



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



Office of National Transportation Update

Presented to:

**Nuclear Waste Technical Review Board
Transportation Planning Panel**

Presented by:

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Salt Lake City, Utah

Completed Milestones

- ☑ **Created a project management focus for the Office of National Transportation (ONT)**
 - **Developed Project Logic and assigned Project Managers**
 - **Continue to refine the management infrastructure to integrate and oversee the four project areas**
- ☑ **Developed FY 04 and 05 transportation scope based on available budget**
- ☑ **Issued the Transportation Strategic Plan**
- ☑ **Began working with State Regional Groups (SRG) on substantive issues**
- ☑ **Began building the infrastructure required to begin shipments in 2010**



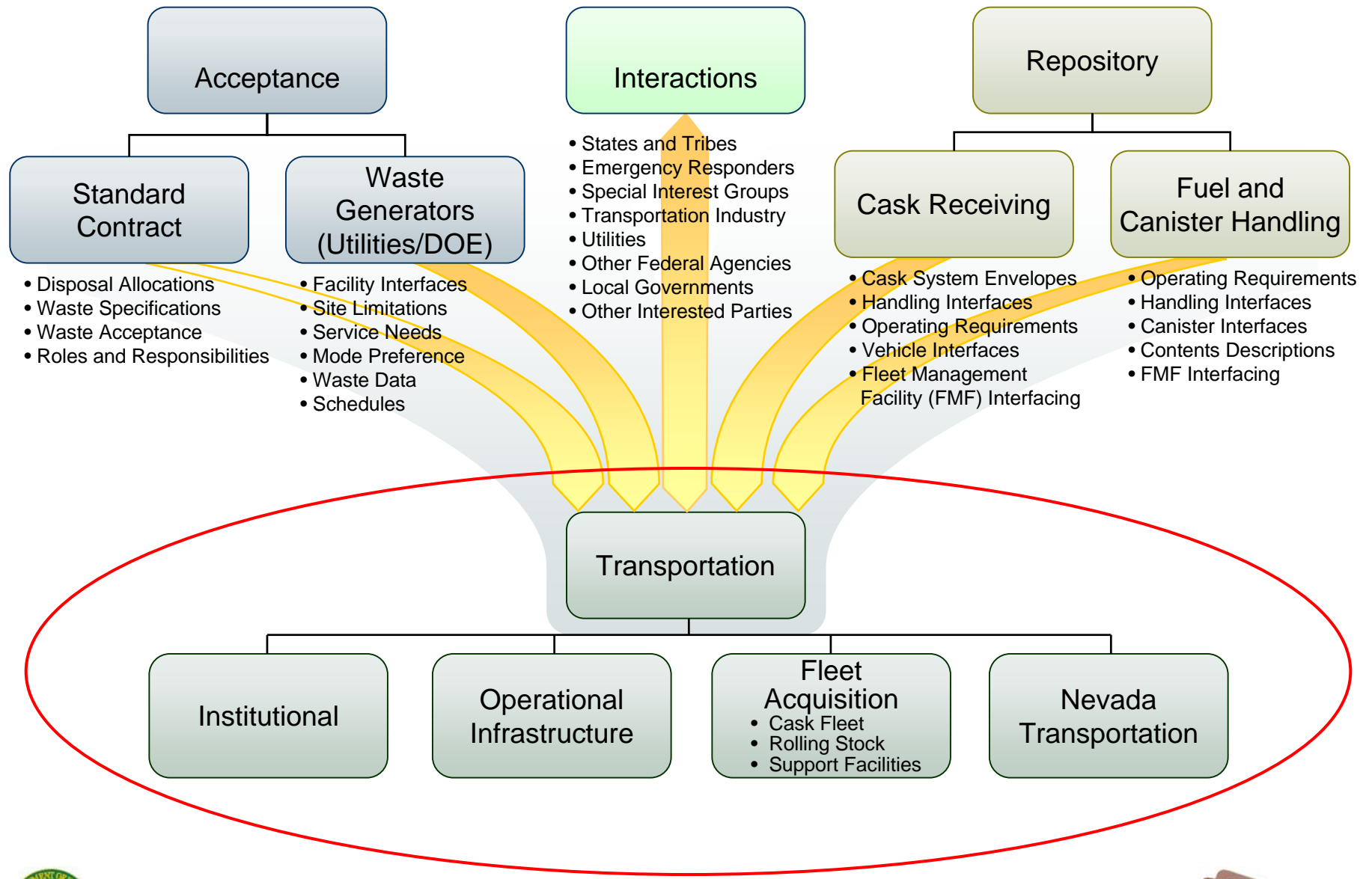
Completed Milestones

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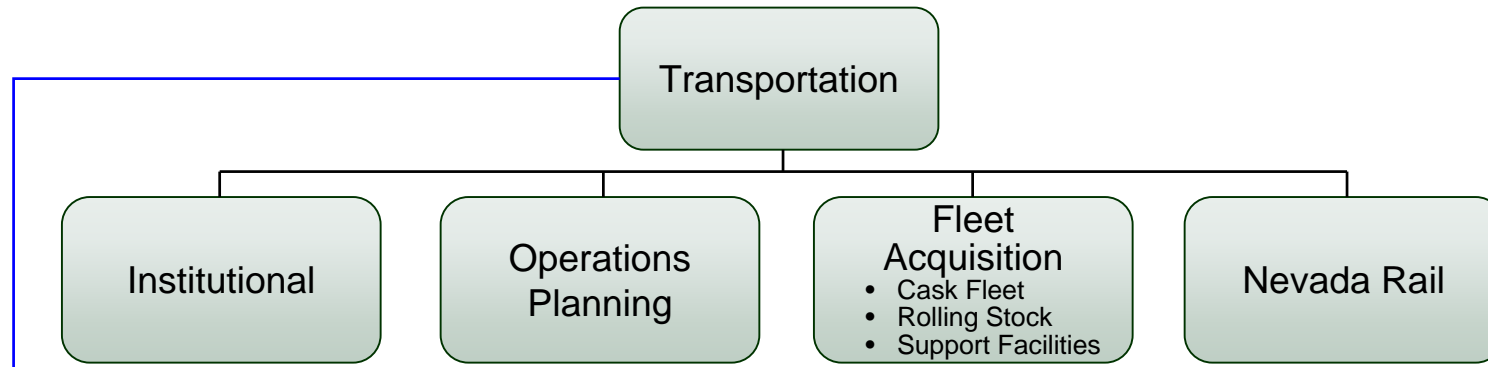
- ☑ **Announced a record of decision on the selection of mode and corridor**
- ☑ **Issued notice of intent to prepare an Environmental Impact Statement (EIS) on the rail alignment**
- ☑ **Held five scoping meetings to solicit public comment**
- ☑ **Awarded all subcontracts to perform data collection for EIS**
- ☑ **Expanded interactions with other Office of Radioactive Waste Management (OCRWM) program elements**



