

# RCT-PXP-008

Revision 0

WTS Packaging  
Project Execution Plan  
RH-72B Cask  
Uprighting Trailer  
Project

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## 1.0 PROJECT OVERVIEW

The Project Execution Plan (PXP) for the Remote-Handled (RH) 72-B Cask Uprighting Trailers has been prepared under the guidelines of the Washington Group International (WGI) Project Execution Management Program in accordance with MP 1.42, *WTS Project Execution Management Program* and Waste Isolation Pilot Plant (WIPP) Procedure (WP)-15GM.01, *WTS Project Execution Plans*. This PXP utilizes a graded approach to address key issues associated with the project.

To support the RH Transuranic (TRU) Waste Management Program, Washington TRU Solutions (WTS) Packaging and Operations was tasked with the design and procurement of a prototype trailer for the transport of a single U.S. Department of Transportation (DOT) Type B RH 72-B Cask without requiring special state or federal permits. The original design for this trailer was initiated under WTS Engineering Change Order (ECO) 10,180 which included WTS Drawing Series 164-L-002 through 164-L-021 and Specification E-J-453, *Specification for Fabrication of the RH 72-B Cask Uprighting Trailer*. The trailer was designed to meet the requirements of American National Standards Institute (ANSI) N14.30, *Semi-Trailers Employed in the Highway Transport of Weight-Concentrated Radioactive Loads*. The design was validated through a complete design analysis and design review performed by WTS Packaging and Operations personnel.

A procurement contract was placed with [REDACTED] in [REDACTED]. The contract allowed flexibility for altering the trailer design as necessary to reduce the trailer weight and to be more manufacturable, providing the design intent and function remained the same, while maintaining the original design on those features that did not require redesigning. Additionally, a Finite Element Analysis (FEA) would be required on the revised design to ensure the redesign would be structurally equivalent to the original design. The trailer manufacturer redesigned the trailer to the extent necessary for manufacture, and an FEA was performed on the design. When the FEA was approved, the drawings were released to WTS for review/approval. WTS approved the design to begin production of the prototype. After the completion of the trailer weldment, the trailer underwent, and successfully completed static and dynamic load testing in accordance with ANSI N14.30, thus validating the design. In addition to the modification to the original design, several modifications to enhance the operability of the trailer have been incorporated into the final design. Upon successful completion of the prototype testing, the remaining balance of 12 fleet trailers will be ordered and manufactured in accordance with the as-built design configuration.

## 1.1 Project Scope of Work

The following activities will be implemented prior to the completion of the prototype trailer:

- Completion of all design modifications.
- Successful completion of operational testing demonstrating the safe and reliable rotation of the RH 72-B Cask.
- Completion of road test with fully-loaded RH 72-B Cask to validate the structural integrity, road worthiness and durability of the design.
- Validation of ECO 11251 incorporating all design modifications into the fabrication specification and production drawings.

## 2.0 CONTRACT OVERVIEW

### 2.1 Project Goals and Objectives

The project objective is to build a fleet of 12 trailers for transport of the fleet of 12 RH 72-B Casks to support the RH TRU Waste Management Program.

### 2.2 Management Overview of the Project Execution

The Retrieval, Characterization and Transportation (RCT) Manager is the Project Sponsor and is responsible for the execution of the project in accordance with the contract, WIPP procedures, and WTS company policy. The direction and management of project activities are conducted in accordance with WGI/WTS Project Management Policies and approved WIPP procedures. Front line management over-site activities and lines of reporting are provided by the Manager of WTS Packaging and Operations. The Project Manager will maintain an active communications program to assure U.S. Department of Energy (DOE) and WTS management and personnel are apprised of performance and other issues affecting as-planned project execution.

### 2.3 Project Management Authority

The Project Manager is responsible for safe and compliant execution and completing authorized scope within approved budget and schedule. Management and Operating (M&O) Contractor project management authority is established to prioritize, direct, and status activities related to the project. WTS first line managers are responsible for allocations of personnel, funds and other resources described therein.

### 3.0 PROJECT ORGANIZATION

The RH 72-B Cask Uprighting Trailer Project is managed by an assigned Project Manager (WTS Packaging Cognizant Trailer Engineer) that functions as the primary interface and point-of- contact between WTS and the trailer manufacturer.

Key project personnel required for the project include:

Project Manager  
Buyer  
Quality Assurance



### 4.0 PROJECT ADMINISTRATION



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- WTS ownership of design documentation.

