

EDF AND AREVA UK EPR GENERIC DESIGN ASSESSMENT
GDA ISSUE
DESIGN BASIS ANALYSIS OF ESSENTIAL SUPPORT SYSTEMS
GI-UKEPR-FS-05 REVISION 0

Technical Area		FAULT STUDIES	
Related Technical Areas		Probabilistic Safety Assessment Electrical Engineering	
GDA Issue Reference	GI-UKEPR-FS-05	GDA Issue Action Reference	GI-UKEPR-FS-05.A1
GDA Issue	EDF and AREVA to provide a design basis analysis of failures in the essential support systems.		
GDA Issue Action	<p>EDF and AREVA to perform a design basis analysis of the following initiating events on the essential support systems of the UKEPR:</p> <ul style="list-style-type: none"> • Loss of cooling chain faults as identified in NEPR-F DC 584 Rev A. • Electrical system faults (as identified from future PSA screening analysis). • HVAC system faults (as identified from future PSA screening analysis). <p>EDF and AREVA have identified a number of cooling chain failures that need to be treated as design basis initiating events within the PCC analysis. These faults should be subject to a design basis analysis.</p> <p>EDF and AREVA have identified that failures in the electrical system and HVAC system have still to be analysed within the PSA. However, at this stage, a simplified screening analysis will be performed for initiating events related to Electrical system faults and HVAC system faults. Once the simplified PSA screening analysis is complete, any new initiating bounding events identified must be reviewed for consideration as design basis events. Any new design basis initiating events that are identified shall be subject to a design basis analysis (PGI-UKEPR-FS.2.A8).</p> <p>In particular, for any design basis event associated with failures in these essential support systems, EDF and AREVA must demonstrate the functional capability of the associated protection systems and that these have an appropriate safety categorisation. Any shortfall in requirements shall be subject to an ALARP analysis to identify possible design improvements to reach the appropriate standard.</p> <p>With agreement from the Regulator this action may be completed by alternative means.</p>		