


U.S. DEPARTMENT OF ENERGY
 Nuclear Fuels Storage & Transportation Planning Project
 Office of Fuel Cycle Technologies
Nuclear Energy

Implementation of Section 180(c) of the Nuclear Waste Policy Act

180(c) Working Group
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National Transportation Stakeholders Forum
 Bloomington, MN
 May 13-15, 2014




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Agenda

- **Section 180(c) Status and Tabletop Exercise Discussion**
- **Routing Methodology Process**
- **Stakeholder Tool for Assessing Radioactive Transportation (START)**
- **Wrap-up and selection of working group spokesperson for Thursday plenary**


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Section 180(c) Mandate

“The Secretary shall provide technical assistance and funds to States for training for public safety officials of appropriate units of local government and Indian tribes through whose jurisdiction the Secretary plans to transport spent nuclear fuel or high-level radioactive waste [to an NWPA-authorized facility].

- **The training shall cover procedures for safe routine transportation of these materials and procedures for dealing with emergency response situations.**
- **Covers all modes of transport**


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Section 180(c) – 2012/13 Actions

- **January 2012 - the Blue Ribbon Commission (BRC) on America’s Nuclear Future stated in their final report that DOE should**
 “... finalize procedures and regulations for providing technical assistance and funds for training to local governments and tribes pursuant to Section 180(c) of the NWPA and (2) begin to provide such funding, independent from progress on facility siting.”
- **January 2013 - the Administration issued its response to the BRC in the Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste**
 “The Administration will undertake the transportation planning and acquisition activities necessary to initiate this process... Outreach and communication, route analysis, and emergency response planning activities consistent with existing NWPA requirements would be conducted during this time”


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Section 180(c) – 2012/13 Actions

- **Activities and Outcomes**
 - Focus on the goals of the Blue Ribbon Commission recommendations and the Administration’s Strategy
 - December 2012: SRGs and tribes formed new 180(c) Working Group
 - Fiscal Year 2013: DOE led 1 teleconference, 12 webinars, and 1 in-person meeting at NTSF in Buffalo, NY
 - The Working Group identified 10 issues to address, initial consensus reached on 8 of them
 - Allocation of funds discussion was not completed
 - DOE’s reimbursing for operational costs was not resolved


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Section 180(c) – 2012/13 Actions

- **DOE drafted a policy statement based on the Working Group's discussions**
 - Work halted at end of fiscal year 2013
 - Policy statement may be revised pending more discussions with the WG and Inter-regional Team (IRT)
- **Inter-regional Team formed in Fall 2013**
 - To continue progress on Section 180(c) development

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Section 180(c) – Current Status

- Officially, the 2008 *Federal Register* Notice is still DOE's position on each of these issues until a new *Federal Register* Notice or policy statement is issued.
- Eight issues where consensus from 2013 Working Group was reached have *preliminary* support from DOE but have not been reviewed by management.
- DOE has made no statement regarding the reimbursement of operational costs.

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Section 180(c) – Outstanding Issues

- Tribal engagement needed
- Allocation of Funds
- Merit Review Criteria
- Illustrative needs assessment form
- Tabletop exercise
- Application Package and Guidance Document
- Technical Assistance Plan

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180(c) Tabletop Exercise?

- At NTSF 2013, the working group expressed interest in conducting a tabletop exercise to evaluate draft 180(c) policy and procedures
 - Does the working group still want to do this?
 - What work is required?
 - What is the timeframe? NTSF 2015?

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180(c) Tabletop Exercise Purpose

- **Purpose:**
 - Develop a deeper understanding of the potential scope of and application process for Section 180(c) assistance.
 - A more in-depth understanding of Section 180(c) and a data-driven discussion of the policy options helps inform decision-making
 - Evaluate policy options where there is no consensus or the best option is not clear.

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180(c) Tabletop Exercise Steps

1. DOE writes a mock letter of eligibility to the volunteer states and tribes participating in the tabletop. DOE would provide:
 - Information about a hypothetical number of shipments through their jurisdiction over a defined period of time.
 - A hypothetical amount of funding available to each volunteer state and tribe.
2. The volunteer states and tribes would identify hypothetical routes, using more than one mode of transport, over which they would want to conduct a needs assessment and potentially provide training.
3. The volunteer states and tribes would work with DOE and State Regional Group staff to complete a sample application package with proposed costs for the first year to complete a needs assessment.

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180(c) Tabletop Exercise Steps

- DOE would form a mock merit review group to evaluate the sample application packages and comment on them.
- The volunteer state or tribe would conduct a simulated needs assessment along their routes and report back to DOE their proposal for training public safety officials for the next three years.

■ **Given the steps, timeframe and work required, is the Working Group still interested in doing this?**

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Preliminary Routing Activities

- **Development of Routing Process Paper formalizing routing methodology for stakeholder interactions**
 - Evaluation of available transport modes
 - Development of primary and secondary routing criteria
 - Test criteria through evaluation of primary and alternate routes from shut down sites to the nearest Class 1 railroad

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Input on Routing

- **Several DOE programs have engaged stakeholders in interactive route planning:**
 - Waste Isolation Pilot Plant (WIPP)
 - Foreign Research Reactor (FRR)
 - West Valley Demonstration Project (WVDP)
- **No formal or standardized process for route assessment has been developed**

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Input on Routing, continued

- **A standardized process has been recommended by:**
 - State Regional Groups (SRG)
 - Transportation External Coordination (TEC) working groups
 - The National Academy of Science (NAS) in their 2005 study "Going the Distance"
 - The Blue Ribbon Commission (BRC) on America's Nuclear Future

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What has changed?

