

Westinghouse UK
AP1000® GENERIC DESIGN ASSESSMENT
Resolution Plan for GI-AP1000-C&I-10
Class 1 Displays and Controls

MAIN ASSESSMENT AREA	RELATED ASSESSMENT AREA(S)	RESOLUTION PLAN REVISION	GDA ISSUE REVISION
C&I	FS (SAA) and HF	4	0

GDA ISSUE:	Westinghouse has advised that the protection and monitoring system (PMS) qualified data processing system (QDPS) and supporting AF100 bus will be upgraded to meet Class 1 requirements. This will facilitate the display of high integrity information in the MCR. ONR has sought to determine the provision of Class 1 displays and controls in the Remote Shutdown Room (RSR) and has been advised that there are none. Westinghouse is required to review the reasonable practicability of providing Class 1 displays and controls in the RSR.
ACTION: GI-AP1000-C&I-10.A1	<p>The regulatory expectation is that Class 1 displays and controls are provided in an alternate emergency location (the RSR). In their absence, Westinghouse is required to:</p> <ul style="list-style-type: none"> • Provide Class 1 displays and controls in an alternative emergency location; <p>or</p> <ul style="list-style-type: none"> • Provide a justification of why the current design choice (of hardwired Class 2 manual control panels and Class 3 computer based controls and displays) is acceptable against the SAPs and Regulatory expectations. This should include an explanation, with a supporting justification, of why it is not reasonably practicable to provide Class 1 displays and controls in an alternative location. <p>With agreement from the Regulator this action may be completed by alternative means.</p>
RELEVANT REFERENCE DOCUMENTATION RELATED TO GDA ISSUE	
GDA Open Issues	GI-AP1000-C&I-10, Revision 0 Step 4 C&I Division 6 Assessment Report, No. GDA-AR-11-006 Revision 0
Technical Queries	
Regulatory Observations	
Other Documentation	Westinghouse Letter UN REG WEC 000503 dated 11 February 2011

Scope of work:

Westinghouse shall evaluate the current design for Class 1 displays and controls and produce a written assessment report on the feasibility of

1. Providing Class 1 displays and controls in an alternative emergency location;

OR

2. Providing a justification of why the current design choice is acceptable against the SAPs and Regulatory expectations; including an explanation, with a supporting justification, why it is not reasonably practicable to provide the Class 1 displays and controls in an alternative location.

Deliverables/description of work:

This resolution plan will provide the following deliverables for ONR assessment:

1. Class 1 Displays and Controls in an Alternate Emergency Location Report

The Class 1 Displays and Controls in an Alternate Emergency Location Report shall assess the feasibility of upgrading the displays and controls in the RSR to Class 1, or in an alternative location. The report shall include justification arguments for any gaps that remain as a result of the assessment demonstrating that these gaps do not compromise safety.

Schedule/ programme milestones:

Periodic status meetings will be conducted between Westinghouse and ONR personnel to ensure that C&I GDA open issues are being resolved in a timely and quality manner.

The assessment report will be revised, internally reviewed and transmitted to the ONR. If needed based on ONR comments, a subsequent revision to the assessment report will be developed and issued.

Please see the following page for the schedule.

#	Activity Name	2016												2017				
		ec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
1	UK Generic Design Assessment (GDA) Resolution Plans (51)																	
2	CONTROL & INSTRUMENTATION																	
3	CI.10 Class 1 Displays & Controls-Resolution Plan																	
4	CI.10 Class 1 Displays & Controls																	
5	RSR Control Strategy Use of Class 1 Displays & Controls-Submit to ONR																	
6	RSR Control Strategy Use of Class 1 Displays & Controls-ONR Review of Submittal																	



Methodology:

Westinghouse and ONR personnel will meet initially to discuss Westinghouse Letter UN REG WEC 000503 and ONR's expectations for the report identified in the "Scope of work."

The following tasks will be performed to address the GDA issue:

1. Assess the feasibility of upgrading the displays and controls in the RSR to Class 1,
2. Assess the feasibility of providing Class 1 displays and controls in an alternative location, and
3. Develop justification arguments for the results from the assessments demonstrating acceptable compliance to SAPs and Regulatory expectations.
4. An impact assessment on GDA changes to the plant fault studies and PSA on the Class 1 controls and displays will be conducted.

The assessments will identify any gaps relating to the provision of Class 1 displays and controls, and identify 1) how each of these might be filled, 2) determine the reasonable practicability of each potential option to fill the gap, 3) if reasonably practicable, implement the change, and 4) if not reasonably practicable a justification will be provided as to why the gap does not compromise safety.

If a conclusion is reached in the assessment that modifications to the PMS design are to be made for the UK, the report will explain that these changes shall follow the Westinghouse QMS procedure for **AP1000**[®] design changes.

The relevant TSC TOs identified in the Step 4 C&I Division 6 Assessment Report, No. GDA-AR-11-006 Revision 0 will be evaluated early in the resolution plan execution cycle for inclusion in the revision of the report described below.

All Westinghouse system designs and associated documentation, like this report, follow the Westinghouse Quality Management System (QMS) procedures as the methodology.

Specifically, quality and standardisation of the technical document generated as part of this resolution plan is governed under the following procedures:

- Westinghouse QMS, "Westinghouse Electric Company Quality Management System"
 - Section 1.2, "Document and Data Control"
 - Section 2.1, "Quality Policy"
- Westinghouse Level II Procedure WEC 6.1, "Document Control"

The document is a customer deliverable and is subject to the Customer Satisfaction Process, discussed in Westinghouse Level II Procedure WEC 16.8, "Customer Satisfaction"

In addition, the following Westinghouse Level II Procedures provide important rules for creating and handling quality records, and electronic document management:

- WEC 17.1, "Records"
- WEC 17.2, "Electronic Approval"

- WEC 17.3, “Electronic Document Management”

Appropriate technical and licensing reviews will be conducted to ensure that the final version of the document will demonstrate compliance to the appropriate SAP’s and guidance provided by ONR. Technical reviews are independent Westinghouse reviews that will focus on CAE being technically correct and producible.. Whereas, Westinghouse licensing reviews concentrate on ensuring regulatory requirements are properly addressed and substantiated.

Justification of adequacy:

The report, developed in compliance with the Westinghouse QMS, will demonstrate that the final conclusions meet the requirements of regulatory expectation for Class 1 displays and controls in an alternate emergency location.

This will include appropriate technical and licensing reviews to ensure that the deliverable report will demonstrate compliance to appropriate SAPs and guidance provided by ONR.

Impact assessment:

The safety submission documents impacted by the implementation of the resolution plans are:

- UKP-PMS-GLR-001*, “United Kingdom **AP1000** Protection and Safety Monitoring System Safety Case Basis.”
- UKP-GW-GL-793, Chapter 19*, “**AP1000** Pre-Construction Safety Report.”

*The extent of impact depends on the conclusions in the final report (see “Scope of work”)