per SER for Exxon BWR fuels, December 17, 1973.

The staff suggested that a surveillance program be established by JCP&L for the 8 x 8 lead Exxon fuel assemblies as part of the design basis for the generic review of the Exxon 8 x 8 assembly. The plan for the surveillance program should be submitted to the staff for our review. The results of interim inspections should be included in periodic progress reports for Regulatory staff review.

Conclusions

Based on the above, the staff concluded that use of four Exxon lead fuel assemblies in the Oyster Creek core during cycle 4 operation is an acceptable proposal, contingent upon completion of review of the JCP&L Facility Change Request No. 6, dated April 16, 1974, for the Oyster Creek facility. A proposed Technical Specification Change for the 8 x 8 fuel assemblies is required to be submitted by JCP&L before we can complete an amendment to the Oyster Creek license authorizing use of this fuel.

John I. Riesland
Operating Reactors Branch #2
Directorate of Licensing

Enclosures:

1. Attendance List
2. Agenda

DISTRIBUTION FOR MEETING NOTICES

Docket File
AEC PDR
Local PDR
L Reading File
Branch Reading File
E. G. Case
A. Giambusso
R. S. Boyd
RP Assistant Directors
RP Branch Chiefs
T. J. Carter
J. M. Hendrie
TR Assistant Directors
TR Branch Chiefs
A. Kenneke
RO (3)
RS (3)
OGC
R. Fraley, ACRS (3)
Principal Staff Participants
Receptionist
Jersey Central Power & Light Company

ENCLOSURE NO. 1

ATTENDANCE LIST

MEETING ON OYSTER CREEK

MAY 22, 1974

GENERAL PUBLIC UTILITIES SERVICE COMPANY

N. Trikouros
T. Robbins
V. Zodiaco
T. Crimmins
B. Cherry

EXXON

L. Federico
L. Steves
W. Gallagher
W. Nechodom
G. Soter

AEC - STAFF

J. Riesland
L. S. Rubenstein
W. Minners
L. Beltracchi
R. Woods
F. Coffman
S. Kim
D. Houston
D. Fieno

AGENDA

OYSTER CREEK 8 x 8 LEAD ASSEMBLIES
BETHESDA, MARYLAND 5/22/74

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|------------------|--|---|
| 10:00 -
10:15 | 1. Introduction | Mr. B. Cherry
Mr. T. Crimmins
Mr. W. Nechodom |
| 10:15 -
10:30 | 2. EXXON Nuclear Fuel Performance | Dr. G. Sofer |
| 10:30 -
10:45 | 3. Spray Coefficients for 8 x 8's | Dr. L. Steves |
| 10:45 -
11:00 | 4. Spray Cooling Testing - FCTF Tests | Dr. G. Sofer |
| 11:00 -
12:00 | 5. 8 x 8 Supporting Design and Testing Information | Mr. W. Gallagher |

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|----------------|---|-----------------|
| 1:30 -
2:00 | 6. Methods for Calculating Scram Reactivity and Results of Analysis | Mr. L. Federico |
| 2:00 -
2:30 | 7. TH Methods and Correlations Used in Transient Analysis | Dr. L. Steves |
| 2:30 - | 8. Other AEC Concerns | |