



17872 Independent Safety Review Boards – A Guide for a Successful Review

Robert E. Smith, CSP
Booz Allen Hamilton
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Agenda

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Disclaimer

- ▶ Any views or opinions presented in this presentation are solely those of the author/presenter and do not represent those of Booz Allen Hamilton nor the U.S. Department of Defense (DoD)

Introduction

- ▶ This presentation highlights a process for safety professionals and Programs for presenting to an independent safety review board
- ▶ Independent Safety Review Boards exist to provide an unbiased, independent assessment of a Safety Program's processes and reviews the analytical artifacts generated by a Safety Program in order to ensure safety risks are adequately identified and assessed
- ▶ Safety Reviews are usually required at certain Program milestones, prior to a test event, as part of a Program's certification process, and prior to fielding

This presentation provides a guide to a successful safety review and highlights what Programs should do, and should not do, to have a successful safety review board meeting

Program's Perspective

- ▶ Safety Reviews could be considered a full-scale audit on their Program, and in some cases, it is!

- ▶ Common questions Programs may have prior to presenting to Safety Boards:
 - Why do we need to present to the Safety Board?
 - What is going to be uncovered, or discovered?
 - Will we be able to provide sufficient responses to address questions and concerns and defend our safety assessments?
 - Will the safety board process delay our schedule?
 - How much is this going to cost the Program?
 - Why do we need to provide all of this documentation (e.g., Objective Quality Evidence (OQE))?

Safety Review Board Goals

- ▶ The goal for a successful Safety Review Board meeting is to ensure the safety program processes and analytical artifacts are adequate and well-established to properly assess safety risks for the personnel, equipment, and environment that will be exposed to potential hazards during the system's lifecycle
- ▶ Everyone involved with the Safety Review Board process, including Program representatives and board members, should agree with this goal to ensure the safety of those exposed to potential hazards and risks

Ultimate Goal – Mishap Prevention!

Background

- ▶ Review Boards are composed of subject matter experts across a variety of engineering and technical fields and are well-versed and experienced with system safety processes
- ▶ Review Boards have authority to provide oversight and guidance to Programs in order to ensure the safety program processes are sound to properly identify, document, assess, eliminate, mitigate, manage, and accept safety risk throughout the Program's lifecycle
- ▶ Review Boards, while they attempt to meet program requirements and schedules, are unbiased to Program demands and therefore can provide impartial recommendations to improve the overall safety program
- ▶ A Review Board may come into existence based on lessons learned, or as an outcome of a significant incident (e.g., the Navy's Weapon System Explosives Safety Review Board (WSESRB) was established in 1967, following two major United States (U.S.) Navy Aircraft Carrier explosives mishaps (USS ORISKANY in Oct 1966 and USS FORESTALL in Jul 1967)

Review Board Process

- ▶ A typical review board process* includes the following steps:
 - Determine the Review Board Meeting Requirement
 - Determine When to have a Review Board Meeting
 - Develop the Technical Data Package (TDP)
 - Develop the Presentation
 - Hold the Review Board Meeting
 - Perform Post Meeting Activities
 - Track Current and Previous Findings
 - Maintain Review Board Correspondences and Dialog

**Assumption: Each Safety Review Board has its own defined process (e.g., the review processes for U.S. DoD Joint Service Programs are defined in Department of Defense Instruction (DoDI) 5000.69, DoD Joint Services Weapon and Laser System Safety Review Processes).*

Review Board Requirements

- ▶ It is imperative that Programs understand and comply with the processes defined for the particular Safety Review Board that will review their Programs
- ▶ It is the responsibility of the Program to follow the processes as “requirements” to ensure a successful review
- ▶ DO:
 - Submit TDPs with a compliance matrix that highlights the sections or areas of the TDP that meet the requirements provided in the policies and guidance
 - This traceability shows the Board members that programs understand the requirements, and makes it easy for the Board members to review the TDP for specific content prior to the meeting
 - Have a knowledgeable Safety Lead (e.g., Principal for Safety (PFS)) who is intimate with the System Design and Safety processes
- ▶ DON'T:
 - Present to a Safety Board without knowing and addressing the Safety Board requirements

Determine the Review Board Meeting Requirement

- ▶ First step - Determine if the Program has a requirement to present to the Safety Review Board

