

# Information on Software Common-Cause Failure From Other Regulators\*

NRC Digital Instrument and Controls Meeting  
June 18, 2007

		Questions Asked of Regulators				
		Is diversity needed?	Does the backup system need to be the same Safety Class?	Is Software Common Cause Failure (CCF) within Design Basis?	How is Probabilistic Safety Assessment (PSA) used for software?	Following an event, is there a minimum time until manual action can be considered? Is so, what?
Country	France	Needed, but not required by regulation	No	No	Not used	Yes - 30 Min.
	Japan	Needed, but not defined	No	No (negotiated)	Not required but done	No
	Sweden	Needed, but not specifically required by regulations	No	No - Like Other Failures	Impossible to do, not used	Yes $\geq$ 30 Min.
	Germany	Yes	Unknown	No	Not used	Yes $\geq$ 30 Min.
	Taiwan	Yes	Depends	Regulators - Yes Vendors - No	Qualitative, not Quantitative	Unknown
	Canada	Yes - Two diverse ways to shutdown reactor	Yes - of same quality	Based on Failure Frequency >10 <sup>-6</sup> = design basis accident (DBA)	Software Reliability can't be measured	Yes - 15 Min.
	USA	Yes	No	No	Risk Informed but use Deterministic Process	No

\* Tabulated information represents answers gathered from verbal responses at a meeting among international regulators to discuss common-cause failures. Formal request for specific information may not have been requested of regulators in advance.