

MP4B

Strategic Assessment for Modernization of the NRC's Digital I&C Regulatory Infrastructure

DI&C Real World Challenges

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Agenda

- Meeting Objective
- MP4B - Modernization of the DI&C Regulatory Infrastructure Overview
- January 31st, 2019, Industry DI&C Listed Barriers
- Industry Presentation of Real World Examples to Listed Barriers
- Discussion of Industry's Real World Barrier Examples
- Discussion of other Identified Potential DI&C Barriers
- Types of Potential Barriers and Challenges
- Discussion of Possible Solutions to Industry Barriers
- Opportunity for Public Comment
- Action Items Discussion / Closing Remarks

Meeting Objective

The meeting objective for today:

Create a “Consensus List” of remaining barriers/challenges to DI&C efficient review that are supported by real world examples. This task will be completed by:

- Providing industry the opportunity to submit real world examples to demonstrate their barriers to efficient DI&C regulatory review that were presented at the January 31st, 2019, public meeting
 - Provide industry with the opportunity to describe other potential barriers to efficient DI&C regulatory evaluation
 - Have an open discussion about the real world examples to support common understanding of barriers/challenges
 - Discuss possible solutions to the barriers and associated real world examples
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MP4B - Overview

Broad Assessment for Modernization of DI&C Regulatory Infrastructure

The MP4B working group is in the process of a comprehensive assessment of the Digital I&C regulatory infrastructure. This assessment will:

- Focus on the scope identified in the SRM to SECY-15-0106
- Utilize existing agency work that has been completed to avoid duplication of effort and complete assessment in a timely efficient manner
- Seek input from the public and the various stakeholder communities
- Focus first and foremost on guidance change within current DI&C regulatory structure

January 31st, 2019, Industry DI&C Listed Barriers

1) Common Cause Failure:

- BTP 7-19 guidance has evolved over the years and expanded the scope of the SRM-SECY-93-087 policy
- Concerns with SRM-SECY-93-087

2) Software Development Standards and Guidance:

- Software development standards for safety-related SSCs are not commensurate with safety and not aligned with current technology
- BTP 7-14 Guidance does not follow a graded and risk-informed approach

3) I&C System Architecture Development

- Consider international guidance related to the design and development of I&C system architectures

4) Limited Functionality I&C Devices

- Limited Functionality I&C Devices

Discussion of other Identified Potential DI&C Barriers

Preliminary List of Other Identified Remaining DI&C Challenges

ID	Description
1	Efficiency of guidance for HDL programmable devices and similar hardware/firmware
2	Efficiency of guidance for risk informing Digital I&C review
3	Efficiency of a simple method for navigating the regulatory infrastructure
4	Efficiency of guidance and flexibility in the use of D3 assessments
5	DI&C Systems developed for use outside the United States may not conform to US regulatory criteria but may nevertheless be of adequate quality and dependability
6	Concerning Commercial Grade Dedication (CGD) <i>(It is not clear how CGD applies to complex DI&C systems or to software)</i>

Types of Potential Barriers and Challenges

Demonstrating Safety

- Guidance or criteria not commensurate with actual risk
- Alternate ways to demonstrate safety
- Guidance or criteria does not reflect current science or new technologies

Regulatory Efficiency

- Written guidance or criteria ambiguous
- NRC implementation & interpretation unclear or inconsistent
- More efficient or quicker ways to demonstrate safety

Action Items Discussion / Closing Remarks