Key Programmatic Interfaces



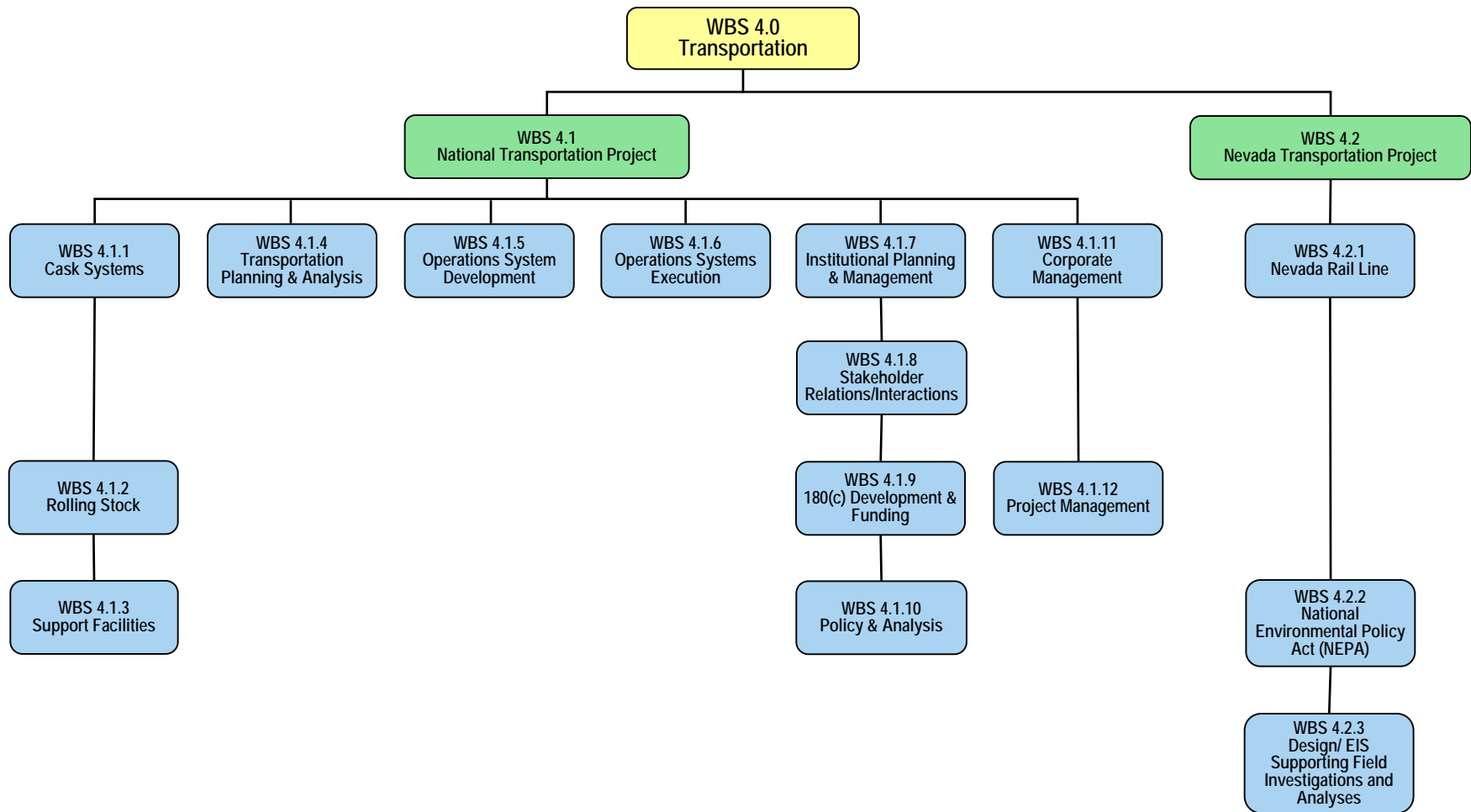
Transportation Overview - Management



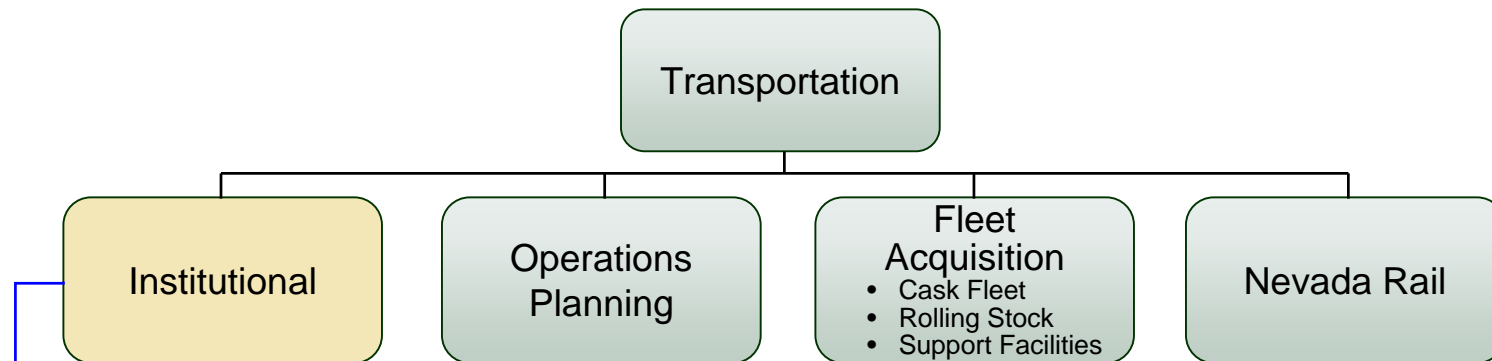
- ✓ **The Work Breakdown Structure (WBS) has been established and approved**
- ✓ **Project management tools have been instituted to track cost and schedule progress**
- ➔ ✓ **The Organizational Structure for ONT has been formally approved**
- ✓ **Initial efforts to define the work scope for the four project areas have been completed**
- ✓ **Integration with other OCRWM elements has expanded**



