



U.S. Department of Energy
Office of Civilian Radioactive Waste Management



Office of National Transportation Update

Presented to:

The Council of State Governments - Midwest

Midwestern Radioactive Materials Transportation Committee

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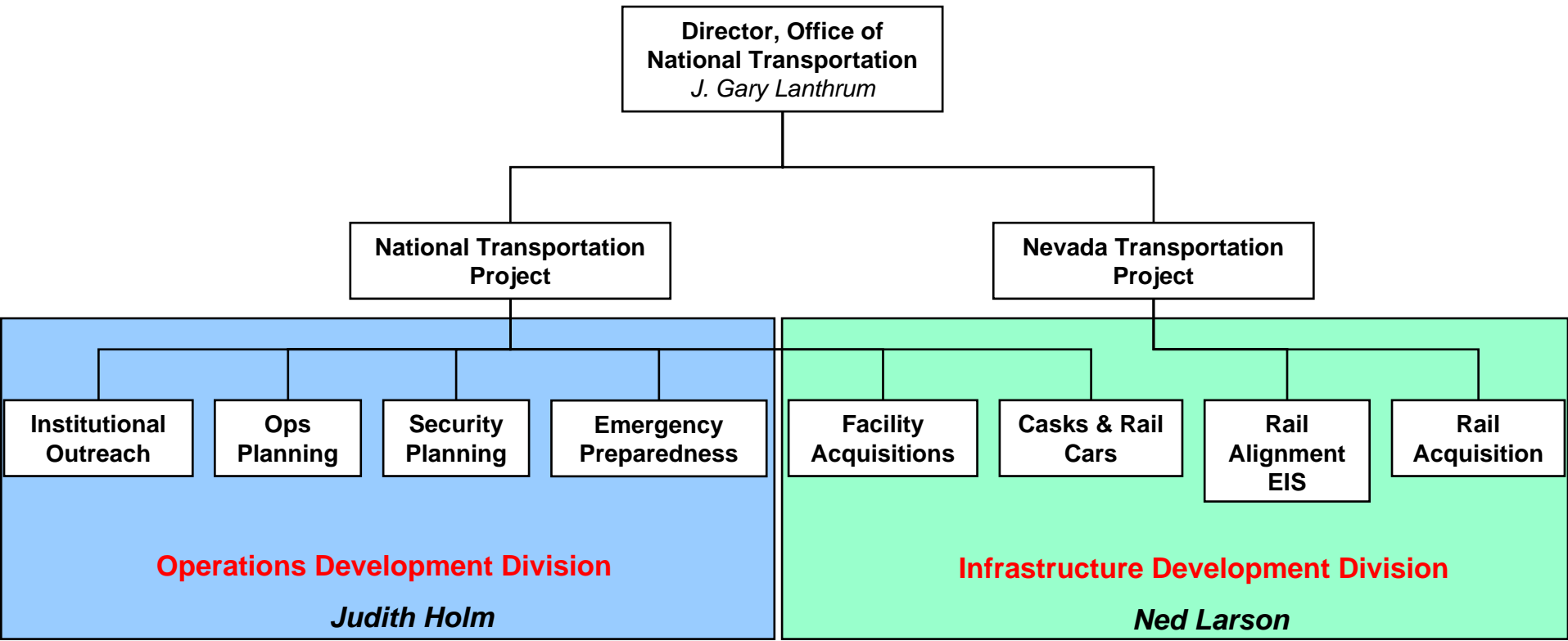
Traverse City, MI

