

RCT-PXP-011

Revision 0

Project Execution Plan for the Design, Testing, Certification and Production of the TRUPACT-III System

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1.0 PROJECT OVERVIEW

Several sites within the Department of Energy (DOE) complex possess Contact-Handled Transuranic (CH TRU) waste in containers that are too large to fit within the TRUPACT-II. Although these oversized containers come in a variety of sizes, they are generally referred to as 4 ft x 4 ft x 7 ft and 5 ft x 5 ft x 8 ft boxes. It is therefore desirable from an as low as reasonably achievable (ALARA) as well as a cost perspective to develop a larger, USNRC certified Type B transportation package (to be known as the TRUPACT-III) which will allow for transport of as much of this "oversized" waste as possible, without having to first repackage it into smaller containers suitable for shipment in the TRUPACT-II.

Prior to initiation of the TRUPACT-III project, a trade study was held in Carlsbad, NM to consider alternative approaches for the TRUPACT-III. Considering factors such as licensability, schedule and life cycle cost, an existing technology was identified as the preferred path forward. The technology selected was the [REDACTED] a Type B package certified to IAEA standards for use in Europe. By selecting an existing design, which had been licensed under IAEA rules very similar to those required for certification with the USNRC (i.e., 10CFR71) and which had already been manufactured and put into use transporting transuranic waste in Europe, many uncertainties and risks normally associated with development of a new, Nuclear Regulatory Commission (NRC) certified transportation package were eliminated or significantly reduced.

A contract was initially issued to [REDACTED] in September 2002 to adapt the [REDACTED] for use in the U.S. Minimal design changes were anticipated and the certification approach was to be based primarily on prior testing (half scale) performed in support of certification in Europe coupled with additional, new half scale testing to address perceived or newly identified needs of the USNRC. Under that initial contract, [REDACTED] successfully completed half scale testing, developed the licensing application (Safety Analysis Report, or SAR) and submitted it to the NRC for approval. Based on NRC feedback as well as stakeholder influence, the application was ultimately withdrawn by [REDACTED] and project direction was re-evaluated by Washington TRU Solutions (WTS), DOE and [REDACTED]. The conclusion of the re-evaluation was to switch to a certification approach relying primarily on full scale structural testing (fire by analysis), to make some generally modest design changes/enhancements to improve apparent margins of safety when subjected to Hypothetical Accident Condition (HAC) tests and to shorten the TRUPACT-III Package in an effort to achieve legal highway weight for most shipments.

This Project Execution Plan (PXP) picks up from the point in the TRUPACT-III project when the decision to reduce package length and rely on full scale testing was formalized. As such, this PXP addresses a project timeline starting in January 2005. Although [REDACTED] contract is by far the biggest driver of cost and schedule, several other parallel activities are required for success of the TRUPACT-III project. Those activities are discussed along with details of the PacTec contract in the remainder of this PXP.

DOE Drivers, Assumptions and Milestones with applicability to the TRUPACT-III Project are identified in Attachment L. Although intermediate milestones are of interest, the primary schedule driver for project decision making is obtaining NRC certification and producing hardware in a timeline sufficient to ship waste to Waste Isolation Pilot Plant (WIPP), or alternatively between user sites, by November 2007.

2.0 CONTRACT OVERVIEW

The TRUPACT-III project discussed in this PXP consists of several parts, most notably a phased contract (WTS #106884) with [REDACTED] to design, test, certify and produce a fleet of production TRUPACT-IIIs. Phase 1A, consisted of a redesign to obtain legal highway weight for most shipments, initial planning for full scale testing and a confirmatory NRC meeting and has been successfully completed. Due to uncertainties with the outcome of this phase and a schedule driven need to quickly place a contract once a path forward agreement had been reached, a cost plus contract arrangement was utilized with [REDACTED]. The success of Phase 1A was considered to be a necessary precursor to release of Phase 1, which has now been awarded and consists of all necessary design, test and certification activities plus ordering of long lead materials needed for 11 TRUPACT-IIIs (one Certification Test Unit (CTU) and up to 10 production units). Also included with Phase 1 is design of a roller floor component needed to support loading and unloading of the TRUPACT-III and manufacture of the first production TRUPACT-III (excluding roller floor). Phase 1 is primarily to be performed under a cost plus arrangement, with the only exception being associated with ordering of long lead materials for 11 TRUPACT-IIIs. Phase 2 will utilize a fixed price contracting mechanism for production of additional TRUPACT-IIIs including roller floors (plus a roller floor for the Phase 1 produced package). Actual fleet size will be dictated by DOE funding constraints.

The Rev. 2 Statement of Work (SOW) applicable to the [REDACTED] Contract is included as Attachment A. The latest contract Change Notice (CN #15) is included as Attachment C. [REDACTED] retains ownership of the design and is the holder of the NRC CoC. DOE is to be named joint on the CoC if allowed by the NRC.

In addition to the [REDACTED] other activities required for completion of the TRUPACT-III project include design and production of trailers and ancillary equipment necessary for basic operation of the TRUPACT-III package. Those activities are the responsibility of WTS Packaging Engineering, with help from subcontractors as needed. The top level requirements associated with trailers and ancillaries are available from the earlier, Rev. 0 version of the SOW.

WTS Packaging Engineering and its subcontractor, [REDACTED] are responsible for development of the Payload Requirements and Compliance Document (PRCD). That document is the TRUPACT-III equivalent to the existing CH-TRAMPAC applicable for the TRUPACT-II and HalfPACT packages. As part of the PRCD development, certain payload initiatives have been identified by WTS/DOE, which require additional subcontract support. These payload initiatives include development of a new methodology for establishing flammable gas limits and utilization of new criticality assumptions resulting in an ability to transport payloads containing greater fissile content than would otherwise be possible. Strategies for these initiatives have been developed by WTS and agreed to by DOE, with [REDACTED] having been selected as the subcontractor to implement the strategies. All payload related subcontracts with [REDACTED] and [REDACTED] will be under cost plus arrangements.

This PXP does not include a discussion of scope, cost or schedule associated with deployment of the TRUPACT-III at the WIPP or the various user sites. Also not included is the effort to develop and produce the Standard Large Box 2 (SLB2) Type A container, which initially will be the only payload container to be shipped in the TRUPACT-III. These important interfaces are, however, acknowledged in this PXP and individuals/organizations responsible for these functions are identified in Section 3.0, Project Organization.

3.0 PROJECT ORGANIZATION

Key personnel, their roles and organizations are identified in the following table. Management personnel for organizations other than WTS Packaging Engineering are not identified, but will have a role in successful completion of the project. Overall coordination of the effort is the responsibility of the WTS Subcontract Technical Representative (STR) for TRUPACT-III.

Key Personnel	Title/Role	Organization	Key Support Personnel in Same Organization
[REDACTED]	Subcontractor Technical Rep (STR) responsible for overall technical management of the project	WTS Packaging Engineering	[REDACTED] (Administrative Assistant)
[REDACTED]	Procurement representative responsible for all contract and procurement activities, signs all AR/VRs	WTS Procurement	
[REDACTED]	Cost analyst	WTS Project Analysis and Control (PAC)	[REDACTED] (scheduler)
[REDACTED]	DOE-Carlsbad Field Office (CBFO) counterpart following TRUPACT-III project	DOE-CBFO	[REDACTED] (packaging specialist), [REDACTED] (QA)
[REDACTED]	[REDACTED] Project Manager responsible for fulfilling contract 106884 with WTS	[REDACTED]	[REDACTED] (project engineer and certification specialist), [REDACTED] (fab follow), [REDACTED] (Criticality analyst)
[REDACTED]	[REDACTED] QA specialist responsible for ensuring project QA/QC compliance	[REDACTED]	[REDACTED] (QA Representative)
[REDACTED]	QA Manager responsible for QA oversight of project, signs AR/VRs	WTS QA	[REDACTED] (fab follow)
[REDACTED]	Packaging Engineering Deputy Manager, signs AR/VRs	WTS Packaging Engineering	[REDACTED] (operations support)
[REDACTED]	Packaging Engineering Manager; serves as Cost Account Manager (CAM), lead for permitting related issues	WTS Packaging Engineering	
[REDACTED]	Technical Advisor responsible for trailers and ancillaries	WTS Packaging Engineering	[REDACTED] (trailer procurement, SLB2 design and procurement), [REDACTED] (design/drafting)
[REDACTED]	Technical Advisor responsible for payload initiatives and support to PRCD	WTS Packaging Engineering	

Key Personnel	Title/Role	Organization	Key Support Personnel in Same Organization
[REDACTED]	[REDACTED] PM for implementation of payload initiatives	[REDACTED]	
[REDACTED]	Technical Advisor responsible for PRCD development	WTS Packaging Engineering	[REDACTED]
[REDACTED]	Subcontract support to PacTec for thermal analysis	Q-Metrics	
[REDACTED]	WIPP Site deployment of TRUPACT-III	WTS Integrated Waste Handling	[REDACTED] (engineering)
[REDACTED]	User site interface coordinator	WTS CCP	
Various	Duplex stainless steel suppliers subcontracted to PacTec	Various	
Various	Subcontract support to WTS for development of the PRCD	[REDACTED]	
Various	Subcontract support to [REDACTED] for production of TRUPACT-IIIs and roller floors	EPD, General Plastics, Rainier Rubber, Nova Machine,	
[REDACTED]	Subcontract support to [REDACTED] for certification testing	Sandia	

4.0 PROJECT ADMINISTRATION



5.0 PROJECT BUDGET AND SCHEDULE

Project budget is as established by Attachments C, G, H, I, J and K herein. Project schedule is as established by Attachments C, D, E and L. No overt contingency is included in the budget related attachments. Collectively, these attachments identify the baseline budgets and schedules, actual status as of the date of this revision to the PXP and the methods used to track and status budget and schedule on an ongoing basis.

6.0 PROJECT RESOURCES

See Section 3.0, Project Organization. [REDACTED] is responsible for staffing as needed to meet contractually imposed budget and schedule commitments. 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 FY06, via ABC sheet planning (see Attachment J herein) 1 FTE has been associated with TRUPACT-III. Actual effort will exceed 1 FTE, but is covered by the ABC sheet for general Packaging Engineering Support to CH-TRU activities. WTS Quality Assurance (QA) support to the TRUPACT-III project is established by separate ABC sheets developed and submitted by WTS QA. Close coordination between the STR and the WTS QA Manager is used to ensure reasonable accuracy when planning QA staff utilization. WTS procurement and PAC support is covered by WTS overhead.

7.0 UNIQUE PROJECT CONSIDERATIONS

Early on in the project, prior to Phase 1A, a decision was made by DOE/WTS to develop a single containment package, which at the time, due to Plutonium content of the CH TRU Payloads, would not meet applicable regulations. This was a risk based decision. Ultimately, via a January 2004 NRC rulemaking, the need for double containment was dropped from the regulations. Although technically it is no longer required, the single containment nature of the design, coupled with fairly aggressive payload initiatives aimed at shipping the maximum amount of waste possible with the minimum amount of controls has caused stakeholders such as the Western Governor's Association (WGA) to show significant interest in this project. Satisfaction of stakeholder's concerns could ultimately drive some key project decisions. For instance, the WGA has identified a strong interest in fire testing as opposed to the baseline plan of performing an analysis of the fire event. Stakeholder influence consequently carries the potential for both cost increases and schedule delays. DOE, WTS and [REDACTED] will need to work closely together to minimize the impact of stakeholder involvement, while still being sensitive to their concerns.

8.0 ENGINEERING AND DESIGN

The SOW (Attachment A herein) defines all high level design requirements. In addition, when needed to further clarify design requirements, design input letters are developed (technically) by the WTS STR and submitted to ██████ as formalized "design inputs" by the WTS procurement representative. The minimum set of technical deliverables is identified in the project AR submittal register (Attachment B herein). The majority of design work on this project is to be performed by ██████ and will employ their standard methods of design and document control, drafting standards, drawing title blocks, etc. Ancillary Equipment and trailer design efforts will be controlled by WTS standard procedures. To ensure proper interface of trailers and ancillaries with the TRUPACT-III, ██████ will be asked to review final designs of such equipment. ██████ did review final designs of the SLB2 to ensure its compatibility with the TRUPACT-III.

9.0 PROCUREMENT AND MATERIALS MANAGEMENT

Standard methods of control will be utilized by WTS procurement.

The ██████ Contract has been a negotiated sole source procurement since they were the only bidder leading to initial award of a contract for the TRUPACT-III in September 2002. All changes to the contract since that time have been technically reviewed by the STR with results of the review documented in detail and forwarded to the WTS procurement representative. Procurement has then consolidated all technical and procurement/contract related questions for consideration and appropriate action by ██████ prior to issuing a mutually agreed to contract change.

