



Background

- SECY paper and Commission meeting October 2008
- - SRM – December 2008
 - Reconsider the assessment process and propose policy options to the Commission
 - Address inclusion of objective elements such as construction program PIs and SDPs analogous to those used in the ROP



Workshop Objectives/Goals

- Provide an overview of staff concepts and schedule
- Encourage open dialogue on pros/cons of concepts and alternate options
- Need to establish viable options for Commission
- Each option needs to be sufficiently developed for feasibility
- Status quo may be an option



Scope of Staff's Work

- Consulted with Office of Research and other PRA analysts
- Consulted with NMSS regarding potential PIs
- Evaluated applicability of ROP PIs for construction
- Evaluated internally generated potential PIs against pre-defined criteria
- Evaluated 3 potential concepts for an SDP-like process



Known SDP and PI Limitations

- ROP SDP thresholds established by delta CDF and LERF
- No immediate threat to public health and safety
- “Bathtub” curve and infant mortality of components for construction
- Lack of historical PI information



Conceptual SDP-Type Processes

- Risk-Informed Matrix Process
- Reliability Growth Analysis
- Safety Significance Evaluation Process



Conceptual Risk-Informed Matrix Process

Issue Significance

Major	Low-to-Moderate Safety Significance	Substantial Safety Significance	High Safety Significance
Moderate	Low Significance	Low-to-Moderate Safety Significance	Substantial Safety Significance
Low-to-Moderate	Low Significance	Low Significance	Low-to-Moderate Safety Significance
Minor	Low Significance	Low Significance	Low Significance
	Low (FV<0.005 and RAW<2)	High (FV≥0.005 or RAW≥2)	Very High (FV≥0.05 or RAW≥20)

Risk Importance of SSC



Conceptual Risk-Informed Matrix Process Considerations

- ROP reactor safety SDP – impact on CDF/LERF and duration of degraded condition
- Risk importance of SSCs well understood
- X-axis includes FV and RAW
- Y-axis could include severity of violation or non-conformance
- Non-conformance could include repetitiveness, barriers, and discovery opportunities



Conceptual Reliability Growth Analysis

- Improvement of a product's reliability over time
- Assumes steady state process over time
- Challenges:
 - Lack of initial data for generating reliability curves
 - Variability in workload over time
 - Possible use of ITAAC matrix to define processes
 - What is a "failure"?

