Program Update: Office of Nuclear Energy’s Integrated Waste Management Program

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Office of Nuclear Energy

Joint Meeting of the Radioactive Materials Transportation Committee and the Transuranic Waste Transportation Group
December 7 - 8, 2016
Myrtle Beach, SC
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• FY17 Funding Levels
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• Update on Borehole Field Test Project
NE Re-Organization

• Office of Nuclear Energy Re-Organization
  • NFST and Used Fuel Disposition programs combined into a new Office – The Office of Spent Fuel and Waste Disposition
  • Under new organization, storage, transportation and consent-based siting activities will be under the Office of Integrated Waste Management
  • Organization became official in October 2016
NE Re-Organization

Deputy Assistant Secretary for Spent Fuel and Waste Disposition

Office of Spent Fuel & Waste Science and Technology
Former Used Fuel Disposition Program

Office of Integrated Waste Management
Former Nuclear Fuels Storage and Transportation Planning Project (NFST)

Office of Program Operations
New
Other Updates

• New detailees working on storage and transportation
  • Steve Reeves – Program Manager for Storage
  • John Orchard – Support for Storage Program
  • Giulia Bisconti – Communications Outreach – Officewide

• Program plans to move away from “laying the groundwork,” toward becoming an “operational program”
  • Dependent on appropriations
  • Not an overnight change
  • Subject to availability of resources
## FY17 Funding

<table>
<thead>
<tr>
<th>Subprogram</th>
<th>(dollars in thousands)</th>
<th>FY 2016 Enacted</th>
<th>FY 2017 Request</th>
<th>House Mark</th>
<th>Senate Mark</th>
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<tr>
<td>Used Nuclear Fuel Disp. R&amp;D</td>
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<td>62,500</td>
<td>74,338</td>
<td>61,128</td>
<td>57,867</td>
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<tr>
<td>Int. Waste Mgmt. System (IWMS)</td>
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<td>22,500</td>
<td>76,300</td>
<td>0</td>
<td>61,050</td>
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<td><strong>Total</strong></td>
<td></td>
<td><strong>85,000</strong></td>
<td><strong>150,638</strong></td>
<td><strong>61,128</strong></td>
<td><strong>118,917</strong></td>
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FY17 Program Priorities

• Transportation work
  • Supporting engagement with tribal and state representatives
  • Railcar development
  • Preliminary development of a transportation project plan

• Storage
  • Development of a generic design and topical safety analysis report (TSAR) for a pilot interim storage facility (ISF)
  • Request for Information on Private Initiatives

• Cross-cuts
  • Systems analysis tool development and maintenance

• Consent-based siting
  • Summary report on public input for comment
  • [Proposed] Grants to potentially interested communities
  • Draft siting process

• Communications
Transportation

• Cooperative Agreements with States and Tribes
  • New 5-year agreements started October 2016
• Continuing efforts through NTSF Ad Hoc Working Groups
  • Section 180(c) AHWG – develop draft grant template, and perform funding formula analysis
  • SNF Rail/Routing AHWG – routing and develop rail inspection protocol
    • Meeting in St. Louis Nov. 29-30, 2016
• Transportation Operations and Infrastructure
  • Shutdown site visits and de-inventory studies
  • Continued Development of the START tool
• Preliminary Development of Transportation Project Plan
  • Systems view
  • Supporting document hierarchy
• Atlas Railcar Development
Atlas Railcar

DOE is developing a railcar to comply with the Association of American Railroads Standard S-2043

- Contract with AREVA to design S-2043-compliant cask and buffer railcars, and to fabricate prototypes
- Future contract for prototype testing
- DOE is evaluating several possible contracting options for large-scale fleet fabrication and operations
- The Atlas railcar is being designed to carry a variety of rail-sized transportation casks, including the heaviest cask planned for use in the U.S.: the HI-STAR 190.
# Atlas Railcar Design Project Schedule

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<td>Initial Contract Award</td>
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<td>Phase 1: Mobilization and Conceptual Design</td>
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<td>10/31/16</td>
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<tr>
<td>Phase 2: Preliminary Design</td>
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<td>Notice to Proceed with the Test Phase from AAR</td>
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<td>7/14/17</td>
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<td>Phase 3: Prototype Fabrication and Delivery</td>
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<td>Follow-on Contract Award</td>
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<td>Phase 4: Single-Car Testing</td>
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<td>9/30/20</td>
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<tr>
<td>Acquisition of Escort Railcar for Testing</td>
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<td>12/31/19</td>
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<td>Phase 5: Multiple-Car Testing</td>
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<td>Conditional Approval from AAR</td>
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<td>6/30/22</td>
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Stakeholder Tool for Assessing Radioactive Transportation (START)

* Example routes are for illustrative purposes only and do not reflect a selected destination site.
NE Transportation Core Group

• Small planning group of tribal, state and DOE representatives (25 people)
• Meets twice per year
• DOE communicates items of interest or notifications through this group
• State and Tribal Consultation and Communication Working Group
  • Subgroup formed in 2014 to develop a mutually agreeable approach to “consultation and cooperation” among DOE, Tribes and states, help achieve common goals
  • Lisa Janairo (CSG-MW) and Ken Niles (OR) representing states, Heather Westra (PIIC) and Richard Arnold (CGTO and Pahrump Paiute) representing Tribes, Erica Bickford for DOE
  • Draft paper shared, comments incorporated
  • Anticipate periodic updates
Storage