██████ invoices are submitted monthly to the WTS procurement representative and forwarded to the STR for technical review and approval. As part of the technical review, the STR checks to ensure reasonableness of the charges and that they are appropriately assigned to correct contract line items and milestone activities. When monthly cost status is provided to WTS PAC, charges are also broken out into appropriate activity IDs. Detailed back-up for all invoices is provided by ██████ to WTS procurement and is available as/if necessary to assist in the technical review of the invoices. Once approved by the STR and the procurement representative, invoices are sent to accounting for payment to ██████ net 30.

██████ has been a supplier to WTS for many years and is on the WTS Approved Supplier List.

10.0 PROJECT CONTROLS

The top level WBS structure used for this project corresponds to the CBFO Work Breakdown Structure (WBS) dated 8/10/06. A further breakout of activities in the form of Activity IDs is evident from the various attachments to this PXP.

Refer to Section 4.0, Project Administration, for additional information on how the TRUPACT-III project is monitored and controlled.

11.0 PROJECT QUALITY PLAN

Quality requirements are as defined in Section 5.0 of the SOW (Attachment A). A project specific QA Plan is a required deliverable from [REDACTED] (See Attachment B, AR #6). In addition to the [REDACTED] plan, WTS QA has developed Quality Assurance Oversight Plans for manufacture of the CTU and for the subsequent production units.

12.0 CONSTRUCTION

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

Manufacture of the TRUPACT-IIIs is controlled by various [REDACTED] deliverable plans and procedures (see Attachment B herein) such as their project specific QA Plan and Fabrication Inspection and Test (FIT) plans for the CTU and subsequent production units. WTS QA oversight is provided by WTS QA Oversight Plans for both the CTU and for production units as discussed in Section 11.0, Project Quality Plan.

13.0 COMMISSIONING AND START-UP

As indicated in Section 2.0, Contract Overview, this PXP does not cover deployment of the TRUPACT-III system at the WIPP or user sites.

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

The DOE Integrated Safety Management System (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: 1) define the scope of work, 2) identify and analyze the hazards, 3) identify and implement controls, 4) do the work, and 5) 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

Risk is inherent in any Type B Package certification effort. To minimize this risk, frequent meetings with the NRC are held to discuss both packaging and payload related details associated with the TRUPACT-III project.

When it comes to fabrication, a risk based decision was made to fabricate the first production unit in parallel with the CTU. This was done primarily to mitigate the schedule risk associated with having to test more than a single CTU, if such became necessary to satisfy either the NRC or the various stakeholders (WGA, etc.). The risk was judged to be relatively small due to the fact that earlier half scale testing demonstrated the general integrity of the package when subjected to hypothetical accident conditions. By shortening the package (and hence reducing its weight), by improving certain shell-to-shell joint details, by modestly stiffening the seal flange area and by adopting polyurethane foam instead of wood for a majority of the impact mitigating and thermally insulating material within the packaging, a very successful set of full-scale hypothetical accident condition free drop and puncture tests is now expected, which further reduces risk.

To address a cost based risk relative to significant and ongoing increases in steel prices, a joint WTS/DOE decision was made to order long lead material for 11 TRUPACT-IIIs (1 CTU and up to 10 production units) early on in the program (i.e., during Phase 1). The combination of an early order and a relatively large order quantity allowed materials to be obtained at today's prices, while also realizing price breaks associated with order size. Here again, risk was considered to be small due to the high expectations for the full-scale test. It is expected that even if testing reveals potential design vulnerabilities or performance issues, most of the long lead material will still be usable in any rework of the design.

Importantly, other than the first production unit being manufactured during Phase 1, fab release for all other subsequent production units is being held until drop tests have been completed and their success is evident; i.e., the only production related activity for production units 2 and beyond, prior to successful completion of certification testing, is the long lead material order.

16.0 PROJECT CLOSEOUT

Standard Project Closeout procedures will be followed.

17.0 PROJECT PROCEDURES

No significant project specific procedures at this time

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Attachment A – Revision 2 Statement of Work (SOW)

The performance based SOW applicable to Phase 1 and 2 of [REDACTED] Contract 106884 with WTS is attached.

**PERFORMANCE BASED
STATEMENT OF WORK
for
TRUPACT-III**

**TYPE B CONTACT-HANDLED TRANSURANIC WASTE
TRANSPORTATION PACKAGING**

Prepared by:

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Revision 2
March 7, 2005

This Statement of Work (SOW) has been prepared as a "performance based" document as opposed to a "design or detailed based" document. The performance based SOW structures all aspects of an acquisition around the purpose of the work to be performed and does not dictate how the work is to be accomplished. It is written to ensure that the supplier is given the freedom to determine how to best meet the customer's performance and program objectives. Therefore, the supplier is requested to submit technical and programmatic information with its proposal that clearly demonstrates the supplier's complete understanding of the required work and its ability to fulfill the requirements of the

1.0 INTRODUCTION

The TRUPACT-III project is a U.S. Department of energy (DOE) initiative aimed at addressing the shipment of contact-handled (CH) transuranic (TRU) waste packaged in oversized rectangular boxes. The existing fleet of CH-TRU packagings, the TRUPACT-II and the HalfPACT, are not configured to accept these oversized rectangular waste boxes stored at DOE generator sites across the nation.

2.0 SCOPE

The supplier shall provide a proposal to Washington TRU Solutions (WTS) for the certification and subsequent production of the TRUPACT-III Type B packaging. In addition, the procurement will also include the design and production of a roller floor component within the TRUPACT-III for use when inserting or removing payloads. The supplier shall perform the following:

2.1 Workscope for Phase 1:

- Design, test in full-scale, and obtain NRC certification for the TRUPACT-III packaging.
- Design the roller floor component.

2.2 Work Elements for Phase 2:

- Fabricate 10 TRUPACT-III packagings.
- Fabricate roller floors for 10 TRUPACT-III packagings.

Note: Quantities listed are estimates only and may be increased or decreased prior to contract award.

3.0 APPLICABLE DOCUMENTS¹

- 3.1 TRUPACT-II Safety Analysis Report for Packaging
- 3.2 HalfPACT Safety Analysis Report for Packaging (format to be used for the TRUPACT-III Safety analysis Report for Packaging).
- 3.3 CH Transuranic Authorized Methods for Payload control (CH-TRAMPAC).
- 3.4 Title 10, Code of Federal Regulations (CFR), Section 71 (10 CFR 71) and applicable NRC Regulatory Guides.
- 3.5 TRUPACT-III Initiative Workshop Summary Report dated April 2001 (provided with the Request for Proposal).

4.0 PACKAGING PERFORMANCE OBJECTIVES

4.1 Design Basis

The TRUPACT-III shall be certified by the U.S. Nuclear Regulatory Commission (NRC) as a Type B packaging meeting the requirements of 10 CFR 71. Consistent with the January 2004, 10 CFR 71 rulemaking, the TRUPACT-III shall be designed and certified as a single-containment packaging.

4.2 Transportation Mode

The TRUPACT-III shall be capable of being transported by highway tractor-trailer and by railroad.

4.3 Size and Weight

The TRUPACT-III shall have a minimum interior dimensional cavity sufficient to accommodate at least one (1) 108-in long, 69-in wide and 73-in tall rectangular waste box plus an associated loading pallet up to 1-in thick (by WTS) and the supplier provided roller floor.

External dimensions of the TRUPACT-III are to be compatible with legal size limits for highway transport and unrestricted interchange standards for rail transport.

¹ TRUPACT-II, HalfPACT, and payload control documents can be accessed via the Internet at the following address: <http://www.wipp.ws/library/caolib.htm#containers>.

The weight of the TRUPACT-III packaging and roller floor shall be minimized to the extent practical to facilitate meeting legal weight limits for highway transport, while not compromising licensability of the package with the NRC. At a minimum, the TRUPACT-III packaging and roller floor weights shall be such that a legal weight system results when transporting loaded oversized box payload containers weighing up to 7,700 lb. Note: The WTS supplied loading pallet and any dunnage used between the payload container and TRUPACT-III payload cavity walls will be in addition to this weight and must also be accommodated as part of a legal weight system. Even if it results in a slightly overweight system, the design and certification basis for the TRUPACT-III package shall consider a loaded oversized box payload container weighing up to 10,500 lb. Again, that weight will be in addition to the WTS supplied loading pallet and any dunnage used within the TRUPACT-III payload cavity.

Note: Highway transport designs which are considered "legal" and therefore do not require special permits are defined as those with: 1) a maximum gross vehicle weight (tractor, trailer, tiedowns and loaded packaging) of 80,000 pounds, 2) a maximum width of 8.5 feet, and 3) a maximum height of 13.5 feet. These highway limits should bound any railroad restrictions, but the supplier must consider both road and rail limits during the design effort. Since certain transportation system components such as tractors, trailers and tiedowns, as well as the payload assemblies installed within the TRUPACT-III, are the responsibility of WTS/DOE, the supplier and WTS/DOE will need to work closely with one another to properly optimize individual component sizes and weights.

4.4 Materials

The materials used in the design of the TRUPACT-III should be widely recognized and accepted by institutions such as the Society of Automotive Engineers (SAE), the American Society of Mechanical Engineers (ASME), or the American Society for Testing and Materials (ASTM). If materials are utilized which are not widely recognized by domestic standards, or require commercial dedication and special procurement, they shall be clearly identified within the proposal. If any material or design feature is subject to proprietary or otherwise restricted use, it shall be clearly identified and highlighted within the proposal. If any materials specified are currently only available from a sole source supplier (e.g., O-rings, foam, insulating materials), an "or equivalent" specification should be developed and provided as part of the licensing application.

4.5 Fabrication

The TRUPACT-III design should accommodate standard fabrication practices where practical to preclude constraints on the production of the fleet. Manufacturing tolerances should be established that provide the maximum flexibility during fabrication, while ensuring critical components are closely controlled to ensure functionality. Interchangeability of components is preferred, however if "match fit" components are required, they shall clearly be identified within the proposal.

The supplier shall also include a fabrication inspection and test plan demonstrating the ability to do initial fabrication inspection and testing, and to perform subsequent maintenance inspections. Of particular interest are nondestructive examinations such as visual inspection, liquid penetrant inspection, ultrasonic thickness measurement, radiographic inspection, leakage rate testing and internal pressure testing.

Where practical, threaded components should be replaceable to facilitate repairs arising from damage or misuse. As an example, threaded holes should be configured with replaceable inserts and threaded test connection ports should have the ability to be removed and replaced.

4.6 Operations

The supplier shall provide a discussion on the processes and procedures that will be used to operate the TRUPACT-III. The process discussion shall include the identification of special handling equipment, special operating tools, and a configuration recommendation for any facility the packaging will be operated in. The discussion will also include a time estimate to complete an open/close sequence.

The minimum service life for the TRUPACT-III system shall correspond to 35 years of operation with up to 50 load/unload cycles per year. The roller floor portion of the system shall be designed to operate in an indoor or outdoor environment over a temperature range of 20°F to 120°F.

The containment boundaries shall be corrosion resistant, easily decontaminated, and free of inaccessible areas. Unless readily replaceable at modest cost, the roller floor used within the TRUPACT-III should also be corrosion resistant, easily decontaminated, and free of inaccessible areas. Containment boundaries that are vulnerable to damage from the insertion and removal of the payload shall have additional material thickness beyond that required for the design. The additional thickness will provide for operational wear without the need for repair.

The design shall include provisions for sampling and pressure equalization of containment boundaries prior to opening of the TRUPACT-III. The sampling feature will be utilized to ensure the boundary is free of contamination prior to opening and the pressure equalization will be used to relieve the differential pressures due to elevation changes between user sites.

The design shall provide for leak testing of each containment boundary component in accordance with applicable standards. In addition to standard helium leak testing, it is desirable to have the option to perform pressure rate-of-rise testing as allowed by applicable standards.

4.7 Contents²

CH-TRU wastes to be transported in the TRUPACT-III include items contaminated with alpha-emitting transuranic radionuclides with half-lives greater than 20 years and concentrations greater than 100 nanocuries per gram (nCi/g). The most common transuranic radionuclides in these wastes are plutonium and americium. CH-TRU waste forms that may be present in TRUPACT-III payloads include plastic, paper, cloth, cellulose, metal, glass, solidified aqueous solutions, solidified organics, or pyrochemical salts. All waste is either solid or solidified.

