

Those listed below

December 6, 1967

P. A. Morris, Director
Division of Reactor Licensing

REVIEW OF KEWAUNEE NUCLEAR POWER PLANT, DOCKET NO. 50-305

The proposed review plan for Kewaunee was discussed in my office on December 4, 1967. In attendance were R. Boyd, S. Levine, D. Knuth, R. DeYoung, and R. Smith. At this meeting we discussed the principal review areas and assignments of work within DRL. Assignments discussed and agreed to are given below. The project is assigned to R. G. Smith of DRS who will report to D. F. Knuth, Chief of RPB #5 for this project. V. Benaroya will provide backup assistance.

The schedule will depend on the timing of submission of additional information from Wisconsin Public Service Corporation. If this information is submitted by January 1, we should be prepared to discuss the new material with them by January 15. If the second-round information from the applicant is submitted by February 16, we should be ready for ACRS review in April.

The Reactor Technology review assignments are:

1. General

- a. Review quality control requirements of all equipment and components.
- b. Review adequacy of structural design bases for all Class I equipment.

2. Site and Environment

- a. Review adequacy of meteorological data as a basis for accident analysis.
- b. Review adequacy of environmental monitoring program.
- c. Evaluate gaseous and liquid release rates.
- d. Review potential effects of liquid waste discharge on the local potable water supplies.
- e. Evaluate flooding potential.

3. Containment

- a. Review adequacy of provisions for leakage tests and proposed in-service inspections.

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- b. Check feasibility and ability to test those engineered safety features to meet containment design basis, specifically the ability to keep a slight negative pressure between the steel shell and the concrete containment under accident conditions.

4. Instrumentation and Control

- a. Check for comparability with previously-approved Westinghouse designs.
- b. Check adequacy of instrumentation used to actuate engineered safety features.
- c. Review adequacy of nuclear instruments to detect xenon oscillations and control adequacy to stop them.
- d. Check adequacy of instrumentation for containment.

5. Electrical Systems

- a. Check adequacy of the emergency power system.

6. Auxiliary & Emergency Systems

- a. Determine maximum permissible leakage rates from the auxiliary coolant system to the cooling water system to conform with 10 CFR 20.
- b. Review the design adequacy of the auxiliary coolant system.
- c. Review the effects of loss-of-air on the plant and the adequacy of the instrument air system.

7. Safety Analysis

- a. Establish acceptable assumptions concerning fission product release fractions from containment and shield building following loss of coolant accident for purposes of dose calculations.
- b. For the loss of coolant accident evaluate the:
 - 1. Blowdown analysis
 - 2. Core power transient and thermal analysis during blowdown.
 - 3. Core and internals integrity analysis.
 - 4. Effects of loss of coolant and safety injection on the reactor vessel and internals.
 - 5. Containment pressure and temperature transient analysis.
- c. Calculate off-site doses, exclusion radius and low population radius, compare with applicant's calculations and explain the difference.

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The Reactor Operations review assignments are:

- 1. Review Section 12 for adequacy of coverage at the construction permit stage.
- 2. Evaluate for technical competence the first level subcontractors and the interrelationships between them (Westinghouse, Pioneer Service and Engineering, NUS Corp., Dames & Moore, Inc., and the construction subcontractors not selected yet).
- 3. Determine adequacy of the emergency plans for construction permit stage.

The Reactor Projects review assignments are:

- 1. Reactor
 - a. Check thermal and hydraulic design for consistency with previous Westinghouse designs and evaluate adequacy of high power density.
 - b. Check control system and core design with previously approved designs, including shutdown margin and control capability.
 - c. Review provisions for flushing and cleaning the primary system prior to fuel loading.
- 2. Containment
 - a. Review adequacy of isolation valve criteria and design.
- 3. Engineered Safety Features
 - a. Determine the extent to which the applicant's design meets the proposed ECCS Criteria, especially the two-accumulator design.
 - b. Confirm functional performance requirements and equipment capacities.
 - c. Review layout requirements for minimum safeguard components to function in case of flooded compartments; location of local instrumentation and equipment controls; missile protection for engineered safeguards components; and ability for free recirculation of the spray systems.
- 4. Auxiliary and Emergency System
 - a. Review adequacy of the chemical and volume control system.

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5. Steam & Power Conversion System

- a. Check for comparability with previously-approved designs, including capability of emergency feedwater system.

6. Safety Analysis

- a. Evaluate the analyses of other accidents listed in the Safety Analysis section.

7. Technical Specifications

- a. Establish scope of specifications required at construction permit stage.

8. Conformance to Proposed 70 Criteria

- a. Evaluate proposed plant in conformance with 70 criteria.

Addresses:

- S. Levine A/D for Reactor Technology
- R. S. Boyd A/D for Reactor Projects
- D. J. Skovholt A/D for Reactor Operations

DISTRIBUTION:

- Suppl.
- DRL Reading
- RPB #5 Reading
- V. Benaroya
- V. Moore (2)
- L. Kintner
- Rosen (3)
- Newell (2)
- DeYoung (4)
- Birkel
- Thompson
- R. Smith

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SURNAME ▶	R. Smith/ds	DFKnuth	V. Benaroya	RSBoyd	PAMorris	SLevine
DATE ▶	12/6/67	12/7/67	12/7/67	12/7/67	12/9/67	12/8/67