Office of National Transportation Update

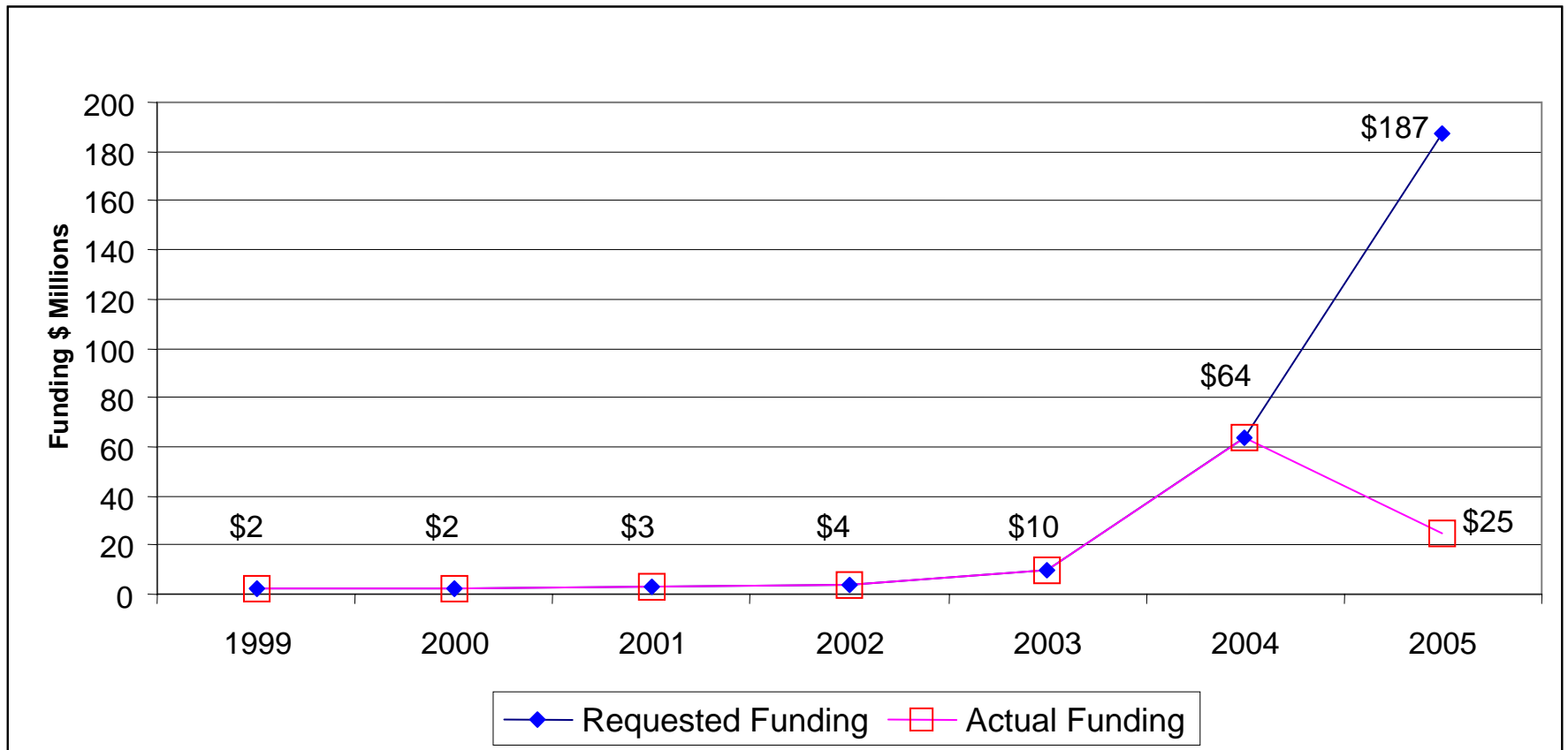
- **Since the November Council of State Governments (CSG) Midwestern Radioactive Radioactive Materials Transportation Committee meeting, the Office of National Transportation (ONT) has made steady progress in developing the transportation infrastructure in its four project areas:**
 - **Infrastructure Acquisition**
 - ◆ **Transportation Casks**
 - ◆ **Rolling Stock**
 - **Nevada Rail**
 - **Operational Planning**
 - ◆ **Standard contract for Waste Acceptance**
 - **Institutional**
- **ONT has refined the management infrastructure to integrate and oversee the four project areas**



Office of National Transportation Organization



Transportation Funding Profile



FY 05 Transportation Program Priorities

- **Focus on completing draft Nevada Rail Alignment Environmental Impact Statement (EIS)**
- **Begin conceptual design work for casks and rail cars**
 - **Focus on acquisitions that will advance infrastructure development without major capital requirements such as procurement of designs rather than fabrication of hardware**
- **Announce decisions that will enable more detailed operational planning discussions**
- **Initiate consultation with Native American Tribes along potential transportation corridors**
- **Work with CSG-Midwest and other State Regional Groups (SRGs) to develop the transportation system (e.g. Department of Energy (DOE) Radioactive Material Transportation Practices Manual, ONT Concept of Operations Document, and special projects)**



FY 05 Transportation Program Priorities

(continued)

- **Transportation External Coordination (TEC) Working Group focus for ONT:**
 - Rail/route selection criteria
 - Section 180(c) policy development
 - Security planning
 - Tribal coordination and consultation
- **National Conference of State Legislatures**
- **Develop information materials about transportation**
 - Updating Question and Answers booklet
 - Revising exhibit
 - Developing fact sheet series



Cask Systems

- **ONT is focused on maximizing the use of available cask designs and Nuclear Regulatory Commission (NRC) Certificates of Compliance for transport casks**
- **ONT has a preference for cask systems that provide the maximum flexibility in terms of facility and fuel compatibility**
- **Coordination efforts are underway to ensure transportation casks are compatible with the Yucca Mountain surface facilities**
 - **Size and weight parameters accommodate facility design**
 - **Cask handling considerations are being integrated with facility design efforts**



Next Steps in Cask Procurement

- **Solicit input from cask vendors on approaches to increase capabilities of casks to accommodate spent nuclear fuel (SNF) inventory at facilities with infrastructure limitations – smaller casks, transfer casks**
- **Issue cask Request for Proposal**
- **Award conceptual design tasks for casks**
- **Approve cask conceptual designs and approve beginning of final design/certification of casks offering innovative solutions**
- **Place orders for fabrication of casks**



Rolling Stock Acquisition Status

- **Developing Office of Civilian Radioactive Waste Management (OCRWM) policy on implementation of the Association of American Railroads standard for rail cars**
- **ONT plans to procure ~120 cask cars, 60 buffer cars, and 30 escort cars**
- **A decision will be made in the future either to procure a fleet of locomotives or to use locomotives supplied by the railroads**