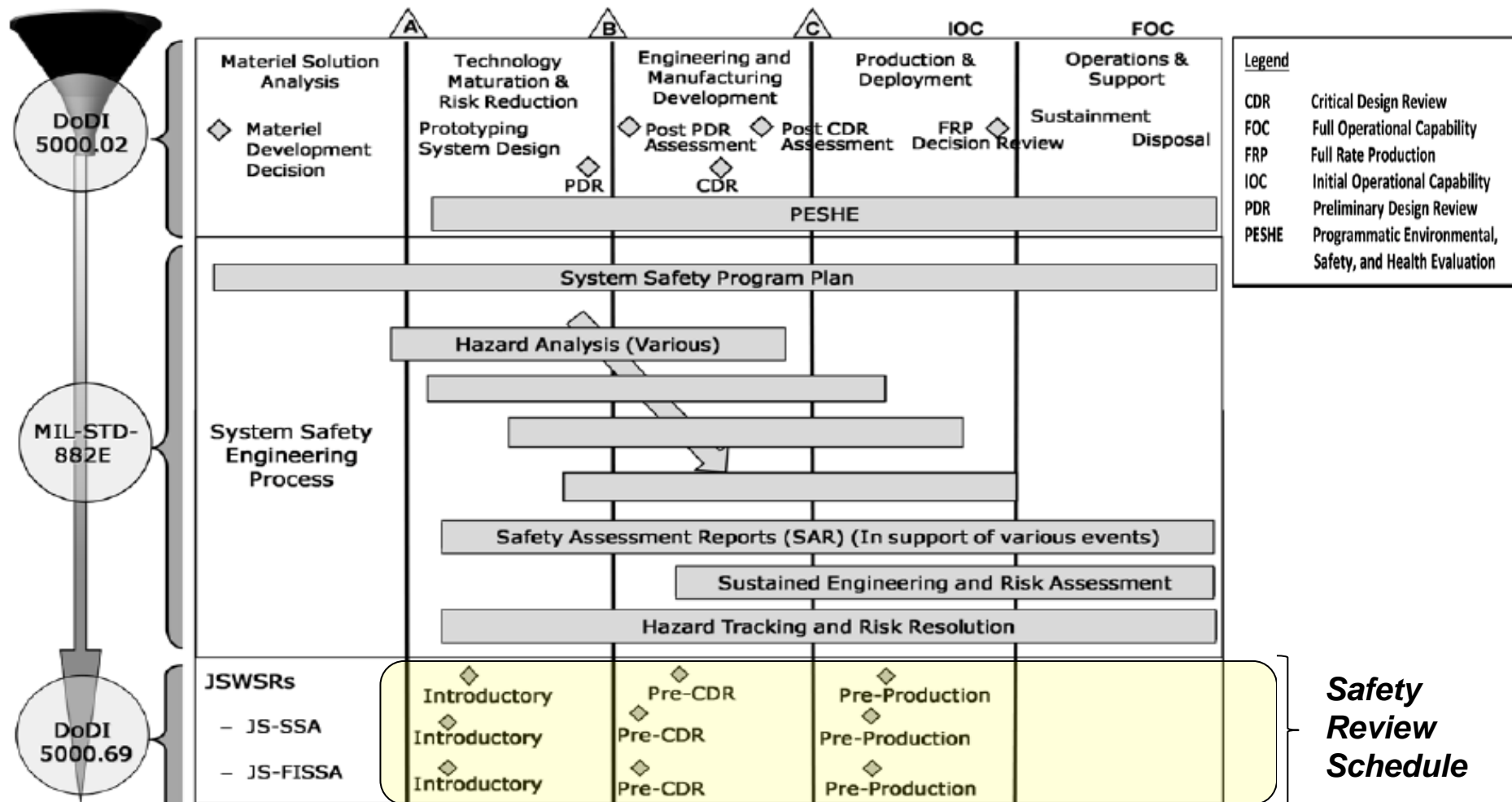
- ▶ DO:
 - Collaborate early and up front with the Safety Review Board to request guidance prior to initiating the process
 - Utilize Review Board Contact as a resource to build a long term relationship and a “partnership” to navigate through the Review Board processes and to assist with future meetings and/or formal correspondences
 - Have a well-established safety program prior to the Safety Review

- ▶ DON'T:
 - Attempt to interpret policies and guidance without collaboration with Review Board representatives
 - Wait too long in the Program's acquisition lifecycle to have an initial Safety Review

