

WESTINGHOUSE AP1000® GENERIC DESIGN ASSESSMENT

GDA ISSUE

POTENTIAL ENHANCEMENTS TO THE DIVERSE SAFETY INJECTION SYSTEM

GI-AP1000-FS-05 REVISION 1

Technical Area		FAULT STUDIES	
Related Technical Areas		Mechanical Engineering Control and Instrumentation Probabilistic Safety Assessment Human Factors	
GDA Issue Reference	GI-AP1000-FS-05	GDA Issue Action Reference	GI-AP1000-FS-05.A1
GDA Issue	Westinghouse is to examine whether it is reasonably practicable to enhance the design of the RNS system in its role as the diverse safety injection system on the AP1000.		
GDA Issue Action	<p>Westinghouse is to examine whether it is reasonably practical to enhance the design of the RNS system in its role as providing a diverse means of safety injection on the AP1000.</p> <p>Westinghouse will have to perform an ALARP review identifying potential options for enhancing the design of the RNS system. The options considered include automating its actuation using an appropriately classified (C&I) system that is diverse from the PMS, segregating the water supply of the system from the IRWST, and increasing the pressure head of the RNS system. It is accepted that the RNS system is not the principal means of fulfilling the nuclear safety function and so an A2 classification for the system should suffice for this function. In considering the options, Westinghouse will have to identify the potential safety benefits of the different options using both design basis transient analysis and probabilistic analysis techniques.</p> <p>If any design modifications are proposed for the AP1000, they will have to complete the six-stage modification process for inclusion within the consolidated PCSR.</p> <p>With agreement from the Regulator this action may be completed by alternative means.</p>		