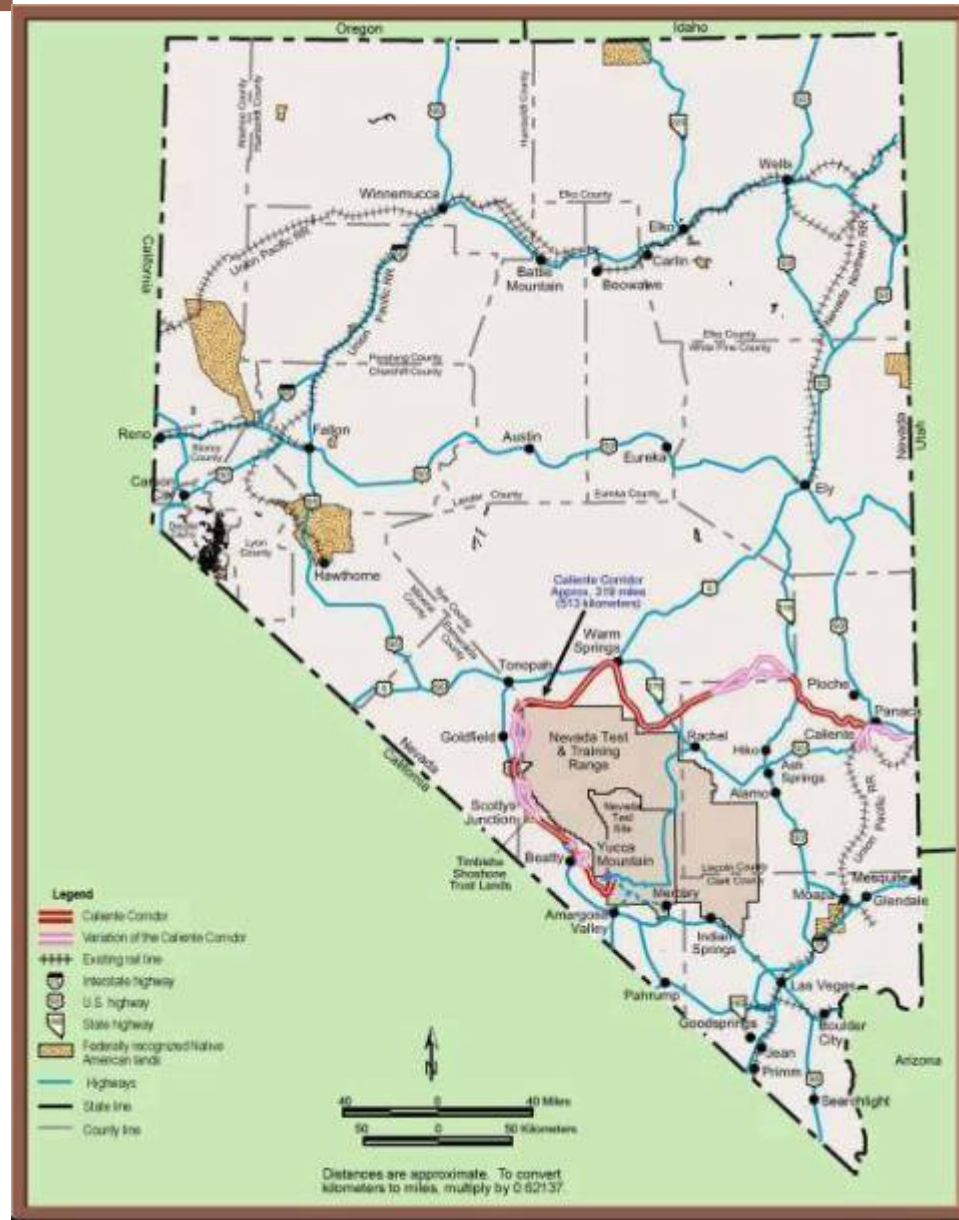


Developing a Rail Line in Nevada

- **Work on the Nevada Rail Alignment EIS is moving forward**
- **Public scoping meetings were completed in June 2004**
 - **Over 4,000 comments received**
- **Contracts were awarded to perform data collection for the EIS**
- **Conducting field surveys**
 - **Developing conceptual design**
- **Through the scoping meeting process, several alternative routes were suggested by the public**
 - **Data collection on alternative routes will extend the EIS schedule to the end of this calendar year**



Map of Caliente Rail Corridor



Upcoming Milestones for Nevada Rail Alignment

- **Complete technical data collection along the corridor**
- **Issue draft Rail Alignment EIS in Fiscal Year 2006**
 - **Hold public hearings to obtain comments on draft Rail Alignment EIS**
- **Issue Final Rail Alignment EIS in Fiscal Year 2007**
- **Land acquisition**
- **Issue Record of Decision for rail alignment**
- **Begin final design/construction**



Operational Planning Update

- **Operations planning activities include:**
 - **Continuing burn-up credit data collection and analysis**
 - **Progress on developing logistics model for transportation planning**
 - **Supporting RADTRAN and TRAGIS for model and routing activities**
 - **Examining federal agency regulations and policies and lessons learned from other shipments to ensure “best practices” inform the path forward for operations**