OCRWM Transportation WBS



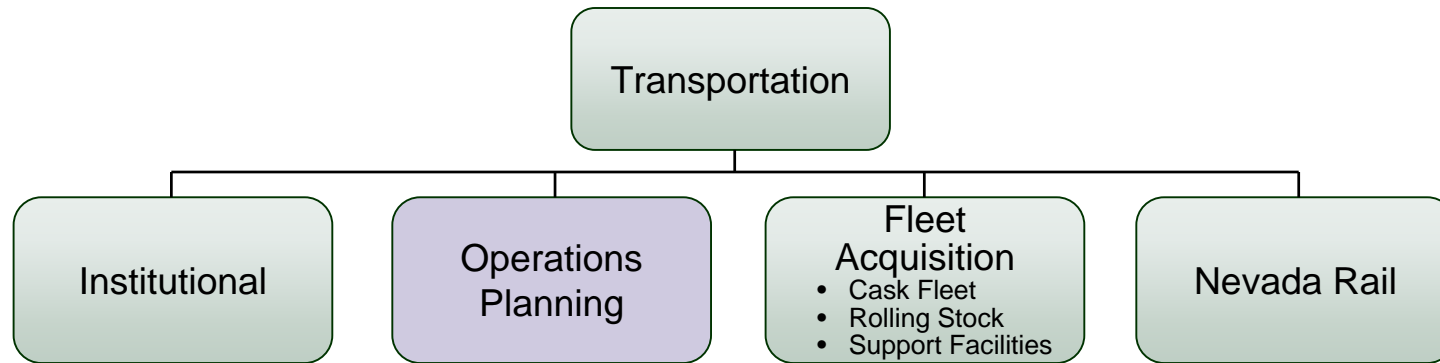
Transportation Overview - Institutional



- ✓ **Awarded cooperative agreements to the four State Regional Groups (SRG)**
- ✓ **Agreed on special projects to be pursued by the SRGs**
- ✓ **Kicked-off the two new Transportation External Coordination Working Group (TEC) Topic Groups following the April 2004 meeting – Security and Emergency Preparedness (180(c))**
- ✓ **Refocused Rail Topic Group to address routing issues for all modes**
- ✓ **Internal planning efforts have integrated Operational and Institutional Projects on cross-cutting issues such as routing criteria and emergency response planning**



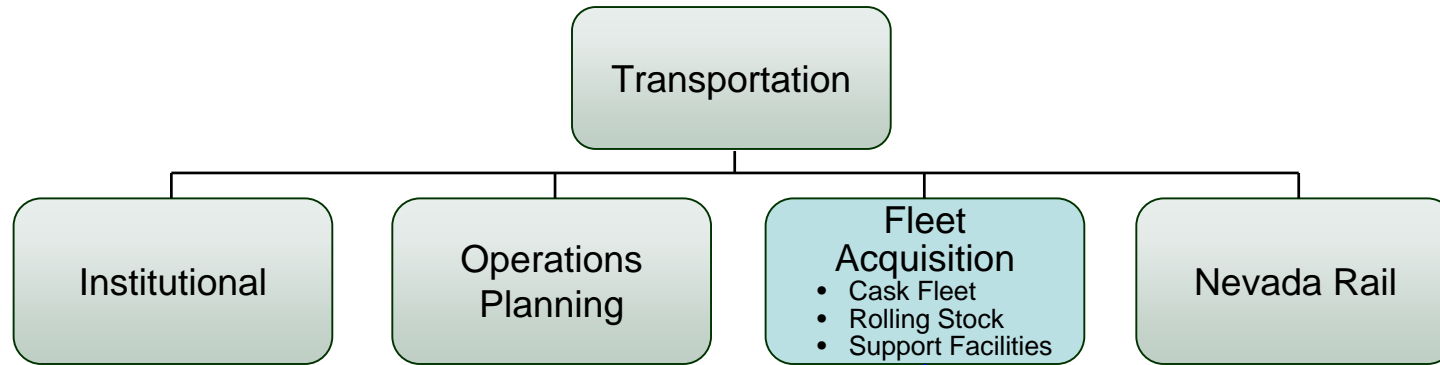
Transportation Overview - Operations



- ✓ **Collaboration started with the Department of Energy's (DOE) Office of Security and Safety Performance Assurance on the Secretary's *Security for the 21st Century Initiative***
- ✓ **Work is well underway on the first draft of the Concept of Operations**
- ✓ **Hard data is being acquired to obtain Burn-Up Credit**
- ✓ **Work continues on an optimization model for transportation operations**
- ✓ **Provided support for transportation modeling tools including RADTRAN and TRAGIS**
- ✓ **Collaboration with our international partners on transportation sabotage studies continues to be productive**



Transportation Overview - Acquisition



- ✓ **Meetings were held with the cask vendors, and their reports on current cask capabilities have been submitted**
- ✓ **Meetings with the rail car manufacturing industry representatives were held to solicit their views on how to proceed with eventual rail car design, manufacture, and testing**
- ✓ **Senior management has formally approved the first stage of the transportation team's project proposals**
- ✓ **A preliminary assessment of capabilities for the Fleet Management Facility has been completed**