The inventory anticipated for shipment in the TRUPACT-III is primarily from nine DOE sites, with the majority of the waste currently stored at five sites. Table 1 presents an inventory of the oversized containers at the five major sites anticipated for shipment in the TRUPACT-III (estimated based on currently available data). As shown in Table 1, the majority of the waste (~89%) is currently in boxes approximately 4 by 4 by 7 feet. Approximately 96% is in boxes less than or equal to 5 by 5 by 8 feet. The waste inventory is in wooden, fiber-reinforced-plastic, or metal boxes with varying conditions of integrity. A portion of this inventory is currently slated for other repackaging efforts at some of the sites. The supplier should attempt to provide a path forward for the greatest amount of shippable inventory possible. For TRUPACT-III design and certification purposes, it can be assumed that all oversized boxes will be overpacked in Standard Large Boxes (SLBs) prior to transport in the TRUPACT-III. Two different sizes of SLBs will be developed by WTS, one for boxes nominally up to 4 by 4 by 7 feet in size (SLB1) and one for boxes nominally up to 5 by 5 by 8 feet in size (SLB2). These SLB designs will be

² WTS, in close cooperation with the supplier, will develop a Payloads Requirements and Compliance Document (PRCD) similar to the CH-TRAMPAC and will support the writing of the payload-related portions of the SAR. WTS has the experienced staff knowledgeable in the development and integration of the payload elements leading to regulatory approval.

provided to the TRUPACT-III supplier by WTS. SLB designs will fit within the enveloping rectangular waste box size defined in Section 4.3 herein. The TRUPACT-III design and certification basis shall also allow for the transport of other waste packaged in drums (55-, 85-, and 100-gallon) and in Standard Waste Boxes (SWBs). If payload containers do not reasonably fill the available payload cavity of the TRUPACT-III, or if needed to avoid shifting of the payload during transport, dunnage will be designed and provided by WTS.

Table 1. Overview of Total Number of Boxes

Site	Number of Boxes			
	Total	4 x 4 x 7 Feet or Smaller	5 x 5 x 8 Feet or Smaller	Larger than 5 x 5 x 8 Feet
Hanford	729*	176	117	332
INEEL	11,392	10,688	557	147
LLNL	31	22	9	0
NTS	58	58	0	0
SRS	319	162	147	10
Total	12,529	11,106	830	489

*Hanford has 104 boxes of other sizes.

4.8 Physical Form

The physical form of the waste is controlled as follows:

- The total volume of residual liquid in a payload container will be restricted. Less restrictive limits (compared to the TRUPACT-II) will be established by WTS based on showing no impact on chemical compatibility and gas generation.
- Sharp or heavy objects in the waste will be packaged to provide puncture protection for the packaging.
- Sealed containers in the waste will be restricted. The CH-TRAMPAC currently prohibits the transport of sealed containers greater than 4 liters in size. A different restriction may be applicable to the TRUPACT-III based on the actual design of the unit. New safety impact analyses will be conducted by WTS to establish sealed container limits based on the total volume of the payload container.
- Justifications for venting mechanisms other than filter vents and credit for storage conditions will be developed by WTS and included.

4.9 Nuclear Properties

Nuclear properties in the waste are limited as follows:

- Fissile material is restricted based on criticality analyses. Base scope includes consideration of up to 325 fissile gram equivalents (FGEs) per oversized box and per TRUPACT-III using methodologies and assumptions consistent with the TRUPACT-II and HalfPACT SARs (Rev. 20 and Rev. 3, respectively).³ Base Scope criticality analyses shall also address transport of drums and SWBs, again consistent with the TRUPACT-II and HalfPACT SARs.
- Decay heat of the payload is restricted based on gas generation potential.
- No shielding is required from the packaging.

4.10 Chemical Properties

The chemical properties of the waste are controlled to ensure compatibility of the waste within the payload and with the packaging. The following requirements apply to the waste:

- Chemical compatibility of the waste form within each payload container and of the waste form with the packaging will be ensured.
- New analyses will be conducted by WTS to allow relief from current prohibitions or restrictions (see TRUPACT-II and HalfPACT) on certain payload items by showing no impact on the packaging.

³ Consistent assumptions for optimal moderation by water/polyethylene within the TRUPACT-III need to be based on a polyethylene packing efficiency analysis, which bounds the upper limit on polyethylene and the associated water/polyethylene ratio. WTS will develop and provide the results from such an analysis. During development of the TRUPACT-III, it is anticipated that a different set of assumptions related to criticality analyses will be developed in an effort to increase the fissile material limit to something greater than 325 FGE or to address issues such as transport of trace quantities of beryllium. WTS, in close cooperation with DOE, the user sites and the supplier, will develop and provide any new assumptions to be factored into the supplier's criticality evaluations. Accommodation of such new assumptions will initially be bounded by the supplier performing and documenting the results of up to 6 criticality sensitivity cases, above and beyond the base scope defined herein. Should additional sensitivity cases become required, they would constitute new scope.

4.11 Gas Generation

Gas generation, concentrations, and pressures during transport will be restricted to meet NRC requirements (NUREG/CR-6673, Hydrogen Generation in TRU Waste Transportation Packages, May 2000) as follows:

- Any combustible gases generated in the package during the maximum shipping period will not exceed 5% (by volume) of the free gas volume in any confined region of the package. For comparison, the TRUPACT-II shipping period is 60 days.

Note: The amount of free void volume within the TRUPACT-III (outside of the waste containers) cavity will have an impact on the amount of radioactive material that can be shipped due to the gas generation. It is desirable to have the maximum available free void volume outside the waste containers that can be accommodated by the design.

- The design pressure limit of the packaging will restrict the allowable payload and the gases generated during transport.
- Revised methods of compliance with the gas generation requirements will be developed by WTS and included, including credit for knowledge of the waste and storage conditions, revised logic for confinement layers, and pressure analysis for 60 days versus 1 year.

5.0 QUALITY ASSURANCE REQUIREMENTS

5.1 Quality Program

The contractor shall have an NRC approved quality assurance program (10CFR71 Subpart H) for all applicable elements required by this SOW. The contractor will provide with the proposal a copy of their NRC approval certificate (NRC Form 311) that delineates the activities authorized by the NRC. The NRC approval is mandatory and WTS will perform the necessary evaluations to place the successful contractor on the WTS qualified suppliers list. (Note: If a contractor is comprised of multiple participants (teaming arrangements), the quality program of record shall be identified and a quality plan shall be submitted with the proposal. The proposal will state the scope of work to be assigned to each team member).

5.2 Computer Software

In addition to the required NRC program, the vendor shall have an enhanced software quality assurance program. Software applications used by the subcontractor to verify the adequacy of the TRUPACT-III (e.g., design, alternative calculations, etc.) shall be accomplished under a program equivalent or comparable to the requirements of NQA-2, Subpart 2.7 (1989 Edition with 1990 Addenda).

5.2 Document Submittal

The supplier shall include a proposed project document submittal schedule that will be finalized through negotiations with WTS as part of contract award. Given the broad scope of this SOW, the submittal schedule will address such documents as design basis documents, test plans, certification documents, quality plans, fabrication specifications, project plans, project schedules, progress reports, and other program related documents. The documents will be submitted for comment, for approval, or for record as deemed appropriate during the submittal schedule negotiation. The documents will be submitted in accordance with the WTS approval/variation request procedure referenced in the request for proposal.

5.4 Customer Design Reviews

The supplier will conduct a minimum of two design reviews with WTS and DOE for the purposes of assessing the design basis, design features, performance adequacy, and analytical methods to be utilized for design verification. The reviews will be conducted when the design is 50% complete and at completion prior to the release for fabrication. Other reviews will be included when/if appropriate to address things such as significant design changes resulting from regulatory inputs or other WTS/DOE programmatic decisions or to support placement of long lead material orders. The design reviews will be held at the WTS offices located in Carlsbad, NM.

Attachment B – Approval Request/Variation Request (AR/VR) Submittal Register

The AR submittal register associated with Phase I of PacTec's Contract 106884 with WTS is attached. This register defines the minimum set of deliverables under the contract, indicating if they are for approval or for the record.

PR/PO Number: 106884		Supplier: [REDACTED]		Buyer: [REDACTED]						
STR or Cognizant Engineer: [REDACTED]										
Project, System, or Equipment Description: TRUPACT-III Package										
AR/VR No.	Spec. No.	Description of Submittal Special Conditions	For Approval/ Record	Date Due to WTS	Date Rec.	Date to STR	Date from STR	Disposition A, C, D	Resubmittal Required?	Date to Supplier
Various		Monthly Status Reports	R	By 10th of month for preceding month						
1 & 61		Small Business Subcontracting Plan	A	30 days ARO, revisions						
2		List of Submittals	A	30 days ARO						
3		Drawing Tree	A	30 days ARO, revisions						
4		Interface Control Drawings (ICDs)	A	30 days ARO, revisions						
5		Project Schedule	A	30 days ARO and monthly						
6		QA Project Plan	A	30 days ARO, revisions						
9		Certification Strategy	A	Initial release, revisions						

PR/PO Number: 106884		Supplier: [REDACTED]		Buyer: [REDACTED]						
STR or Cognizant Engineer: [REDACTED]										
Project, System, or Equipment Description: TRUPACT-III Package										
ARVR No.	Spec. No.	Description of Submittal Special Conditions	For Approval/ Record	Date Due to WTS	Date Rec.	Date to STR	Date from STR	Disposition A, C, D	Resubmittal Required?	Date to Supplier
10		Project Plan	A	30 days ARO, revisions						
12		Payload Summary Document	A	Initial release, revisions						
13		Preliminary (50%) Design Report (for original full length design)	A	21 days prior to design review mtg						
19		Certification Test Plan (original full length and legal)	A	30 days prior to test						
20		Draft SAR for Original, full length design	A	Prior to Cert Test						
Various		Final SAR for original, full length design (submitted in pieces)	A	30 days prior to scheduled NRC submittal						
29		Certification Test Report (half scale) for original full length design	A	30 days following test						
59		Phase 1A (legal weight) Interim Design Review Package	A	Prior to meeting						

Project Execution Plan for the Design, Testing, Certification
and Production of the TRUPACT-III System

PR/PO Number: 106884		Supplier: [REDACTED]		Buyer: [REDACTED]						
STR or Cognizant Engineer: [REDACTED]										
Project, System, or Equipment Description: TRUPACT-III Package										
AR/VR No.	Spec. No.	Description of Submittal Special Conditions	For Approval/ Record	Date Due to WTS	Date Rec.	Date to STR	Date from STR	Disposition A, C, D	Resubmittal Required?	Date to Supplier
60		Phase 1A (legal weight) Interim Design Review mtg minutes	R	10 days after meeting						
69		Final Design Report = Fabrication Document Submittal for legal weight design (Dwgs/Specs/Q lists)	A	30 days prior to fab						
73		Roller Floor fab drawings (in lieu of descoped ancillary equip design report)	A	30 days prior to fab						
74		FIT Plan for Production Units	A	30 days prior to fab						
75		FIT Plan for Cert Test Unit	A	30 days prior to fab						
		LT-027 Production Unit Leakage Rate Test Procedure	A	10 days prior to use						
		LT-029 Cert Unit Leakage Rate Test Procedure	A	10 days prior to use						
		LT-030 Cert Unit Pressure Test Procedure	A	10 days prior to use						
		LT-028 Production Unit Pressure Test Procedure	A	10 days prior to use						

PR/PO Number: 106884 Supplier: [Redacted] Buyer: [Redacted]
 STR or Cognizant Engineer: [Redacted]

Project, System, or Equipment Description: TRUPACT-III Package

AR/VR No.	Spec. No.	Description of Submittal Special Conditions	For Approval/ Record	Date Due to WTS	Date Rec.	Date to STR	Date from STR	Disposition A, C, D	Resubmittal Required?	Date to Supplier
		LT-033 Load Test Procedure	A	10 days prior to use						
		Certification Test Procedure for legal weight design	A	30 days prior to test						
		Certification Test Report for legal weight design	A	30 days following test						
		Nameplate Drawing 51199-101	R	Prior to fab						
		Draft SAR (w/o Cert test data) for legal weight design - Packaging Portions - Payload Portions	A A	30 days prior to submit to NRC						
		Final SAR (with Cert test data) for legal weight design - Packaging Portions - Payload Portions	A A	10 days prior to submit to NRC						
		O&M Manual	A	With delivery of first NRC-Certified Production Unit						

