

Northwest Medical Isotopes Construction Permit Application Review

- Mandatory Hearing (Safety Panel 1)
- January 23, 2018

Panelists

- Alexander Adams, Jr.
 - Chief, Research and Test Reactors Licensing Branch, NRR
- Michael Balazik
 - Project Manager, NRR
- David Tiktinsky
 - Senior Project Manager, NMSS
- Steven Lynch
 - Project Manager, NRR

Licensing Process

- NWMI seeks a permit to construct a 10 CFR Part 50 production facility
- Licensing process for NWMI production facility similar to that for other non-power Part 50 facilities
- Unique licensing considerations

Advisory Committee on Reactor Safeguards Review

- Staff presented at subcommittee and full committee meetings
- Staff performed additional independent analysis
- ACRS recommended issuance of construction permit
- Staff documented the NWMI commitments in Safety Evaluation Report

Production Facility Licensing

- Production facility will process irradiated special nuclear material and separate byproduct material
 - Special nuclear material batches contain greater than 100 grams of uranium-235
 - Processes similar to those at existing fuel cycle facilities
- NUREG-1537, Interim Staff Guidance
Augmenting NUREG-1537, NUREG-1520

Unique Licensing Considerations

- Two processes described within a single facility
 - Production facility licensed under 10 CFR Part 50
 - Target fabrication licensed under 10 CFR Part 70
- Understanding the interface between the two processes

Relationship Between Production Facility and Target Fabrication

- Both processes described in construction permit application
- Review focused on interface, shared systems, and impact
- Permit would authorize construction of 10 CFR Part 50 production facility

Proposed Permit Conditions

- Construction permit does not constitute approval of the safety of any design feature or specification
- Permit conditions
 - Criticality Safety
 - Quality Assurance
 - Site Characteristics

Criticality Safety Conditions

- Criticality accident alarm system
- Subcritical limit
- Conditions are confirmatory
- Termination of conditions

Quality Assurance Condition

Similar to requirements of 10 CFR 50.55(f), condition would support

- Adequate implementation of commitments in design, procurement, and construction
- Maintenance of documentation
- Approval of certain QAPP changes
- Correction of deficiencies

Geotechnical Condition

- NWMI committed to performing site-specific geotechnical investigation
- Since results could impact design bases, Staff recommends NWMI
 - Identify sinkhole potential, soil characteristics, and liquefaction potential
 - Submit design changes based on findings
- Results inform construction inspection

Acronyms

- ACRS - Advisory Committee on Reactor Safeguards
- CFR - Code of Federal Regulations
- NRR - Office of Nuclear Reactor Regulation
- NMSS - Office of Material Safety and Safeguards
- NWMI - Northwest Medical Isotopes
- QAPP - Quality Assurance Program Plan