

Fire Research NRC Near Term Completion - March 28, 2017

Priority	Title	Description/Plan of Action
	Cable Coatings	<p>Industry would like to better understand the flame spread and HRR of installed cable coatings. Industry understands small scale testing has been performed and acknowledges the draft insights available in the ISG. Industry would like an update to when this testing would be complete / when the full set of information will be available to the industry. Is there going to be follow on research for PRA implementation?</p> <p>RES Action: Test coatings at SNL and NIST to evaluate flame spread, ignition, heat release rate, and circuit functionality. Use the test data to confirm or develop new guidance to credit cable coatings in a fire PRA to replace Appendix Q of NUREG/CR-6850.</p>
	Post Fire Safe Shutdown Training	<p>The course teaches the fundamentals of operations, licensing and inspection of commercial nuclear power plants and provides knowledge and skills needed to verify conformance to deterministic requirements governing the fire protection of safe shutdown capability (10CFR50.48, Appendix R to 10CFR50 or Section 9.5-1 of NUREG 0800) as specified in the plant-specific fire protection licensing basis. The training is specifically designed to prepare NRC inspectors (of all levels) with knowledge to conduct deterministic assessments of post fire safe shutdown capability, including the systems and equipment necessary to achieve safe shutdown conditions in the event of fire or the design and operation of electrical distribution and control systems.</p> <p>RES Action: Work with TTC to develop self-paced learning</p>
	Revision to NUREG/CR-7150 Volume 1	<p>NUREG/CR-7150 consists of 3 volumes which were developed in series to support both deterministic and performance-based approaches to safe shutdown circuit analysis. Volume 3 uses information from the previous two volumes to harmonize the recommendations where differences occurred. As such, there is information in Volume 1, which conflicts with Volume 3. The purpose of this work is to resolve those differences and make the documents consistent.</p> <p>RES Action: Revise Vol. 1 to be consistent with recommendations made in Vol. 3, including clarifications and errata.</p>
	Instrumentation Circuit Functionality Testing (Small-Scale)	<p>Failure modes and effects from fire-induced damage to control and power cable are well understood, partially due to the testing performed by industry and NRC over the past decade. The failure modes of instrumentation is less known. Limited tests performed as part of the NEI/EPRI testing show instrumentation failures differ from other cable types (control/power). The impact of the failure mode from an HRA perspective are unknown. From a circuit analysis standpoint, the current practice for evaluating instrumentation cable failure is to assume worst case with regard to plant response. A panel of experts performing a Phenomena Identification and Ranking Table exercise on fire-induced cable damage (NUREG/CR-7150 V1; EPRI 1026424) recommended that the failure modes and effects of instrumentation cable be performed with a high priority. A follow-on study focused on fire PRA applications made a similar recommendation for more data on instrumentation cables (NUREG/CR-7150 V2; EPRI 3002001989). This project will provide limited small-scale data to confirm the failure modes of instrumentation type cables observed during the NEI/EPRI tests.</p> <p>RES Action: The small-scale radiant testing performed at SNL is complete. SNL is documenting the results. The large scale testing scheduled at NIST will not be performed at this time.</p>