

September 22, 1998

MEMORANDUM TO: Gary M. Holahan, Director  
Division of Systems Safety & Analysis

FROM: Richard J. Barrett, Chief/**RA**/  
Probabilistic Safety Assessment Branch  
Division of Systems Safety & Analysis

SUBJECT: PROPOSAL FOR A GUIDELINE ON RISK-INFORMED STAFF REVIEW  
OF POWER UPRATE

We propose the following guideline for conducting staff review of licensee's power uprate requests as they relate to plant risk. Extended power uprate applications are not requesting relaxation of any deterministic requirements.

1. Licensee requests for power uprates are required to meet all deterministic requirements.
2. Nevertheless, any request to operate at power significantly beyond "stretch power" represents the potential for an increase in risk.
3. Therefore, it would be prudent to evaluate risk to see if the risk profile of the plant is changed in any significant way or if new vulnerabilities are introduced. Staff review of the Monticello and Hatch submittals have not identified any significant risk issues.
4. The risk evaluation should be based on a plant PRA which provides a logical basis for evaluating the impact of risk from the following attributes:
  1. Initiating event frequency
  2. Equipment/component failure rates
  3. Operator error probability
  4. Success criteria

The power uprate risk analysis must represent the most current as-built and as-operated configuration of the plant. To the extent that the licensee's current design and operation deviates from the risk analysis used as the basis for uprate analysis, it must be demonstrated that the deviations do not affect the results.

5. Qualitative or quantitative analysis may be used to justify acceptance of any increase in risk. A qualitative analysis may be adequate for staff review if it sufficiently addresses potential and/or real increase in risk due to power uprate, particularly for a small increase in risk.

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Otherwise, a quantitative analysis may be needed to show the actual estimated increase in risk from power uprates. Licensees will be asked to address risk implications of the power uprate from internal and external events.

6. Acceptance criteria of RG 1.174 will be used as general guidance, recognizing that the qualitative nature of some external event methodologies may not support quantification of baseline risk or a change in risk for a given power uprate request.

The implementation of the Commission policy statement on the use of PRA is expected to improve the regulatory process in three areas: foremost, through safety decision making enhanced by the use of PRA insights; through more efficient use of agency resources; and through a reduction in unnecessary burdens on licensees. Adhering to the above guideline for reviewing future power uprate applications will provide essential information necessary to make a justifiable decision that makes the most efficient and effective use of staff resources.

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\*See previous concurrences.

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