Cask Capability Reports

- **Purchase orders to perform cask capability assessments were placed with vendors possessing Nuclear Regulatory Commission (NRC) Certificates of Compliance (CoC)**
- **The cask capability reports confirmed DOE's original estimate that about 40% of commercial spent nuclear fuel (SNF) could be shipped in casks under current CoCs**
- **Preliminary analysis indicated that CoCs could be modified to accommodate more than 90% of the commercial SNF inventory projected for 2010 and 2015**
- **As a result, few completely new cask designs will be needed for commercial SNF before ~2020**



DOE SNF and HLW Conclusions

- **The quality of DOE high-level radioactive waste (HLW) and SNF data and information was deemed sufficient to obtain a CoC**
 - **However, because representative rather than bounding data was used to characterize DOE SNF, the allowable contents stipulated in the NRC CoC may be constrained**
 - **The material's owner must certify that the material meets the limits of a CoC's allowable contents**
- **The only DOE fuel shipped during the first five years will be in canisters**



DOE SNF and HLW Conclusions

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- **Casks exist today that can ship DOE wastes that have been placed in canisters**
 - Generally, the thermal, structural, and shielding requirements for commercial SNF bound those of the DOE material
- **New internal basket designs would be developed to accommodate the DOE canisters in existing casks**
 - CoC modifications will be required for the new baskets
- **During the first 5 years of shipping operations, no completely new casks will need to be developed for DOE material**



Escort Car Procurement Status

- **DOE is currently evaluating the Association of American Railroads' (AAR) Performance Specification, S-2043, for trains used to carry HLW**
- **ONT has met with passenger car manufacturers to discuss the design of the escort car**
- **Passenger car manufacturers believe that it would be possible to meet the AAR performance specification on the current schedule**
- **Passenger car manufacturers recommend that all rolling stock be included in one contract**

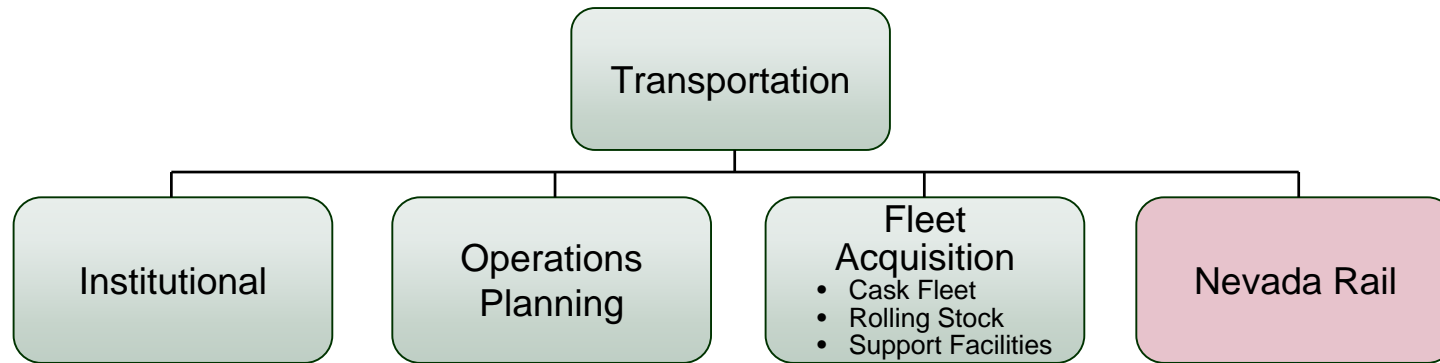


Cask and Buffer Car Procurement Status

- **ONT met with freight car manufacturers in August to discuss the design of the cask and buffer cars**
- **Freight car manufacturers appeared rather cautious about meeting the AAR performance specification**
- **Cask and buffer car vendors in the main appeared to concur that all rolling stock acquisition could be included in one contract**
- **These vendors also indicated that the schedule for developing these cars was realistic**



