

Docket File
50-247



UNITED STATES
ATOMIC ENERGY COMMISSION

WASHINGTON, D.C. 20545

September 5, 1969

R. S. Boyd, Assistant Director for Reactor Projects, DRL
THRU: D. R. Muller, Chief, Reactor Project Branch #1, DRL *DRL*

ACRS SUBCOMMITTEE MEETING ON INDIAN POINT 2 - AUGUST 23, 1969

STAFF SESSION

Dr. Okrent requested our prediction as to what will be the most difficult review items. D. Muller responded by mentioning tornado design, in-core instrumentation, protection of the fuel storage pool, hydrogen concentration control, and adequacy of onsite emergency power.

APPLICANT

In an initial statement the applicant stated that he expected to load fuel at the end of April. The following items were discussed:

1. ECCS

Westinghouse was requested to bring the Committee up to date on the knowns and unknowns of the emergency core cooling system. They indicated that the major unknowns were clad swelling, and the maximum extent of channel blockage. There is sufficient information at this time on the maximum clad temperature and the percent zirconium water reaction. Rod burst tests should be completed in March 1970. Dr. Hanauer indicated that he would like to have the ECCS system completely taken care of at this stage and requested that a thorough discussion of the details of the blow-down calculations and the ability of the ECCS to provide the necessary protection be documented in the Indian Point application. Westinghouse will test the ECCS for Indian Point 2 with the head off and will pump water into the vessel before fuel loading.

2. Failure of Reactor Vessel

Dr. Hanauer requested a discussion of the protection against inservice failure of the pressure vessel. The results were not stated in the FSAR. Westinghouse indicated that a longitudinal

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split, a circumferential break below the nozzles, and a blown head were considered but had no numbers available at this time. Con Ed stated that these failure modes were factored into the design of structures surrounding the vessel.

3. Instrumentation

The applicant indicated that the instrumentation for Indian Point 2 meets IEEE 279 criteria. Westinghouse was requested to give ACRS a detailed study for Indian Point 2 similar to Ginna.

The Subcommittee requested more detail on the analysis of failure to scram on anticipated transients.

4. In-Core Instrumentation

Westinghouse indicated that more information will be coming in on out-of-core instrumentation for Indian Point 2 and 3. The results of a model developed by Westinghouse and checked with Conn Yankee results indicate that Indian Point 2 will be stable against azimuthal oscillation but will be unstable axially. They were asked what indication for the operator would be available in case these oscillations did occur. Westinghouse indicated that the readings from the core thermocouples would be available.

The applicant stated that fixed in-core detectors would be used in Indian Point 2 and 3.

5. Emergency Onsite Power

The applicant stated that they will take out the automatic relay switching gear for Indian Point 2 which was previously objected to by both the Committee and the staff.

6. Emergency Procedures

The applicant was asked to discuss their post-accident evacuation procedures but seemed unprepared or unwilling to do so. They stated that State authorities such as the State Board of Health and the State and local Police are notified when certain concentrations are reached in the reactor effluent, but the responsibility of the applicant past this point is not well defined. The applicant stated that they would investigate the emergency plans and the implementation of these plans and would be prepared to respond to the Subcommittee at the next Subcommittee meeting.

7. Hydrogen Generation

The flame recombiners installed at Ginna and similar to those proposed for Indian Point 2 have been installed in Ginna but have not been in-plant tested as yet. The result of refined calculations on hydrogen sources did not reveal any significant differences from previous work or new sources of hydrogen.

8. Tornado Protection

The applicant stated that Indian Point 3 will accept the present AEC requirements for tornado protection. In regard to Indian Point 2 the applicant gave the same response as that given at meetings and as stated in the interim ACRS report, that is, the applicant believes that the low frequency of tornadoes in the upstate New York area and the existing ability of structures presently on site to withstand tornado winds represent sufficient protection.

9. Failed Fuel Detection

A failed fuel detection instrument is presently being evaluated at Saxton. Since there are no failed fuel elements at Saxton, these tests are primarily to check the sensitivity of the instrument.

10. Vessel Embrittlement

The applicant stated that it would be possible to anneal the reactor vessel if it was found necessary.

M. A. McCoy

M. A. McCoy, Reactor Engineer
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