
AP1000 Diverse Actuation System (DAS) Setpoint Methodology – Westinghouse Responses to NRC Questions

WESTINGHOUSE NON-PROPRIETARY CLASS 3

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DAS Setpoint Methodology

Background

The NRC's review of WEC documentation and the subsequent regulatory audit of CS Innovations (CSI) produced a number of questions of clarification of the following WEC documents:

- Component Interface Module (CIM) Technical Report (TR)
- DAS TR
- Defense-in-Depth and Defense (D3) Report
- The DAS Setpoint Methodology

DAS Setpoint Methodology

WEC White Paper not considered an Incorporated-by-Reference (IBR) document for the AP1000.

- WEC proposes to address the NRCs question in a RAI responses
- WEC proposes to restructure the document and include it as an Appendix to the DAS TR. The document would include the current content plus responses to any RAIs related to DAS setpoint methodology
- The DAS final setpoints will be defined and be available in the same time frame as the PMS setpoints

DAS Setpoint Methodology

Provide a diagram depicting a comparison of the PMS Methodology and the DAS Methodology.

- WEC proposes to include this diagram as a RAI response
- WEC proposes to include this information as an Appendix to the DAS TR

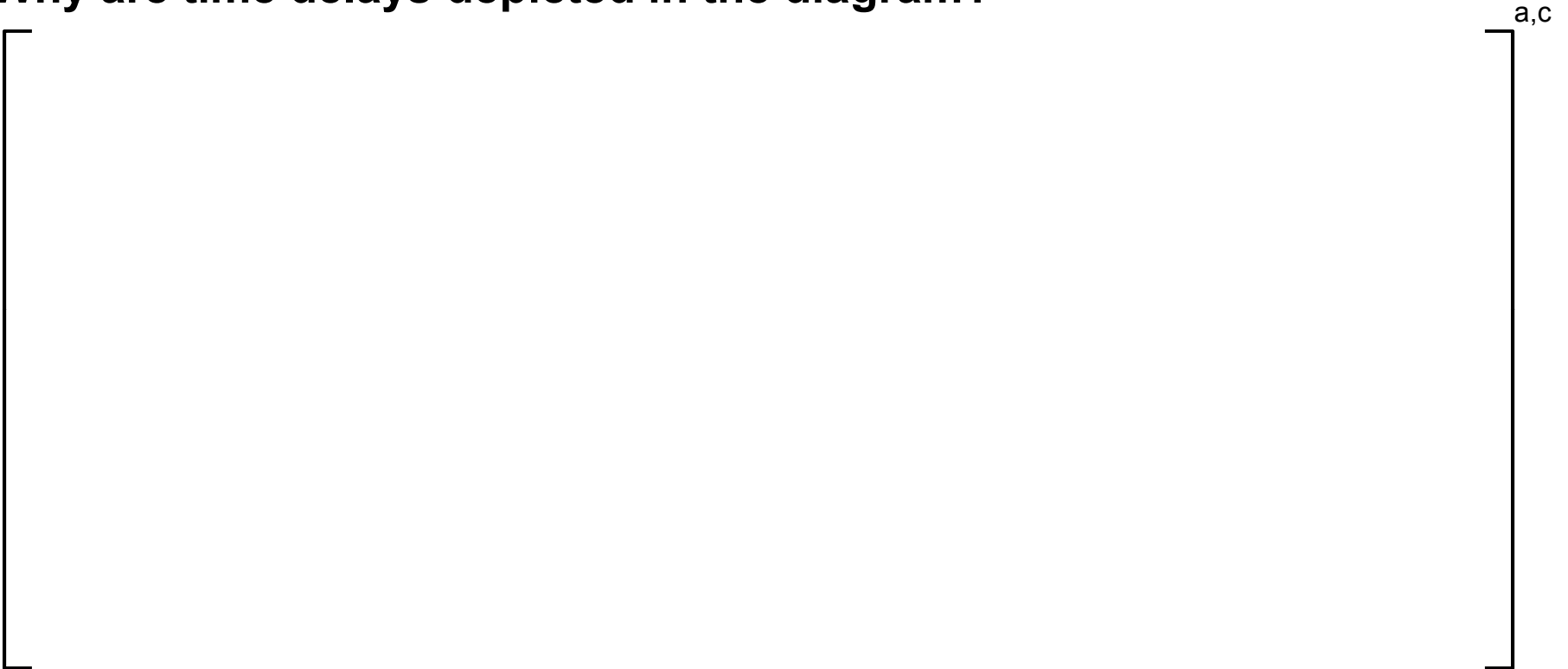
DAS Setpoint Methodology

What is the WEC analytical basis for concluding the Safety Analysis Limit (SAL) will not be exceeded if DAS is called upon to actuate in the presence of a Common Cause Failure (CCF)?

- From automatic DAS functions, the setpoint methodology addresses this question
- The field setting will be above or before SAL taking into account uncertainties

DAS Setpoint Methodology

Why are time delays depicted in the diagram?



DAS Setpoint Methodology

Figure 2 of the White Paper appears to be part of a larger drawing. Provide a reference to the entire drawing in the figure.

- This figure is the DAS J1 drawing from DCD

DAS Setpoint Methodology

Per []^{a,c}, no automatic DAS actuation is credited in the Setpoint Methodology in the PRA

- []^{a,c}
- Automatic DAS functions will be included in the next revision of the TR
- Explain what we mean by credit?
 - It is modeled in the PRA

- []^{a,c}
- selected manual functions are based on the focused PRA

DAS Setpoint Methodology

Provide analysis demonstrating use of DAS will mitigate a core melt prior to its occurrence and your basis for this conclusion.

a,c

DAS Setpoint Methodology

Why do these numbers presented in the white-paper not agree with the numbers presented on page 2-4 of the DAS Planning and Functional Design Summary Report [()]^{a,c}?

a,c

- WCAP should be revised to include both baseline and focus PRA numbers
- Whitepaper is OK because only applies to automatic functions of DAS

DAS Related Topic

Section 7.7.1.11 of the DCD contains the following statement:

"The selection of setpoints and time responses determine that the automatic functions do not actuate unless the protection and safety monitoring system has failed to actuate to control plant conditions."

Recommended Statement:

"The selection of DAS setpoints and time responses is such that the automatic DAS functions will normally actuate after the corresponding PMS automatic functions."