

Northwest Medical Isotopes Construction Permit Application Review

- Mandatory Hearing (Safety Panel 2)
- January 23, 2018

Panelists

- Michael Balazik
 - Project Manager, NRR
- April Smith
 - Reliability and Risk Analyst, NMSS
- David Tiktinsky
 - Senior Project Manager, NMSS
- James Hammelman
 - Senior Chemical Engineer, NMSS

Accident Analysis Methodology

- NWMI used an ISA methodology for its accident analyses
- IROFS and management measures to be selected to demonstrate safety
- Consistent with the ISG Augmenting NUREG-1537, radiological and chemical hazards evaluated against consequence criteria in 10 CFR 70.61

ISA Methodology

- Northwest submitted an ISA Summary of the accident analysis of radiological and chemical hazards
- ISA Summary contains:
 - Hazard analyses results
 - Qualitative assessment of likelihood, consequences, and risk category
 - Identification of accident sequences

ISA Methodology (continued)

- ISA methodology found adequate to identify IROFS to prevent or mitigate accidents and prevent an inadvertent criticality
- Management measures to assure availability and reliability of IROFS will be reviewed in the OL application
- Staff found that ISA process adequate to support identification of hazards and mitigation or prevention of accidents

Radiological and Criticality Safety

- PSAR/ISA Summary presented multiple accident sequences involving liquid spills, sprays and leaks with impacts to radiological and criticality safety
- Staff evaluated engineered safety features including items relied on for safety
- Analysis provides reasonable assurance that credible accident sequences have been identified

Chemical Safety

- Staff reviewed the design, accident analysis, and proposed safety features
- Staff conducted independent analyses of chemical hazards
- NWMI identified additional chemical safety research and development related to ion exchange system
- Staff concludes that the chemical hazards can be adequately managed

Summary of Accident Analysis Findings

- ISA is a sufficient approach to identify accident sequences and IROFS
- Northwest adequately assessed risks to public health and safety for issuance of a construction permit

Acronyms

- IROFS - Items relied on for safety
- ISA - Integrated safety analyses
- PSAR - Preliminary Safety Analysis Report
- NMSS - Office of Nuclear Material Safety and Safeguards
- NRR - Office of Nuclear Reactor Regulation
- NWMI - Northwest Medical Isotopes