




Northwest Medical Isotopes Construction Permit Application Review

- Mandatory Hearing (Environmental Panel)
- January 23, 2018

| United States Nuclear Regulatory Commission Official Hearing Exhibit | | | |
|---------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------|-----------------------|
| In the Matter of: | | NORTHWEST MEDICAL ISOTOPES, LLC (Medical Radioisotope Production Facility) | |
| | | Commission Mandatory Hearing | |
|  | Docket #: | 05000609 | |
| | Exhibit #: | NRC-013-MA-CM01 | Identified: 1/23/2018 |
| | Admitted: | 1/23/2018 | Withdrawn: |
| | Rejected: | | Stricken: |
| | Other: | | |

Panelists

- Benjamin Beasley
 - Chief, Environmental Review and NEPA Branch, NRR
- Nancy Martinez
 - Physical Scientist, NRR
- Michelle Moser
 - Biologist, NRR
- David Drucker
 - Senior Project Manager, NRR

Environmental Review

- National Environmental Policy Act
- Environmental review process
 - 10 CFR Part 51
 - Interim Staff Guidance Augmenting NUREG-1537 for Licensing Radioisotope Production Facilities and Aqueous Homogenous Reactors

Scope of the Review: Proposed Action and Connected Actions

Actions are connected if they:

- Automatically trigger other actions that may require environmental impact statements; or
- Cannot or will not proceed unless other actions are taken previously or simultaneously; or
- Are interdependent parts of a larger action and depend on the larger action for their justification

Proposed Action and Connected Actions

- Construction, operations, and decommissioning of the 10 CFR Part 50 production facility
- Construction, operations, and decommissioning related to target fabrication
- Transportation of targets to/from research reactors and irradiation of targets at research reactors

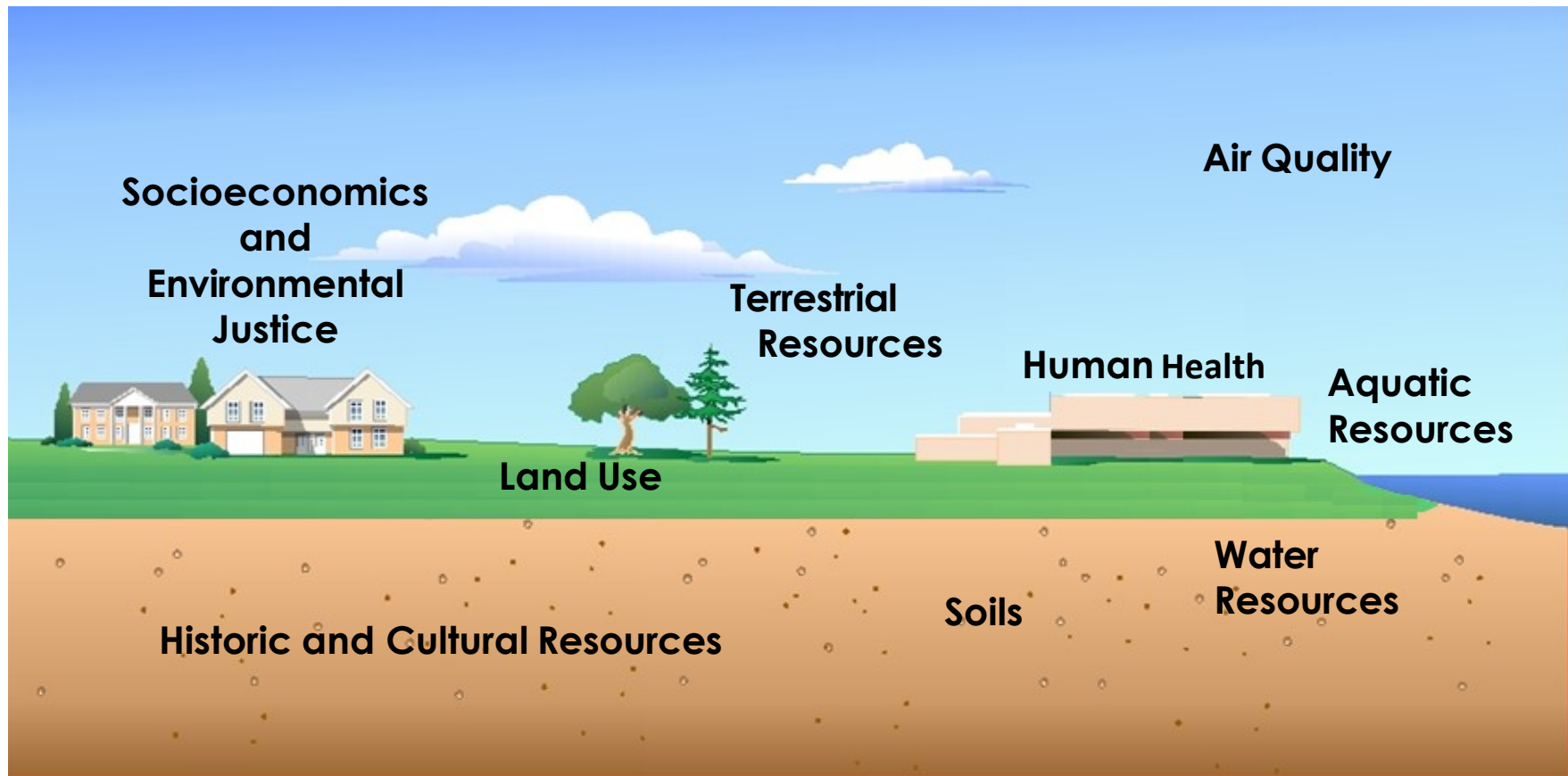
Environmental Impact Statement (EIS)

