RISK – INFORMED EQUIPMENT CATEGORIZATION

SOLUTIONS

Nuclear power plant structures, systems and components (SSCs) are normally categorized as safety-related, important-to-safety or nonsafety-related, depending on whether the SSCs are needed to meet deterministic-based NRC regulations. These regulations impose costly requirements on safety-related and important-to-safety equipment for procurement, installation, inspection, testing and maintenance.

10 CFR 50.69 is a voluntary regulation that allows licensees to re-categorize SSCs according to their risk significance. The goal of this program is to improve overall plant safety by focusing appropriate resources on high-safety-significance SSCs. For the large inventory of safety-related plant equipment performing low-safety-significance functions, 10 CFR 50.69 allows licensees to reduce associated regulatory burdens and costs. After NRC approval to use 10 CFR 50.69 risk-informed methods, licensees “opt-in” equipment on a system-by-system basis, categorize each system’s equipment and, finally, develop and implement alternative treatment plans. Adopting 10 CFR 50.69 could save plants more than $1 million annually for each reactor unit.

The development effort for a 10 CFR 50.69 program depends on several plant-specific variables, such as: the number of units, the maturity of the licensee’s Probabilistic Risk Assessment (PRA) infrastructure, and the extent of changes required to existing procurement, operation and maintenance processes.

Black & Veatch has developed a plan to assist licensees in evaluating the plant-specific costs and benefits of pursuing 10 CFR 50.69 approval and implementation in compliance with NRC-endorsed guidance. Black & Veatch understands the opportunity 10 CFR 50.69 provides nuclear utilities toward Delivering the Nuclear Promise goals. Our team includes professionals with significant experience at operating US nuclear power plants. We’ve also participated in industry initiatives to develop cost-saving alternative treatment plans for procurement and inspection under 10 CFR 50.69.
BACKGROUND
The cornerstone of the regulation is an integrated categorization process that blends risk insights, new technical information and operational feedback to evaluate safety significance of SSCs. NRC-endorsed guidance for the categorization process is contained in NEI 00-04, “10 CFR 50.69 SSC Categorization Guidance.”

BLACK & VEATCH BENEFITS
- Confidence in the integrity of engineering and licensing deliverables
- Clear understanding of NRC requirements for risk-informed categorization and alternative treatment plans
- Access to experienced nuclear industry licensing and engineering professionals

BLACK & VEATCH EXPERIENCE
- Worldwide power plant EPC projects
- Combined operating license applications (COLAs) for new reactors in US
- Current US nuclear operating plant experience
- Seismic PRA for IPEEE and Post-Fukushima response
- Containment performance and integrity PRA

KEY DELIVERABLES
- PRA readiness review – internal event, external event and shutdown risk
- Licensing, categorization and alternative treatment plan cost estimates
- System return-on-investment ranking

BUILDING A WORLD OF DIFFERENCE®
Black & Veatch is an employee-owned, global leader in building critical human infrastructure in Power, Oil & Gas, Water, Telecommunications and Government Services. Since 1915, we have helped our clients improve the lives of people in over 100 countries through consulting, engineering, construction, operations and program management. Our revenues in 2015 were US $3 billion. Follow us on www.bv.com and in social media.

MIKE WADLEY | NUCLEAR
BUSINESS DEVELOPMENT DIRECTOR
P +1 913-458-2424 | E WadleyMD@bv.com

© Black & Veatch, 2016. All Rights Reserved. The Black & Veatch name and logo are registered trademarks of Black & Veatch Holding Company. REV 2016-09