

REACTOR DOCKET FILE 800624085

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JUN 6 1980

MEMO

MEMORANDUM FOR: S. Varga, Chief, Operating Reactors Branch #1, DL
FROM: L. Barrett, Acting Chief, Operating Reactors Assessment Branch, DL
SUBJECT: FUEL HANDLING ACCIDENT INSIDE CONTAINMENT - INDIAN POINT 2 (TAC 08700)

Plant Name: Indian Point Station, Unit 2
Docket No.: 50-247
Responsible Branch: ORB#1
Project Manager: L. Olshan
Status: ORAB - Complete

By letter dated January 17, 1977, the staff requested the Consolidated Edison Company of New York, Inc. (the licensee) to submit an evaluation of a postulated Fuel Handling Accident Inside Containment (FHAIC) at Indian Point Units 2 and 3 (Indian Point 2/3). The licensee submitted an evaluation of an FHAIC by letter dated March 21, 1977. The staff requested, in letter dated May 5, 1977, that the licensee provide a basis for his model for mixing and for isolating the containment before a complete release of activity occurs in Indian Point 2/3. We also requested an analysis including the worst single failure during the accident. The licensee submitted, in a letter dated June 15, 1977, the assumptions used for containment mixing, and locations and descriptions of monitors which will automatically isolate the containment.

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We have reviewed the June 15, 1977, submittal and have found that for us to conclude that the potential consequences of this postulated accident are appropriately within the guidelines of 10 CFR Part 100 (less than 100 Rem thyroid), we have had to assume (1) operation of, and periodic and appropriate testing of the Containment Purge System filters, or (2) the minimum delay between shutdown and initiation of refueling is 345 hours. Neither assumption is based on limits in the Indian Point 2 Technical Specifications. For our evaluation to be valid suitable technical specifications must be adopted concerning the Containment Purge System filters or the minimum delay time between shutdown and refueling is 345 hours. Acceptable technical specifications on the Containment Purge System (CPS) are in Enclosure 2. We believe the most practical assumption to implement at Indian Point 2

would be the adoption of technical specifications on the Containment Purge System. Therefore, we have based the enclosed evaluation on the implementation of these ventilation filter system technical specifications. Based on the enclosed technical specifications on the charcoal adsorbers, degradation of the adsorbers during operation of the CPS and a margin of safety to assure the charcoal radioiodine removal efficiencies are at least the efficiencies assumed in our evaluation of the FHAIC, we have only assigned a 70% charcoal radioiodine removal efficiency for the CPS.

In our review, as per the memorandum dated April 11, 1977, from J. Donohew to B. Grimes, we did not require that the CPS be safety grade and did not consider the Single Failure Criteria, IEEE Standards, seismic design and equipment quality group classification. The CPS is not safety grade. We conclude that this is acceptable because the potential consequences of the postulated FHAIC are within the exposure guidelines of 10 CFR Part 100 with no credit given for operation of the CPS. In addition, the surveillance requirements we require for the CPS filters discussed above are less than the requirements on safety grade ventilation filter systems because to have the potential consequences of this accident appropriately within the exposure guidelines of 10 CFR Part 100, more stringent surveillance requirements on the non-safety grade CPS filters are not needed.

The enclosed evaluation also addresses the failure of all fuel pins in two spent fuel assemblies indicated by a recent study, following the dropping of an assembly about 14 feet into the core and directly hitting another assembly. If, for both assemblies, we used the assumptions given in Regulatory Guide 1.25 and taking no credit for the non-ESF charcoal filters, the potential consequences of this accident would be greater than the guidelines of 10 CFR Part 100. This is the case for four operating reactors, i.e., Indian Point 2 and 3 (500 rem), Maine Yankee (328 rem) and TMI 1 (446 rem). But taking into account a more realistic analysis, we conclude that potential consequences of this postulated accident would not be greater than the exposure guidelines of 10 CFR Part 100. Therefore, we have concluded that no additional restrictions on fuel handling operations and plant operating procedures are needed at this time. The atmospheric dispersion factor used by the staff is taken from the memorandum from L. Hulman to G. Knighton dated September 4, 1979.

Enclosure 1 is the safety evaluation of the postulated FHAIC at Indian Point 2. Enclosure 2 are acceptable technical specifications on the Containment Purge System.

It should be noted that the conclusions for an accident involving complete failure of two assemblies are based on evaluation criteria which are less conservative than those used for most PWRs (with the exception of the plants enumerated above). Therefore, it may be appropriate to include consideration of this accident in the Indian Point Zion Near Site Study.

Lake Barrett, Acting Chief
Operating Reactors Assessment Branch
Division of Licensing

Enclosures:
As stated

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

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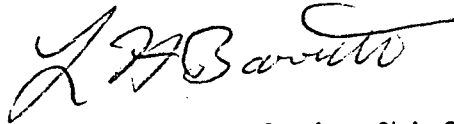
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