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RCT-PXP-020

Revision 0

Project Execution Plan For Remote-Handled TRU Waste Mobile Loading Unit

EFFECTIVE DATE: 08/28/2006

[redacted]

PRINTED NAME

APPROVED FOR USE

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
0	08/28/2006	Initial issue.

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1.0 PROJECT OVERVIEW

Remote-Handled (RH) transuranic (TRU) waste exists at many sites within the U.S. Department of Energy (DOE) complex. That waste will ultimately be shipped to the Waste Isolation Pilot Plant (WIPP) within RH TRU 72-B or 10-160B Packages. Whereas many shipments will be direct to WIPP, some shipments will be from generator site to generator site. To support the shipment of RH TRU waste, loading equipment is needed at the various generator sites. In the case of site-to-site shipments, a subset of that equipment can be utilized for unloading at the receiving site. With the exception of Idaho, which will have its own dedicated set of loading equipment, loading and/or unloading at the generator sites will be performed by the Los Alamos National Laboratory (LANL) Mobile Loading Unit (MLU) team. Budget permitting, the LANL MLU Team desires to have two complete, identical RH MLU systems.

This Project Execution Plan (PXP) describes the scope, schedule, and budget for completing the development and delivery of RH equipment necessary for the LANL MLU team to load and unload 72-B canisters into and out of the 72-B package at the various generator sites. The current scope of this PXP does not address the use of the 10-160B package. It should also be noted that the scope of this PXP addresses equipment, but not tools (normal, commercially available, off-the-shelf items such as wrenches, sockets, extension cords, rigging and handling devices, etc.). This PXP has been prepared under the guidelines of Washington Group International's (WGI's) Project Execution Management Program, in accordance with MP1.42, Washington TRU Solutions (WTS) Project Execution Management Program, and WP15-GM.01, WTS Project Execution Plans. This plan documents the baseline work scope, schedule, and budget for this project and delineates the processes to be used to provide sound project management oversight and control of design, procurement, fabrication, and delivery of the RH MLU equipment. This plan utilizes a graded approach to address key issues associated with the project.

This PXP identifies methods, schedules, and costs associated with the equipment to be developed and delivered for the RH MLU Project. All resources, including all personnel committed and assigned to the project, are described and planned. References to existing WTS programs for Quality Assurance (QA), Configuration Management, and Issues Management/Corrective Action and Reporting are made to the maximum extent practical to minimize redundancy and unnecessary infrastructure.

The scope of work consists of the design, procurement, fabrication, testing, verification, and delivery of the RH MLU system equipment items identified in Table 1, RH MLU System Equipment Summary. It is noted that many of the needed equipment items identified in Table 1 are already addressed within, and being obtained in accordance with, RCT-PXP-018, *Project Execution Plan for Remote-Handled Lifting and Ancillary Equipment*. Items within Table 1 not addressed within RCT-PXP-018 are as follows:

- Elevated Work Surfaces
- Seal Surface Protectors
- Canister Storage Rack
- Lid Alignment Tool
- Helium Leak Detector
- Rate-of-Rise Leak Test Unit
- MLU Trailer
- RH MLU Canister Holding Silo
- MLU Spare parts
- Canister Redesign

The following discussions provide the high-level scope for each of the above equipment items. More detailed statements of work (SOWs) will be developed as needed to ensure all design requirements are identified and ultimately met for each equipment item.

1.1 Elevated Work Surfaces

Elevated work surfaces are needed to interface with vertically oriented 72-B packages when on a trailer or supported by a 72-B package storage rack. Although use of a fixed platform when on the trailer and a modified scissors lift when in the storage rack was initially envisioned, the preference is to develop a single design which is compatible with both interfaces. The elevated work surface also needs to be designed such that it can be used when loading a canister that is being supported in a canister silo, which in turn is supported by a 72-B package storage rack. WTS Packaging Engineering is responsible for elevated work surface design(s), utilizing subcontractors as necessary. Particular attention will be paid to Occupational Safety and Health Administration (OSHA) and site safety requirements as the designs are developed. An initially identified option to use existing scissor lift systems and modify them for use with the RH MLU system has since been abandoned, and the current path forward is to procure new scissors lifts which have been modified with fold-out platforms to interface with the packages. Input from the scissors lift manufacturer has been solicited, as appropriate, to ensure all applicable safety standards are satisfied.

Although not identified originally, and therefore not initially budgeted, it was recently identified that remote TV systems are desired on the elevated work platforms for viewing of canister and package loading operations. If a common trailer and package stand working surface is developed as desired, such a feature will hopefully be accommodated within the current budget. If not, alternative funding sources may be needed.

1.2 Seal Surface Protectors

Seal surface protectors are needed to protect the 72-B Inner Vessel (IV) and Outer Cask (OC) lid closure seal areas during package loading operations. An IV protector is needed during loading of a canister and an OC protector is needed during installation of the IV lid. WTS Packaging Engineering is developing the designs.

1.3 Canister Storage Rack

The need has been identified for a storage system for Removable Lid Canisters (RLC's) and/or Fixed (welded) Lid Canisters (FLC's) as a staging area prior to loading into the 72-B package. This Canister Storage Rack is in the process of design by WTS Packaging Engineering, and fabrication activities will be commenced upon finalization of the design.