PR/PO Number: 106884		Supplier: [REDACTED]		Buyer: [REDACTED]						
STR or Cognizant Engineer: [REDACTED]										
Project, System, or Equipment Description: TRUPACT-III Package										
AR/VR No.	Spec. No.	Description of Submittal Special Conditions	For Approval/ Record	Date Due to WTS	Date Rec.	Date to STR	Date from STR	Disposition A, C, D	Resubmittal Required?	Date to Supplier
		Spare Parts List	A	With delivery of first Production Unit						
		PacTec review comments on PRCD	R	10 days prior to submit to NRC						
		NRC RAIs	R	On receipt from NRC						
		Responses to NRC RAIs - Packaging related - Payload related	R A	5 days prior to transmit to NRC						
		NRC C of C	R	On receipt from NRC						
		Leak Test, Pressure Test and Load Test Results for PU#1	R A	When tests completed, In Final Data Package						
		Assembly Performance Test Results for PU#1	R A	When tests completed, In Final Data Package						

Project Execution Plan for the Design, Testing, Certification
and Production of the TRUPACT-III System

PR/PO Number: 106884		Supplier: [REDACTED]		Buyer: [REDACTED]						
STR or Cognizant Engineer: [REDACTED]										
Project, System, or Equipment Description: TRUPACT-III Package										
AR/VR No.	Spec. No.	Description of Submittal Special Conditions	For Approval/ Record	Date Due to WTS	Date Rec.	Date to STR	Date from STR	Disposition A, C, D	Resubmittal Required?	Date to Supplier
		Balsa, Polyurethane Foam, Calcium Silicate acceptance test results for PU#1	R A	When tests completed, In Final Data Package						
		Receipt and Source Inspection reports for PU#1 O-rings	R A	When produced, In Final Data Package						
		Welding and NDE Procedures for PU#1 and CTU	R	When initially developed						
		Leak Test, Pressure Test and Load Test Results for CTU	R	When tests completed						
		Assembly Performance Test Results for CTU	R	When tests completed						
		Balsa, Polyurethane Foam, Calcium Silicate acceptance test results for CTU	R	When tests completed						
		Receipt and Source Inspection reports for CTU O-rings	R	When produced						
		Final Cert Test Unit Data Package and C of C	R	At completion of CTU						

Project Execution Plan for the Design, Testing, Certification
and Production of the TRUPACT-III System

PR/PO Number: 106884 Supplier: [Redacted] Buyer: [Redacted]

STR or Cognizant Engineer: [Redacted]

Project, System, or Equipment Description: TRUPACT-III Package

AR/VR No.	Spec. No.	Description of Submittal Special Conditions	For Approval/ Record	Date Due to WTS	Date Rec.	Date to STR	Date from STR	Disposition A, C, D	Resubmittal Required?	Date to Supplier
		Final Production Unit #1 Data Package and C of C	A	Prior to delivery of first Production Unit						
		Changes in design, workmanship standards, manufacturing processes or test requirements previously approved by WTS	A	Prior to change						

Disposition:

- A = Approval
- C = Conditional Approval
- D = Disapproval

STR is to complete first five columns for Submittal to Vendor.
Vendor is to concur with dates offered or submit alternate dates for approval.
Subcontract Administrator shall complete fields as appropriate.
Subcontract Administrator disposition copy of AR/VR to STR and Supplier

Controlled
Copy

RCT-PXP-011, Rev. 0

Effective Date: 07/31/2006

**Project Execution Plan for the Design, Testing, Certification
and Production of the TRUPACT-III System**

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Attachment C – WTS Contract 106884 with [REDACTED] for Phase 1

Change Notice 15 of WTS Contract 106884 is attached.

RCT-PXP-011, Rev. 0
Project Execution Plan for the Design, Testing, Certification
and Production of the TRUPACT-III System

Effective Date: 07/31/2006

Attachment C – WTS Contract 106884 with [REDACTED] for Phase 1 (Continued)

Purchase Order



CHANGE ORDER - REPRINT
Purchase Order **Date** **Revision** **Page**
WTS Contract 106884
Payment Terms **Freight Terms** **Ship Via**
Buyer **Phone** **Currency**

Ship To: 4021 National Parks Highway
Carlsbad NM 88521
United States

Bill To: P.O. Box 2075
Carlsbad NM 88521
United States

General Instructions

Receiving Hours:
WIPP Site - 7:30 A.M. to 3:00 P.M. Monday through Thursday
Skull/Westport Bldg - 7:30 A.M. to 3:30 P.M. Monday through Friday
Proof for American citizenship must be provided for access

This subcontract is awarded under Washington TRU Solutions LLC Prime Contract No. DE-AC29-01AL66444 with the U.S. Department of Energy. D-FAS DD-E2 rating applies.

Tax Exempt? Tax Exempt ID: 02-438529-008

Line-Sch	Item/Description	Mfg ID	Quantity	UOM	Unit Price	Extended Amt	Due Date
1- 1	DESIGN SERVICES FOR TRUPACT-III TYPE B PACKAGE					[REDACTED]	07/19/2004
	Freight Terms:	Not Applicable					
	Ship Via:	N/A					
	Schedule Total					[REDACTED]	
<u>Date</u>	<u>Change #</u>	<u>Date</u>	<u>Qty</u>				
1	W1320301CCEU9C	100%					2002
	Item Total					[REDACTED]	
2- 1	ANCILLARY EQUIPMENT DESCOPE					[REDACTED]	07/30/2004
	Freight Terms:	Not Applicable					
	Ship Via:	N/A					
	Schedule Total					[REDACTED]	
<p>Descopes remaining portions of the ancillary equipment design development effort from the existing Phase 1 of the contract in accordance with the description of work "Modification to PO 106884 with [REDACTED] for Development of the TRUPACT-III System - Ancillary Equipment Descopes."</p>							
<u>Date</u>	<u>Change #</u>	<u>Date</u>	<u>Qty</u>				
1	W1320301CCEU9C	100%					2002
	Item Total					[REDACTED]	

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RCT-PXP-011, Rev. 0
Project Execution Plan for the Design, Testing, Certification
and Production of the TRUPACT-III System

Effective Date: 07/31/2006

Attachment C – WTS Contract 106884 with [REDACTED] for Phase 1 (Continued)

Purchase Order						
11 - 05/31/2005						
Line-Sch	Item/Description	Mfg ID	Quantity	UOM	Unit Price	Extended Amt Due Date
3-1	TRUPACT-III Test Location Change					[REDACTED] 11/30/2004
	Freight Terms: Not Applicable			Ship Via: N/A		
				Schedule Total		[REDACTED]
Additional funding to cover the cost for the change in test location						
Date	Charge #	Dist	Bud Yr			
1	W152030101 SUBC	100%	2004			
				Item Total		[REDACTED]
4-1	TRUPACT-III - PHASE 1A REDESIGN					[REDACTED] 05/31/2005
	Freight Terms: Not Applicable			Ship Via: N/A		
				Schedule Total		[REDACTED]
Date	Charge #	Dist	Bud Yr			
1	W152030101 SUBC	100%	2004			
				Item Total		[REDACTED]
5-1	LONG LEAD ACTIVITIES					[REDACTED] 12/31/2005
	Freight Terms: Destination Pre-paid			Ship Via: COMMON		
				Schedule Total		[REDACTED]
Date	Charge #	Dist	Bud Yr			
1	W152030101 SUBC	100%	2004			
				Item Total		[REDACTED]
6-1	PURCHASE OF LONG LEAD STEEL MATERIAL					[REDACTED] 11/30/2005
	Freight Terms: Not Applicable			Ship Via: N/A		
				Schedule Total		[REDACTED]
Date	Charge #	Dist	Bud Yr			
1	W152030101 SUBC	100%	2005			
				Item Total		[REDACTED]

*** Continued on next page ***

RCT-PXP-011, Rev. 0
Project Execution Plan for the Design, Testing, Certification
and Production of the TRUPACT-III System

Effective Date: 07/31/2006

Attachment C – WTS Contract 106884 with [REDACTED] for Phase 1 (Continued)

Purchase Order

11 - 05/31/2005

Line/Qty	Item/Description	Mfg ID	Quantity	UOM	Unit Price	Extended Amt	Due Date
7	TRUPACT-III CERTIFICATION ACTIVITIES					[REDACTED]	05/31/2007
	Freight Terms	Not Applicable		Ship Via	N/A		
				Schedule Total		[REDACTED]	

Perform required TRUPACT-III certification work scope associated with the final re-design for legal weight, full scale testing, and Nuclear Regulatory Commission (NRC) Certification of the TRUPACT-III, including fabrication of one test unit and one production unit to be available if additional testing is required. In addition, all remaining stainless steel materials necessary for production of 11 TRUPACT-III units shall be procured (1 test, 9 production, 1 extra set). The work is to be performed in accordance with WTS Statement of Work "Performance Based Statement of Work (SOW) for TRUPACT-III Type B Contact-Handled Transuranic Waste Transportator Packaging, Rev. 2, dated March 7, 2005, including all references, specifications, requirements and documents contained herein or attached thereto.

Order	Change #	Date	Buy Yr
1	W12050103SUBC	06/15/2005	2005
2	W12050103SUBC	07/15/2005	2005

Item Total

Change Notice No. 15 is an administrative change to the subcontract being issued to make the following clarifications and modifications:

1. Invoices

The following milestones are established for cost segregation and reimbursement under Section 5.01 "Payments under Cost Reimbursement Type Subcontract".

Project Control
Remaining Materials

2. Payment of Fee

Under Section 5.02 "Payment of Fee", the amounts to pay 50% of the total fee ([REDACTED]) are clarified as follows:

- Final Design - [REDACTED]
- Certification Plan - [REDACTED]
- Engineering Test - [REDACTED]
- Complete fabrication of CTU - [REDACTED]
- Completion of full scale test - [REDACTED]
- Submission of SAR to NRC - [REDACTED]
- Completion of first production unit - [REDACTED]
- NRC RAIs - [REDACTED]

3. PacTec's revised proposal dated July 15, 2006 is incorporated into the subcontract with this change

4. PacTec is authorized to use Federal Travel Regulation (FTR) rates for travel in support of this subcontract. Per diem rates for Carlsbad, N.M. are \$60.00 per day for lodging and \$39.00 per day for meals and incidentals.

5. Under section 5.02 "Payment of Fee", the clause references fee associated with work scope under Line Items 4 and 6 of this subcontract. Reference to the line items is corrected to read as follows: ".....Line Items 5 and 6....."

6. Supplier's requirement to notify WTS if subcontract ceiling amount will be exceeded is revised as follows:

"The maximum amount authorized does not constitute a commitment by WTS to expend any or all of the authorized funds. If at any time the Contractor has reason to believe that they will exceed the established ceiling price, the contractor shall notify the buyer giving a revised estimate of the total cost for completing the task, with supporting reason and documentation. WTS shall not be obligated to pay the Contractor any amount in excess of the established ceiling price, unless and until WTS shall have notified the contractor in writing that the ceiling price has been increased. On a quarterly basis, the supplier shall provide a status of cost identifying costs incurred to date and an updated estimate to complete."

With this change, all other requirements, terms, and conditions of the original subcontract, and as amended, shall remain in full force and effect.