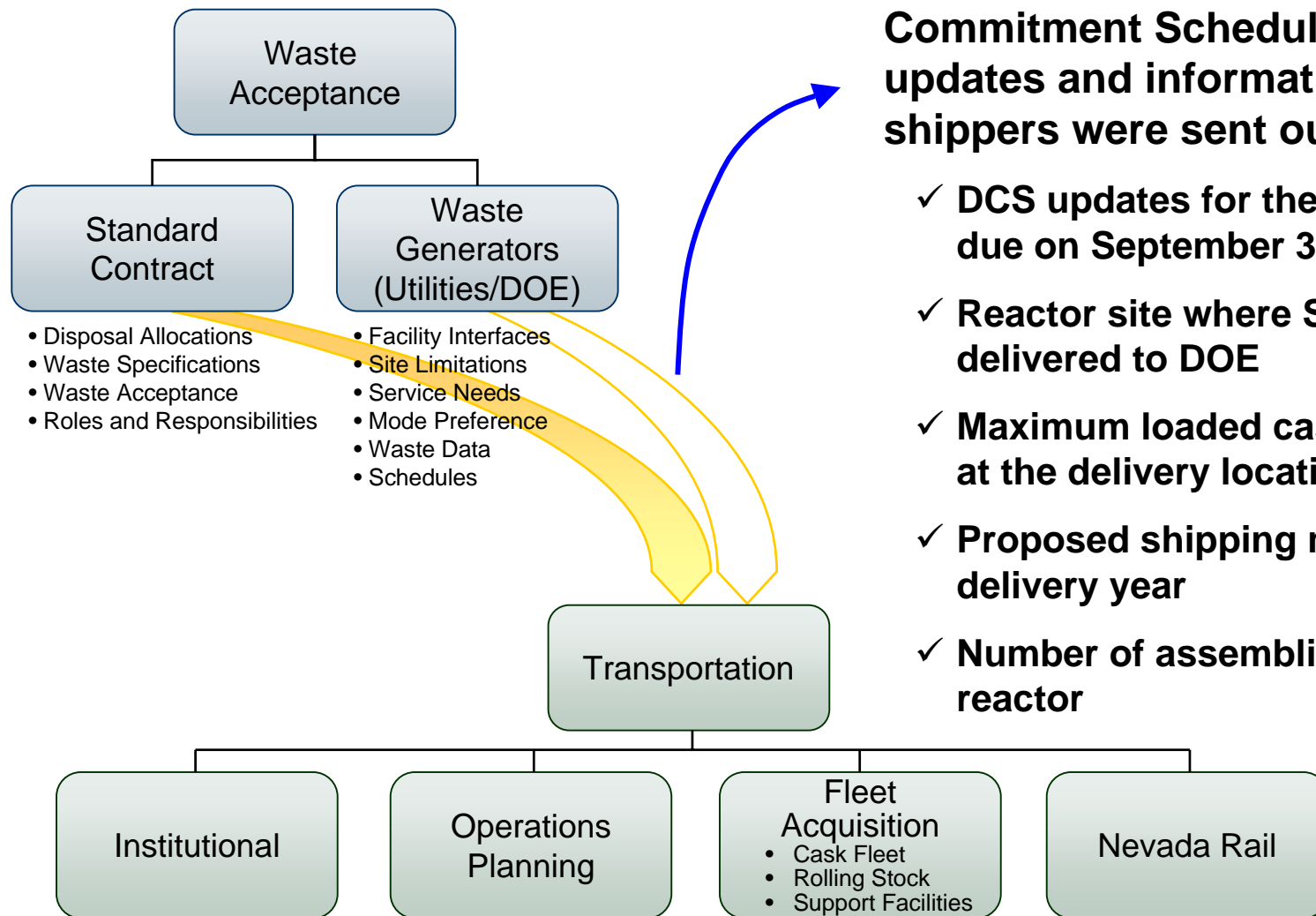
Transportation Overview – Nevada Rail



- ✓ **The Nevada Rail Alignment EIS was initiated**
- ✓ **Public scoping meetings completed in June 2004**
 - **Over 4,000 comments received**
- ✓ **Contracts awarded to perform data collection for the EIS and develop conceptual design**
 - **Conducting field surveys**
 - **Developing conceptual design**
- ✓ **Draft EIS is scheduled to be issued in May 2005**



Transportation Overview - Shippers

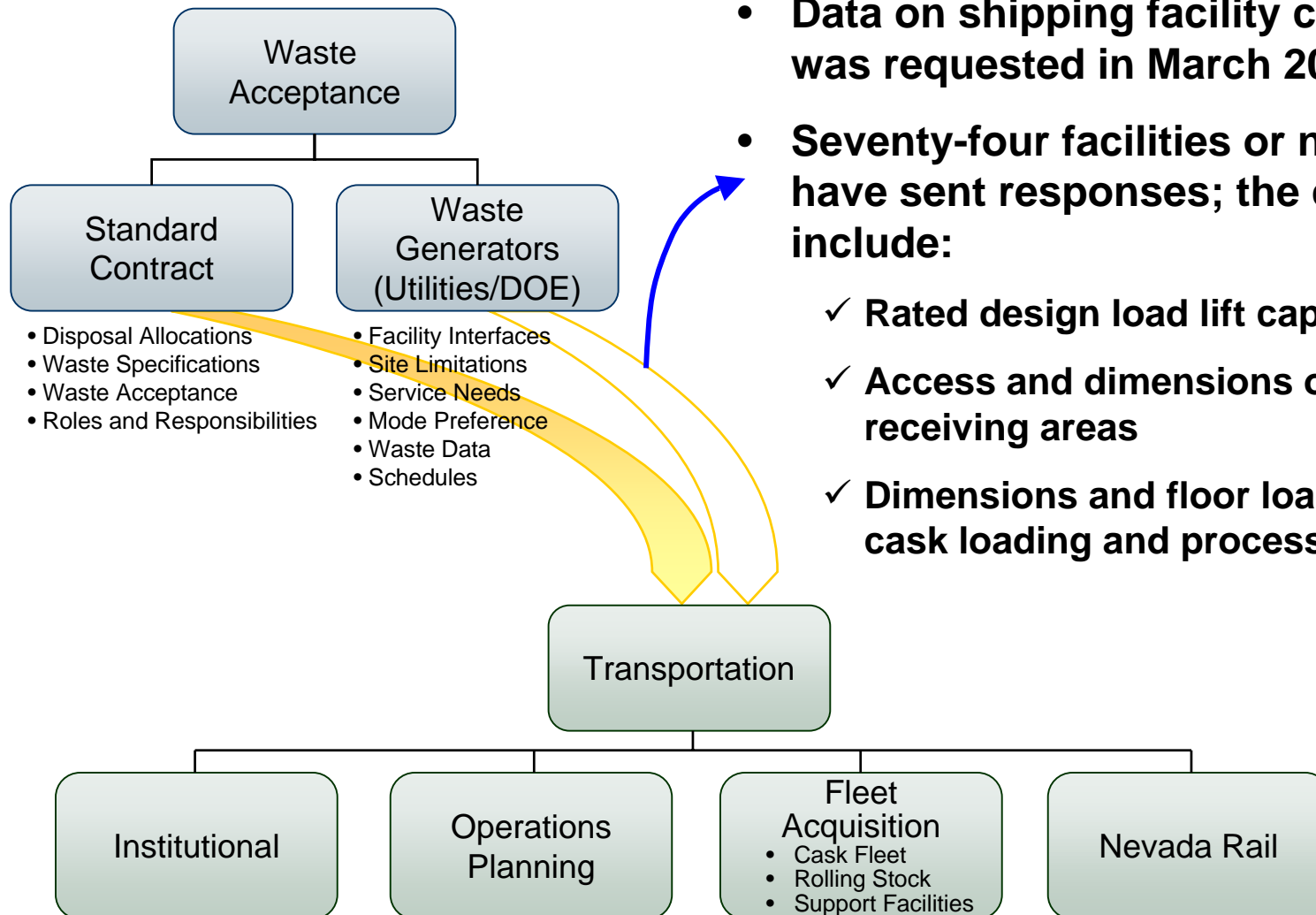


- **New letters requesting Delivery Commitment Schedule (DCS) updates and information from the shippers were sent out in July 2004**
 - ✓ DCS updates for the year 2010 were due on September 30, 2004
 - ✓ Reactor site where SNF will be delivered to DOE
 - ✓ Maximum loaded cask lifting weight at the delivery location
 - ✓ Proposed shipping mode and delivery year
 - ✓ Number of assemblies and type of reactor



