

January 18, 2001

MEMORANDUM TO: William M. Dean, Chief  
Inspection Program Branch,  
Division of Inspection Program Management

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

SUBJECT: SUPPORT FOR REACTOR OVERSIGHT PROCESS  
SELF-ASSESSMENT

In response to a memorandum from Inspection Program Branch (IIPB) dated October 16, 2000, and subsequent revisions of the attachments to the memorandum as well as informal discussions with your staff, the Probabilistic Safety Assessment Branch (SPSB) Operations Support Team (OST) met twice to discuss various options and plans to support the self-assessment metrics of the Reactor Oversight Process, which was developed by the IIPB.

The October memorandum indicated a need for an audit schedule and plan to review regional inspection findings, to provide an appropriate sampling basis, and to provide summary information of the audit and certain data, addressing the metrics OS1b, US1a and MS1a in the memorandum, on a quarterly or annual basis to be determined by SPSB. The memorandum further stated that IIPB would need input from the audit to provide insights prior to the Initial Implementation Evaluation Panel early in January 2001.

The overall goal is to support the end of cycle report to the agency action review meeting and the Commission meeting in May or June of 2001.

The OST has considered three audit options for a reporting cycle with a yearly, semi-annual, and a quarterly interval, as discussed in an attached enclosure. Based on audit sample sizes (minimum number of inspection findings) and sample review plans (level of effort), the OST is proposing a tentative audit plan with two viable options: one year or semi-annual reporting plan to support the IIPB Self-Assessment Process. The quarterly plan appears to have sampling and logistic problems, and we have concluded that this option is not practical and was eliminated from further consideration. Reminding you that SPSB was asked to support three metrics in the memo, the proposed plans addressed only three metrics, OS1b, US1a and MS1a as audit elements. These three metrics are;

OS1b Independent Audit Findings agrees that the selected findings meet established standards.

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415-1071

William M. Dean

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US1a The degree to which an auditor can trace through the available documentation and reach the same result.

MS1a Tracking the numbers of over-conservative and non-conservative SDP results.

The audit sample sizes were selected to be consistent with the NRC goal of providing 95 percent confidence in sampling and assessment results. The level of effort included not only the review processes of the findings and documentation to meet the required elements in three metrics but also retrieval and extracting effort of the inspection findings from the inspection reports. However, the level of effort may vary significantly depending on the nature and complexity of the inspection findings, such as fire barrier issues and potential cross-cutting issues. Please find the enclosed Audit Plan Options.

In order to expedite the review processes and to improve efficiency, OST is planning to divide review team into two smaller teams, with each smaller team assigned to two regions.

With the time constraints in review processes, we strongly recommend the annual review cycle as the most desirable option. However, considering the other factors, such as providing inputs to the NRR Executive Team and your needs, we can provide you with an informal interim status report between annual reports. For scheduling interface with Alan Madison, we are designating Jin Chung of the OST. He can be reached at (301) 415-1071 and is located at O-10D16.

Attachment: As stated

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Attachment: As stated

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## AUDIT PLAN OPTIONS

The audit review process requires the Operations Support Team (OST) to extract inspection findings from various inspection reports and to assess the findings based on Significance Determination Process (SDP) measures. The audit results would be subjected to the elements specified in the required metrics specified in the October memorandum.

The sample sizes are determined to meet a 95/95 tolerance goal of the inspection findings for each region. The tolerance goal would provide 95 percent confidence in sample size for each group and the assessment results. In order to achieve this goal for each region, a minimum of 59 inspection findings has to be reviewed for each region and each reporting cycle. This requires a minimum total of 236 inspection findings for all four regions.

Limiting factors to the audit options are the number of inspections for each plant and subsequent inspection findings during each reporting cycle to meet the sampling tolerance goal. This would limit the length of reporting cycle, particularly for a quarterly reporting plan. The OST has evaluated three optional audit plans of providing review results based on a yearly, semi-annual, and quarterly reporting cycles, and summarized in the table.

Larger regions have more than 30 plants compared with a smaller region with less than 20 plants, and the small region may not have sufficient number of inspection findings during a quarterly reporting cycle to meet the statistical sampling size. This may not be an issue for other two options: one year or semi-annual reporting sample plans to support the Inspection Program Branch Self-Assessment Process.

Although the nature and the complexity of the inspection findings may vary, some of them may take significantly more time to review. Some of such examples includes findings related to shutdown, fire barrier, or cross-cutting issues. The findings, such as potential enforcement issues and other than "Green," may also take extensive review effort.

The level of effort includes not only the review processes of the findings subject to SDP process but the need to address the required elements in three metrics. It also requires fair and uniform summary assessment of the audit results as well as sample retrieval and extracting efforts of the

inspection findings from the inspection reports across different regions with different operating philosophy. The level of review efforts is estimated based on an average of 5 hours of each review.

The proposed options are summarized in the following table:

| Reporting Plan Options      | One Year | Semi-Annual | Quarterly |
|-----------------------------|----------|-------------|-----------|
| Number to Review per region | 59       | 59          | 59        |
| Total Number to Review      | 236      | 236         | 236       |
| Review per Month            | 20       | 40          | 80        |
| Level of Effort, FTE        | 1.0      | 2.0         | 4.0       |

In conclusion, the quarterly plan appears to have sampling and logistic problems, and may not be practical for implementation. Therefore, we have decided not to consider the quarterly plan. The semi-annual option may have difficulty to meet the required sample size or to select or eliminate certain sample findings. The most realistic option would be one year schedule because of sample size needed to meet the confidence level for the review.