Determine When to Have a Review Board Meeting

- ▶ Determining the proper time to schedule a Review Board Meeting at the appropriate time in the Program's schedule may be difficult
- ▶ Important to find the right balance on when to schedule the Safety Board meeting, and it is dependent on the purpose of the meeting plus the point of the Program during its acquisition lifecycle
- ▶ Determine if there are subpanel reviews associated with the Safety Board and if so, schedule the subpanel meetings before the Safety Board
- ▶ DO:
 - Schedule the Reviews to support a concurrence decision that supports the program schedule
 - Schedule a meeting sooner than later (e.g., initial review could be prior to finalizing System Safety Program Plan (SSPP))
- ▶ DON'T:
 - Schedule subpanel meetings AFTER the main Safety Review – schedule subpanel meetings prior to the main Safety Review

Notional Schedule for Joint Safety Reviews (from DoDM 5000.69)



Develop the TDP

- ▶ The Program may be required to develop and submit a TDP that includes all of the safety artifacts related to the purpose of the Safety Review meeting
- ▶ The term “TDP” may be called differently across Safety Review Boards (e.g., Technical Data Package (TDP), Safety Data Package (SDP), Technical Munitions Safety Study (TMSS), etc.)
- ▶ DO:
 - Check to see if a TDP is required, and if so, confirm if it is required prior to the meeting
 - Ensure sufficient data and safety analytical artifacts (e.g., Objective Quality Evidence (OQE)) are included in the TDP to allow the Safety Review Board to render a decision for the meeting’s purpose
 - The TDP should state a clear meeting purpose and should be consistent between the Safety Board request letter, TDP, and presentation
 - Provide the Program’s recommendations to the Safety Board. This is the opportunity for the Program to articulate their anticipated actions or findings from the upcoming Safety Review

Develop the TDP (cont)

▶ DO:

- During the development of the TDP, collaborate ahead of time, seek input from Program SMEs, the Review Board POC, and obtain TDP approval from the PM
- Focus on the key results of the safety effort to date (e.g., new hazards, new causal factors, key “safety watch items,” and new mitigations recommended and their implementation/verification status). Including this information demonstrates that the Safety Team is managing and executing an effective, influential Safety Program
- Assess and document the safety risk associated with the open issues
- Ensure the TDP text is searchable, and accessible by all at the Review Board

▶ DON'T:

- Provide a “data dump” of numerous safety artifacts poorly organized on a CD-ROM (e.g., random files and file names with no sense of order or flow to the artifacts referenced in the TDP)
- Focus on what was fixed -- the TDP should focus on what is still open and unresolved

Develop the Presentation

- ▶ If a succinct TDP has been documented, the development of the presentation should be straight forward

- ▶ DO:
 - The materials to be presented should be consistent with the TDP
 - If there are changes/updated compared to the TDP, be prepared to disclose these differences and provide the rationale behind these changes -- changes and updates are common
 - Establish meeting expectations with the Program prior to the meeting and during the development of the presentation, if not sooner -- receiving findings or actions is a likely part of the process
 - Provide a thorough status and summary of previous findings and Safety Board reviews
 - Ensure consistency with the Program name, including software build nomenclature
 - Perform a dry run meeting to simulate the Safety Review Board and include a representative audience that can challenge the presenters with questions and comments similar to the actual Safety Review – also include the PM at the dry-run

Develop the Presentation (cont)

▶ DON'T:

- Provide multiple versions of the presentation prior to the meeting
- Provide the presentation in numerous files without sequential slide numbering
- Spend a majority of the meeting describing the system description, configuration management process, previous test events, etc., then summarize the safety program and processes, safety hazards, and risk assessment at the end of the presentation – focus on the safety program efforts and current safety risks

Hold the Review Board Meeting

- ▶ Program representatives should again be reminded of meeting expectations and knowing the basics of what to expect, including:
 - Duration of the meeting
 - Pre-brief and post meeting caucus purposes
 - Who is presenting and what topics are they discussing
 - Who is considered the Subject Matter Expert for particular design and Program functional areas and are they present to address potential questions
 - Understanding the timing and triggers associated with when to address questions or take action for findings

- ▶ DO:
 - Have a knowledgeable Safety Lead (e.g., PFS) who is intimate with the System Design and Safety processes
 - Ensure the right Program SMEs are present to support the meeting. It is also common for a presenter to defer a question to a more knowledgeable Program representative that is supporting the meeting, however, it is imperative that the right personnel are supporting the meeting otherwise findings will be likely

