

EDF AND AREVA UK EPR GENERIC DESIGN ASSESSMENT
GDA ISSUE
SPENT FUEL POOL SAFETY CASE
GI-UKEPR-FS-03 REVISION 2

Technical Area	FAULT STUDIES		
Related Technical Areas	Probabilistic Safety Assessment Mechanical Engineering Structural Integrity Internal Hazards		
GDA Issue Reference	GI-UKEPR-FS-03	GDA Issue Action Reference	GI-UKEPR-FS-03.A1
GDA Issue	The safety case for the spent fuel pool is to be extended to consider faults associated with the Cask Loading Pit and leaks currently excluded from the design basis by break preclusion arguments.		
GDA Issue Action	EDF and AREVA to evaluate Cask Loading Pit Initiating Events. They need to determine the updates required to DBA or PSA safety cases for faults associated with the cask loading pit. A FMECA (Failure Modes, Effects and Criticality Assessment) should be performed to determine failure modes leading to the fault events. For each fault, initiating events and sequences leading to a faulty state need to be determined. Frequencies associated to each initiating event need to be determined. Faults needed to be added to the PSA and/or DBA safety cases appropriately. A report should be provided to ONR presenting the considered initiating events, sequences and attributed frequencies. This report should identify for each family of faults if it will be included in the PSA and DBA safety cases. The relative importance of administrative controls, interlocks, equipments, equipment classification, operator actions and associated claims should be included and described. With agreement from the Regulator this action may be completed by alternative means.		

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GDA Issue Reference	GI-UKEPR-FS-03	GDA Issue Action Reference	GI-UKEPR-FS-03.A2
GDA Issue Action	EDF and AREVA to provide an updated safety case for the spent fuel pool, incorporating the faults associated with the cask loading pit. The safety case needs to be formalised: <ul style="list-style-type: none"> • If new PSA initiating events are identified by Action 1, additional event trees need to be incorporated into the PSA model. • If additions to the DBA are required: the category of the additional events (PCC-3/4) should be determined and adequate calculations or ALARP analysis undertaken to ensure that all criteria are met. A report should be provided to ONR describing the proposed changes to the safety case. EDF and AREVA shall update the PCSR accordingly with the agreed safety case developed through Action 1 and this Action. With agreement from the Regulator this action may be completed by alternative means.		

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GDA Issue Reference	GI-UKEPR-FS-03	GDA Issue Action Reference	GI-UKEPR-FS-03.A3
GDA Issue Action	<p>EDF and AREVA shall provide a consequences analysis for spent fuel pool leaks previously not considered within the design basis because of break preclusion arguments.</p> <p>EDF and AREVA identify a number of leaks associated with spent fuel pool which are currently excluded from the design basis analysis presented in the PCSR by evoking a break preclusion concept.</p> <p>The rigour required to show that the likelihood of failure is so low that the consequences of failure can be discounted is high in UK and should not be put forward to avoid making a consequences analysis. While a small number of High Integrity Components (HIC) have been recognised associated with the primary reactor circuit, the safety case as currently presented does not identify the spent fuel pool components as part of the HIC envelope.</p> <p>A consequences analysis of the identified leaks is to be provided, and a safety case (with accompanying ALARP arguments) identifying the design features and systems required to ensure the consequences are acceptable shall be submitted to ONR for assessment.</p> <p>The PCSR is to be updated to reflect any changes in the safety case.</p> <p>With agreement from the Regulator this action may be completed by alternative means.</p>		