Please indicate acceptance of this change notice by signing below and returning it within five working days to the buyer

*** Continued on next page ***

Attachment C – WTS Contract 106884 with [REDACTED] for Phase 1 (Continued)

Purchase Order

11 - 05/31/2005

Line-Sch	Item/Description	Mfg ID	Quantity	UOM	Unit Price	Extended Amt	Due Date
----------	------------------	--------	----------	-----	------------	--------------	----------

Signature _____

Name _____

Date _____

Total PO Amount [REDACTED]

_____ [REDACTED]

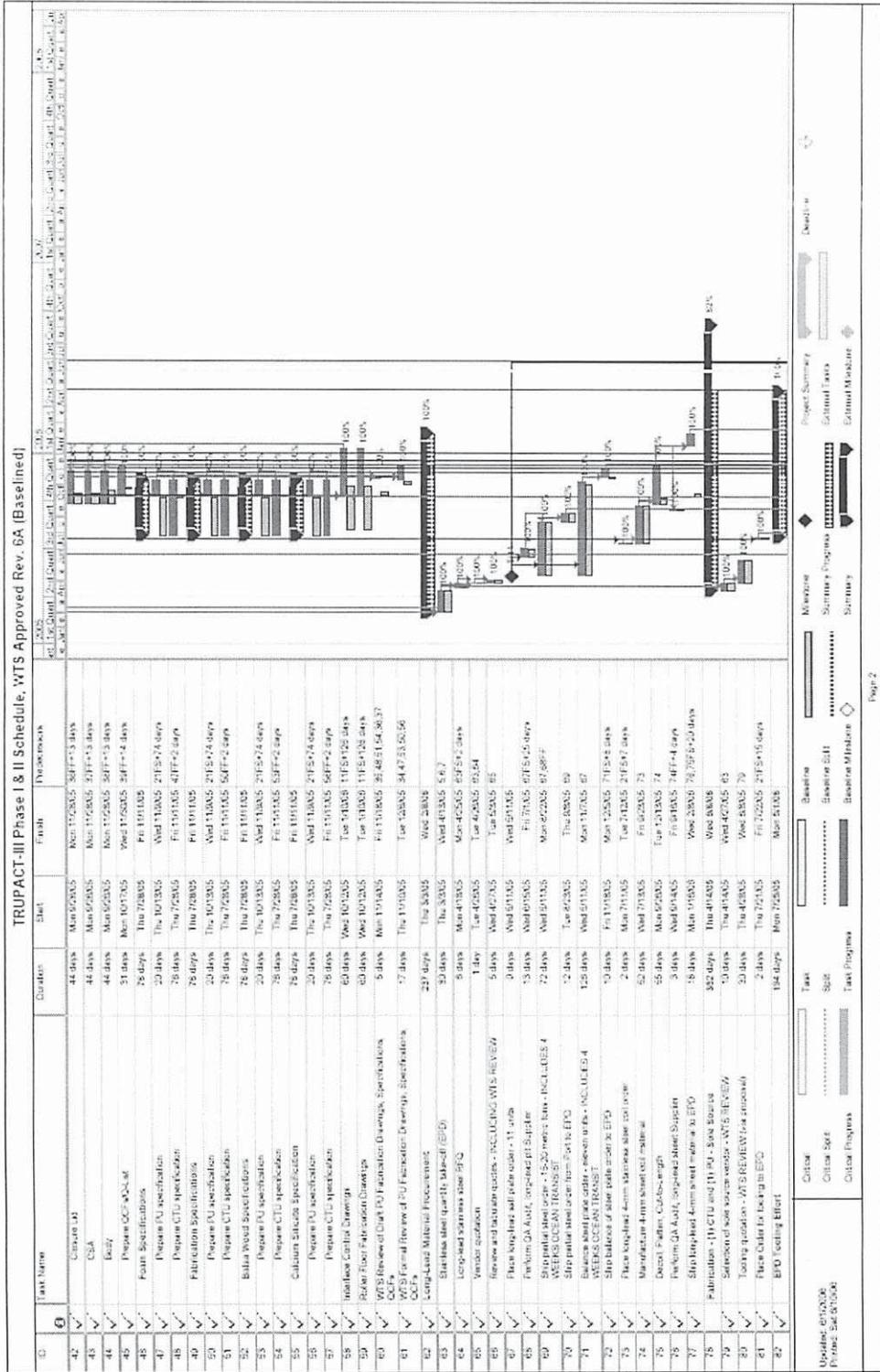
Attachment D – WTS Schedule vs. Baseline

The overall schedule for all TRUPACT-III project activities necessary to complete Phase 1 and 2 scope is maintained by, and available from, the WTS Project Analysis and Control (PAC) Group. A monthly meeting is held between PAC and the WTS TRUPACT-III STR to status and appropriately update the schedule. The update leads to identification of any cost or schedule variances, which are subsequently reported and explained in monthly reports to WTS senior management and DOE-CBFO if preset thresholds are exceeded. By way of example, the portion of the schedule associated with trailers and ancillary equipment is attached (for May 2006).

Attachment E – [REDACTED] Schedule vs. Baseline

Attached is the most recent [REDACTED] schedule for completion of phases 1 and 2 as provided with their monthly report for May 2006. The current status of each activity of the schedule is shown along with the currently approved (by WTS) baseline version of the schedule (Revision 6A, approved via AR106884-005R11). As part of their monthly reporting (see Attachment F herein), [REDACTED] provides an updated schedule.

Attachment E – Schedule vs. Baseline (Continued)



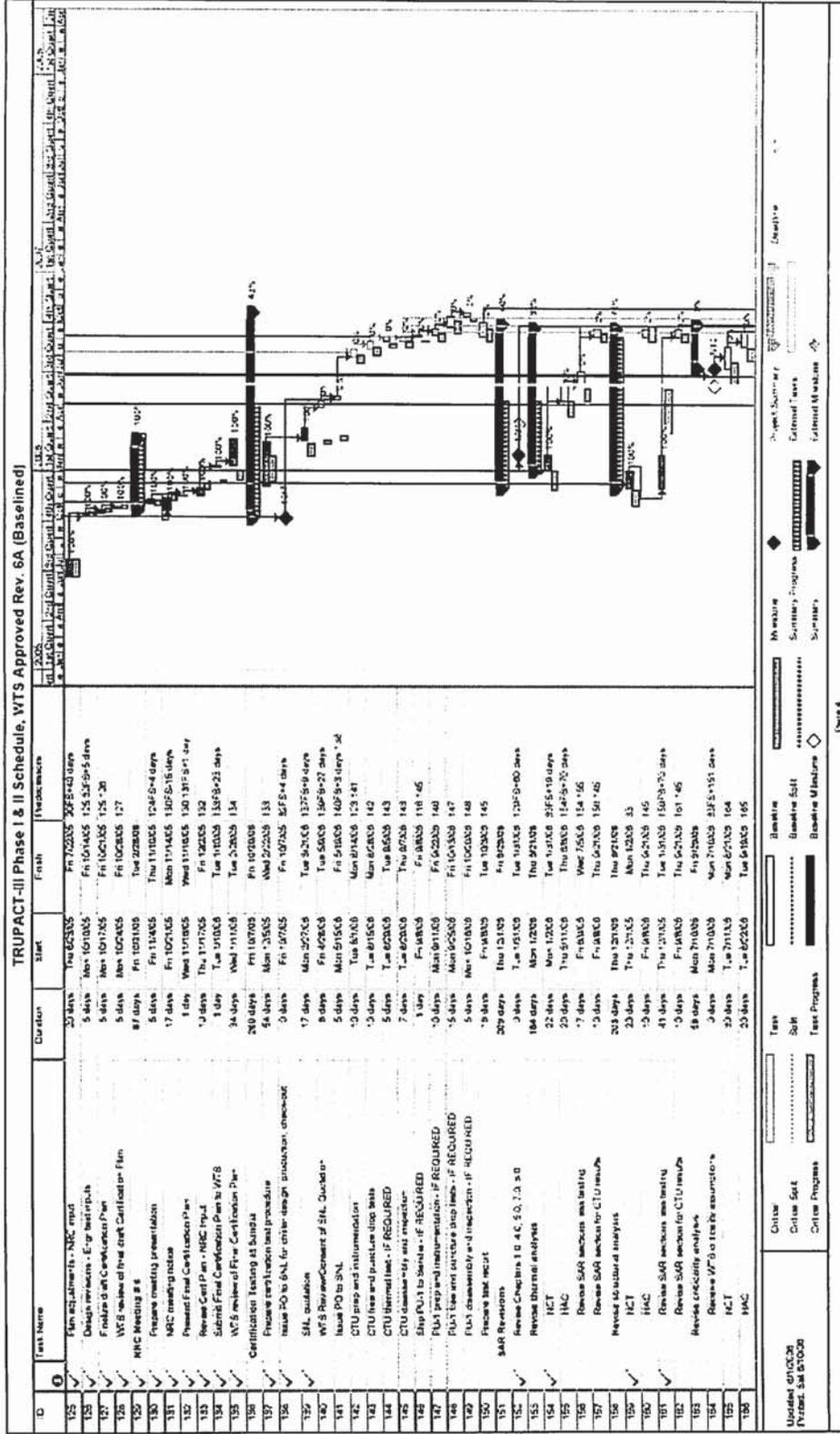
Project Execution Plan for the Design, Testing, Certification and Production of the TRUPACT-III System

Attachment E - Schedule vs. Baseline (Continued)

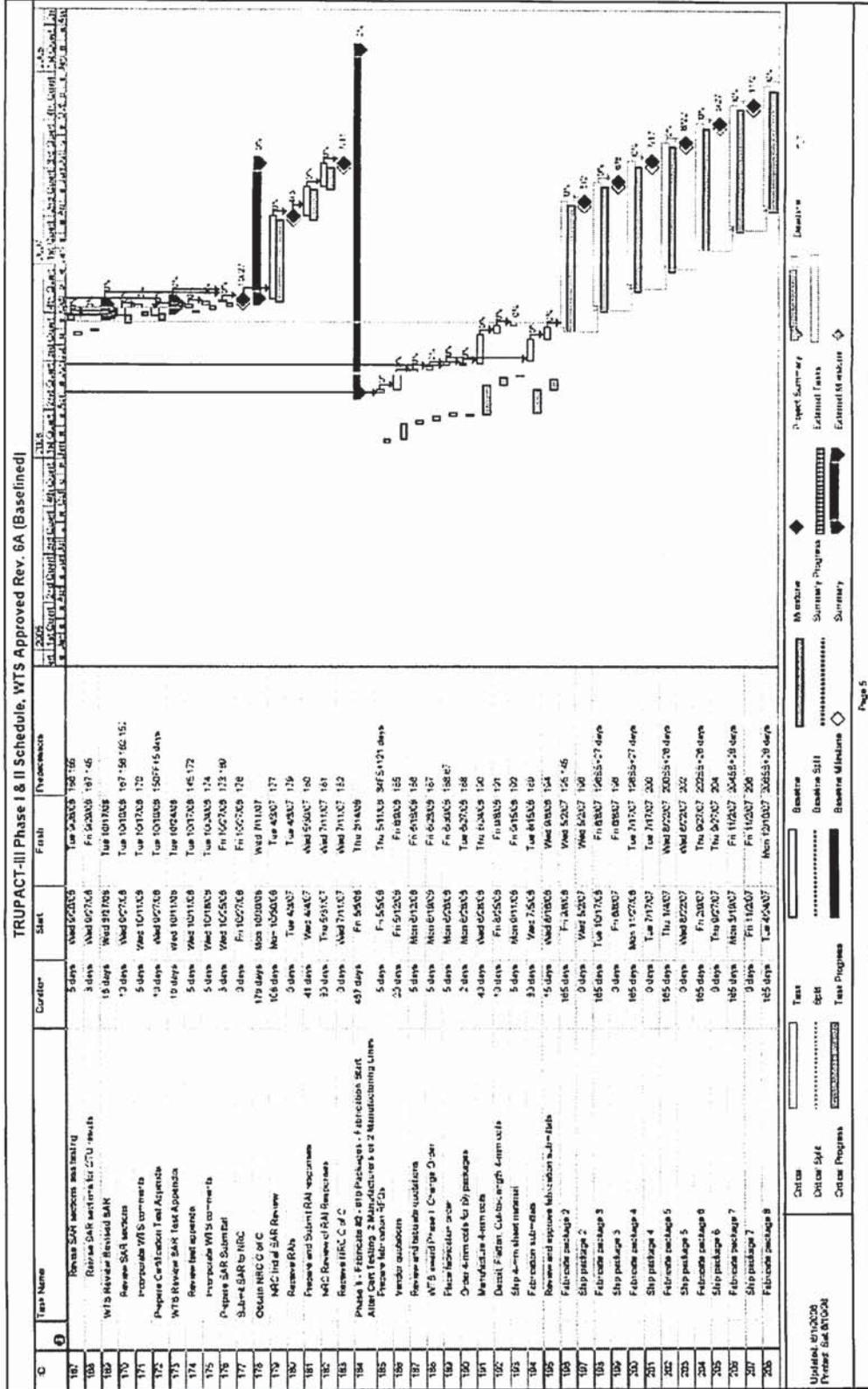
ID	Task Name	Duration	Start	Finish	Predecessors
83	Design tooling	20 days	Mon 7/25/05	Fri 8/19/05	81
84	Obtain quotations for valves & tools	15 days	Mon 8/7/05	Mon 8/22/05	83
85	Place order for valves & tools	43 days	Wed 7/27/05	Wed 9/1/05	84
86	Fabricate metal tubing	164 days	Tue 2/21/06	Mon 5/1/06	85
87	Issue RFS for team - INCLUDING WTS REVIEW	2 days	Mon 12/26/05	Tue 1/3/06	86
88	Obtain P&ID	12 days	Wed 12/7/05	Thu 12/22/05	87
89	Review quote - INCLUDING WTS CONSENT	9 days	Wed 12/7/05	Thu 12/22/05	88
90	Place team order of General Package	1 day	Wed 12/7/05	Wed 12/7/05	89
91	Manufacture main tank - 3000 lbs	60 days	Tue 1/10/06	Fri 3/2/06	90
92	Ship main tanks to EPC	5 days	Mon 6/6/06	Fri 6/23/06	91
93	Prepare draft EIT plan	3 days	Thu 12/15/05	Thu 12/15/05	92
94	WTS review of draft EIT Plan	4 days	Fri 12/16/05	Wed 12/21/05	93
95	Finalize and submit EIT Plan	21 days	Thu 12/22/05	Tue 1/16/06	94
96	Issue REQ to EPC for fabrication of tank	2 days	Tue 1/16/06	Wed 1/23/06	95
97	Issue RFS to EPC for fabrication of CTU	2 days	Tue 1/16/06	Wed 1/23/06	96
98	EIT P&ID Quotation	13 days	Thu 1/18/06	Wed 1/24/06	97
99	EIT CTU Quotation	7 days	Tue 1/23/06	Fri 1/27/06	98
100	Review EPC P&ID Quotation - INCLUDING WTS CONSENT	17 days	Mon 1/23/06	Tue 1/30/06	99
101	Place P&ID Fabrication Order	2 days	Wed 1/25/06	Thu 1/26/06	100
102	Review EPC CTU Quotation - INCLUDING WTS CONSENT	7 days	Mon 1/23/06	Tue 1/30/06	99
103	Place CTU Fabrication Order	2 days	Wed 1/25/06	Thu 1/26/06	102
104	Fabrication sub-tanks	153 days	Tue 1/23/06	Wed 5/29/06	101
105	Review and approve fabrication sub-tanks	1 day	Fri 6/2/06	Fri 6/2/06	104
106	Receive partial long lead sub-tanks ship	1 day	Tue 1/23/06	Tue 1/23/06	105
107	Receive fabrication long lead sub-tanks ship	1 day	Thu 2/2/06	Thu 2/2/06	106
108	Receive 6 mm coil material	2 days	Mon 6/12/06	Tue 6/13/06	107
109	Receive polyethylene burn	123 days	Wed 1/23/06	Thu 7/12/06	108
110	Fabricate CTU	6 days	Tue 7/18/06	Tue 7/18/06	109
111	Final Assembly (100)	45 days	Tue 6/20/06	Mon 7/17/06	110
112	Buy (100)	108 days	Wed 1/25/06	Fri 4/20/06	111
113	CSA (100)	91 days	Tue 2/21/06	Fri 5/5/06	112
114	Overpack Cover (100)	65 days	Thu 4/13/06	Mon 5/29/06	113
115	Overpack Cover (100)	151 days	Wed 2/15/06	Wed 6/14/06	114
116	Final Assembly (100)	6 days	Tue 6/20/06	Fri 6/23/06	115
117	Buy (100)	29 days	Fri 6/23/06	Mon 7/10/06	116
118	CSA (100)	85 days	Wed 3/15/06	Wed 5/3/06	117
119	Overpack Cover (100)	69 days	Fri 6/23/06	Mon 7/10/06	118
120	Overpack Cover (100)	5 days	Thu 7/20/06	Fri 7/27/06	119
121	CTU inspection for integrity	2 days	Fri 7/28/06	Mon 7/31/06	120
122	Ship CTU to Kansas from EPC	49 days	Thu 6/29/06	Fri 8/18/06	121
123	Final Certification Plan				

