

FIRE RISK RESEARCH PROGRAM: ONGOING AND FUTURE ACTIVITIES

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PROGRAM OBJECTIVES

- Improve qualitative and quantitative understanding of risk due to fire
- Support ongoing or anticipated fire protection regulatory activities
- Evaluate current fire risk assessment methods, tools, and data; and develop improvements (as needed)

RECENTLY COMPLETED ACTIVITIES

- Fire Protection SDP revision
 - Developed technical framework
 - Lead task group activities, support as needed
 - Principal author in revision (including bases)
- Technical basis for RIS 2004-03 on associated circuits inspections
 - Basis: industry/RES testing; multi-year RES program
 - Provide continuing support (e.g. public meeting)
- NRC/EPRI Fire Risk Requantification Study (FRRS)
 - Draft joint technical report on FRA methods
- Draft report on turbine hall fires

ONGOING ACTIVITIES

- Risk-informed, performance-based FP Rule (NFPA 805)
 - Fire model Verification and Validation
 - V&V: FIVE Rev 1, FDTs, MAGIC, CFAST, FDS
 - Utilize ASTM standard 1355 - 04
 - Basis: fire tests/benchmarking & validation
 - Final product: NUREG and EPRI documents on fire model V&V; joint EPRI-NUREG/CR on FRA methods
 - Reviews of Regulatory Guide and NEI 04-02
- FRA review guidance for NRR for change analyses (beyond FRRS scope)

ONGOING ACTIVITIES

- Hemyc and MT fire barrier testing
 - Status: planning for tests
 - Schedule accelerated, test plan modified
- ANS full power fire standard
 - 4 persons writing ; 1 person reviewing
- International programs: fire modeling, fire event data
 - International benchmarking and validation
 - OECD: international fire events data base

FUTURE ACTIVITIES

- Associated circuits testing (bin 2 of RIS 2004-03)
 - Address bin 2 issues by Dec 06
 - Involve public
 - Benefits for issues beyond bin 2
- Inter-compartment testing at DIVA (IRSN)
- Potential
 - Low power & shutdown FRA methods (FRRS)
 - Human reliability analysis methods
 - Automated circuit tools

USES OF FIRE RISK REQUANTIFICATION STUDY

- Assisted fire protection SDP revision
- Assisted manual actions rulemaking
- Assisting ANS fire risk standard
- Assisting risk informed, fire protection rule endorsing NFPA 805

FINAL REMARKS

- Program continuing to provide critical support to regulatory activities for NPPs
- High priority program in RES