Transportation Overview – Shippers

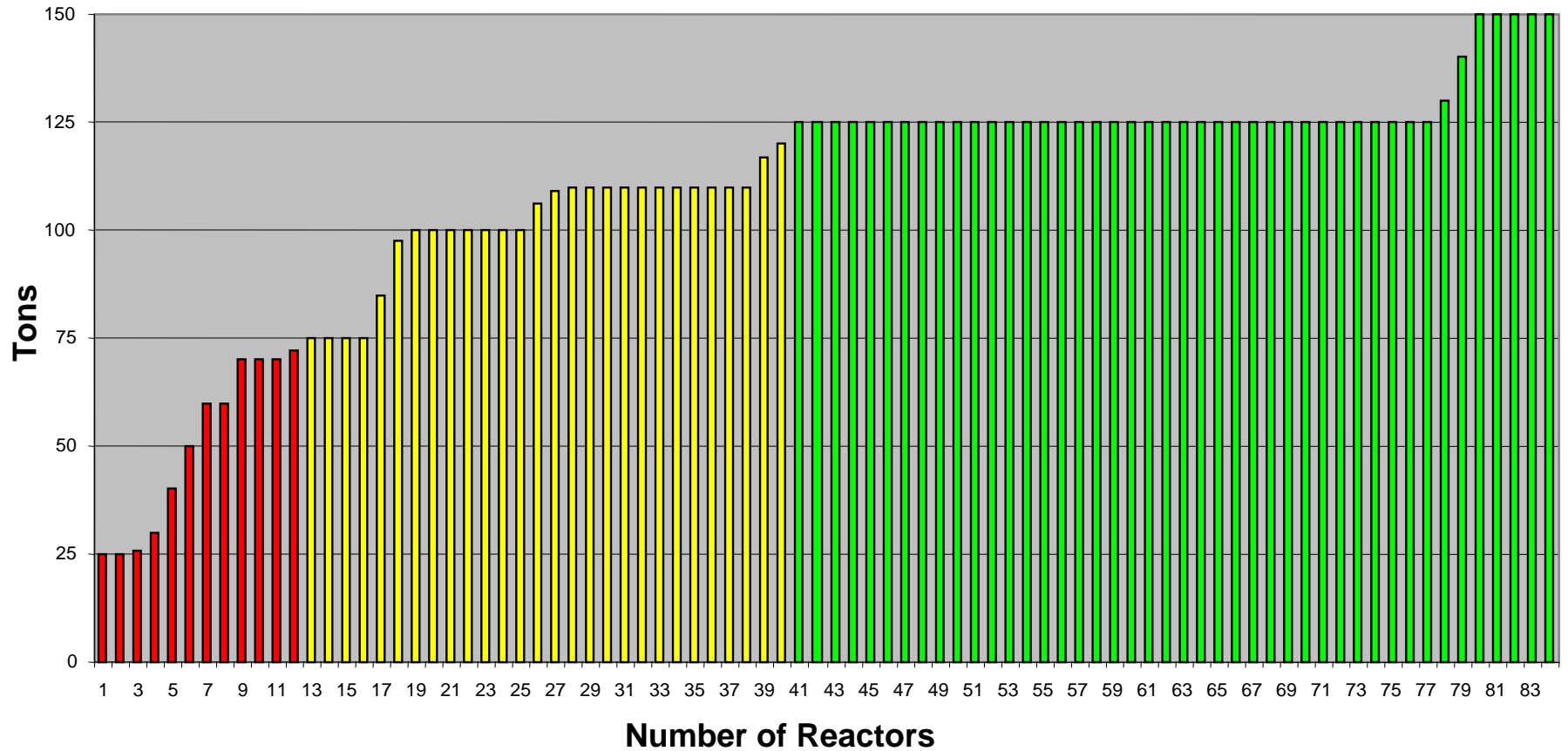
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- **Data on shipping facility capabilities was requested in March 2004**
- **Seventy-four facilities or nearly 80% have sent responses; the data updates include:**
 - ✓ **Rated design load lift capacity of cranes**
 - ✓ **Access and dimensions of cask receiving areas**
 - ✓ **Dimensions and floor loading limits of cask loading and processing areas**