• Topical Safety Analysis Report (TSAR) for generic storage facility design
• Evaluate storage facility capability needs and options
  • Canister maintenance facility
  • Rail maintenance facility
  • Lease vs buy options
• Request for Information on Private Initiatives
  • Written comments on or before January 27, 2017 to privateISF@hq.doe.gov
  • More information available on the DOE-NE website at http://www.energy.gov/ne/downloads/private-isf
Cross-Cuts

- Advanced analytical tool development, modeling, data development, and analysis of the integrated system
Consent-Based Siting

1. Engage with the public and interested parties on the elements of a consent-based siting process
2. Design a consent-based siting process to serve as a flexible framework for engaging with potential host communities
3. Use the resulting consent-based siting process to work with potential host communities

- Ensure safe and secure operations
- Build trust among stakeholders
- Adapt operations based on lessons learned

CONSENT-BASED SITING PROCESS

- Local Governments
- Tribal Nations
- Communities
- States
Consent-Based Siting cont.

• Public Comment Period: 23-Dec-15 to 31-Jul-16
  • Five key questions in Federal Register Notice
    1. How can the Department ensure that the process for selecting a site is fair?
    2. What models and experience should the Department use in designing the process?
    3. Who should be involved in the process for selecting a site, and what is their role?
    4. What information and resources do you think would facilitate your participation?
    5. What else should be considered?
  • Comments submitted to consentbasedsiting@hq.doe.gov

• Eight Public Meetings + Kick-off Meeting and Close-out Meeting
  • Washington, DC, Chicago, Atlanta, Sacramento, Denver, Boston, Tempe, Boise, Minneapolis, Washington, DC
  • 8 keynotes, 40 panel members, small group discussions and meeting summary reports, 80+ public comments, leading to 40 hours of meeting transcripts

• DOE Invited to Meet w/ Stakeholders and Tribes
  • SONGS, WM 2016, Wiscasset, Prairie Island, Shoshone-Bannock, etc.

• Received over 10,000 comments
  • Available at www.energy.gov/consentbasedsiting
Consent-Based Siting Next Steps

- **Public webinars or conference calls**
- **Opportunities to discuss consent-based siting at recurring, annual, or previously scheduled meetings and conferences**
- **Citizen forums**
- **Draft a consent-based siting process based on public input**
- **Issue preliminary siting considerations (as part of the draft siting process) to provide a baseline for siting discussions**
Consent-Based Siting Cont.

- Defense Repository Plan
- Final Summary of Public Input Report
  - Available in late-December 2016
- Potential Environmental Justice Workshop
  - Many comments received during public meetings on the topic of environmental justice
  - 2017 National Environmental Justice Conference & Training Program
    - Planning to hold a session on Consent-Based Siting
Consent-Based Siting Initiative and Transportation

During the Public Comment Period and Public Meetings, DOE received transportation-related questions and comments:

• We believe you should only transport the waste once, to disposal
• Facility siting should not be addressed in isolation from transportation
• Shouldn’t we be looking at consent for communities along transportation routes?
• DOE must engage communities along transportation routes
• We recognize that consent-based transportation is neither practicable nor legally enforceable
• We do not believe that transportation is safe
• How will DOE ensure transportation safety and security?
• Spent fuel transportation has a strong historical safety record in the US and internationally
• What about crumbling transportation infrastructure in the US?
Communications

• CBS Public Meetings – many questions about spent fuel transportation
• Starting to develop communication and informational materials to address these comments and questions
• Informational webinar series
  – Summary Overview of SNF Transportation for a public audience (January)
  – Subsequent webinars with more detail on regulation and operations (DOT-FRA, NRC, AAR, past shipping campaigns?)
• Proposed new NTSF ad hoc working group to collaborate on development
• Fact Sheets and web-content
  – Transportation: roles and responsibilities of federal agencies (DOE, DOT, NRC, etc)
  – SNF Transport Basics
  – Crude oil trains
Example: SNF Transportation System

Cask Maintenance Facility

Empty Casks

Nuclear Power Plant

Loaded Casks

Storage/Disposal Facilities

Casks are emptied

Perform Cask Maintenance

Perform Railcar Maintenance

Spent Fuel Railcar “Consist”

2 Locomotives

Buffer Car

1-7 Cask Cars

Buffer Car

Security Escort Car

Empty casks are loaded with spent fuel by utility

Safety Inspections and Shipment Monitoring

Empty Casks
Program Limitations

• Still Resource Limited
  • Some new staff (now 7½ Feds)
  • Limited travel resources
• Congressional Authorization and Budget
  • FY17 funding level is unknown
Borehole Field Test

- In October 2016 DOE issued a new Request for Proposals (RFP)
- New RFP incorporated lessons learned from the previous effort
  - Interdisciplinary, scientific research project to evaluate deep drilling technologies and to characterize deep geologic environments over time
  - No radioactive waste will be used in the project
  - Includes multiple awards with a public outreach component before award and throughout contract performance
  - One site will be down-selected in about a year
- Proposals were received Oct. 24th
  - Currently under evaluation
- Awards are anticipated in January 2017
Questions?