## 5.0 PROJECT BUDGET AND SCHEDULE

### 5.1 Total Project Cost Estimate

The costs associated with this project are detailed below:

- Design Prototype
  - Materials
  - Fabricate Prototype
  - Machining
  - Test Prototype
  - Additional Modifications
  - Performance Incentive Fee
  - Prototype Total
  - Build 12 additional fleet trailers @  each
  - Total
- 

### 5.2 Project Schedule

The following milestones (with completion dates) were identified in the original procurement:

- Design of Prototype (completed 1/31/06)
- Fabrication of Prototype (including modifications, completed 3/30/06)
- Prototype Testing (expected completion of road test 7/15/06)
- Optional Fleet Production (first unit 11/28/06 with unit every six weeks thereafter)

## 6.0 PROJECT RESOURCES

### 6.1 Human Resources

A minimum of one WTS engineer, one WTS Quality Assurance (QA) representative and one WTS buyer are required for the project. Additional engineering is procured through the vendor.

## 6.2 Computer requirements

Computers, design and drafting software and communication lines for email and internet access are required for the project. Additional design and drafting software is used by the vendor.

## 7.0 UNIQUE PROJECT CONSIDERATIONS

### 7.1 Safety

In general, the primary focus of this project is on the safe and reliable transport of the RH 72-B Cask, as it will be transporting RH waste between generator sites and the WIPP.

## 8.0 ENGINEERING AND DESIGN

### 8.1 General

The engineering and design of this project has undergone rigorous evaluation on many levels. The initial design of the trailer by WTS included a complete FEA to validate the structural integrity of the design. In addition, the modification to the initial design was verified by another FEA by the trailer manufacturer prior to production of the prototype to validate the new design. In addition to the standards and regulations that apply to this trailer, the design of the trailer is controlled through Specification E-J-453. All engineering documents pertaining to equipment design are controlled through WP 09-CN 3007, *Engineering and Design Document Preparation and Change Control*.

#### 8.1.1 Permits, Laws and Regulations

The adherence to the requirements of the ANSI N14.30 standard has been maintained throughout the evolution of the trailer's design. This has been documented through the successful completion of the static and dynamic load testing of the trailer prototype. The trailer design also complies with all DOT regulatory requirements for trailers including safety, identification, weight, width and length. The trailer design also conforms to Federal Highway Administration Weight Limits (23 *Code of Federal Regulations* [CFR] Part 658.17), or "bridge laws" without requiring special state or federal permits. The requirements of 49 CFR Part 393.102, applicable DOT standards for trailer tiedowns, has been incorporated into the trailer design.

### 8.1.2 Operations Manuals

The operating and maintenance of the trailer is performed by the WIPP-contracted carriers, and by WTS Operations Waste Handling. Guidance on the general operation and maintenance of the trailer is provided to both organizations by WP 08-PT.13, *RH 72-B Cask Uprighting Trailer Operation and Maintenance Manual*. This document delineates the responsibilities of each organization as applicable. Individual operating procedures may be used for the operation of the trailer, providing the requirements and intent of this document are met.

### 8.1.3 Operator Training

Operator training for this trailer is initiated and maintained by WTS Operations Waste Handling in conjunction with WTS Technical Training via the qualification card process. The operating and maintenance manual is included in the WTS Technical Training Program.

## 9.0 PROCUREMENT AND MATERIALS MANAGEMENT

Procurement and materials management for this project are managed through the WTS contract with the vendor.

## 10.0 PROJECT CONTROLS

Project controls are tracked to provide increased cost and schedule performance visibility of the accomplishment of project objectives. The management control system provides analysis of planned versus actual performance and early detection or prediction of problems that require management attention.

## 11.0 PROJECT QUALITY PLAN

The WTS QA Program is integrated into this project through the design control process, the procurement process, fabrication, final testing and acceptance.

## 12.0 CONSTRUCTION

This project does not involve construction activities other than those already stated.

### 13.0 COMMISSIONING AND START-UP

Following the successful completion of the performance and durability test of the prototype trailer, the procurement of additional fleet trailers is expected in order to accommodate the 12 RH 72-B Casks that will be used for the transportation of RH waste to the WIPP.

### 14.0 ENVIRONMENT, SAFETY AND HEALTH

This project does not involve specific Environment, Safety and Health activities.

### 15.0 RISK MANAGEMENT PLAN

Risks associated with this project have been eliminated through the extensive engineering and design of the trailer as described in Section 9.0.

### 16.0 PROJECT CLOSEOUT

The RH 72-B Cask Uprighting Trailer Project will be considered closed upon the delivery of the fleet trailers.

### 17.0 PROJECT PROCEDURES

Deviations from this PXP are not anticipated. There are no project-specific procedures identified at this time.