1.4 Lid Alignment Tool

An alignment tool is needed to align the IV lid with the package lid alignment pins. The tool has already been designed and procured for use by the MLU team.

1.5 Helium Leak Detector

This is a commercially available (Varian) helium mass spectrometer leak detector (HMSLD). Helium leak testing will be used during all initial checkout and readiness reviews for the 72-B package. The MLU helium leak detectors are expected to consist of commercially available HMSLD units that incorporate a dry pumping system.

1.6 Rate of Rise Leak Test Unit

As an operationally preferred alternative to the helium leak detector, a rate-of-rise leak test unit is under development by Packaging Engineering. Once such a system is finalized and confirmed for use with contact-handled (CH) TRU packaging, it will be applied to RH. Although one rate-of-rise system for each RH MLU system will ultimately be needed, current DOE Carlsbad Field Office (CBFO) budget has been limited to a single rate-of-rise leak test unit.

1.7 MLU Trailer

The preferred method of transport of RH MLU equipment to a generator site is via a single, enclosed curtain trailer, such that all equipment items are protected from the environment during transport. A 50+ foot trailer length is currently anticipated. Retractable sides are desired to allow easy access via fork trucks for equipment loading and unloading. It is also desirable to have some type of security feature integrated into the design such that the equipment is not readily accessed by unauthorized personnel. The current option being pursued is some combination of secure, hard-sided storage at the front of the trailer and covered flat-bed area at the rear of the trailer. WTS Packaging Engineering in coordination with the LANL MLU Team is responsible for developing the final configuration. The LANL MLU Team will retain responsibility for establishing the final equipment layout on the trailer.

1.8 RH MLU Canister Holding Silo

An unshielded silo is being developed for use at Idaho (see RCT-PXP-018). Such a silo is appropriate for use in a hot-cell environment. However, for the RH MLU system, which may be utilized outdoors, a version of the silo that provides some degree of shielding is needed. Although it was initially envisioned that shielding could be wrapped around and secured to the unshielded silo as an add-on feature, potential issues with shine paths and interfaces led to a conclusion that a shielded version is better as a stand-alone design. In addition, rather than design a heavily-shielded silo (similar to the shielding provided by the 72-B package itself) such that a large portion of the anticipated waste would be adequately shielded, a decision was made between WTS Packaging Engineering and the LANL MLU Team to limit shielding to 2 inches of steel, which will provide shielding from alpha particles and beta particles, as well as provide some degree of gamma ray intensity reduction (approximately 2 half-value layers of Cobalt-60 equivalent shielding). Whereas this decision may require additional shielding walls or other shielding approaches for some RH shipments, it will yield a lighter,

more easily-handled and transported silo, which is expected to be adequate for a significant portion of the anticipated RH waste shipments in the 72-B. Packaging Engineering is responsible for the RH MLU Canister Holding Silo design. The preliminary design currently in works has provision for additional shielding to be added in the future, if necessary.

1.9 MLU Spare Parts

To ensure key components of the MLU are always available and in working order, a limited quantity of spare parts will be needed. As the various RH MLU system equipment items are developed, WTS Packaging Engineering, in conjunction with the LANL MLU team, will identify consumables, components considered to be vulnerable to potential damage, and components that will need to go out for periodic maintenance or calibration. Based on that identification, a reasonable quantity of spare parts will be selected and ordered using DOE CBFO funding that remains after development of the initial RH MLU systems.

1.10 Canister Redesign

The current, U.S. Department of Transportation (DOT) 7A-certified RLC design includes a tightly toleranced lid and mating body flange. To improve manufacturability and operability, it is desired to remove the current bore seal feature and open up the lid to body flange interface (increasing both nominal gap and tolerances). Additional 7A testing will then be needed. This effort will be performed by WTS Packaging Engineering with support from subcontractors, as needed (e.g., fabrication of test hardware for 7A certification). It is expected that the RLC test article will consist of a currently-out-of-spec RLC canister previously produced, that will be modified to conformance with the new configuration.

Table 1 identifies the RH MLU System equipment at a more detailed level, including estimated cost and funding source for each item.