Operational Planning Update

(continued)

- **Security activities include engaging DOE's Office of Security and Safety Performance Assurance on risk management options for transportation security**
 - **Launching Transportation Classification Guide interagency working group**
 - **Continuing collaboration with our international partners on transportation sabotage studies**
 - **Examining threat analyses to identify appropriate countermeasures to build at the front end of ONT system**
 - **Initiating analyses for personnel, physical and information security, including requirements and specialized training**

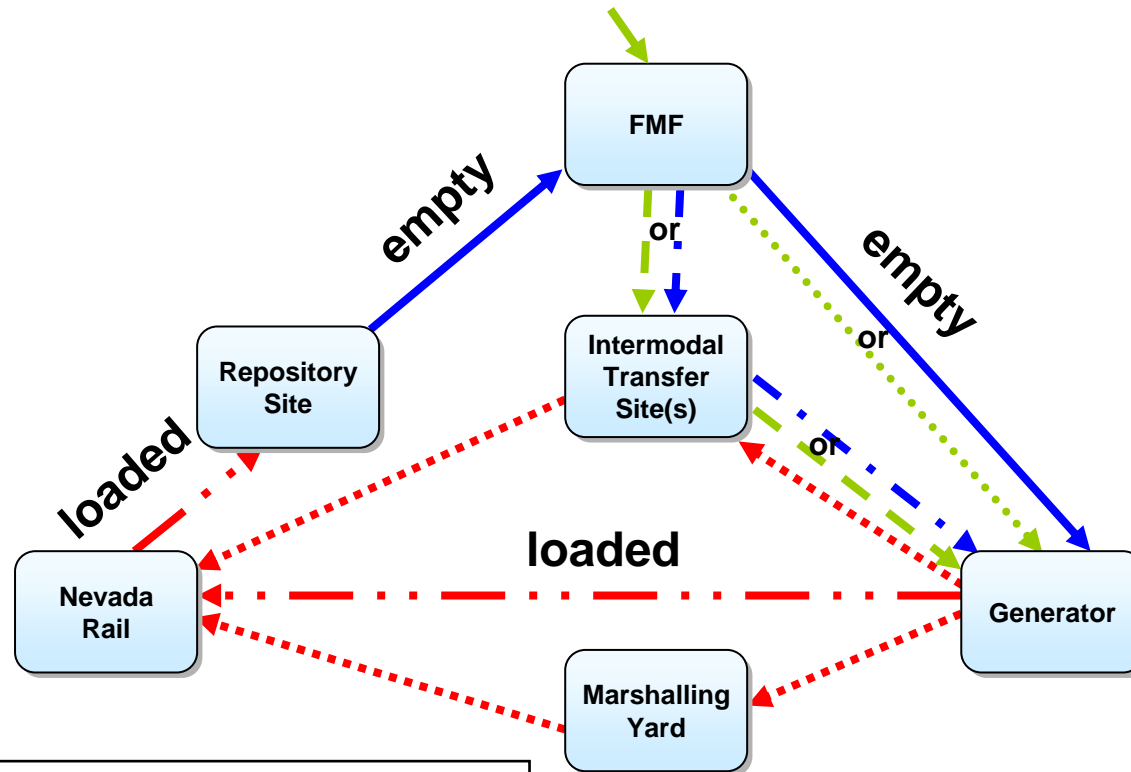


Transportation Concept of Operations

- **Utility orders service**
- **Rail or truck casks will be dispatched from the Fleet Management Facility (FMF) to the generator site scheduled to ship the SNF or high-level radioactive waste (HLW)**
- **At the site, casks will be loaded by generator site personnel, placed on their transporter, inspected and “accepted” by DOE**
- **The shipment will be dispatched and moved to the repository**
- **At the repository, casks will be unloaded and will be returned to the FMF**
- **At the FMF, casks and rolling stock will be inspected, maintained, and prepared for the next shipment**



Concept of Operations Overview



Location Types

- Fleet Management Facility (FMF)
- Generator (Utility/DOE Site)
- Inter-modal Transfer Site (Barge/heavy haul to rail)
- Marshalling Yard
- Nevada Rail
- Repository

Status

- = empty cask
- - - - = loaded
- = unloaded/rail car only
- - - - = alternate
- = alternate
- - - - = alternate



Key Transportation Pre-Operational Activities

- **Complete Nevada Rail EIS**
- **Purchase hardware and rolling stock**
- **Identify routes**
- **Develop Operational Plan**
 - **Transportation Plan**
 - **Security Plan**
 - **Communication Plan**



Key Transportation Pre-Operational Activities

(continued)

- **Implement Section 180(c) funding**
- **Conduct emergency exercises and information and outreach**
- **Conduct operational readiness reviews**
- **Develop campaign plan**
- **Shipment start**



Key Transportation Shipping Activities

- **Request for service from utilities**
- **Shipment planning**
- **Providing advance notification to States and Tribes**
- **Dispatching equipment from the FMF**
- **Loading casks at commercial reactor and DOE generator sites**
- **“Accept” shipments**



