Engineering and Technical Support for Risk-informed License Applications

The Center for Nuclear Waste Regulatory Analyses (CNWRA®) at Southwest Research Institute® (SwRI®) supports nuclear facility operators and regulators to protect public health, safety, and the environment. Established in 1987 as a Federally Funded Research and Development Center (FFRDC) to assist the Nuclear Regulatory Commission (NRC) in meeting its responsibilities under the Nuclear Waste Policy Act, CNWRA has broadened its expertise to support a wide variety of NRC technical programs and those of other clients in the U.S. and abroad.

Review

CNWRA assists with reviews of various risk-based and risk-informed license applications, including:

- National Fire Protection Association (NFPA) 805, Performance-based Standard for Protection for Light Water Reactor Electric Generating Plants

- Severe Accident Mitigation Alternatives (SAMA)

- Technical specifications related to risk-informed extended completion times

- Technical specifications related to risk-informed control of surveillance frequencies

- Generic Safety Issue (GSI)-191 on debris accumulation following loss of coolant accidents

- Seismic Probabilistic Risk Assessment (PRA)

- Diverse and flexible coping strategies (FLEX)

Applications

CNWRA staff members provide support to develop and perform technical reviews across diverse risk-based and risk-informed applications, including:

- Fire modeling and fire hazard analysis, design, and operation of nuclear power plant fire protection systems

- Requests for Additional Information (RAI) and Technical Evaluation Reports (TER), such as input to NRC Safety Evaluation Reports (SER)

- In-plant audits and inspections

- Databases and other software applications for consistent reporting to meet regulatory requirements

- Core Operating Limits Report (COLR) and Subsequent License Renewal Applications (LRA) for nuclear power plants

- Licensing Topical Reports involving proposed digital safety equipment for nuclear power plants

CNWRA staff provide support for nuclear power plant system inspections and compliance reviews.

SwRI conducts full-scale fire testing in support of validation and verification and fire modeling techniques utilized for risk-informed applications.

Advanced science. Applied technology.

Experience and Expertise

- CNWRA has staff licensed in fire protection engineering, industrial engineering, and software engineering, as well as experienced nuclear engineers and health physicists.

- With our combined technical resources, experience, and thorough knowledge of regulatory processes, we support sound risk-informed decision making.

- Our work helps build public confidence for risk-informed license application reviews.

Benefits of Working with SwRI

- As an independent FFRDC, CNWRA provides support free from conflict of interest.

- Our long-standing relationships with U.S. and international staff assure excellent communication, trust, and teamwork.

- CNWRA staff secure computer access to streamline project file management, assure document configuration control, and facilitate project communication.

- With offices in San Antonio, Texas, and Rockville, Maryland, CNWRA provides rapid response and quick access to experienced staff.

We welcome your inquiries.
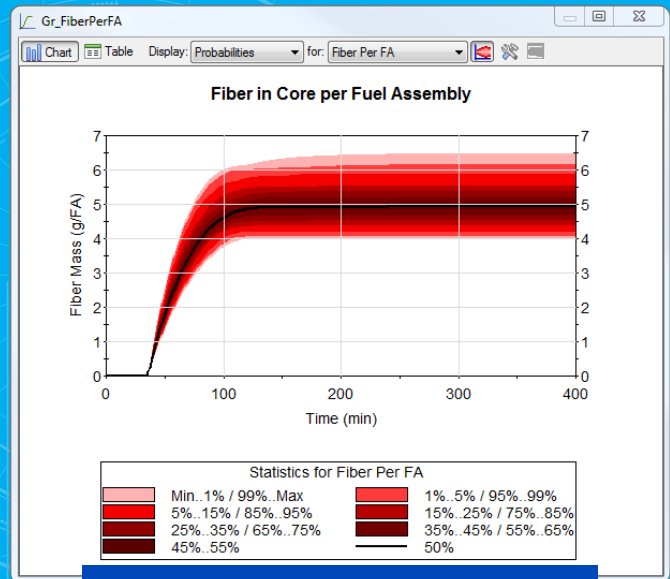*For more information, please contact:*

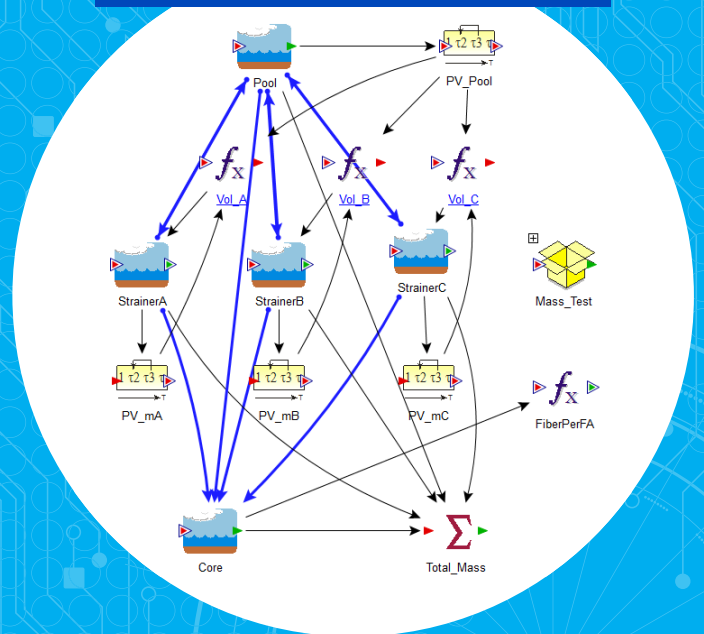## Lane Howard

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Licensing and Inspections for Reactors
Geosciences and Engineering Department

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CNWRA engineers perform modeling of debris accumulation in the emergency core cooling system under loss of coolant accident scenarios.

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