Table 1. RH MLU System Equipment Summary

RH MLU System Equipment Summary

COMPONENT NAME	COMPONENT DESCRIPTION	PROJECT MANAGER	DESIGN AUTHORITY	NUMBER OF UNITS NEEDED FOR 2 MLUs	SCHEDULED FABRICATION COMPLETION DATE (note 2)	TOTAL COST (note 1)	FUNDING SOURCE	COMMENTS
72-B CASK LIFTING AND HANDLING EQUIPMENT								
72-B Cask Lifting Yoke (see PXP-018)	A below the hook lifting device used to lift the 72-B Cask to and from the trailer	[redacted]	Waste Handling Engineering	2	7/28/06 for first TBD for second	[redacted]	LANL Z and CBFO	1 for each MLU
72-B Cask Lifting Yoke Stand (see PXP-018)	A cart/stand providing an engineered work platform and storage stand for the lifting yoke	[redacted]	Waste Handling Engineering	0	NA	NA	NA	No longer considered necessary for MLU
Lifting Yoke Shackle (see PXP-018)	A shackle that adapts the yoke to a standard crane hook	[redacted]	Waste Handling Engineering	2	11/06	[redacted]	CBFO	1 for each MLU
Facility Grapple (see PXP-018)	A below-the-hook lifting device used to lift equipment with a pintle interface (e g , RH canister, 72-B Cask Lid Lift Tool, etc)	[redacted]	Waste Handling Engineering	2	8/31/06	[redacted]	LANL Z	1 for each MLU
Facility Grapple Hook Adapter and Stand (see PXP-018)	A grapple insert that allows grapple to be used as a hook device plus associated stand for presenting hook to grapple	[redacted]	Waste Handling Engineering	0	NA	NA	CBFO	No longer considered necessary for MLU
ELEVATED WORK SURFACES								
72-B Scissors Lift & Rolling Stairway	A scissors lift with a cantilevered deck to handle personnel for 72-B loading/unloading operations when one or two casks are located in a 72-B Storage Rack, can also be used to load a canister located in a S4o Rolling stairway for access to platform wh	[redacted]	Packaging Engineering	2	11/06	[redacted]	CBFO	1 for each MLU
Remote TV System	CCTV system to allow remote viewing of canister and cask loading activities To be added to elevated work surfaces, if budget allows	[redacted]	Packaging Engineering	2	TBD	[redacted]	CBFO	1 for each MLU if budget allows
SEAL SURFACE PROTECTORS								
72-B Canister Funnel and IV Seal Protector	A tool to guide canister into 72-B cask and protect the IV seal surface from scratches/gouges	[redacted]	Packaging Engineering	2	11/06	[redacted]	CBFO	1 for each MLU
72-B OC Seal Protector	A tool to protect the OC seal surface from scratches/gouges	[redacted]	Packaging Engineering	2	11/06	[redacted]	CBFO	1 for each MLU
MISCELLANEOUS OPERATING EQUIPMENT								
72-B Power Wrench System (see PXP-018)	A system to torque and detension lid and impact limiter bolts on the 72-B Cask	[redacted]	Waste Handling Engineering	2	11/06	[redacted]	CBFO	1 for each MLU
72-B Impact Limiter Pallet (see PXP-018)	A storage pallet for 72-B impact limiters when removed from the cask and not stored on the trailer	[redacted]	Waste Handling Engineering	6	7/06	[redacted]	LANL Z	2 for each MLU, 2 spares
72-B Cask Storage Rack (see PXP-018)	A rack to store 72-B casks in the vertical position (1 rack will hold 2 casks, 2 racks with an extension bar will hold 6 casks)	[redacted]	Waste Handling Engineering	2	6/06	[redacted]	LANL Z	1 for each MLU
Canister Storage Rack	A rack to hold 6 to 8 empty or loaded RH Canisters	[redacted]	Packaging Engineering	2	11/06	[redacted]	CBFO	1 for each MLU if budget allows
72-B Lid Alignment Tool	Tool to align the IV Lid with Cask lid alignment pins	[redacted]	Waste Handling Engineering	2	6/06	[redacted]	LANL Z	1 for each MLU
72B CASK LID LIFT TOOLS								
72-B Ultra-Light Lid Lift Tool (see PXP-018)	Lightweight tool that interfaces with either OC or IV cask lid handled with a crane hook or shackle	[redacted]	Waste Handling Engineering	2	7/06	[redacted]	LANL Z	1 for each MLU
72-B Inner Lid Lift Tool (see PXP-018)	Tool that interfaces with the IV cask lid handled with a grapple	[redacted]	Waste Handling Engineering	1	7/06	[redacted]	LANL Z	1 to be shared by the 2 MLUs - need to confirm if IV lid lift tool is needed for shielding, thus necessitating 1 for each MLU
LEAK TEST EQUIPMENT								
72-B Test Port Tool (see PXP-018)	Tool to facilitate leak testing and venting of 72-B Cask OC and IV ports	[redacted]	Packaging Engineering	7	First 4 7/06, last 3 TBD	[redacted]	LANL Z and CBFO	3 for each MLU, 1 spare
Helium Mass Spectrometer Leak Detector (HMSLD)	Commercially available helium mass spectrometer leak detector unit	[redacted]	Packaging Engineering	2	11/06	[redacted]	LANL Z and CBFO	1 for each MLU. Approximate contract value shown. May have already been funded by LANL Z
Rate of Rise Leak Test unit	Rate of rise leak test unit	[redacted]	Packaging Engineering	1	6/07	[redacted]	CBFO	1 to initially be shared by the 2 MLUs; only needed for loading, not unloading
72-B CASK LID STANDS								
OC Lid Stand (see PXP-018)	Stand to place OC lid during operations	[redacted]	Waste Handling Engineering	2	7/06 for first, TBD for second	[redacted]	LANL Z and CBFO	1 for each MLU
IV Lid Stand (see PXP-018)	Stand to place IV lid during operations	[redacted]	Waste Handling Engineering	2	7/06 for first, TBD for second	[redacted]	LANL Z and CBFO	1 for each MLU
RH-MLU TRAILERS								
MLU Trailer	Customized trailer with hard-sided storage at front section and retractable curtain for rear section to allow forklift loading/unloading of equipment	[redacted]	Packaging Engineering	2	11/06	[redacted]	CBFO	1 for each MLU
RH CANISTER EQUIPMENT								
Canister Redesign	Redesign to improve manufacturability of RH Removable Lid Canister by retrofitting out-of-spec unit and performing Type A testing	[redacted]	Packaging Engineering	1	TBD	[redacted]	CBFO	Redesign, retrofit and 7A test activity only; no delivered hardware. Desired ASAP for application to existing RLC production orders (see PXP-018)
RH MLU Canister Holding Silo	A canister holding fixture that nests in the cask rack to facilitate loading, provides some degree of shielding to reduce operator exposure	[redacted]	Packaging Engineering	2	11/06 for first, TBD for 2nd	[redacted]	LANL Z	1 for each MLU. Only needed for loading, not unloading
RH Canister Lid Latching Tool (w/o automation) (see PXP-018)	A tool to latch and unlatch the RH canister lid and lift the loaded/unloaded canister	[redacted]	Packaging Engineering	2	12/06 for first, TBD for 2nd	[redacted]	LANL Z	1 for each MLU. Only needed for loading, not unloading
SPARES								
Spare Parts	Critical spare parts for MLU equipment	[redacted]	Packaging Engineering	1	TBD	[redacted]	CBFO	Any CBFO MLU funds not consumed elsewhere will be available for purchase of critical spares
					SUB TOTAL	[redacted]	[redacted]	[redacted]
					NM TAX			
					GRAND TOTAL			
						LANL Z + CBFO	CBFO only	LANL Z only