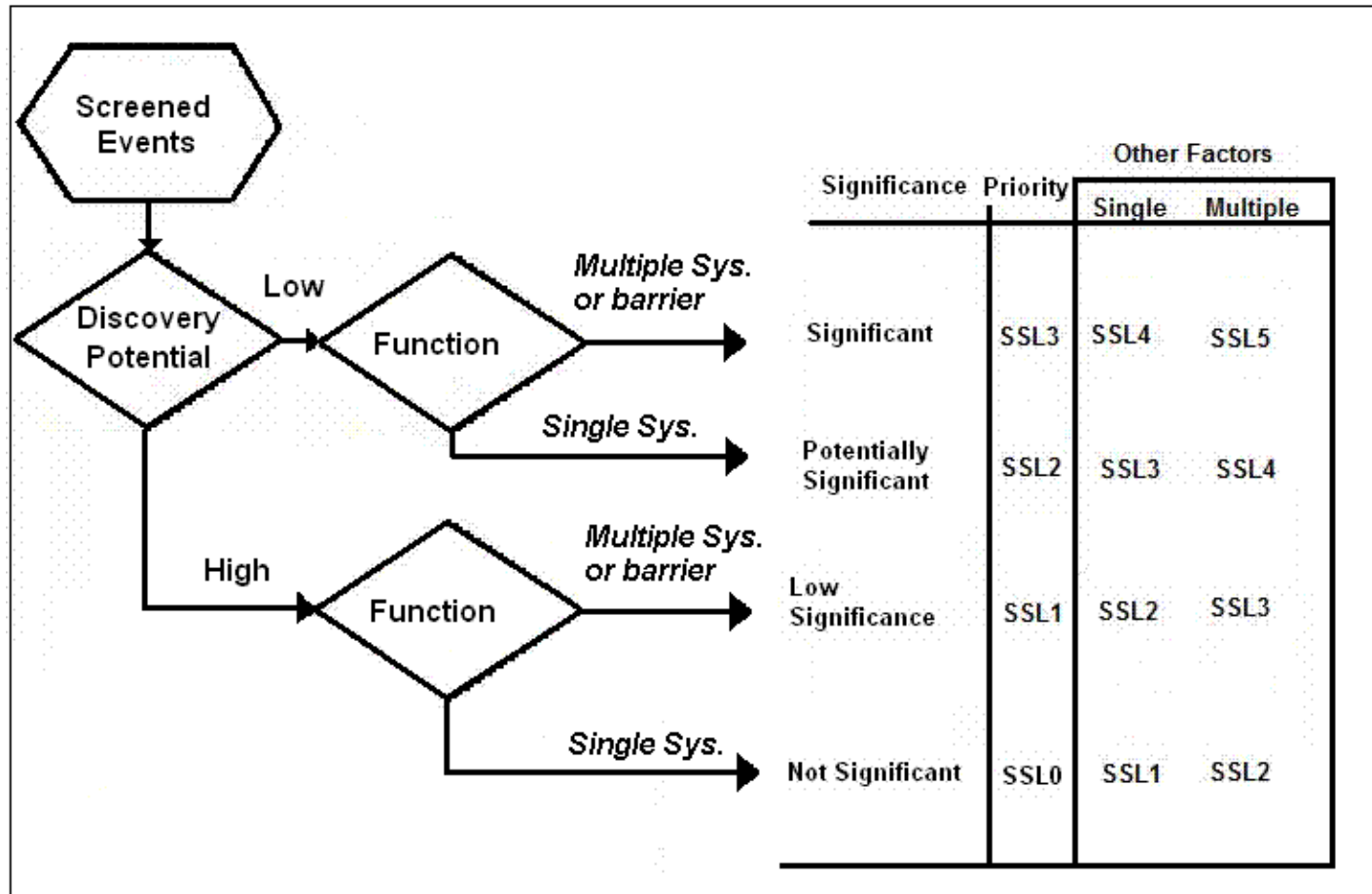


Conceptual Safety Significance Evaluation Process Methodology

- Utilizes a prioritization scheme for ranking issues
- Assigns numeric values for significance and discovery potential
- Four inputs
 - Discovery potential
 - Function as it relates to impact on safety-related function
 - Impact is to a single or to multiple SSCs
 - Other factors (common cause failures, programmatic deficiencies, etc)
- Need to add rigor for an SDP type application



Conceptual Safety Significance Evaluation Process





Overview of PIs

- Evaluated potential PIs from multiple sources
- Evaluated applicability of ROP PIs for construction
- Developed screening criteria for binning
- Three bins based on potential for development
- Unique aspects
- Results: 5 in category A, 8 in B, 49 in C



Screening Criteria

- Capable of being measured
- Reasonable sample of performance
- Valid and verifiable indicator of performance
- Encourage appropriate licensee and NRC actions
- Timeliness of indicator



Potential Examples of Category C PIs

- Number of ITAAC findings and ITAAC-related construction findings
- Number of 10 CFR 50.55 (e) reports
- Employee concerns versus number of allegations
- OSHA reportable deaths/injuries
- Schedule adherence



Examples of Potential Category B PIs

- Extent of condition review
- Repetitive 50.55 (e)
- Inadequate response to NRC Bulletins
- Failure to assess NRC Information Notices
- Failure to adequately assess 50.55 (e)
- Safety system functional failures (tie to ITAAC preservation)
- Ratio of NRC identified findings to licensee identified
- Backlog of pending design changes



Examples of Potential Category A PIs

- Ineffective corrective actions
- Failure to assess Part 21 reports
- Backlog of safety significant CAP issues
- Number of re-opened ITAAC based on new information
- Number of errors due to inadequate training



Input/Feedback/Questions



Next steps