



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

May 15, 1981

MEMORANDUM FOR: Harold R. Denton, Director
Office of Nuclear Reactor Regulation

FROM: Darrell G. Eisenhut, Director
Division of Licensing

SUBJECT: SYSTEMATIC EVALUATION PROGRAM - INTEGRATED PLANT
SAFETY ASSESSMENT

The ongoing Systematic Evaluation Program (SEP) is meant to provide (1) an assessment of the significance of differences between current technical positions on safety issues (as expressed in regulations, Standard Review Plan, guides, etc.,) and those that existed when a particular plant was licensed, (2) a basis for deciding on how these differences should be resolved in an integrated plant review, (3) a documented evaluation of plant safety, and (4) an integrated overall evaluation of all safety topics evaluated in the SEP and other ongoing reviews, e.g., fire protection. The purpose of this report is to inform you of the procedures we will be using to perform an integrated plant safety assessment.

Background

The SEP has been described in previous Commission papers (SECY 76-545 - November 12, 1976 and SECY 77-561 - October 26, 1977). Six of the eleven plants chosen for review have Provisional Operating Licenses (POL). The SEP review will aid in the conversion of these POLs to Full Term Operating Licenses. As described in SECY 77-561, each plant was to be reviewed against 137 topic areas to determine whether it met or deviated from present criteria. Some of these topics are generic, that is the topic has been identified as one which applies to many plants e.g., Unresolved Safety Issues (USI) and other multiplant issues. The SEP topics that are encompassed by other ongoing programs have been deleted from the list of 137 topics to minimize duplication with other ongoing review efforts. However, for the plants which are part of the SEP effort, the ongoing multiplant issue reviews and the SEP topic review will be closely integrated to improve the effectiveness and efficiency of these efforts and to minimize any impact on licensees.

Integrated Plant Safety Assessment

The Integrated Plant Safety Assessment is a procedure whereby identified deviations from current licensing criteria, which have not been resolved during individual topic reviews, are evaluated to determine the need for backfitting. Before any such backfitting decision is made, the results

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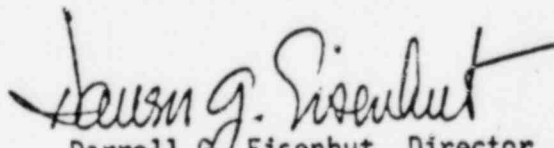
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will be integrated with other ongoing NRC reviews to ensure efficient, effective regulation. The procedure includes the use of a priority ranking system whereby points are assigned for safety significance, type of improvement, resources necessary to implement (both NRC and Industry) and the timing of improvements. Enclosure A is the priority ranking system. It is designed to give highest weight to the tasks with the greatest potential for improved safety in the shortest time at lowest cost to industry and government. The dominant weighting factor is safety significance, which is rated at 50% of the total rating if the safety significance is high. This quasi value-impact assessment and priority ranking procedure will be used to identify deviations that may require backfitting. It should be noted that DST is presently developing a priority ranking system for safety issues. DL will work with DST in developing this system to serve our mutual purposes and we will consider modifying Enclosure A, or substituting another procedure such as this DST priority ranking system, as appropriate. The Enclosure A priority ranking system and the integration of SEP backfitting requirements with other ongoing program requirements rely heavily upon judgment and management review. The procedure includes issuing a draft Integrated Assessment Report for licensee review and comment. The objective of the licensee's review is to identify "common fixes" and to integrate proposed modifications with identified TMI, USI or other generic activity requirements. The SEP staff will review the licensee's preliminary design proposals for adequacy of corrective action and to the extent possible for conflict with pending requirements. This coordination of SEP backfitting with other NRC requirements is a primary objective of the SEP Integrated Assessment of older facilities.

A more detailed description of a typical SEP topic review and the integrated assessment procedure are included in Enclosure B. This approach has been coordinated with other NRR Divisions and the Office of Inspection and Enforcement.


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Enclosure:
As stated

cc w/enclosure:
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ENCLOSURE A
INTEGRATED PLANT SAFETY ASSESSMENT PRIORITY RANKING SYSTEM

1. SAFETY SIGNIFICANCE

High	100
Medium	50
Low	0

2. TYPE OF IMPROVEMENT

Improves operational safety (i.e. human element)	20
Improves system design to prevent accidents	20
Improves system design to mitigate accidents	0

3. UTILIZATION OF RESOURCES

A. NRC staff resources required to implement

Small (less than 0.1 PSY)	20
Medium (0.1 to 0.4 PSY)	10
Large (0.5 PSY or greater)	0

B. Licensee manpower requirements (i.e. increase in staffing)

Small (1 staff or less)	20
Medium (2-5 staff)	10
Large (6 or more)	0

C. Licensee capital cost improvement

Small (less than \$1.0 M)	20
Medium (\$1.0 M to \$5 M)	10
Large (greater than \$5 M)	0

D. Timing of improvement i.e. how soon the safety improvement will be operational

Short-term (within one year)	20
Near-term (within two years)	10
Long-term (more than two years)	0