- **A draft "approach to route identification" was introduced by OCRWM in 2007. While much of the information is still relevant, significant changes have taken place since that time:**
 - Pipeline and Hazardous Materials Safety Administration (PHMSA) final rule on rail routing - 49 CFR 172.820, 172.822 Appendix D
 - Increased knowledge and experience on complexity of routing through regional routing studies
 - Advancement in development of a user friendly GIS based tool for route assessment (START) including the availability of new robust data sets that inform route planning and analysis

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Route Selection Process Document

- **Starting with a basic set of safety principles, best practices from previous campaigns and guidance in DOE Manual 460.2-1A, the document should:**
 - Identify stakeholders who should be included in the routing dialogue
 - Propose a method for engaging stakeholders in evaluation and analysis of site specific modal options

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Route Selection Process Document (continued)

- **Propose a method for engaging stakeholders in development of primary and secondary routing criteria**
- **Propose methods for testing criteria for applicability, efficiency, regulatory compliance and operational viability**
- **Document a comparative analysis of routing regulations for highway (49CFR 397), rail (49CFR 172.800, 172.822 and Appendix D), and NRC routing/physical protection guidance (NUREG 0561-2) to identify common elements**
- **Propose methods for documenting results**

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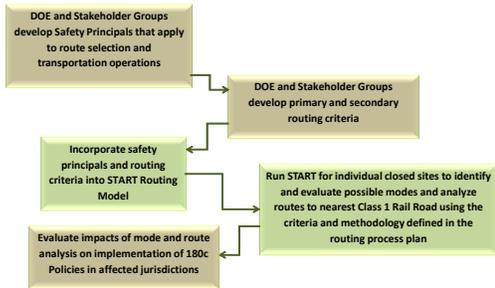
The Path Forward

- **The proposed path forward for completion of the routing process document will include:**
 - Development of an annotated outline – shared with stakeholders
 - Webinars with SRGs and Tribes
 - Solicitation of input from federal regulators and carriers on routing standards for different modal options
 - Development of “test cases” to evaluate the ability to produce routes that are safe, efficient and operationally viable
 - Proposed methods for documenting results

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The Path Forward



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graph TD
    A[DOE and Stakeholder Groups develop Safety Principals that apply to route selection and transportation operations] --> B[DOE and Stakeholder Groups develop primary and secondary routing criteria]
    B --> C[Incorporate safety principals and routing criteria into START Routing Model]
    C --> D[Run START for individual closed sites to identify and evaluate possible modes and analyze routes to nearest Class 1 Rail Road using the criteria and methodology defined in the routing process plan]
    D --> E[Evaluate impacts of mode and route analysis on implementation of 180c Policies in affected jurisdictions]
    
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Overarching Objective

Utilize a decision-support tool for NE's Nuclear Fuel Storage Transportation (NFST) project:

- ...to evaluate transportation routing and emergency preparedness options in the waste management system
- ...representing a wide range of operating scenarios and performance objectives
- ...with an emphasis on providing flexibility.



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Decision-Support Requirements

- Cover the entire continental U.S.
- Represent physical and operating characteristics of freight surface transportation modes
 - Highway
 - Rail
 - Barge
- Include relevant proximate features (e.g., tribal lands, emergency responders, schools, environmentally-sensitive land use)
- Flexible, modular system architecture to support functionality, feature and data updates
- Leverage geographic information systems (GIS) technology
- Support users via web-based application with secure internet access

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Review of Existing Tools

- Study undertaken to review capabilities of existing tools
- Found that none were capable of fulfilling NFST objective without major overhaul at significant expense
- Recommendation made to develop a new tool to leverage advances made in information technologies leading to a system that is:
 - More comprehensive
 - More economical
 - More user-oriented
 - Easier to maintain and update
- ESRI ArcGIS recommended as tool development platform

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START Design Considerations

- Analyze alternative routing criteria
- Include detailed transportation system attributes
- Provide emergency response information
- Include radiological risk estimates on the “front-end”
- Provide integrated system enabling user to get the “whole story”
- Create an intuitive menu structure consistent with stakeholder needs



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START Support Roles

- Development of transportation plan
- Route selection process and preliminary routing analysis activities
- 180(c) policy development
- Data collection activities at shutdown sites
- Coordination with waste management data and systems integration tool development initiatives





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Next Steps



- Make program modifications based on beta test feedback
- Prepare user manual
- Perform case studies illustrating how START can be used to support stakeholder needs
- Plan START roll-out
 - Credentialing
 - Training sessions
 - Conference presentations
 - Workshops

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Section 180(c) and START

- How does START help implement Section 180(c)?
 - Planning tool
 - Needs assessment data for training, population, emergency response resources, sporting and cultural venues ...
 - Assess readiness along a route in case of unexpected contingency re-routing situation occurs
 - Communications tool
 - Inform elected officials, emergency responders, public information officers
 - Monitoring and Evaluation tool
 - Monitor training and equipment , testing and evaluation exercises along routes over time

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Visit Our START Exhibit Booth in the Registration Area!

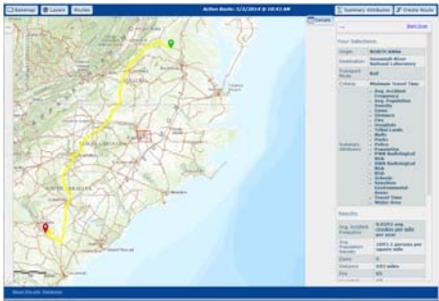


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Live START Demo



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Section 180(c) – Next Steps

- Re-engage with the WG over the summer to design the tabletop exercise?
- Meet with the Core Group in a working meeting in June?
- Form a tribal working group and work over the summer and into the fall?
- Wait for the IRT final report and then decide next steps?

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Section 180(c) – Wrap Up

Questions or Comments?

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