

12-21

SRA Training Topics

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Topics

- SDP “Best Practices” to ensure timeliness.
- Phase 2 SDP.
- Accident Sequence Precursor Program (ASP).

SDP “Best Practices”

REGIONAL INSTRUCTION **1080.1/1** “MANAGEMENT OF THE SIGNIFICANCE DETERMINATION PROCESS”

- Effective application of the "Best Practices" will ensure quality and timeliness of final significance determinations for allocation of supplemental inspection resources in the framework of the ROP
- Implement the Region I SDP Tracking List, which will include inspection findings that: have the potential to be greater than Green; have been issued with significance “to be determined”; or that have been issued with a greater than Green preliminary risk assessment.

The "Best Practices" can be summarized in three general areas:

1. Early Engagement and Frequent Communications

Thorough inspection and effective communication of the PD with the licensee staff, the Branch Chief (BC), and the Senior Reactor Analyst (SRA), is critical to successful SDP timeliness. Entry into the SDP should occur promptly and is expected to continue through the course of the inspection to help identify and focus additional inspection required to support the SDP. Inspection issues should be fully developed into solid PDs prior to entering the SDP.

2. Project Management Approach

Timely completion of the SDP for potential greater than Green finding requires ownership and management by the applicable DRP or DRS BC. BC project management should begin early, with PD validation, and continue with completion of a Phase 2 SDP evaluation or an SDP flowchart, through issuance of the Final significance determination. This approach should also be utilized when NRC management review is appropriate to determine the significance of a PD because of inability to process the issue through an established SDP, in accordance with References 2 and 3.

3. Use of Best Available Information

It is essential to use "best available" (technically credible and timely) information to complete the SDP within the timeliness goals. Early engagement with the licensee will support mutual understanding of the time available for providing additional analysis or testing to support the licensee's position on the risk significance. When adequate assessment tools or information needed to support an estimation of the risk significance does not exist, this should be promptly discussed with management and the burden of analysis placed more directly upon the licensee. Licensee time for analysis or testing must be accounted for by the BC in managing SDP timeliness.

Inspectors

- A. Identify, thoroughly develop, communicate, and conduct initial risk assessment for a PD. Collect sufficient information to support completion of the SDP, including a full understanding of the potential plant impacts from the PD.
- B. As an issue develops, make a judgment about potential significance: for PDs in the Initiating Events (IE), Mitigating Systems (MS), and Barrier Integrity (BI) cornerstones, use the plant specific SDP Phase 2 notebook and/or consult with the SRA; for PDs in the Emergency Preparedness (EP), Occupational Radiation Safety (ORS), or Public Radiation Safety (PRS) cornerstones use the appropriate Reference 2 Appendices to complete the significance determination.

NOTE - as additional information develops or becomes better understood, the potential significance of an issue can change from Green to greater than Green or vice versa. If such a change is identified, promptly discuss it with the BC and SRA.

- C. For issues that can not be greater than Green, discuss the issue with the BC and continue the inspection and document in accordance with Reference 4.

Potentially greater than Green

1. Discuss the issue and current assumptions with the BC and the SRA., determine what additional information is needed to fully develop the PD and to support the risk assessment. Communicate the need for potential additional inspection, as appropriate.
2. Discuss the issue with the licensee and understand any additional work, testing or analysis planned. Discuss the information gathered with BC and SRA.
3. As soon as possible, if additional inspection is not necessary, finalize the PD and the preliminary risk assessment. Ensure all assumptions are well understood.:
 - a. For PDs in the IE, MS, and BI cornerstones, complete Phase 1 and Phase 2 of the SDP. Contact the SRA for any assistance necessary.
 - b. For PDs in the EP, ORS, or PRS cornerstones complete the appropriate SDP.
 - c. If the issue is greater than Green contact the BC and SRA. The BC will provide direction to prepare the SERP package input, if needed, based on the SRA's Phase 3 analysis.
 - d. If the issue is green, discuss it with the BC and the SRA and prepare the inspection report input in accordance with Reference 4.
4. At the end of the inspection, if additional inspection is necessary to finalize the PD, characterize the issue as an unresolved item (URI) with significance as N/A, in accordance with section 05.06.b.1 of Reference 5 and prepare the inspection report in accordance with Reference 4.

Branch Chief

- A. Discuss potential issues with the inspection staff and identify potentially greater than Green PDs early.
- B. Provide oversight ensuring that PDs and the associated plant impacts are sufficiently developed during the inspection process to allow timely completion of the SDP.
- C When a potentially greater than Green issue is identified:
 - 1. Notify an SRA so the issue may be tracked on the SDP Tracking List.
 - 2. Establish milestones and commitments.

BC – Project Manager

Specific milestones to be addressed include:

- a. BC validation of the PD and licensee corrective actions.
- b. Statement of applicable assumptions.
- c. Additional inspection needed. If additional inspection is needed and will not or can not be completed prior to report issuance, coordinate with the inspector and SRA to develop specific actions and commitments needed to close the URI in the future.
- d. Completion of Phase 1 and Phase 2 risk assessments by the inspector.
- e. Discussion with licensee management.
- f. SRA first review of the issue (likelihood of staying greater than green with additional analysis).
- g. Need for a Planning SERP.
- h. Completion of SRA preliminary risk assessment.
- i. Completion of SERP prior to inspection report issuance.
- j. Regulatory Conference
- k. Analysis of licensee provided information and completion of Final risk significance determination.
- l. Documentation of Final significance determination in a letter to the licensee.

Significance Determination Process Training

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Probability Basics

- Success and Failure
 - For any given safety function/system the prob of success + the prob of failure = 1.0
 - Fault Tree (And & Or gate logic to estimate the prob of FAILURE)
- Frequency of Initiating Event(IE)
- $\text{Freq of IE} * \text{Core Damage Prob (CDP)} = \text{Core Damage Freq (CDF)}$
 - Event Tree (Tree branch logic to estimate the CDP and CDF) (Up branch = success & Down branch = failure)

Phase 2 Notebooks

- Specific to the given plant
- Table 1 - Initiating Event Frequency
- Table 2 – System Dependency
- Tables 3.X – Individual Initiating Event SDP worksheets
- Event Trees