ENCLOSURE B

SEP TOPIC REVIEW AND INTEGRATED ASSESSMENT PROCEDURE

A. SEP Topic Review

The SEP topic review concludes with the determination of whether the plant's design for a specific topic is consistent with current licensing criteria. The review is performed by either one of two methods. In one method the staff reviews the SEP topic without a licensee safety assessment report (SAR) and issues a draft safety evaluation report (SER) to the licensee. The purpose of the draft SER is to verify the factual accuracy of the described facility and to allow the licensee to identify possible alternatives to meet the current licensing requirements in order to close out deviations during the topic review, rather than deferring their evaluation to the integrated assessment. After reviewing the licensees' comments on the draft SER, factual changes are incorporated as needed and proposed alternative are reviewed and the SER is issued final. In the other method of review, the licensee submits an SAR and the staff issues a final SER based on a review of this submittal.

After either of the above reviews is complete the disposition of each topic can take either one of the following alternatives:

- 1) The plant is consistent with current licensing criteria and the topic review is considered complete.
- 2) The plant is not consistent with current licensing criteria, but the present design is considered safe. A justification for this conclusion is provided and the topic review is considered complete.
- 3) a. The plant does not meet our current licensing criteria by a significant margin. Under this condition corrective action is taken on an expedited basis. The NRC action taken on Liquefaction for the LaCrosse Boiling Water Reactor is an example of an SEP issue handled on an expedited basis.
b. The plant does not meet our current licensing criteria, but the licensee has proposed design changes to meet our requirements or to implement procedural changes which the staff finds acceptable.

For both the above cases, i.e. 3a and 3b, the corrective action taken is documented in the staff's safety evaluation report and the topic is considered complete. Implementation of corrective action is verified by the Office of Inspection and Enforcement as part of their routine inspection program.

- 4) The plant is not consistent with current licensing criteria, but the safety significance of the issue justifies deferring resolution. Under this condition the final topic disposition is deferred to the integrated assessment.

B. SEP Integrated Assessment

The Integrated Plant Safety Assessment will identify the extent to which plants meet our current licensing criteria and deviations from our current licensing criteria are evaluated on an integrated basis to determine the need for backfitting. The SEP Integrated Assessment review for each facility will be performed by a team, hereafter referred to as the Integrated Assessment Team (IAT), composed of:

- (1) Integrated Assessment Project Manager, SEP Branch
- (2) Operating Reactor Project Manager, Operating Reactors Branch No. 5
- (3) Technical Reviewers as required
- (4) Office of Inspection and Enforcement Representative (Resident Inspector or Alternate knowledgeable of the plant design)

The Integrated Assessment Project Manager will review each individual SEP topic safety evaluation report and prepare a listing of all deviations from current licensing criteria which have not been resolved during the topic reviews. A short narrative for each deviation is developed based upon the detailed topic safety evaluation. The listing and narrative are then provided to each member of the Integrated Assessment Team.

The Integrated Assessment Team, following their individual reviews of the deviation list and narrative, meet and rank each deviation according to its safety significance, the type of improvement, utilization of resources and the timing of the improvement (Enclosure A). The ranking developed by the Integrated Assessment Team will be a factor used to support recommendations for backfitting. A basis for each item recommended for backfitting will be developed by the Integrated Assessment Project Manager using the input from the Integrated Assessment Team.

The ranking developed by the Integrated Assessment Team and a basis for each item recommended for backfitting, hereafter referred to as the Draft Integrated Assessment Report, will be sent to the licensee for review and comment.

The licensee will be requested to group the deviations in the Draft Integrated Assessment Report to determine if "common fixes" exist and to integrate his proposed design or procedural modifications with identified Three Mile Island (TMI) or Unresolved Safety Issues (USI) requirements. The licensee will also be requested to propose preliminary design modifications or procedural changes to resolve those deviations identified as candidates for backfitting.

A review of the licensee proposed design modifications and procedural changes will be conducted by the SEP staff to determine the adequacy of the licensee's proposed corrective actions. Also, the proposed corrective actions will be reviewed with respect to pending requirements related to TMI, USI, or other generic activities to assure, to the extent possible, that a conflict with the licensee's proposed fixes does not exist. After this review is complete the SEP staff will prepare the final Integrated Assessment Report. The final Integrated Assessment Report will be sent to the Commission after internal NRC management review and coordination.

The licensee will be requested to develop appropriate detailed design modification or procedural changes, and/or to propose technical specification changes. The staff will review the licensee's proposal and schedule and will approve facility design changes pursuant to 10CFR 50.59 and issue any necessary technical specification changes or license amendments. The final Integrated Assessment Report will also be the basis for POL to FTL conversions.

A significant advantage of this approach is the integrated evaluation of the facility at one time. The licensee will be able to employ a more cost-effective approach to design of any necessary modifications. It may also result in correction of some deviations, which, by themselves, would not support a backfitting decision. This would occur when the design modification for a more significant deviation also resolved lesser significant deviations.

This procedure for development of an Integrated Assessment will be evaluated during its implementation and will be revised to incorporate changes upon experience from the early reviews.