NOTES
1) Combined cost of design and production. Values in red are based on existing POs, black = estimate
2) M/D/Y for in process POs, M/Y for completed or pending POs

2.0 CONTRACT OVERVIEW

WTS is the Management and Operations (M&O) contractor for the WIPP near Carlsbad, NM. WTS performs these M&O services for the DOE under contract number DE-AC-29-01AL66444.

As evident from a review of Table 1, the RH MLU project discussed in this PXP will require several design and/or manufacturing subcontracts to be placed. Such subcontracts will be placed using standard WTS procurement programs and procedures consistent with the provisions of DE-AC-29-01AL66444.

3.0 PROJECT ORGANIZATION

The DOE CBFO Work Breakdown Structure (WBS) is shown in Figure 1. The scope of work for the RH MLU project is contained within TRU Waste 1.0 (Level 1) and 1.1 Waste Services (Level 2) WBS elements. Although limited Type A certification efforts (WBS 1.3.1) are included, they are being funded under WBS 1.1.8 in accordance with DOE CBFO approval of the RH MLU Activity-Based Cost (ABC) sheet for 2006.

The Remote-Handled Waste Program Organization Chart is shown in Figure 2. As shown, development and delivery of the RH MLU equipment items not covered by RCT-PXP-018 is the responsibility of the RH MLU Project Manager, reporting to the Head of Engineering/Technical Support, who is responsible for delivery of equipment items covered by RCT-PXP-018. Implementation of the RH MLU system is the responsibility of the LANL-Carlsbad Transportation Certification Official, reporting to the head of Generator Site Implementation.

Figure 1. Carlsbad Field Office (CBFO) Work Breakdown Structure (WBS)

