

Common Qualified Platform Topical Report (WCAP-16097-P-A) Planned Revisions NRC Meeting May 2019

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OUR VISION & VALUES

Westinghouse will remain the first choice for safe, clean and efficient energy solutions.

We enhance our delivery of that vision by living our values:

- ▶ Safety & Quality First
- ▶ Valuing Ethics, Integrity & Diversity
- ▶ Passion for Serving Our Customers Globally
- ▶ Dedication to Each Other Through Servant Leadership
- ▶ Creating Value for Shareholders, Customers & Employees
- ▶ Consistently Delivering Our Commitments

Agenda

- Purpose of this Revision
 - Watchdog Timer (WDT) Background
 - WDT and Extent of Condition (EOC) Changes
 - Introduction of Alternate Flat Panel Display System (FPDS) Operating System (OS)
 - Closure of Generic Open Item (GOI) 7.11 and Rewording Plant Specific Action Item (PSAI) 6.24
 - Addition of Embedded Programmable Digital Device Table
 - Other Clarifications
 - Editorial Changes
- Common Q Change Process
- Schedule of Documents for NRC Review
- Best Practices and Assumptions for NRC Review
- Questions/Final Remarks



WDT Background



WDT Background

- In 2017, Westinghouse discovered a diagnostic feature was not activated. The diagnostic feature known as a “stall timer” (CPU based WDT) is used in the ABB AC160 Processor Module described in the Common Q™ Topical Report (WCAP-16097-P-A, Revision 3) but was not activated.
- Through the Corrective Action and 10 CFR Part 21 processes, Westinghouse has determined that this issue does not impact the functionality of any plant’s safety system
 - The stall timers do not perform any safety related function
 - Any fault that would have caused the stall timer to activate (if enabled) would be detectable by other means
 - The window watchdog timers and relay (also called the protection relay or second shutdown path) are activated as expected



WDT Background (cont.)

- Westinghouse issued communications and had interactions with the NRC in 2017
- Westinghouse issued NSAL-17-2 to our affected customers, which describes the WDT issue, to provide awareness (July 2017 - [ML17213A208](#) and revised November 2017 - [ML17313B194](#))
- Westinghouse had 3 meetings with the NRC staff:
 - August 15, 2017 – Overview of the WDT issue - [ML17215A239](#)
 - October 12, 2017 – Overview of Causal Analysis - [ML17276A094](#)
 - December 12, 2017 – Overview of EOC findings - [ML17328A000](#)
- Westinghouse issued IG-18-1 to our affected customers, which described the extent of condition errors, to provide awareness (April 2018)



WDT and EOC Changes



WDT Changes

- This Topical Report revision will address the WDT issues
- See Handout for text markups.



WDT EOC Changes

- This Topical Report revision will also address the EOC issues
- See Handout for text markups.

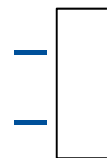


Introduction of Alternate FPDS OS



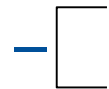
Introduction of Alternate FPDS OS

- An alternate OS/Graphical User Interface (GUI) is being added



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- Will undergo Commercial Grade Dedication (CGD) consistent with Section 10 of the CQ TR



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- See Handout for text additions for new OS



Introduction of Alternate FPDS OS (cont.)

- The description of the FPDS hardware is not impacted by the change
 - However, there will be new hardware to support the alternate OS
- The functional description of the Maintenance and Test Panel and Operator's Module are not impacted by this change



Closure of GOI 7.11 and Rewording PSAI 6.24



Closure of GOI 7.11

- In 2013, GOI 7.11 states:
“Westinghouse has not yet conducted seismic and environmental qualification testing on the DI621 Digital Input module. The NRC staff’s review of the I/O modules is discussed in Section 4.1.1.1.2.”
- **Approach to closure:** Westinghouse intends to submit a revision to the equipment qualification summary report (WCAP-17415) summarizing the equipment qualification performed for the DI621 module



Rewording PSAI 6.24

- The current PSAI 6.24 states:
“A licensee implementing an application based upon the Common Q platform that relies on the FPDS to perform safety critical functions shall perform an evaluation to address the added reliance on the FPDS to accomplish the required safety functions. The affects of not having the necessary information available on the FPDS during the design basis event should be considered and addressed in this evaluation.”



Rewording PSAI 6.24

- The proposed PSAI 6.24 would state:

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Addition of Embedded Programmable Digital Device Table



Addition of Embedded Programmable Digital Device Table

- Per NRC request, Westinghouse added Table 11-2, which contains a listing of the embedded programmable digital devices in the AC160
- See Handout for examples.



Other Clarifications and Editorial Changes



Other Clarifications and Editorial Changes

- Other clarifications and editorial changes will also be made



Common Q Change Process



Common Q Change Process

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Schedule of Documents for NRC Review



Schedule of Documents for NRC Review

- Common Q Topical Report – By June 30, 2019
- SSPCE – By June 30, 2019
- Equipment Qualification Summary Report – By June 30, 2019
- Common Q Topical Report Record of Changes – Available for audit – By July 31, 2019
- CGD Report for alternate OS/GUI and hardware drawings – Available for audit – By December 31, 2019



Best Practices and Assumptions for NRC Review



Best Practices and Assumptions for NRC Review

- Monthly calls to discuss status of NRC review
- Setup a SharePoint for NRC review of auditable material
- Acceptance review complete 2 months after CQ TR submission
- All RAIs received 8 months after acceptance
- Westinghouse to provide all RAI responses 9 months after acceptance
- Draft SER 10 months after acceptance
- Westinghouse to provide Draft SER comments 2 weeks after Draft SER
- Final SER 2 months after receiving Westinghouse comments
- Westinghouse to provide –A version 2 weeks after Final SER



Questions/Final Remarks