- 10 CFR 51.20
- Project-specific decision
 - Operation of the proposed Northwest facility would include target fabrication and scrap recovery
 - Environmental assessment might not support a finding of no significant impact

Scoping Process

- Public meeting in Columbia, Missouri
- Six oral commenters
- Eight comment letters or emails

Environmental Review Areas



Environmental Impacts

| Resource Area | Impact |
|---------------------------------|--------|
| Land Use and Visual Resources | SMALL |
| Air Quality and Noise | SMALL |
| Geologic Environment | SMALL |
| Ecological and Water Resources | SMALL |
| Historic and Cultural Resources | SMALL |
| Socioeconomics | SMALL |
| Human Health and Waste | SMALL |
| Transportation | SMALL |

Consultations

| Act | Determination |
|-------------------------------------------------------|----------------------|
| Endangered Species Act, Section 7 | No Effect |
| National Historic Preservation Act, Section 106 | No Adverse Effect |

Alternatives

- No-action alternative
- Alternative site
- Alternative technologies

Alternative Technologies

- Neutron capture
- Aqueous homogenous reactor
- Selective gas extraction
- Linear-accelerator-based
 - Analyzed in depth
- Subcritical fission
 - Analyzed in depth

Costs and Benefits

- Purpose
 - Inform recommendation to the Commission
- Costs
 - Environmental and financial
- Benefits
 - Societal, medical, and economic

Draft Environmental Impact Statement

- Public meeting in Columbia, Missouri
- Seven oral commenters
- Five comment letters or emails

Staff Conclusion and Recommendation

- Benefits (societal, medical, and economic) outweigh the costs (environmental, economic)
- Considered reasonable alternatives
- Recommend issuance of the construction permit

Future NEPA Analyses

- Application for an operating license
- Application for a license to possess and use special nuclear material for target fabrication and scrap recovery
- License amendment requests from research reactors

Acronyms

- EIS - Environmental Impact Statement
- NEPA - National Environmental Policy Act
- NRR - Office of Nuclear Reactor Regulation