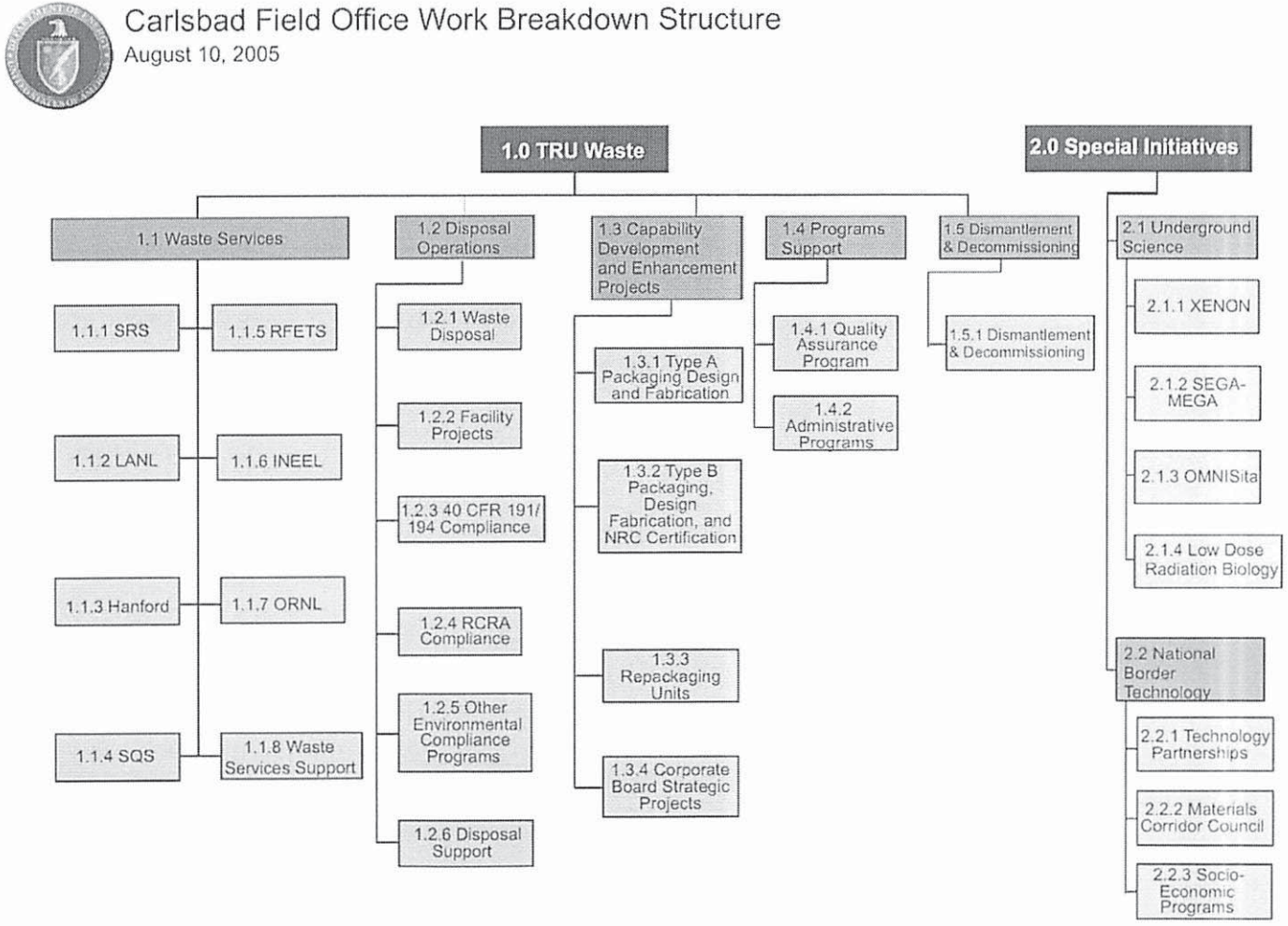

Figure 2. Remote-Handled Waste Program Organization Chart

Table 2 provides a responsibility matrix for the RH MLU equipment items not covered by RCT-PXP-018. The matrix identifies the Project Manager, Lead Engineer, Cognizant Engineer, Subcontract Technical Representative (STR), Procurement Specialist, Lead Quality Engineer, and Subcontractor Project Manager for each item.

Table 2. RH MLU Equipment Responsibility Matrix

Equipment	Project Manager	Lead Engineer	Cognizant Engineer	Subcontract Technical Representative	Procurement Specialist	Lead Quality Engineer	Subcontractor or Project Manager
Elevated Work Surfaces	[redacted]	[redacted]	[redacted]	[redacted]	TBD (note 2)	TBD (note 2)	TBD (note 2)
Seal Surface Protectors	[redacted]	[redacted]	[redacted]	[redacted]	TBD (note 2)	TBD (note 2)	TBD (note 2)
Lid Alignment Tool	[redacted]	NA (note 1)	NA (note 1)	NA (note 1)	NA (note 1)	NA (note 1)	NA (note 1)
Helium Leak Detector	[redacted]	[redacted]	[redacted]	[redacted]	TBD (note 2)	TBD (note 2)	TBD (note 2)
Rate-of-rise Leak Test Unit	[redacted]	[redacted]	[redacted]	[redacted]	TBD (note 2)	TBD (note 2)	TBD (note 2)
Custom Trailer	[redacted]	[redacted]	[redacted]	[redacted]	TBD (note 2)	TBD (note 2)	TBD (note 2)
Canister Storage Rack	[redacted]	[redacted]	[redacted]	[redacted]	TBD (note 2)	TBD (note 2)	TBD (note 2)
RH Canister Silo w/Shielding	[redacted]	[redacted]	[redacted]	[redacted]	TBD (note 2)	TBD (note 2)	TBD (note 2)
MLU Spare Parts	[redacted]	[redacted]	[redacted]	[redacted]	TBD (note 2)	TBD (note 2)	TBD (note 2)
Canister Redesign	[redacted]	[redacted]	[redacted]	[redacted]	TBD (note 2)	TBD (note 2)	TBD (note 2)

Note 1 – Lid Alignment Tool Procurement is already complete.
Note 2 – Indicated personnel to be assigned by responsible manager as necessary.

Other key personnel, their roles and organizations are identified in Table 3, Other Key Personnel. Management personnel for organizations other than WTS Packaging Engineering are not identified, but will have a role in successful completion of the project. As Program Manager, overall coordination of the effort is the responsibility of [redacted] of WTS Packaging Engineering.