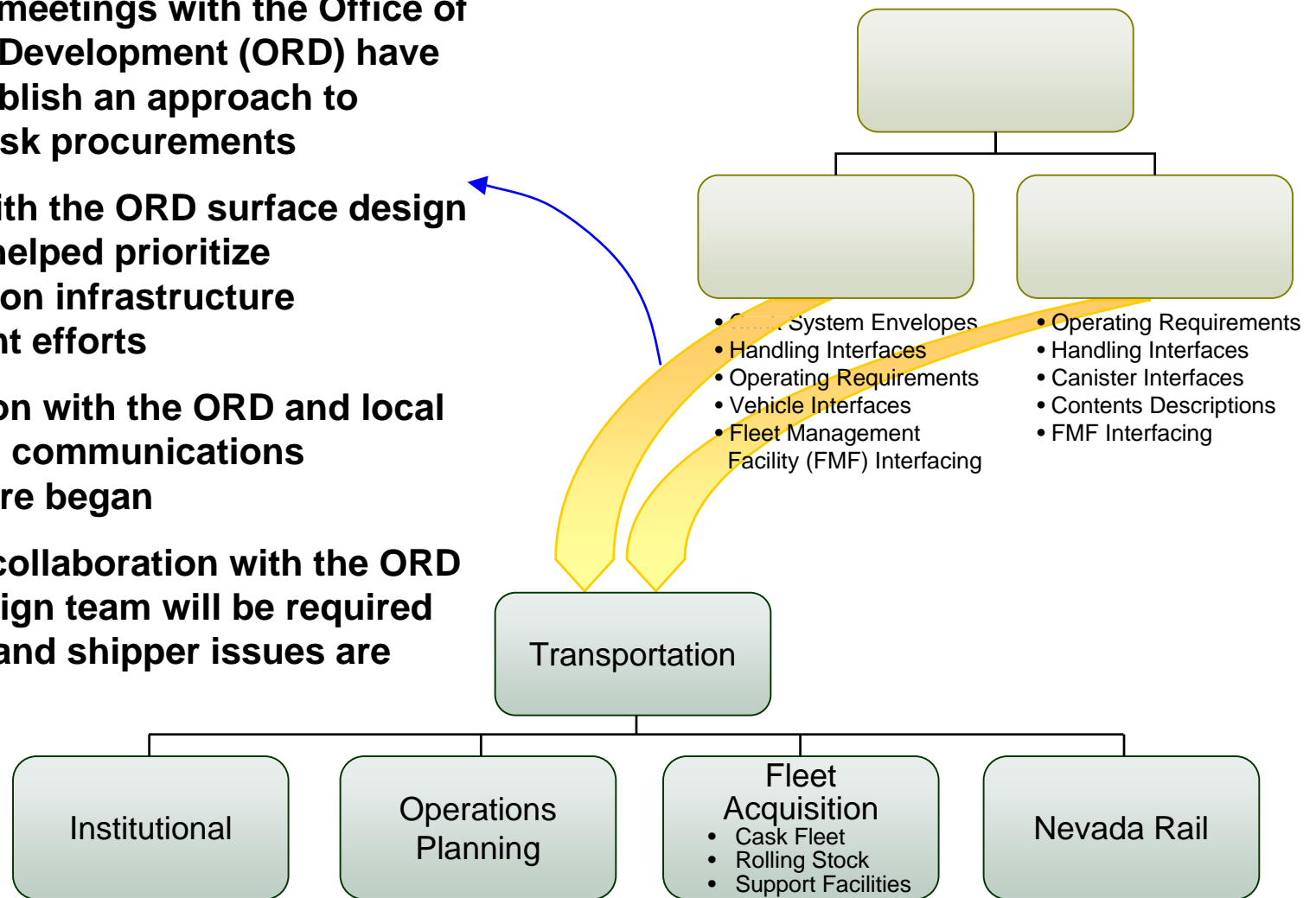


Utility Reactor Crane Capacities

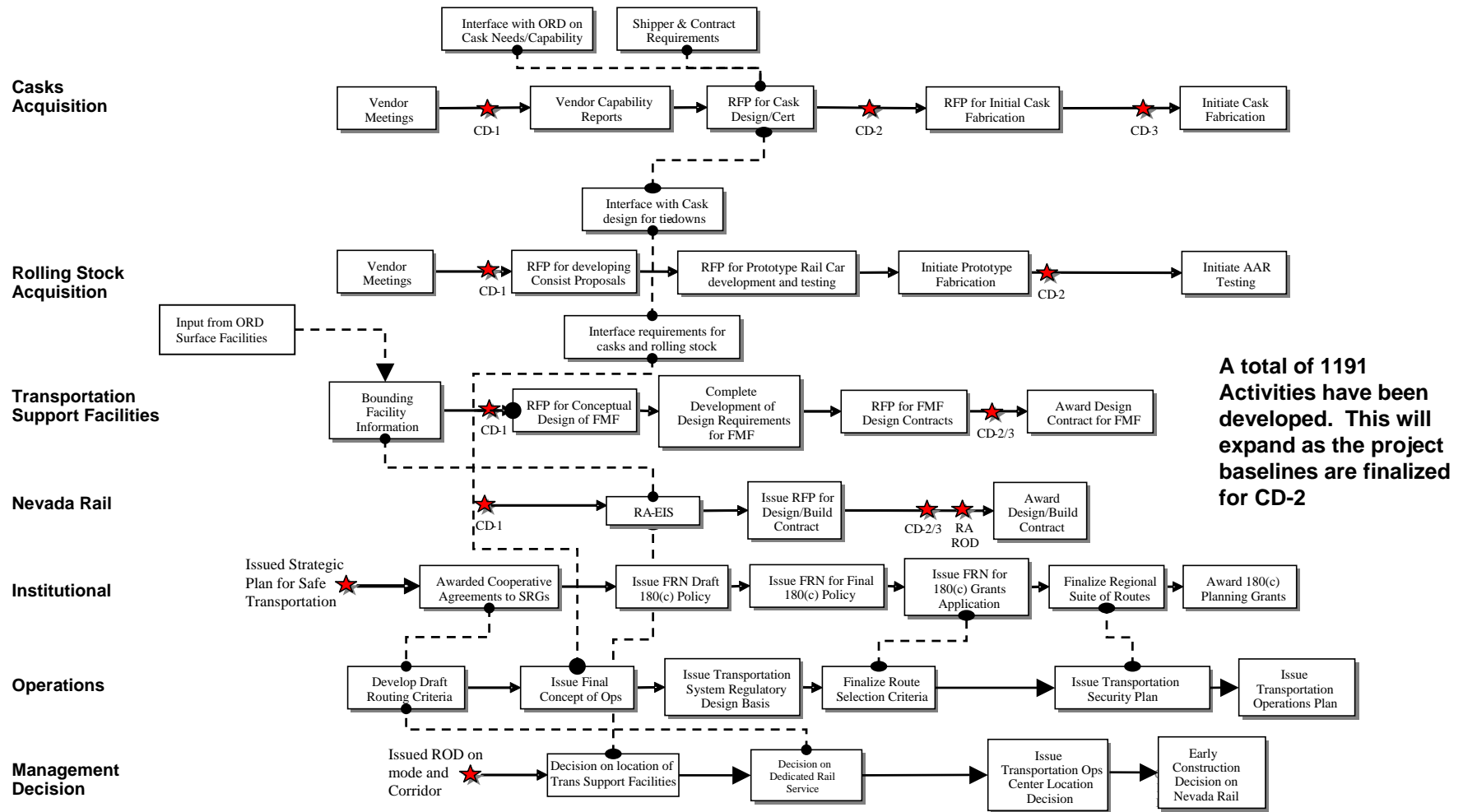


Transportation Overview - Receivers

- ✓ Integration meetings with the Office of Repository Development (ORD) have helped establish an approach to common cask procurements
- ✓ Meetings with the ORD surface design team have helped prioritize transportation infrastructure development efforts
- ✓ Collaboration with the ORD and local counties on communications infrastructure began
- ✓ Continued collaboration with the ORD surface design team will be required as funding and shipper issues are resolved