Key Transportation Shipping Activities

(continued)

- **Shipping loaded casks to the repository**
- **Unloading casks at the repository**
- **Returning transportation casks and rolling stock to the FMF**
- **Maintaining and preparing equipment for subsequent shipments**



The Standard Contract

- **DOE contracts with utilities, to take spent fuel for disposal, are required by the Nuclear Waste Policy Act**
- **A final DOE rule, issued in April 1983, set the DOE terms for the Standard Contract. The rule requires DOE to:**
 - **Accept title to SNF**
 - **Transport from purchasers to DOE facility for disposal**
 - **Dispose of SNF**
 - **Provide NRC-certified transportation casks suitable for use at Purchaser's site, including:**
 - ◆ **Procedures for cask handling and loading**
 - ◆ **Training for Purchaser's personnel**
 - ◆ **Technical information, special tools, equipment**
 - ◆ **Sufficient documentation**



Waste Acceptance Criteria

- DOE must accept all of purchaser's SNF
 - Contract identifies “Standard” and “other than Standard” spent fuel
- Standard Fuel criteria:
 - Maximum dimensions
 - Fuel condition
 - Fuel type
 - Minimum cooling time
- “Other than Standard” SNF include:
 - Non-Standard
 - Failed SNF



Order of Acceptance

- **Contract assigns acceptance priority based on “Oldest Fuel First” Principle**
 - **Contract holder with oldest fuel gets first priority**
- **DOE may grant priority to permanently shutdown reactors**
- **Priority for emergencies also allowed**
- **DOE may adjust schedule for delivery of “Other than Standard” SNF if it is technically infeasible to accept on normal schedule**



Scheduling Process

- **DOE Issues Annual Capacity Report (ACR) and Acceptance Priority Ranking (APR)**
- **ACR/APR provides annual allocations to individual contract holders**
- **Contract holders submit Delivery Commitment Schedules (DCS) identifying location and range of SNF to be delivered 63 months in advance of the allocation year (DCS subject to DOE approval)**
- **Approved DCS may be exchanged among Purchasers subject to DOE approval at DOE's sole discretion**
- **Final Delivery Schedules (FDS) not less than 12 months prior to delivery date specified by contract holder (FDS subject to DOE approval)**
- **Purchasers provide detailed information on SNF selected for delivery no less than 60 days in advance of service**



TEC Working Group 2005 Spring Meeting Update

- **Informational sessions of the April TEC meeting covered:**
 - **Program updates from Environmental Management's Office of Transportation and ONT**
 - **Transportation communication**
 - **Lessons learned from utilities**
 - **Evolution of the TEC Working Group**
 - **Demonstration of Sandia National Laboratories' Decision Analysis Tool for route criteria evaluation**



TEC Working Group

2005 Spring Meeting Update

- **Emphasis of the meeting was on the Topic Groups:**
 - **Tribal** – provided an update on ONT Tribal activities and identified areas for Tribal involvement such as the routing process and Section 180(c) implementation
 - **Rail** – discussed a routing white paper and identified additional activities for the group to begin focusing on including tracking, inspections, escorts, and dedicated train study
 - **180(c)** – focused on mechanisms and methods for distributing emergency response funding and technical assistance, issue papers to address these concerns, and resolved issues/comments from prior meetings
 - **Security** – discussed key subject areas to which Security topic groups could constructively contribute including, information and operations security



TEC Tribal Topic Group

- **TEC Tribal Topic Group will play a key role in ONT's efforts to reach out to Tribes along potential transportation routes**
 - **ONT is committed to expanding its interactions with Tribes along potential highway and rail transportation routes**
 - **ONT will solicit greater participation in the Topic Group by Tribes potentially impacted by transportation**
 - **Continue to host routine monthly teleconferences to advance and develop the collaborative process**
 - ◆ **Provide strategies to engage Tribes**
 - ◆ **Develop materials for information**
 - ◆ **Coordinate Section 180(c) specifically for Tribal issues and interests**



Direct Collaboration with Native American Tribal Governments

- **A notification letter was mailed on March 8, 2005, to Tribal Leaders of the 39 Tribes whose reservation boundaries fall within one-half mile of representative routes analyzed in the Final EIS in order to:**
 - **Introduce OCRWM and its mission**
 - **Inform Tribes of previously analyzed routes that may pass near or through their reservations**
 - **Request guidance and best approach for consulting with Tribal Representatives**
 - **Communicate intent to work directly with potentially impacted Tribes to ensure two-way communication**
 - **Request a meeting with Tribal leadership to discuss the program and obtain information**