Table 3. Other Key Personnel

Key Personnel	Title/Role	Organization	Key Support Personnel in Same Organization
[redacted]	Packaging Engineering Deputy Manager, signs AR/VRs, leak test specialist	WTS Packaging Engineering	[redacted] (Packaging and Transportation RH Readiness, see Fig 2), [redacted] (admin assistant), [redacted] (design drafting support)
[redacted]	Cost analyst	WTS Projects and Controls (PAC)	[redacted] (scheduler)
[redacted]	DOE-CBFO counterpart following RH MLU activity	DOE-CBFO	[redacted] (packaging specialist)

4.0 PROJECT ADMINISTRATION

In order to accomplish the planned scope of work successfully, heavy reliance will be placed on the matrixed organization presented in Figure 2. An appropriately detailed schedule for each design development and procurement activity and a complete register of anticipated Approval Requests (ARs) will be important to properly perform the required activities within approved budgets and in accordance with project needs.

The Project Manager will be responsible for the following functions:

- Serve as lead interface with CBFO and the RH MLU equipment procurements.
- Comply with the scope of work and project objectives for the procurements, including all deliverables to be accomplished.
- Ensure project resources and planning.
- Coordinate and maintain subcontract documentation and records.
- Prepare, maintain, and update project budgets and schedules.
- Formally maintain configuration control of project scope, schedule, and budget.
- Coordinate and resolve issues for project.

5.0 PROJECT BUDGET AND SCHEDULE

Project budget is provided by a combination of DOE CBFO funds [redacted] including NM State tax in accordance with the approved RH MLU ABC sheet for 2006) plus LANL Z funding, which is controlled by [redacted] and partially consumed by activities in support of RCT-PXP-018. The Project Managers for RCT-PXP-020 and RCT-PXP-018 will closely coordinate budget needs and actual expenditures to ensure optimal use of available funding between the two projects. Anticipated RH MLU project costs are as identified in Table 1.

Project schedule is also indicated within Table 1 at a general level. Overall, the intent is to have most RH MLU equipment items available for use by the MLU Team during November 2006, with early November being highly desired and late November being required. With the exception of the lid latching tool (expected by December 2006), and the rate-of-rise leak test system (June 2007) one complete MLU system is to be available by no later than November 30, 2006. Detailed project schedule status will be tracked via a separate schedule, to be developed and maintained by the RH MLU Project Manager.

6.0 PROJECT RESOURCES

Primary personnel contacts are identified in Section 3.0, Project Organization.

WTS Packaging Engineering staff works on a level of effort basis to support all WTS packaging needs. For ease of reporting, full-time equivalents (FTEs) for a given year are pre-assigned by Packaging Engineering management to various projects which must be supported. For Fiscal Year (FY) 2006, via ABC sheet planning, no Packaging Engineering labor was specifically associated with development of the RH MLU system. As such, that effort will be covered by the ABC sheet for general Packaging Engineering Support to RH TRU activities. Close coordination between the RH MLU Project Manager and other management personnel will be necessary to ensure availability of resources and to ensure efficient and timely support of the project.

7.0 UNIQUE PROJECT CONSIDERATIONS

The only project consideration considered to be somewhat unique is the need to closely coordinate budgets and expenditures between RCT-PXP-018 and RCT-PXP-020. That need is as discussed in Section 5.0.

8.0 ENGINEERING AND DESIGN

The Project Manager will coordinate and utilize WIPP site resources and/or subcontracted services for all engineering functions, as required. WTS QA will provide project oversight and perform periodic surveillances and inspections throughout the project duration. All deliverables will be reviewed by WTS.

This PXP provides project planning for design, procurement, and fabrication of equipment, tools, and supplies to outfit two complete MLU kits for use at DOE sites across the country possessing RH wastes. Fabricated equipment under this PXP will be provided to the LANL-Carlsbad MLU team.

RCT-PXP-018 plans the fabrication and purchase of additional lifting and ancillary equipment for RH wastes to be packaged and loaded at the Idaho National Laboratory and other DOE sites. As identified in this RCT-PXP-020, some of the equipment fabricated or purchased through implementation of RCT-PXP-018 will also be used to outfit the MLU kits. Project Managers will work closely together to ensure effective communications and integration between RCT-PXP-018 and RCT-PXP-020.

9.0 PROCUREMENT AND MATERIALS MANAGEMENT

The WTS purchasing system is certified by the DOE as a Certified Purchasing System. The DOE performs system reviews periodically to ensure compliance with the Federal and DOE Acquisition Regulations.

WTS operates in accordance with DOE-approved procedures implementing all aspects of procurement from sole-source to source selection and vendor qualification.

Purchasing is performed in accordance with approved procedures. WTS maintains procurement staff that is Certified Purchasing Managers through the Institute of Supply Management.

Standard methods of control will be utilized by WTS procurement on the RH MLU project.

10.0 PROJECT CONTROLS

The project control system seeks to be responsive to internal management requirements and provide WIPP participants with increased cost and schedule performance visibility of the accomplishment of project objectives. In addition to providing a formal integrated schedule and resource plan, the management control system provides analysis of planned versus actual performance and early detection or prediction of problems that require management attention.

In summary, the WIPP Project Control System provides for:

- Organization: Contractual efforts are established and responsibilities assigned for the work.
- Planning and Budgeting: Work is formally planned, scheduled, budgeted and authorized.
- Accounting: Costs of work and material are accumulated.
- Analysis: Planned and actual performance is compared and variances analyzed.
- Revisions and Access to Data: Estimates of final costs are developed along with methods to incorporate baseline changes in these estimates.
- Risk Management: Describes the WIPP risk identification, assessment, mitigation, and monitoring process.