Project Execution Plan for the Design, Testing, Certification and Production of the TRUPACT-III System

Attachment E - Schedule vs. Baseline (Continued)



Attachment E - Schedule vs. Baseline (Continued)



Attachment F – ██████████ Monthly Report

██████████ is required to provide a monthly report to WTS under Contract 106884. Attached is a representative report (May 2006) excluding the schedule update (which is available as Attachment E herein). Report format/general content was mutually agreed to by WTS and ██████████ as being sufficient to meet WTS' needs.

Attachment F – [REDACTED] Monthly Report (Continued)

TRUPACT-III Progress Report
For May 2006

Summary of Events

This Monthly Progress Report is for the month of May 2006, which was the forty-fourth month of the TRUPACT-III project. This period was focused upon the following activities and events:

Phase II Proposal Activity

- WTS formally requested on April 20 a formal firm, fixed price (FFP) proposal for 4, 5, and 6 units, and priced options for an additional 13 units.
- FFP request for quotations (RFQs) were transmitted and received from EPD, Rainier Rubber, Nova Machine, and General Plastics in support of WTS' request. At the end of the reporting period, the proposal was being finalized and reviewed by [REDACTED] upper management prior to submission to WTS.

Purchase of Long-Lead Steel Material (Line-Sch 6-1)

- No activity during this period.

TRUPACT-III Certification Activities (Line-Sch 7-1)

- Contract Change Order Revision 11 was issued on 6/28/05 to complete all remaining certification activities to obtain a NRC C of C, order the remaining steel for eleven units, and to manufacture the first production unit.
- Certification activity tasks executed in May included:
 - [REDACTED] continued pre-processing of materials and fabrication of assemblies for the CTU and the PU.
 - [REDACTED] on-site fabrication oversight continued at [REDACTED]
 - Received, reviewed, and/or approved, as applicable, a number of fabrication shop travelers, and Purchase Requisitions (PRs) from [REDACTED] for the CTU and the PU.
 - Performed receipt inspection of the socket head cap screws (SHCS) at [REDACTED]. The SHCS have been released to [REDACTED] for use.
 - Completed draft of helium leakage rate test procedure for the CTU. [REDACTED] Level III LT personnel reviewed and provided comments on the draft procedure.
 - Continued issuing Drawing Change Notices (DCNs) to correct, add, and/or clarify design information on [REDACTED] fabrication drawings.

Schedule Status

The schedule reporting for this period is made against the Revision 6A schedule that was submitted on September 30, 2005, and approved with comment by WTS on October 14, 2005. An updated copy of the project schedule is attached to this progress report. Note that this schedule update has been baselined to reflect any slippage that may have occurred when compared to the WTS-approved schedule in AR 106884-005R11.



Attachment F – [REDACTED] Monthly Report (continued)

May 2006 TRUPACT-III Progress Report (Continued)

The status of key Final Design Documents tasks is as follows:

- Task #14. *Package Documents* - WTS revised the disposition of AR 106884-069R1 to a Conditional Approval status, which requires responding to the three WTS "more significant" comments, and noting that three additional procedures are to be submitted. Responses to the three comments will be submitted next month. The remaining procedures, which are being prepared to support the CTU fabrication schedule, will be submitted when completed.

The status of key Package Fabrication Document tasks is as follows:

- Task #58. *Interface Control Drawings* - The WTS ICD comments that were received have been incorporated into the ICD drawings, as appropriate. The revised drawings will be resubmitted to WTS for review early next month.

The status of key Certification Activity tasks is as follows:

- Task #91. *Manufacture Foam Blocks - Two Units* - [REDACTED] (GP) has near completion of the CTU foam blocks/panels during this period. The CTU foam will be shipped early next month to [REDACTED] utilizing a dedicated truck. Although the date for the polyurethane foam delivery has slipped into next month, this task remains off of the critical path and hence, does not affect the completion of the CTU or the PU.
- Task #104. *Fabrication Submittals*, continued during this period. Assembly travelers for the PU body containment flange weldment and the PU CSA containment weldment have been issued to the shop floor for use. Common part travelers continue to be generated and submitted to support the fabrication schedule of both the CTU and the PU.
- Task #105. *Review and Approve Fabrication Submittals*, continued during this period. [REDACTED] has submitted two (2) Purchase Requisitions (PRs) for some Quality Category A and B materials for approval, thirty-eight (38) pre-processing and assembly Manufacturing Quality Planning Travelers (MQPTs) for review, and two (2) MQPT Change Notices for review. All of these fabrication submittals were reviewed and returned to [REDACTED] in 5 workdays or less.
- Task #110. *Fabricate CTU* - [REDACTED] notified [REDACTED] on May 26th that the CTU fabrication was approximately (1) month behind schedule for completion by July 20, 2006. On that date, [REDACTED] formally requested a recovery plan from [REDACTED] maintain the schedule by May 31st. In response [REDACTED] has committed to use three shifts for a 6 day workweek and working Sundays as needed to maximize the probability of completion by July 20th. The third shift will commence on June 1st. [REDACTED] continues to closely monitor [REDACTED] progress and assist in any way possible to ensure success. Note that this schedule item has been expanded to include the five major subassemblies of the package. The CTU CSA containment "box" with the V-stiffeners installed, the CSA body flange, and the closure lid inner and outer weldments are shown in the attached photographs.
- Task #116 (formally #111). *Fabricate Production Unit (PU) 1* - [REDACTED] continues support the completion of the CTU fabrication by September 6, 2006. Schedule improvements will be continued to be pursued wherever possible to improve on this date. Work is proceeding on welding the V-stiffeners to the CSA box and completing the CSA box flange subassembly. Note that this schedule item has been expanded to include the five major subassemblies of the package. The PU CSA body fabrication is shown in the attached photographs.
- Task #129. *SNL Quotation* - A formal consent request was submitted to and approved by WTS to permit the issuance of a cost reimbursable contract to SNL for the certification

Attachment F – ██████████ Monthly Report (Continued)

May 2006 TRUPACT-III Progress Report (Continued)

testing. The not-to-exceed (NTE) value placed on SNL's test support is ██████████, which SNL projected to be the most likely total cost for the scope of work.

- Task #133, *CTU Free and Puncture Drop Tests* - there is no change in the scheduled start test date of 8/15/06. If any schedule improvement of the CTU fabrication is realized, a corresponding improvement on the test date will be realized.
- Task #167, *Submit SAR to NRC* - although the currently updated schedule shows a October 27, 2006 date, ██████████ is committed to ensure that the original scheduled date of October 6, 2006, is met. To that end, ██████████ has completed the analyses and general packaging standards of all of the SAR sections for the current TRUPACT-III design, excluding the CTU test results.
- Task #173, *Receive NRC C of C* - there has been no change in the schedule for receiving the NRC C of C for the TRUPACT-III package during this period. The projected completion date is scheduled to be July 11, 2007 versus the July 4, 2007 baseline scheduled date.

Funding/Expenditure Status for Cost-Reimbursable Change Orders

Through May 31, 2006, funding and expenditure for the Line-Sch 7-1 is summarized in the following table. The committed ODCs currently total ██████████ distributed as noted in the table. Note that these ODCs reflect the ██████████ 2006 G&A rate of ██████████ and exclude fee. For the TRUPACT-III Certification Activities, the estimated ██████████ labor cost for June 2006 is ██████████

Line-Sch	Description	Authorized Amount	Invoiced (thru 5/31/06)*	Committed ODCs*
7-1	TRUPACT-III Certification Activities	██████████	██████████	<ul style="list-style-type: none"> • ██████████ Tooling: ██████████ • ██████████ CTU/PU Fab: ██████████ • Fabrication Oversight: ██████████ • ██████████ ██████████ • ██████████ ██████████ • ██████████ ██████████

* Committed ODCs reflect total amount authorized on purchase order. Amounts listed have not been reduced for any partial costs that may have been incurred and invoiced to date.

Preliminary evaluation of the Phase I project total cost at completion, including all of the WTS-approved increased ODCs (i.e., ██████████ fabrication, SNL certification testing, weld wire), has projected an approximate surplus of ██████████ from the authorized amount of ██████████. This projected surplus is the remaining balance of the Phase I long-lead material funding that will be use for Phase II material procurement when authorized.

Quality Assurance

- The triennial audit of ██████████ was completed during this period. ██████████ successfully passed the audit, which identified (2) findings and some observations. ██████████ will now remain on the TN ASL until the next triennial audit is due, which is May 2009.
- Received four (4) discrepancy reports [(2) ██████████ (2) General Plastics] during this reporting period. Discrepancies were determined to be acceptable and were dispositioned as "Use-As-Is".



Attachment F – [REDACTED] Monthly Report (Continued)

May 2006 TRUPACT-III Progress Report (Continued)

Deliverables

- None.

[REDACTED] Oversight

[REDACTED] continued daily engineering and quality assurance oversight of [REDACTED] TRUPACT-III activities. Copies of the [REDACTED] TRUPACT-III Fabrication Oversight of [REDACTED] weekly reporting forms for each individual for this reporting period are attached to this report. For the reporting period, [REDACTED] personnel that were on-site at [REDACTED] as summarized in the following table.

