



QA: N/A

Office of Civilian Radioactive Waste Management

TRANSPORTATION SYSTEM CONCEPT OF OPERATIONS

DOE/RW-0584

Revision 0

April 2006

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

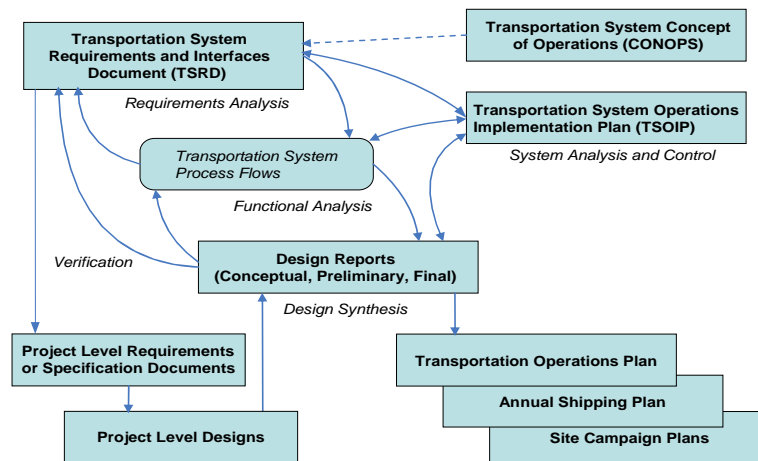
INTENTIONALLY LEFT BLANK

Section 5

Technical Baseline for Transportation System Operations

The technical baseline for Transportation System operations consists of a structured set of documents that clearly describe the overall system elements, interfaces, and components in appropriate levels of detail. The relationship among these documents is shown in Figure 5-1, Transportation System Documents. The arrows depict the information flow from one document to another. System engineering processes used to develop the document are also indicated.

Figure 5-1 Transportation System Documents



The technical baseline includes the *Transportation System Concept of Operations*, which is the high-level description of Transportation System design and operations. Although the *Transportation System Concept of Operations* is not a requirements document, it is a principal source of information for the development of system performance requirements, which are contained in the *Transportation System Requirements Document*.

The *Transportation System Requirements Document (TSRD)* is derived from numerous sources and identifies the first level of Transportation System requirements and interfaces. These sources include legal, regulatory, and policy, and higher-level OCRWM requirements documents such as the Civilian Radioactive Waste Management System Requirements Document (CRD). The *Transportation System Concept of Operations* and the requirements analysis process add further clarity to the TSRD. Rather than creating a separate document for the identification and control of interfaces within the Transportation System, the TSRD identifies the internal interfaces for the components of the Transportation System. In so doing, operational processes are fully integrated and functional responsibilities are clearly defined.

The interfaces defined in the TSRD are consistent with OCRWM's Integrated Interface Control Document, Volumes 1. As the Transportation System matures and the *Transportation System Concept of Operations* is revised, the TSRD will be updated.

The ***Transportation System Operations Implementation Plan (TSOIP)*** examines transportation processes and system-wide requirements to identify program interdependencies, decisions that need to be made, the management level at which the decisions should be made, and the system analyses (including evaluations of alternatives) needed to inform decisions and develop requirements. The TSOIP is based on a detailed Transportation System operations process flow and supports development of budgets and resource-loaded schedules. The TSOIP will be updated and program direction will be revised to reflect Transportation System development.

Project level requirements documents are derived from the TSRD and provide further detailed guidance for ***project level specifications***. If no further requirements definition is required at the project level then only a specification will be created. For procurement projects, the specifications are used to develop Requests for Proposals. For projects with a design aspect, ***project level design reports*** are written in response to specifications. ***Design Reports*** define the selected solutions that meet the Transportation System requirements. Initially, the design reports are conceptual. As additional data become available and analyses are performed, design reports become more detailed and support the preparation of ***Preliminary Design Reports***. ***Final Design Reports*** document the intended as-built configuration of the project. Throughout system development the combination of requirements, process flows, and design are tightly coupled and collectively document the basis of requirements and the accompanying design that implements them.

The ***Transportation Operations Plan (TOP)*** provides well-defined operations, safety, security, and emergency response guidelines for the Transportation System. The TOP is based on the functional descriptions in the *Transportation System Concept of Operations*, the requirements in the TSRD, and the system-wide processes identified in the TSOIP. The TOP provides the framework from which detailed operational procedures will be developed. Standard procedures based on the TOP will cover several topical areas, including: campaign planning; shipment tracking; training; emergency response; safety; and security.

Site Campaign Plans are developed based on guidance in the TOP. A Site Campaign Plan contains step-by-step, real-time instructions for completing a shipment from an origin site. A Site Campaign Plan is uniquely developed for each origin site. Site Campaign Plans identify each rail consist or truck convoy, associated casks, and routes for each site. They are then accompanied by site specific shipment "work instructions." All Site Campaign Plans are consistent with DOE Manual 460.2-1, *Radioactive Material Transportation Practices Manual*. The ***Annual Shipment Plan*** is a summary of the anticipated shipping activities for a given year.

The documents described in this section define the technical baseline for project execution of the Transportation System. As the need arises, additional documents will be prepared. (References to these Transportation System documents appear in Appendix B.)