The CBFO Office of Business is responsible for interpreting the requirements of this document as they apply to a particular program situation and for maintaining and updating this document, including coordinating changes with other project participants when appropriate.

The CBFO Baseline is actually comprised of three baselines that integrate the schedule, cost, and performance measures for the site. These baselines are as follows:

- Schedule Baseline: The Integrated Project Schedule is the primary controlled schedule from which schedule performance is measured. It is used to status and update summary level schedules. Only changes authorized through the Baseline Change Control process are incorporated into the schedule baseline.

- Cost Baseline: Contract funding levels, contained in the FY program guidance letter from CBFO plus approved changes, are allocated to Cost Account Plans (CAPs), developed at Level 5 of the WBS, to form the cost baseline.

- Performance Measurement Baseline: The Performance Measurement Baseline (PMB) is the time-phased budget plan against which cost and schedule performance are measured. The resource-loaded schedule activities contained in the Complex Wide Integration Tool (CWIT) form the basis of the PMB.

This PXP addresses the detailed project scope, schedule, and budget for the project. Formal processes are established and documented in this PXP for communications, configuration control, and issues management. The PXP will be controlled to ensure that revisions are processed and approved by appropriate parties; that distribution is maintained, and that associated changes are maintained for record purposes.

11.0 PROJECT QUALITY PLAN

WTS' QA Department will be required to perform and document an assessment of each subcontractor's quality program. This assessment will determine the degree of adequacy in addressing both the basic and supplemental requirements of ASME/NQA-1-1989, *Quality Assurance Program Requirements for Nuclear Facilities* 1989. Corrective actions and/or modifications to the QA program may be required before proceeding.

WTS QA will also perform periodic surveillances, inspections, and oversight functions in accordance with WTS QA programs and procedures. These surveillance and oversight functions will serve two purposes:

- To verify adequate implementation of the subcontractor's Quality Program

- To provide oversight of design, fabrication, and verification activities.

All work shall be performed under the WTS or subcontractor's QA Program. The subcontractor shall, upon WTS request, submit quality program documentation that includes, but is not limited to, the subcontractor's QA manual, QA procedures, internal audit reports, etc. The subcontractor shall grant WTS, or its designee, rights of access to the subcontractor's facilities and records for inspection or audit.

QA requirements, including the QA Program, Engineering Design Program, Inspection Requirements, Personnel Qualification, Quality Clauses, and Documentation Requirements shall be the primary basis for submittals and deliverables. Quality Clauses applicable to the test program are delineated in the SOW. The subcontractor shall be responsible for their fabrication inspections and verification tests to ensure the finished products meet the requirements of the SOW. Results shall be recorded and traceable to the manufacturing travelers used.

Test and inspection activities shall be documented and controlled by instructions, procedures, checklists, and travelers. Applicable nondestructive examination (NDE) procedures shall be submitted to WTS in accordance with the AR submittal register. Each person who verifies conformance of work activities for purposes of acceptance shall be qualified to perform the assigned task.

12.0 CONSTRUCTION

There are no significant facility construction activities planned for the procurements described in this PXP.

WIPP and user-site facility construction and/or modifications are not covered by this PXP.

13.0 COMMISSIONING AND START-UP

The supplier shall plan, implement, and maintain a QA program as specified in the SOW. In addition, the QA specifications identified with this SOW apply to the supplier's QA program. This program is subject to a pre-contract award survey and subsequent QA audits by WTS applicable to the procurements described in the SOW.

The supplier shall require, in writing, subcontractors of all tiers to comply with all applicable quality program/system requirements. The quality system and control of special processes of the supplier and subcontractors of all tiers shall be subject to audit by WTS to the extent practicable at all times and places.

The supplier shall tender for acceptance only those items, supplies, or services that have been inspected and tested in accordance with its quality program/system and have been found to conform to contract requirements. When post-installation testing is identified as a method of acceptance, then post-installation test requirements and acceptance documentation shall be identified and agreed upon by the purchaser and supplier.

14.0 ENVIRONMENT, SAFETY, AND HEALTH

Achieving successful project completion demands implementation and integration of safe work performance, environmental stewardship, and quality into the management and performance of project work. The primary objective is to deliver the project work scope with no safety incidences or injuries. The successful integration of these compliance elements is vital for successful project completion.

To help ensure project performance and compliance, training of personnel in their specific project requirements and responsibilities is required in accordance with the following safety principles:

14.1 Integrated Safety Management System (ISMS)

The DOE ISMS is an integrated approach to ensure that work is planned, analyzed, reviewed, approved, and executed in a safe manner and that safety is continuously improved through worker feedback. Five core functions of ISMS form the basis for working safety:

- Define the scope of work.
- Identify and analyze the hazards.
- Identify and implement controls.
- Do the work.
- Provide feedback throughout the process.

14.2 Environmental Compliance

The Project will comply with governing regulations, agreements, and orders under the contract applicable to the test facility. At a minimum, project activities will be evaluated for consistency with Resource Conservation and Recovery Act (RCRA) and compliance with applicable water, air, waste, and natural resources requirements.