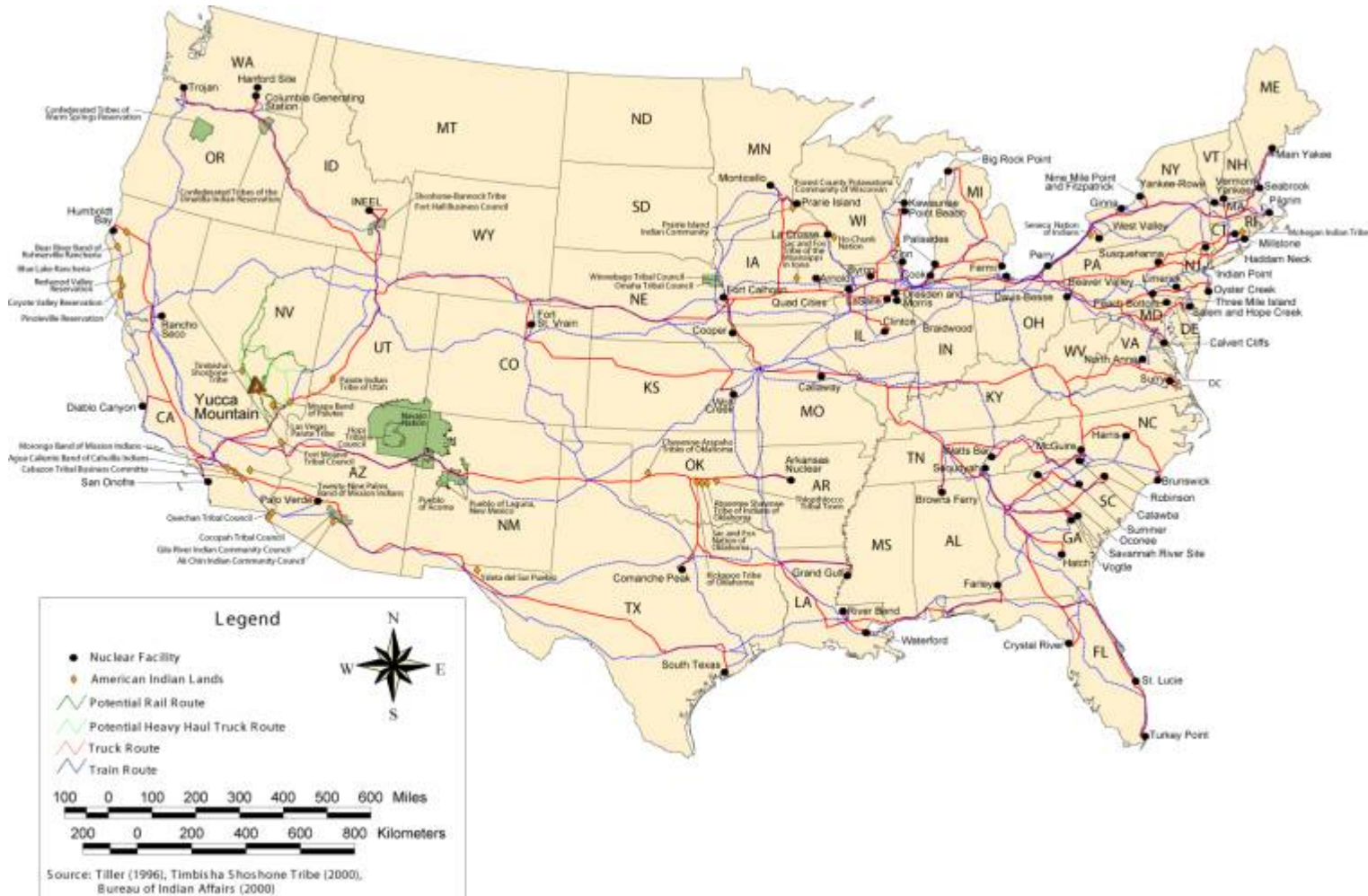
Direct Collaboration with Native American Tribal Governments

(continued)

- **ONT will call Tribal leaders and request to meet with Tribal Representatives individually to discuss the transportation program**
 - **Explore Tribal preferences for collaboration to resolve issues and to develop mechanisms for working relationships and public awareness**
 - **Work with Tribal members as plans are developed for routing, security, public information, and financial and technical assistance**
 - **Examine a regionalized approach such as the Environmental Protection Agency Technical Assistance Advisory Program**
 - **Leverage existing relationships built by DOE through the Transportation Emergency Preparedness Program and DOE field offices**



Indian Tribes along Potential Transportation Routes to Yucca Mountain



These routes represent the routes analyzed in Chapter 6 of the Final Repository Environmental Impact Statement and may not be the routes actually used for shipments to a potential repository at Yucca Mountain. Truck routes comply with U.S. Department of Transportation routing regulations. Rail routes are based on maximizing the distance on mainline track and minimizing the overall distance and number of interchanges between railroads. Direction arrow is approximate.



