

# **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