ONT Projects and Interrelationships

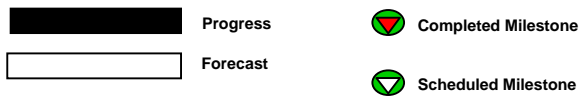
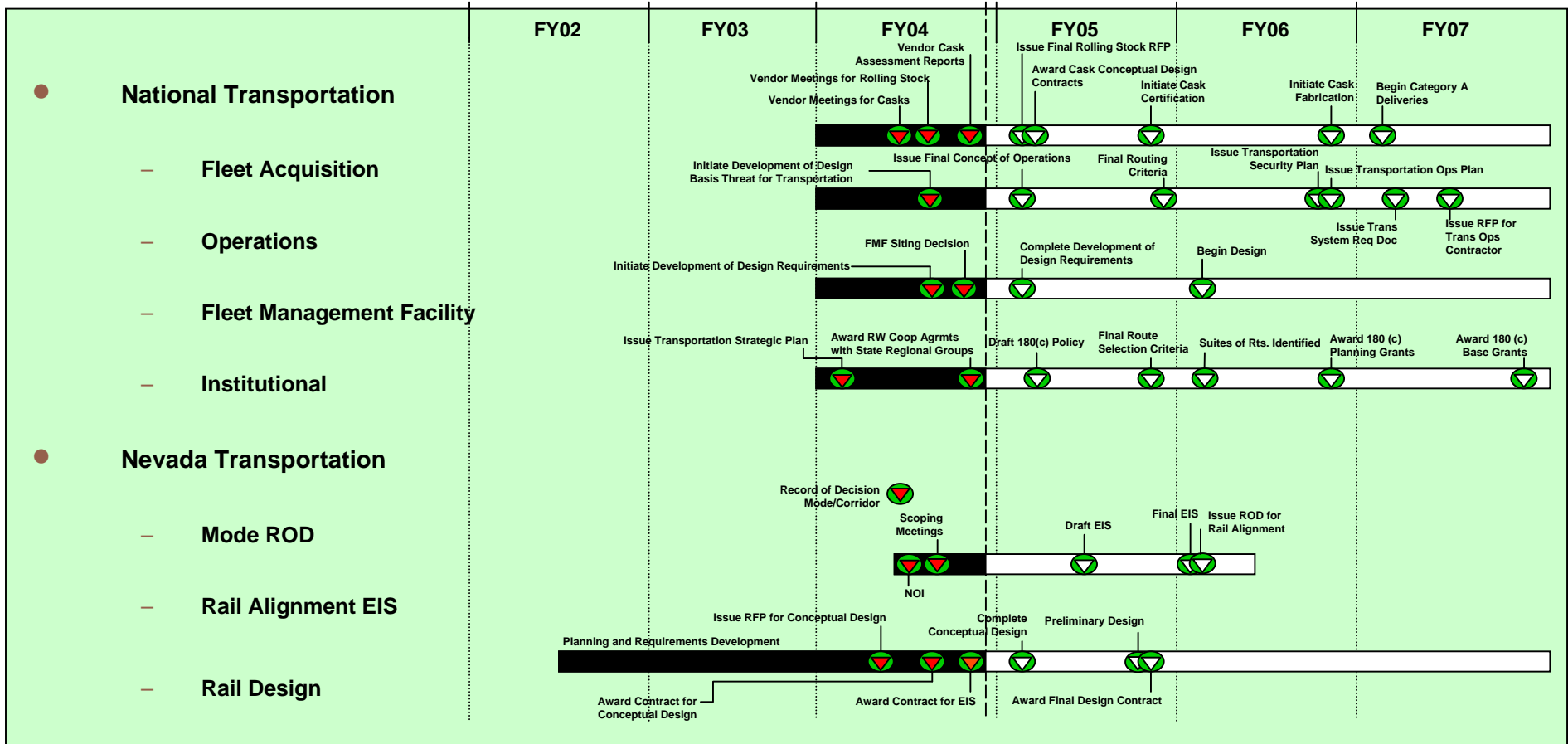


The CDs or Critical Decisions noted on this chart refer to an internal DOE approval process for acquisition of capital assets



Summary Schedule

Transportation Program Level 1 Summary Schedule Through FY 2007



Intra-Agency Coordination

- **ONT regularly meets with Environmental Management, Office of Nuclear Energy, Science and Technology, and Office of Naval Reactors on transportation issues**
- **ONT Institutional staff attended Naval Reactors' transportation exercise in Topeka, KS**
- **ONT reviewed "lessons learned" report from 2003 West Valley shipment**
- **Development of routing criteria for repository shipments will take into account the collaborative development process used by the Foreign Research Reactor (FRR) and Waste Isolation Pilot Plant (WIPP) programs**
- **ONT works with the Department of Homeland Security, NRC, and Department of Transportation on Critical Infrastructure Protection Plans**



Summary

- **Office of National Transportation has a myriad of challenges, but progress is being made**
- **The Department looks forward to working with States and Tribes in a cooperative manner to address Yucca Mountain transportation issues such as routing and emergency response training similar to FRR and WIPP programs**
- **Successful development of the transportation system to move spent fuel and high level waste to a repository is achievable with sufficient funding**