TEC Rail Topic Group

- **ONT has begun to lay the groundwork to identify transportation routes in concert with our stakeholders**
 - **Routing criteria are to be developed/reviewed by the SRGs in parallel and as part of the TEC Rail Topic Group**
 - **SRGs will review and analyze routes for shipments from sites (DOE facilities, commercial reactors, and other storage locations) in their respective region or traversing the region**
 - **Potential suites of highway and rail routes will be identified for shipments**
 - **SRGs participated in a training workshop on transportation models to assist States in their routing analyses: RADTRAN, TRAGIS, and a decision model tool (administered by Sandia National Laboratories and Oak Ridge National Laboratory)**

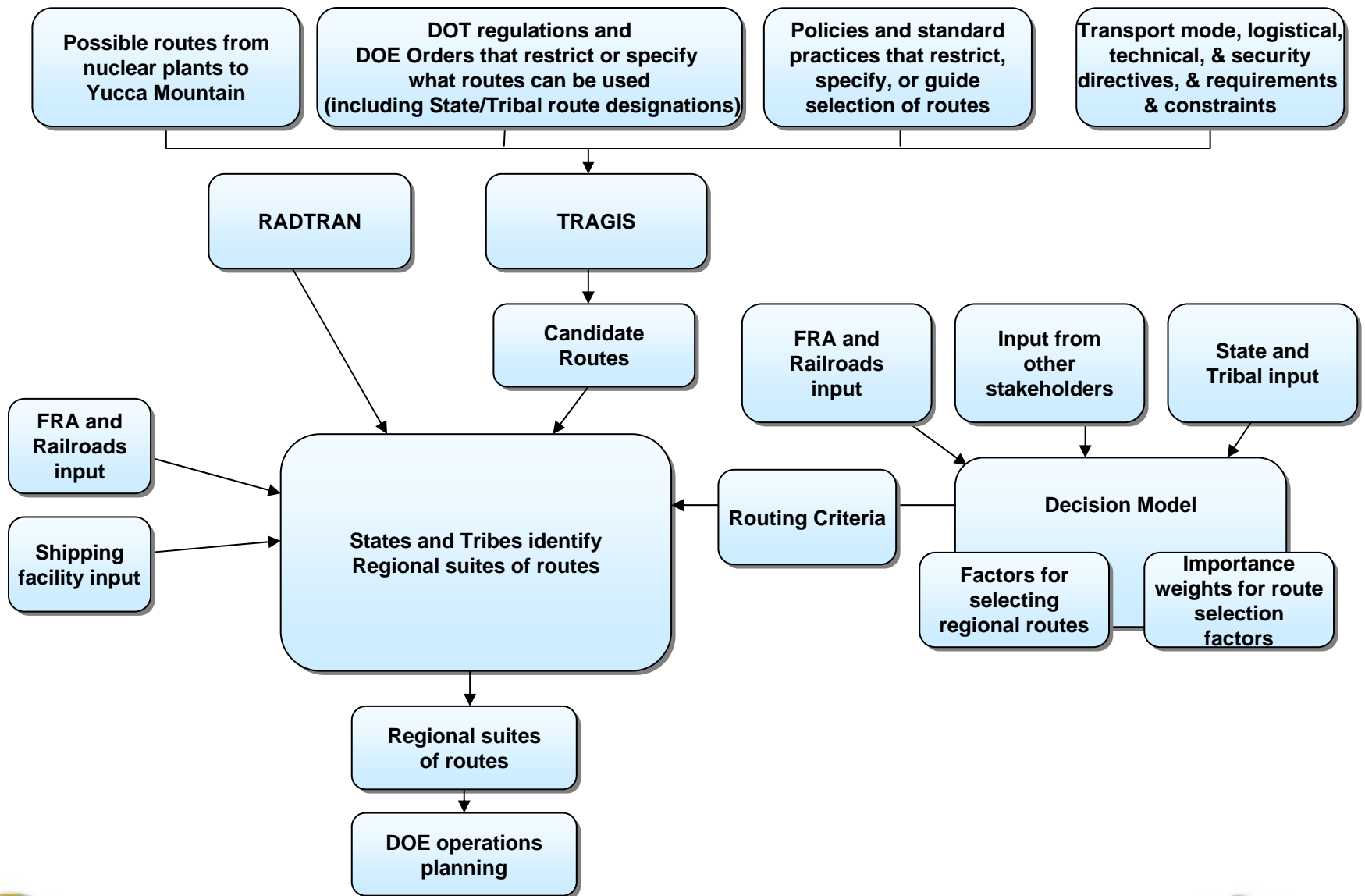


Rational for Suites of Routes

- **Reasons for developing a suite of routes (rail, highway, barge) is based on the following:**
 - **General principle of security not to have predictability of routes (Canadian authority notices post 9/11)**
 - **Seasonal or weather reasons that require alternatives**
 - **Operating and emergency situations requiring rerouting (i.e. flooded roadway or rail outage due to maintenance)**
 - **Intra-regional equity**
- **Recognize multiple routes may not be possible in the west**



Transportation Route Identification Process



TEC Section 180(c) Topic Group

- **The focus of the Topic Group is to:**
 - **Identify and discuss issues associated with Section 180(c) policy development**
 - **Discuss each implementation issue, options, and considerations**
 - **Develop issue papers on specific implementation issues with recommendations to OCRWM**
 - **Review OCRWM's outline of the proposed 1998 Section 180(c) policy**



Section 180(c) Topics – Resolved

- TEC Topic Group members have identified and discussed ten issues. OCRWM management has reviewed and preliminarily approved six of these:
 - Funding distribution method
 - Allowable activities/training
 - Definitions
 - Contingency plans
 - Implementation of Section 180(c) through administrative rulemaking
 - Pass-through requirements for local officials
 - ◆ Secretary Bodman emphasized the need to ensure that local jurisdictions benefit from the funding distributed through the Section 180(c) program
- Recommendations regarding these issues **must still be approved** through DOE's concurrence process for the whole policy