Hold the Review Board Meeting (cont)

- ▶ DO (cont):
 - Answer questions openly and honestly or take an action/finding
 - Focus on the unresolved safety anomalies, such as open trouble reports or STRs that are safety significant, and assess their safety risk to the Program

- ▶ DON'T:
 - Try to answer a question without having the appropriate data. This becomes obvious to the Board members and may cause a loss of trust between the Board and Program representatives, and may also lead to more questions and actions or findings
 - Appear hesitant at addressing questions related to the Program, or appear uncomfortable while presenting
 - If invited as part of the post meeting caucus, don't argue potential findings -- assist the Safety Review Board with any clarifications that may be required and communicate any Program safety concerns or requests for formal findings

Perform Post Meeting Activities

- ▶ The Safety Lead should follow up with the Safety Review Board to receive an indication on when the formal correspondence letter will be provided to the Program Office
- ▶ Start the process of assigning Program resources to address the findings and provide responses and/or artifacts to address the findings
- ▶ Document a formal correspondence letter to the Review Board within a required timeframe (if applicable) since the meeting to summarize the processes or actions taken or planned to address the findings
- ▶ Ensure post meeting activities are addressed and correspondences with the Safety Boards are maintained within any timeline requirements associated with the Safety Board

Maintain the momentum of the Safety Program after the Review Meeting

Track Current and Previous Findings

- ▶ Maintain a findings tracking system to track the current and previous findings assigned at the Safety Board Meetings to ensure findings are properly resolved and closed
 - Finding number
 - Finding description
 - Meeting date
 - Finding status
 - When a request for closure was submitted
 - Response(s) from the Safety Review Board on the closure request(s)
 - Formal correspondence letter references
- ▶ The Program should be able to quickly provide a disposition of their findings if required throughout the Program's lifecycle
- ▶ Safety Review Boards likely maintain their own findings tracking tool, but it is a Program responsibility to track their own findings

Maintain Review Board Correspondences and Dialog

- ▶ Maintain dialog with the Review Board, even after the meeting and findings response letters or formal correspondences
 - Minimizes surprises and ultimately helps reduce safety risk, as well as programmatic risk, by maintaining interaction with the Review Boards
 - Continue to invite the Review Board POC to the Program's System Safety Working Group (SSWG) meetings
 - Continue to address findings and request closure of findings until all findings have been closed
 - For requests that do not require a formal review meeting, submit Letter Data Packages (LDPs) to request a concurrence associated with the Safety Program

- ▶ Maintaining this dialog will help keep the Program and Safety Review Board up-to-date with respect to Program developments, changes, test results, etc. that may impact the risk assessments and safety processes presented at previous reviews

Conclusion

- ▶ This presentation provides a guide to a successful safety review and highlights what Programs should do, and should not do, to have a successful safety review board meeting
- ▶ Preparing and presenting to an Independent Safety Review Board is no easy or straight forward task, and each Program is unique in their own way
- ▶ Programs should be aware of the Safety Board policies and guidance that apply to their Program, and it is imperative that the Safety Programs collaborate early and often with the Safety Review Boards to ensure Program success
- ▶ Ensuring the safety program is sufficiently structured so safety risk can be properly identified and assessed prior to exposing end users, the equipment, and the environment to potential hazards is the underlying purpose for having Safety Review Board meetings, and thus leads to a successful Safety Program

References

- ▶ NAVSEAINST 8020.6E, “Department of the Navy Weapon Systems Explosives Safety Review Board,” March 11, 2008
- ▶ DoDI 5000.69, “DoD Joint Services Weapon and Laser System Safety Review Processes,” November 9, 2012
- ▶ DoDM 5000.69, “Joint Services Weapon Safety Review (JSWSR) Process,” July 30, 2014
- ▶ MIL-STD-882E, “Department of Defense Standard Practice System Safety,” May 11, 2012
- ▶ DoDI 5000.02, “Operation of the Defense Acquisition System,” January 7, 2015

Questions?

Robert E. Smith

Lead Associate

Booz | Allen | Hamilton

Booz Allen Hamilton
1550 Crystal Dr, Suite 1100
Arlington, VA 22202
Tel (703) 412-7661
smith_bob@bah.com