



RIC 2010
Implementation of Risk-Informed
Applications for New Reactors

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Risk-Informed Applications for Operating Reactors

- Risk-managed Technical Specifications
 - Risk-informed completion times
 - Risk-informed method for control of surveillance frequencies
- Risk-informed inservice testing
- Risk-informed inservice inspection of piping
- Risk-informed categorization and treatment of structures, systems and components
- Maintenance Rule
- Reactor Oversight Process (e.g., Significance Determination Process, Mitigating Systems Performance Indicators)



Regulatory Requirements/Guidance

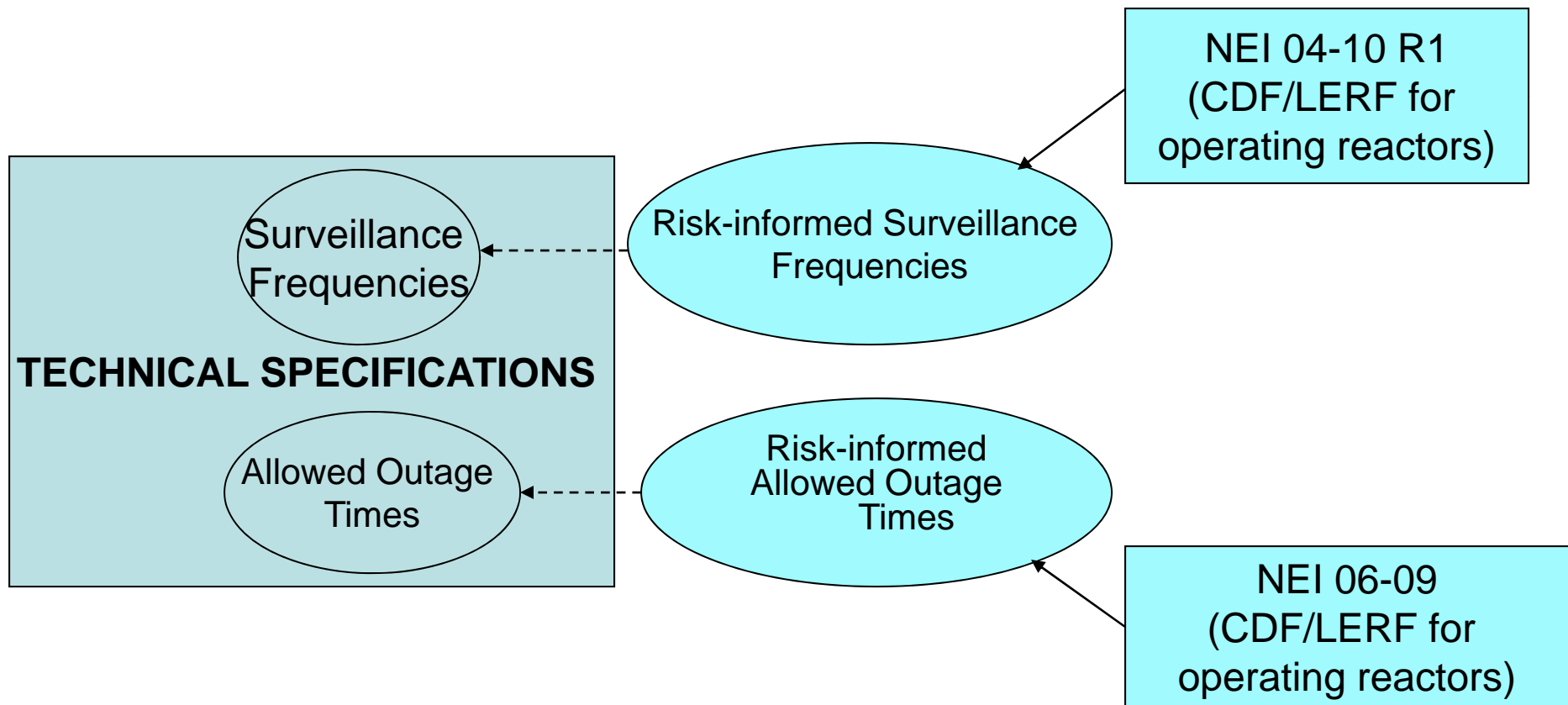
- **Regulatory Guide 1.174:** Risk-informed decisions on plant-specific changes to the licensing basis
- **Regulatory Guide 1.175:** Risk-informed inservice testing
- **10 CFR 50.69:** Risk-informed categorization and treatment of structures, systems and components
- **Regulatory Guide 1.177:** Risk-informed Technical Specifications
- **Regulatory Guide 1.178:** Risk-informed inservice inspection of piping



Examples of License Amendment Information

- Site-specific, as-built Probabilistic Risk Assessment (PRA) for use and/or results
- Peer review of PRA
- Procedures
- Training
- Configuration risk management tool

Example: Risk-managed Technical Specifications





PRA Regulations for New Reactors

- **10 CFR 52.79(a)(46):** Combined license (COL) application must contain ... a description of the plant-specific PRA and its results
- **10 CFR 50.71(h)(1):** COL holder shall develop a level 1 and level 2 PRA that covers initiating events and modes for which NRC-endorsed standards exist one year prior to the scheduled date for initial fuel load
- **10 CFR 50.71(h)(2):** COL holder must maintain and upgrade the PRA



Issues Related to New Reactors

- Risk metrics
 - Large Release Frequency vs. Large Early Release Frequency
- Site-specific, as-built Probabilistic Risk Assessment (PRA)
 - Availability of as-built PRA
- Peer review of PRA
 - Applicability of current standards



Issues Related to New Reactors (cont.)

- Procedures
 - Availability for implementation of risk-informed application
- Configuration risk management tool
 - Availability / capability of tool
- Plant specific operating experience
 - Availability
- Others??



Addressing New Reactor Issues

- **Risk metrics**
 - Public meetings
 - ACRS meetings
 - SECY paper
- **COL submittal information** (quality of site-specific, as-built Probabilistic Risk Assessment (PRA); peer review of PRA; procedures; training; configuration risk management tool; etc.)
 - Develop regulatory guidance
 - Public meetings