15.0 RISK MANAGEMENT PLAN

WTS managers involved in project execution participate in the identification and assessment of program risks. They review program documents, evaluate lessons learned, and use brainstorming and their own experience to identify risks. Project risks are identified in the following areas:

- Cost and Schedule
- Technical
- Programmatic (Obtaining and utilizing resources outside the control of the program manager)
- Support
- Safety and QA
- Regulatory/Permitting
- Site specific (Including alternative site locations)

Once risks are identified, WTS categorizes the identified risks by probability and severity (consequences) of each event.

After risks have been identified and categorized, a risk management approach and mitigation actions are developed for each high and medium risk. For low-risk elements not judged to require documented mitigation actions, WTS Managers assure that they are controlled through the normal management functions and work processes. All risks and mitigation actions are identified in the CBFO Risk Management Plan, which is updated annually.

In order to determine the effectiveness of the Risk Management Plan, the areas of medium and high risks are monitored and statused during monthly program meetings with CBFO. In addition, periodic reassessments of programs are performed to determine if new areas of risk need to be identified and assessed.

There are several risks for some of the RH MLU Equipment items that were previously identified and addressed within Section 15.0 of RCT-PXP-018. In addition, the following risks are also identified:

- Both engineering and fabrication challenges exist that require actions to effectively manage and mitigate these risks.

- The equipment items, risks, and mitigative measures are shown in Table 4, Equipment Items, Risks, and Mitigative Measures.

Table 4. Equipment Items, Risks, and Mitigative Measures

ITEM	EQUIPMENT	RISKS	MITIGATIVE MEASURES
1	Canister Redesign	Current Removable Lid Canister design is proving to be difficult to manufacture within specified tolerances. Ultimately this could lead to overly expensive or difficult to use canisters and/or to a delay in their availability.	Redesign and 7A-retest efforts will be expedited in an effort to allow the current and subsequent manufacturers to incorporate the revised design.

16.0 PROJECT CLOSEOUT

Standard project closeout procedures will be followed.

Most of the RH MLU equipment is scheduled to be delivered in early FY 2007. The entire project is expected to be completed and closed out by the end of FY 2007.

17.0 PROJECT PROCEDURES

The supplier will prepare and implement NDE and quality verification procedures.

The supplier shall also deliver all Supplier Data Packages (SDPs) as required by the purchase order. The content and form of the package are specified on the order either as a QA clause or in the procurement specification. The size of the data package may range from a few pages consisting of a certification of conformance and nonconformance reports (NCRs) to a large volume of documentation including such items as inspection reports, test reports (including NDE reports), manufacturing and inspection travelers, checklists, performance data, installation procedures, operating procedures, maintenance procedures, as built drawings, and specifications. Such documentation shall be suitable for scanning with electronic media.

WTS requires the submittal of SDPs for a number of reasons other than the need for QA documentation of the order. The package is retained and used to revise drawings and specifications, provide a historical data file in case of an unexpected failure, and provide as built data for future reference as required by our customers, which may be verified by audit. It is essential that SDPs be complete, accurate, legible, and submitted in a timely manner as required by the SOW. The following guidelines are applicable to the data package:

Completeness

Advanced planning and organization are key elements in achieving a complete data package. It is suggested that a list of order requirements for submittals be made in the form of an index that references paragraph numbers in the order. The index should be used to assemble and check the data package. A copy of the index should be submitted with the data package. An independent review should be made to ensure that forms have been properly completed; drawing numbers, part numbers, and serial numbers have been included; test reports contain actual results and are signed; inspection data identifies each characteristic to the drawing; and applicable limits are identified.

Accuracy

Accuracy depends upon the discipline of the personnel taking and recording the data. WTS prefers a copy of the raw data or a computer printout to a neatly transcribed tabulation of data. Errors are not to be erased or obliterated but shall be corrected by lining out the incorrect data and entering the correct data so that the corrected data is identifiable. The use of correction fluid is not permitted. Each corrected entry shall be signed and dated by the corrector. Inspection and test data that must meet a tolerance or limit should have an independent review to ensure compliance. Any nonconformance must be identified, properly documented, and dispositioned.

Legibility

Supplier data submitted to WTS must be legible and in compliance with American National Standards Institute (ANSI) Y 14. Most supplier data are reviewed by WTS personnel upon receipt; however, in some cases, data may not be reviewed until after they have been electronically scanned; therefore, the original data must be clear enough to be copied and microfilmed. Data must be reviewed to ensure that the submitted copies are legible and reproducible. Data that are of poor quality, illegible, or not reproducible may be rejected and rework may be required by the supplier at no additional cost to WTS.

Timeliness

WTS requires that the SDP accompany each deliverable. Supplier schedule should allow sufficient time to generate the required data, assemble the data into a package, and obtain the required reviews. A final review should be performed by responsible supplier management. Where WTS source inspection is required, time should be allowed for WTS QA representative review. WTS QA representatives have instructions to withhold release for shipment until the SDP is in order.

The supplier shall maintain QA records for up to one year following subcontract closure. Disposition of subject records shall be performed at any date thereafter, at the supplier's discretion