

Office for Nuclear Regulation

An agency of HSE

Redgrave Court Merton Road Bootle Merseyside L20 7HS
Tel: 0151 951 4000 www.hse.gov.uk/nuclear

WESTINGHOUSE AP1000® GENERIC DESIGN ASSESSMENT

GDA ISSUE

SPENT FUEL POOL SAFETY CASE

GI-AP1000-FS-01 REVISION 0

Technical Area		FAULT STUDIES	
Related Technical Areas		Electrical Engineering Mechanical Engineering Probabilistic Safety Assessment	
GDA Issue Reference	GI-AP1000-FS-01	GDA Issue Action Reference	GI-AP1000-FS-01.A1
GDA Issue	The design basis case developed in GDA Step 4 for the spent fuel pool for the Fault Studies topic area needs to be cascaded into other technical areas and any new claims clearly identified in the PCSR. The design change process needs to be followed to incorporate the various physical modifications identified and all the affected documents need to be updated. Fault Studies concerns on the availability of the RNS and the protection of fuel above the spent fuel racks are to be addressed.		
GDA Issue Action	Westinghouse to identify the impact of the new spent fuel pool safety case on relevant sections of the PCSR and report / discuss the implications with the relevant ONR topic leads in an appropriate manner. It is likely that Westinghouse will need to provide supplementary information to allow ONR to consider in detail the specifics of the design changes and the capability of SSCs to deliver newly identified safety functions. Westinghouse to revise the PCSR and other affected documents to reflect the updated safety case and all new safety claims. With agreement from the Regulator this action may be completed by alternative means.		

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GDA Issue Reference	GI-AP1000-FS-01	GDA Issue Action Reference	GI-AP1000-FS-01.A2
GDA Issue Action	Westinghouse to complete the design change process for the identified modifications to the spent fuel pool active cooling system and blow out panels. The proposed design changes are to provide an engineered connection from the fire fighting system to supply cooling water to the CCW heat exchanger and to add filters to the ventilation blowout panels on the spent fuel pool. These modifications will limit the frequency of pool boiling to less than 10^{-3} per year and meet ONR's expectations on ventilation and preservation of barriers set out in SAPs ECV.1, ECV.2 and FA.7. These design changes need to be complete the six-stage modification process for inclusion in the consolidated PCSR. With agreement from the Regulator this action may be completed by alternative means.		

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GDA Issue Reference	GI-AP1000-FS-01	GDA Issue Action Reference	GI-AP1000-FS-01.A3
GDA Issue Action	<p>Westinghouse to update the relevant parts of the safety case to address outstanding concerns on the consequences of a fault occurring while fuel is being moved above the racks, and on competing claims in the availability of the RNS.</p> <p>The safety case provided for the Spent Fuel Pool does not adequately address the consequences of faults occurring while fuel is being moved above the racks. It is also not clear if it is planned for the RNS to be available without restriction for spent fuel pool cooling in response to operational requirements, or if its use will be subject to time constraints defined by Technical Specification. This has relevance for the GDA Issue on the RNS design for RCS safety injection following a LOCA (GI-AP1000-FS5). No safety claims were made on the function of the RNS in the EDCD other than for its piping to retain its integrity. However, as a result of Step 4 Regulatory Observation responses, claims are now made in the UK safety case for both the reactor and the spent fuel pool. Further information is therefore required from Westinghouse to identify if competing claims are of concern.</p> <p>With agreement from the Regulator this action may be completed by alternative means.</p>		