Section 180(c) Topics – Unresolved

- **Four issues remain under discussion:**
 - **Funding allocation method**
 - ◆ Two proposals under discussion
 - **Timing and eligibility**
 - ◆ Close to resolution
 - **State fees/matching fund requirements**
 - ◆ States oppose deduction from Section 180(c) funds for State fees
 - ◆ Topic Group did not support requirements for matching funds
 - **Paying for Operations-related activities (non-180(c))**
 - ◆ States maintain that DOE should pay for all their costs associated with preparing for NWPA shipments – planning, exercises, technical assistance



TEC Security Topic Group

- **Identified key issues for consideration:**
 - Jurisdiction and reciprocity on clearances
 - Communications (hardware and processes)
 - Procedures/Operations
 - Public Information
- **Will develop a common picture of the elements of a security system**
- **Will build on lessons learned and best practices**



Commercial Vehicle Safety Alliance

- **Work continues under the cooperative agreement between DOE and the Commercial Vehicle Safety Alliance:**
 - **Developed uniform inspection standards for drivers and vehicles transporting SNF and HLW**
 - **Evaluating implementation of inspection policies for SNF and HLW through a peer review process which is underway**
 - **Provides information about spent fuel transportation safety and oversight activities to State and local officials**



Conclusions

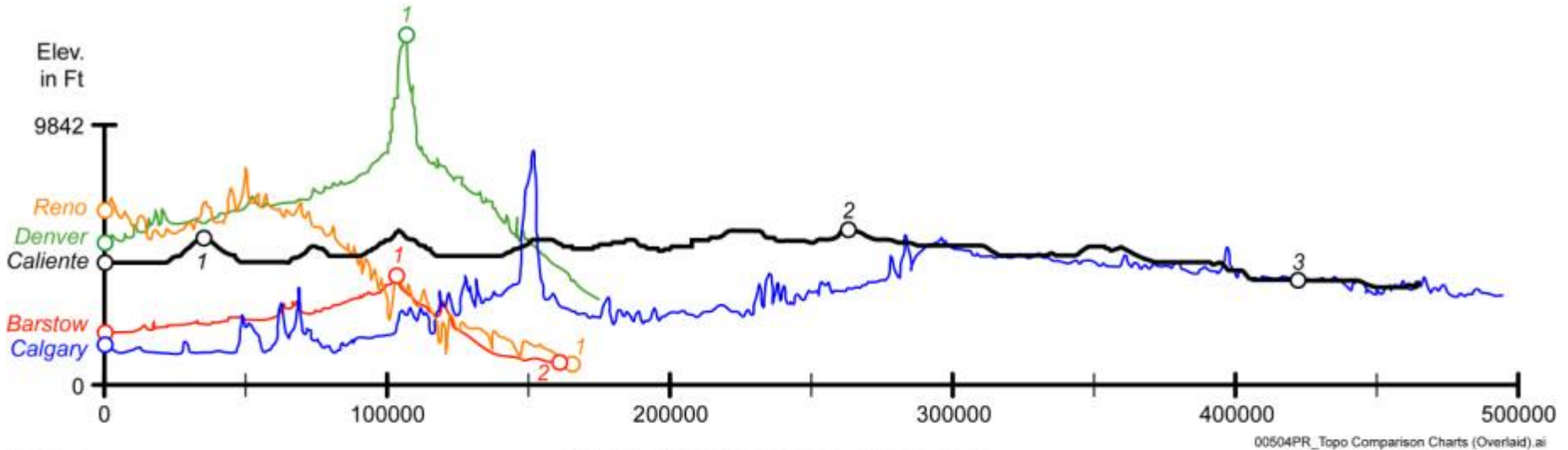
- **ONT continues to make progress despite a myriad of challenges**
 - **Activities have been reprioritized to allow continued development of critical infrastructure despite a funding shortfall in FY 05**
- **ONT is building a foundation to resolve transportation issues based on a regionalized approach that interacts with stakeholders on national issues and with various organizations**
- **Although the process is just beginning, a collaborative process will be integral in implementing a transportation system that is safe and secure and merits public confidence**



BACK-UP SLIDES



Caliente Corridor Composite Comparison



NOTE:
All Profiles start at the Eastern most point.

Downline Distance (meters)

LEGEND

- Caliente Rail Topographic Profile (*Max Grade 2%*)
 - 1 Bennett Pass
 - 2 Warm Springs Pass
 - 3 Beatty Wash
- CP - Rogers Pass Topographic Profile (*Max Grade 2.2%*)
- UP - Denver West Topographic Profile (*Max Grade 2.1%*)
 - 1 Granby
- Cajon Pass Topographic Profile (*Max Grade 2.2%*)
 - 1 Cajon Pass
 - 2 San Bernadino
- Donner Pass Topographic Profile (*Max Grade 2.2%*)
 - 1 Sacramento Area