Date(s)	Personnel	Function	Activity
5/1 - 5/31	[REDACTED]	Fabrication Engineer	Oversee fab shop activities to ensure compliance; review MQPTs
5/8 - 5/12	[REDACTED]	Project Engineer/Manager	Inspect fab shop activities to ensure compliance and determine progress; review project status w/ [REDACTED] PM; respond to design questions
5/1-5/5 5/22 - 5/26	[REDACTED]	Quality Assurance	Performed triennial audit. Oversee fab shop activities to ensure compliance
5/15-5/19	[REDACTED]	Quality Assurance	Oversee fab shop activities to ensure compliance, review RT film
5/8 - 5/12 5/30-6/2	[REDACTED]	Quality Assurance	Oversee fab shop activities to ensure compliance

Open and Delayed Items

- AR 106884-061, *Small Business Plan, et al.*, is required to be re-submitted to WTS under AR 106884-001R2.

Concerns and Issues

- [REDACTED] has identified that the completion of the CTU is approximately 1 month behind schedule. Although [REDACTED] is committed to the July 20th completion date, the remaining calendar time does not permit any schedule slippage in order to complete the CTU by this date.

Plans for Next Month

- Continue fabrication oversight of [REDACTED] and [REDACTED] to maintain schedule critical path.
- Continue reviewing [REDACTED] fabrication documents as necessary to ensure full support of the fabrication schedule.
- Ship CTU foam blocks from [REDACTED] to [REDACTED]
- Issue triennial QA audit report of [REDACTED] to maintain their listing on the TN ASL.
- Perform receipt inspection of the O-ring seals from [REDACTED]
- Issue leakage rate and pressure test procedures for the CTU to [REDACTED]
- Issue a NTE cost-reimbursable subcontract to SNL the Certification Testing.
- Issue a FFP subcontract to [REDACTED] for the ER2209 weld wire cost differential.

Attachment G – WTS Cost Account Plan (CAP)

The level 1, 2 and 3 CAPs are available from the WTS Project Analysis and Control (PAC) Group. The CAPs were developed consistent with the STR generated baseline spend plan (see Attachment I herein), the FY06 ABC sheet (discussed in Attachment J) and the Production related BCRs (Attachment K).

Attachment H – WTS STR Phase 1 Cost Tracking Spreadsheet

The following spreadsheet is used by the WTS TRUPACT-III STR to track actual costs vs. budget for line items 5 and 7 of PacTec's phase 1 contract to design, test and certify the TRUPACT-III as well as to manufacture the first production TRUPACT-III. This spreadsheet is updated monthly on receipt of PacTec invoices. The remaining budget and comments columns on the far right of the spreadsheet are used by the STR to evaluate actual costs vs. budget and develop Estimates to Complete (ETCs).

Attachment I – WTS STR Spend Plan and Accrual Spreadsheets

Attached are the baseline spend plan for FY06 as developed by the STR and an updated version showing actual accruals against the plan through June 2006. Each month the accrual sheet is updated by the TRUPACT-III STR.

Attachment J – FY05 Activity Based Cost (ABC) Sheet

The FY05 ABC sheet is attached. For FY06, the only newly identified cost was that associated with one FTE of labor. Cost for that labor in FY06 is [REDACTED], including NM State tax. All other activity in FY06 is in the form of carryover from prior years and/or per BCRs (see Attachment K).

Project Execution Plan for the Design, Testing, Certification and Production of the TRUPACT-III System

Attachment J – FY05 Activity Based Cost (ABC) Sheet (Continued)

PBS NUMBER: Transportation - WIPP (CB-06920) **BUILDING BLOCK:** 7) Cracking Projects Building Block (P)
Performance Measure: Milestone Method
 Washington TRU Solutions (WTS)
 Activity Based Cost Estimate
 1.3.2.02.01 TRUPACT-III System Design, Fabrication, and Certification (Assuming Full Scale Testing - 1 Test Article)
 Fiscal Year 2005

SCOPE
 The TRUPACT-III Package is being developed by [redacted] for the DOE as a safe means for transportation of CH-TRU materials. The TRUPACT-III is designed for transport by semi-truck. Rail shipment was initially considered but is no longer in scope (see Transportation Planning Assumption 1). The TRUPACT-III will still likely be certified for transport by truck or rail, only ancillary equipment items related to rail shipment are currently on hold. The rugged, volume-efficient design of the TRUPACT-III package allows for transport of maximum payload volumes and variations, thus reducing the total number of radioactive shipments of CH-TRU waste. The goals of maintaining public safety while achieving a volume-efficient design are satisfied by use of a composite structure that can sustain both normal conditions of transport (NCT) and hypothetical accident condition (HAC) deformations without loss of load-carrying capability. A hermetic TRUPACT-III certification test unit has been subjected to a series of fire and puncture drops. Those tests, together with the structural analyses, were intended to conclusively demonstrate containment integrity of the TRUPACT-III package. This revised baseline assumes full-scale testing will now be pursued. The design is also being transferred to

In addition to the package design, cert and fab, project scope includes design and fab of ancillary equipment. [redacted] remains responsible for the entire floor component. WTS (with subcontract support as necessary) will develop and produce all other ancillary equipment items. Standard Large Drum (SLD) perforated container designs are also considered to fall within the TRUPACT-III scope. SLB3 is assumed to be on hold and is not costed herein. Fab of production SLBs and associated fab follow by Packaging Engineering is not included herein. WTS scope also includes development and NRC acceptance of the PRCO (TRU-III equivalent of CH-TRAMPAC). This requires WTS Packaging Engineering support and subcontract support from Shaw and others. Scope includes WTS Packaging Engineering (to follow (tech oversight)) during production of TRU-III by [redacted]. Scope also includes Packaging Engineering support to WIPP and the User. Safety as necessary to plan for and implement the TRUPACT-III System.

Technical Assumptions

The overall technical approach is to be per Performance Based Statement of Work for TRU-III, Rev. 1. The TRU-III packaging has been developed as a single containment system on the assumption that the NRC rulemaking minimizing double containment for greater than 20 Ci Pu would be adopted. The rulemaking was adopted on Jan. 26, 2004 and went into effect Oct. 1, 2004. Although WDA and other stakeholders continue to show interest in double containment, it is assumed that such will not become a project requirement. For the original baseline case, it was assumed that certification using 1/2 scale test articles would be accepted by the NRC, when supplemented with Finite Element Analyses. For this current case, it is assumed that full-scale testing (drop and puncture) of one test article will be required, with HAC fire continuing to be by analysis. Although contractual details remain to be worked out, all full-scale test program related costs are assumed to constitute new scope and are estimated herein as added project costs.

Boxed payloads will be treated differently than drums and SWBS. Most significantly, sealed regions within the payload containers will be limited to 2% of the payload container internal volume or 1% of the TRU-III volume, whichever is less. This is relaxed compared to the 4 liter sealed container limit on the T-III-P. Due to recent NRC inputs on TRU-III Rev. 20 RAIs, a significant effort is now envisioned to address these items for TRU-III. To gain acceptance of the PRCO, a significant activity directed at addressing TRU-III Rev. 20 RAIs concerns with aerosol cans and sealed volumes is now expected to be necessary and is costed herein.

It is assumed that other payload related RAIs will not be received from NRC until FY06; and therefore, the only funding for Shaw in FY05 will be that associated with addressing the T-III Rev. 20 issues discussed above. It is assumed that WTS with limited subcontract support will initiate designs of ancillary equipment items during FY05, but that fab of those items will not start until FY06. Costs for such fab are not included herein. WTS labor estimates herein are limited to those provided by Packaging Engineering. Other WTS labor such as QA, Procurement and WIPP Site Ops will be required but are assumed to be covered elsewhere. Costs herein assume [redacted] settlement for test location change comes from carryover funding and is not included herein.

Design of SLB1 and SLB2 containers is assumed to be fully covered by FY04 funds. With the addition of full-scale testing, it is assumed that NRC will not issue a TRU-III C of C and system production hardware procurement activities will not begin in FY05 except for placement of long leads for the first production article (for potential use as a 2nd test article). Rather, it is assumed that one test article was manufactured starting in FY06 and will be tested in FY06 (see Transportation Planning Assumption 4). The entire testing contract is assumed to be issued in FY06 and is not costed herein. Production of final package and ancillary hardware is assumed to be delayed until FY06 and is not included herein except for unit one long lead. WIPP Site Ops activities associated with TRU-III will begin in FY05 to support planned disposal of large containers in FY07 (see Disposal Planning Assumption 6). Packaging Engineering labor efforts for coordinating with WIPP Site and user (see personnel are included herein).

Carryover dollars from FY04 exist (associated with ongoing Pactec contract) but are not shown herein and are in addition to the costs shown. It is assumed that the test article will be fabricated in the U.S. and costs for an initial set of tooling are included in FY05.

Drivers

- DOE Order 450 1B, Packaging and Transportation Safety
- Public Law 102-575, WIPP Land Withdrawal Act, Section 16, Transportation (FY05 Driver #1)
- Title 10, Code of Federal Regulations, Part 71-Packaging and Transportation of Radioactive Material
- Title 49, Code of Federal Regulations, Part 173-Shippers General Requirements for Shipments and Packagings Regulations and Standards applicable to transport systems including highway trailers and lifting equipment (rail adapters have been deleted based on Transportation Planning Assumption 1).
- ANSI N14.5 Leakage Tests on Packages for Shipment
- SNB, Drum and SLB2 DOT 7A Certifications
- Technical Specialists for Incident and Accident Response Team

Attachment J – FY05 Activity Based Cost (ABC) Sheet (Continued)

The Integrated Safety Management System (DOE Policy 400.4) and Environmental aspects (WPD-ECG Attachment 3) where appropriate, are integrated into all activities of this estimate.

Task/Activity	PSA Activity ID	Output Measurement	Annual Output	Headcount/Hours per Event	Direct Labor (FTEs)	Exempt	Non-exempt	Labor (\$000)	MISC (\$500)	ADP (\$000)	Subcontract (\$000)	Travel Labor (\$000)	Training (\$000)	Travel (\$000)	Total Labor	Travel/Indirect 6/7.5%	Total (\$000)
TRUPACT-III System Design and Certification	TRU0100-05	Final Package Design and C. of C. Auxiliary Equipment Design	1	1.0E+00	0.00	Technical Expense											
		Final System Testing	1	1.0E+00	0.42	Technical Expense											
		System integration support to TRU and TRU-III	1	1.0E+00	0.14	Technical Expense											
TRUPACT-III System Fabrication	TRU0100-05	Produce TRUPACT-III PWS03PWS3	0	0.00	0.00	Technical Expense											
		Produce Auxiliary Equipment	0	0.00	0.00	Technical Expense											
TOTAL					1.2	1.2	0.0										

JUSTIFICATION FOR COST ESTIMATES:

Materials and Services Description: Office supplies for daily activities. Binders and reproduction for deliverables primarily PRCO and ancillary equip designs. Tacoma satellite office costs (Internet, phone, etc.)

Materials and Services Description (cont.)

ADP Description: Design/Creat Software to support ancillary equipment design (e.g., latest version of AutoCAD).

ADP Description (cont.)

Subcontract Description

for proactive addressing of TRU-III Rev. 20 RAI issues (Shaw support, plus other activities as needed) plus for conversion of design to legal weight during FY05. To support ancillary equipment designs (for trailer manufacturer - likely Remko, for a design subcontract). To ensure proper and efficient trailer design and reasonable consistency between TRU-III and other TRU-III Waste Trainers, it is anticipated that the trailer manufacturer's input during trailer and lid design will be needed. Two man months of effort at approximately is estimated. WTS is now responsible for development of ancillary equipment designs. In a few cases due to limited available internal resources or a need for specialized design expertise, some outside subcontracting is assumed to be necessary. 200 hours at has been assumed to supplement WTS internal staff capabilities. Assume to contract for one test article (fab, instrumentation, shipping) and for tooling for one line (based on an EPD estimate) + for and A/C L labor and travel (test plans, HRC meetings, SAR revisions, PM, etc.) during FY05.

Long leads for first production article

Temporary Labor Description

Attachment J – FY05 Activity Based Cost (ABC) Sheet (Continued)

Travel/Training Description (cont.)

