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MEMO

MEMORANDUM FOR: T. M. Novak, Assistant Director
for Operating Reactors
Division of Licensing

FROM: L. S. Rubenstein, Assistant Director
for Core and Containment Systems
Division of Systems Integration

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION: SPENT FUEL POOL
RERACKING (TACS-12174)

Plant Name: Indian Point-2
Docket No: 50-247
Responsible Branch: Operating Reactors Branch No. 1
Project Manager: L. Olshan
Review Status: Request Additional Information

We have reviewed the Consolidated Edison Company's submittal for license amendments to expand the spent fuel storage capacity at the Indian Point-2 Nuclear Power Plant. We find that we need the additional information requested in the attachment to this memorandum in order to complete the review.

Original signed by
L. S. Rubenstein

L. S. Rubenstein, Assistant Director
for Core and Containment Systems
Division of Systems Integration

Enclosure:
As stated

cc w/enclosure:
D. Eisenhut
D. Ross
S. Varga

W. Johnston
D. Fieno
L. Olshan

L. Lois
W. Brooks
L. Eisenhart, BNL

Contact: L. Lois

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X-29441

OFFICE	DSI:CPB	DSI:CPB	DSI:CPB	DSI:ADD CCS	
SURNAME	L. Lois	DFieno	W. Johnston	LRubenstein/dm	
DATE	8/4/80	8/4/80	8/7/80	7/7/80	



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

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A handwritten signature in cursive script that reads "L. S. Rubenstein".

L. S. Rubenstein, Assistant Director
for Core and Containment Systems
Division of Systems Integration

Enclosure:
As stated

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D. Eisenhut
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REQUEST FOR ADDITIONAL INFORMATION
SPENT FUEL POOL RERACKING, INDIAN POINT-2,
NUCLEAR POWER PLANT (TACS-12174)

Review of the applicant's submittal, dated May 6, 1980, on the spent fuel pool reracking showed that more information is required for an adequate safety evaluation.

For example neither the form of the boron in the steel plates nor its distribution as a function of thickness are discussed. The treatment of the boron in the parametric study is not discussed. It is not clear what is the degree of conservatism in the KENO-IV calculations nor if a bias has been subtracted from the calculated Keff. In the parametric survey the uncertainties in: the minimum cell pitch, cell wall thickness and cell inside diameter, are treated as if they are independent variables, while they can be thought as manifestations of the same parameter i.e. the metal/water ratio. It is not stated in the submittal how the KENO-IV statistical uncertainty has been calculated and what was the calculated Keff value and its relation to the experimental uncertainty in the benchmark calculations.

Finally it is not evident as to what will be done to assure and to verify that the assumed and required amount of boron is actually present in the borated stainless steel plates and it will actually remain in them for the lifetime of the facility.

In view of the above, the following additional information is required:

1. A description of the form of the boron in the borated stainless steel plate, its distribution, the fabrication process and the lower limit of the concentration.
2. A description of the method (including results of experiments if applicable) which assures that the boron will remain in the steel plates throughout the lifetime of the rack.
3. A description of how the boron self shielding was taken into account in the sensitivity study.
4. The KENO-IV calculated value of Keff, whether or not the bias was subtracted, the comparison with measured Keffs of benchmark experiments, and a description of how the statistical uncertainty of 0.006 was determined. A discussion should be provided discussing the overall treatment of the KENO-IV bias, statistical uncertainty, and calculational uncertainty in this license amendment.

5. A discussion justifying the treatment of the cell pitch, the cell wall thickness and the cell inside diameter as uncertainties of independent variables.
6. A description of the quality assurance programs to assure the minimum required boron deposition in the stainless steel plates.