- 6 trips @ [redacted] Travel from Tecoma or Albuquerque to Carlsbad for Project Coordination
- 5 trips @ [redacted] Travel from Carlsbad or Albuquerque to Washington, DC for NRC meetings
- 3 trips @ [redacted] Travel from Tecoma to Washington, DC for NRC meetings
- 4 trips @ [redacted] To support ancillary equip design development [redacted], package fab follow [redacted] and User Site support [redacted]
- 2 trips @ [redacted] For travel to support interactions with State or WGA
- No trips @ [redacted] for WTS Personnel to attend and participate in full-scale tests at Sandia since tests will be in FY06.
- 1 person - training activity at [redacted] (includes travel, course cost, etc.) - for design/drafting or PM training

Other Travel Description

WBS or Cost Account Manager Signature: _____ Date: 2/15/2005

CBFO Counterpart Signature: _____ Date: _____

Revision No.: 3
Reason : Revised per Major Transition from FY05 Preliminary Execution Plan to FY05 Execution - Rev. 3, February 2005

File Name: C:\PXP\XP-011\ABC051320301\WW.xls\Template

Attachment K – Baseline Change Requests (BCRs)

BCRs associated with the manufacture of production unit TRUPACT-IIIs and associated trailers and ancillaries are as follows. These BCRs provided supplemental funding beyond the FY05 carryover amount of [REDACTED] existing at start of FY06. BCR WTS05-040 funding of [REDACTED] is included as part of the [REDACTED] carryover.

- WTS05-077 [REDACTED]

- WTS06-030 [REDACTED]

Attachment L – DOE Milestones, Drivers and Assumptions

Current DOE Milestones associated with the TRUPACT-III Project are identified in the attached table. Specific milestones associated with the TRUPACT-III are those corresponding to CBFO WBS numbers 1.3.2.03.01.01 (2 milestones here), 1.1.8.01.04 and 1.2.1.

FY2006 – FY2035 Drivers and Assumptions defined by DOE are also attached. Driver #1, Waste Certification and Confirmation Assumptions #2, #4 and #11, Transportation and Packaging Assumptions #2 and #5, and Site Operations Assumptions #4 and #14 have direct applicability to the TRUPACT-III project.

Attachment L – DOE Milestones, Drivers and Assumptions (Continued)

FISCAL YEAR 2006 – FY2035
BASELINE DRIVERS AND PLANNING ASSUMPTIONS

August 2005

DRIVERS

1. WIPP operations will be conducted in compliance with the WIPP Land Withdrawal Act (i.e., certifications, permits and regulations), the New Mexico Environment Department (NMED) permits relative to WIPP, applicable DOE-CBFO program documents and requirements, applicable DOE orders and the applicable contracts.
2. Starting March 1999, DOE will seek recertification of the WIPP repository from EPA every 5 years with the next recertification submittal being in March 2009.
3. Starting November 1999, DOE will seek renewal of the Hazardous Waste Facility Permit from the NMED every 10 years with the first renewal being in 2009.
4. A total of 6,000 m³ of TRU waste inventory must be removed from Idaho National Laboratory (INL) by December 31, 2005, to meet the Batt Agreement. Starting on January 1, 2003, TRU waste must be removed from the inventory at INL at a rolling average over three years of 2000 cubic meters per year (total of 6,000 cubic meters every three years). All Contact-Handled (CH) and Remote-Handled (RH) TRU waste subject to the Batt Agreement must be shipped from Idaho by 2018 (does not include pit waste).
5. Removal of the CH and RH TRU waste from Battelle Columbus Laboratory in Ohio by the end of calendar year 2005.
6. Removal of CH and RH TRU waste from Los Alamos National Laboratory (LANL) to support the completion of the cleanup of Area G by 2015 as required by the Compliance Order with NMED.
7. Other than the above intermediate dates, the baseline does not require acceleration of completion dates for the transportation and disposal of the TRU waste as long as it is completed by 2030 when WIPP is currently assumed to be shutting down.
8. Meet the relevant commitments made by DOE for CBFO/WIPP in the contract with Westinghouse Savannah River Corporation for the Savannah River Site (SRS).
9. Meet the relevant commitments made by DOE for CBFO/WIPP in the agreement with the state of South Carolina to allow the newly discovered TRU waste from Mound to be taken to SRS (4 cubic meters of TRU shipped from SRS to WIPP for each cubic meter of TRU waste shipped from Mound to SRS).

Attachment L -- DOE Milestones, Drivers and Assumptions (Continued)

10. For WTS, meeting the requirements of the Contract Section C Statement of Work, including the goal to disposition an additional 54,300 cubic meters of TRU waste in the site inventories in the DOE complex in the period of FY06 to FY10.

ASSUMPTIONS

Waste Certification and Confirmation

1. CBFO will perform generator site and Central Characterization Project (CCP) waste certification audits to support planned activities.
2. CCP support will be provided at SRS through FY07 to characterize and certify for shipping the legacy CH and RH including the SLB-2 boxes.
3. CCP support will be provided at LANL through FY11 to characterize and certify for shipping the legacy CH and RH.
4. CCP support will be provided at Richland (RI), after completion of the SRS large box characterization activities, in FY07 and FY08 to characterize and certify for shipping SLB-2 boxes.
5. CCP support for Idaho TRU waste certification will be funded from the Idaho budget.
6. NMED approves the RH TRU, Section 311, and Container Management waste permit modifications by March 2006.
7. Generator and storage sites' TRU waste retrieval and remediation rates will provide a sufficient backlog of waste to be characterized and certified so that CBFO's planned CCP processing rates can be efficiently accomplished.
9. Overall TRU waste characterization and certification rates by generator sites and CCP will build sufficient backlogs of waste ready to ship to assure that the planned shipping/disposal rates can be met.
10. LANL will serve as the waste consolidation site for all the TRU waste currently stored in drums or standard waste boxes at other facilities within New Mexico.
11. Large box NDE/NDA equipment will be provided to SRS in FY06 by DOE as GFS/L. Following the conclusion of SRS certification, the large box NDE/NDA equipment will then be redeployed to Hanford.
12. Starting in FY13, WIPP site personnel will be used in CCP campaigns at generator sites to certify and then do mobile loading for newly generated TRU waste. Shipping and receiving at WIPP will also be done in campaigns in coordination with the certification campaigns to level the workforce requirements.

Attachment L -- DOE Milestones, Drivers and Assumptions (Continued)

13. The cost to provide and operate a Centralized Confirmation Facility (CCF) at WIPP as envisioned in the NOD response to NMED on the Section 311 Permit Modification and other WIPP costs of Section 311 implementation will have funding starting in FY07.

Transportation and Packaging

1. TRU Waste transportation to WIPP will be by truck only. Transportation rates for each FY will be coordinated with the budgeted site operational levels.
2. The NRC will approve TRUPACT-III certification of compliance in March 2007 (only 1 test unit required).
3. INL and the Idaho AMWTP project will have the first shipping priority to meet their regulatory compliance agreement. Shipping priority will be given to sites with enforceable regulatory requirements impacting the shipment of TRU waste from generator sites.
4. Specific shipping priorities for each fiscal year will be developed during the preceding fiscal year.
5. The capability to transport and receive TRUPACT IIIs will be available in November 2007.
6. The capability to transport and receive RH-72-Bs will be available in September 2006.
7. Waste transportation and disposal will end in FY30 with the site undergoing closure from FY31 to FY35.

Site Operations

1. The disposal capacity rates below should be considered minimum rates. As efficiencies and additional funding are identified through the life-cycle, a high priority should be given to increasing the shipping and disposal rates of TRU waste, starting with increasing RH capability up to permitted repository capacity, to accelerate risk reduction as possible.
2. Disposal throughput capacity for CH will be at a minimum nominal annual average of 87 containers per week in FY06 and FY07, and 63 containers per week in FY08 through FY13. Disposal throughput capacity will reduce to a nominal rate of 27 per week beginning in FY14.
3. RH waste disposal will start in September 2006 and be at a minimum nominal annual average of 2 containers per week in FY07 and 3 containers per week in FY08 through

Attachment L – DOE Milestones, Drivers and Assumptions (Continued)

- FY13. Disposal throughput capacity will increase to a nominal 4 containers per week in FY14 through FY30.
4. Disposal of TRUPACT III large box containers will start in November 2007 at a nominal rate of 1 container per week and increasing to a nominal minimum of 4 containers per week in FY09. Shipments will average a nominal minimum of 4 containers per week beginning in FY09 and continuing through FY29.
 5. The site CCF capability shall be certified and ready for operations at WIPP by May 2008.
 6. For safeguards and security, the site will be a Class B facility with an armed guard force.
 7. An effective groundwater monitoring system will be maintained with monitoring well abandonment and replacement activities routinely continuing until an optimized network is in place that is comprised of wells with corrosion resistant casing.
 8. A records management program and capabilities are in place for the receipt and storage of required WIPP-related records from the generator sites as their TRU waste programs are completed, and the records can be archived as defined in the WIPP regulatory requirements.
 9. Two annual WIPP site maintenance outages will typically be scheduled for a one week period and a separate period of two consecutive weeks.
 10. Panel closure construction activities will begin as dictated by the waste emplacement rate. EPA and NMED are expected to approve the change in panel closure design by FY07.
 11. Panel mining, outfitting and certification will be completed as required by the planned emplacement rate.
 12. Starting in FY13, WIPP site personnel will be used in CCP campaigns at generator sites to certify and then do mobile loading for newly generated TRU waste. Shipping and receiving at WIPP will also be done in campaigns in coordination with the certification campaigns to level the workforce requirements.
 13. CBFO will receive a positive determination from EPA in 2005 and subsequent recertifications that WIPP continues to demonstrate compliance with the disposal standards in 40 CFR 191 Subparts B and C.
 14. The WIPP site operations will begin TRUPACT III activities to support the planned disposal of large containers in November 2007.

Attachment L – DOE Milestones, Drivers and Assumptions (Continued)

15. The WIPP site is ready to receive and dispose of remote-handled TRU waste by September 1, 2006.
16. The WIPP site has fully implemented the container management permit modification by 90 days after its approval (6/30/06).
17. CBFO will submit at least one routine planned change request to the EPA every year through FY08.
18. CBFO will submit at least one significant planned change request to EPA every five years through FY08.
19. CBFO will maintain the current performance assessment capacity through FY10, and thereafter maintain performance assessment capacity to address at least one unplanned change that potentially affects the disposal system every five years through FY30.
20. Starting in FY10, CBFO will submit only routine modifications to the Hazardous Waste Facility Permit.
21. Re-engineering of the shaft closure design will be completed for the 3a Compliance Recertification Application in FY14.
22. The major repository chemistry issues and TRU waste inventory updates will be resolved by FY11.
23. Waste disposal will end in FY30 with the site undergoing closure from FY31 to FY35.

Attachment L – DOE Milestones, Drivers and Assumptions (Continued)

CSFO BASELINE MILESTONES		07-26-07	
CSFO NRC	Activity Name	Participant	Baseline Due Date
1.1.3.01.07.01	Receive RH Uprighting Prototype Trailer	WTC	11-30-06
1.1.3.02	Remove a Total of 5,000 y3 of TRU Waste from Inventory	BNL	12-31-06
1.3.4.06.01	Projected NRC Approval of ARROW/FAX DARP	WTC	02-28-06
1.2.1.04.01.02.02	Complete Panel 2 Construction, Field Acceptance by Certifying Engineer	WTC	03-04-06
1.2.1.02.02.01	Complete RH Facility Mods	WTC	03-01-06
1.2.4.02.01.04.12	Projected NRC Approval of Dec 311 RH Storage FMR	WTC	03-31-06
1.3.2.02.01.01	TRUPACT-III Available - First Unit for Testing	WTC	06-01-06
1.1.3.01.07.01	Deliver RH Uprighting Production Trailers (Balance of Fleet)	WTC	06-30-06
1.2.1.02.12.02	WIPP Ready to Receive and Dispose of RH Waste	WTC	09-01-06
1.1.3.01.04	Receive TRUPACT-III Prototype Trailer	WTC	09-15-06
1.3.2.02.01.01	Projected NRC Approval of TRUPACT-III	WTC	03-30-07
1.2.1.04.01.02	Complete Panel 3 Closure	WTC	09-02-07
1.1.1.01.02	Receive Large Box NDE/NSA Units from SRC to Hanford	WTC	09-30-07
1.2.1	WIPP Capable of Handling TRUPACT-III	WTC	11-30-07
1.2.1.04.01.01	Complete Construction of Panel 1 First Panel Closure	WTC	11-30-07
1.3.4.02.03.02	DOE Capabilities Activities Certified and Ready for Operations at WIPP	WTC	05-31-08
1.2.1.04.01.04	Complete Panel 4 Closure	WTC	02-05-09
1.2.3.01.01.06	Transmit Recertification Application to EPA	WTC	03-25-09
1.2.4.01.01	Submit New RCRA HWPP Application to NRC	WTC	05-30-09
1.2.1.04.01.02	Complete Construction of Panel 2 First Panel Closure	WTC	06-05-09

DOE FY2006 – FY2035 Baseline Drivers and Planning Assumptions