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CAO-3: WIPP TRANSPORTATION

A.1. - Project Identification/Header Information (Section A.0. in 2/28/97 PBS)

A.1.1. Project Title:	**WIPP Transportation**
A.1.2. Unique Site-Designated Project ID:	**CAO-3**
A.1.3. Site/Group of Sites :	**Waste Isolation Pilot Plant**
A.1.4. Operations/Field Office :	**Carlsbad Area Office**
A.1.5. DOE Project Manager:	**Michael H. MeFadden**
A.1.6. DOE Project Manager Phone Number:	**505-234-7300**
A.1.7. DOE Project Manager FAX Number:	**505-234-7027**
A.1.8. DOE Project Manager e-mail Address (Internet Format):	**mcfaddenm@wipp.carlsbad.nm.us**
A.1.9. Contractor Project Manager:	**Various**
A.1.10. Contractor Project Manager Phone Number:	
A.1.11. Contractor Project Manager FAX Number:	
A.1.12. Contractor Project Manager e-mail Address (Internet Format):	
A.1.13. Unique Project ID :	**CBWP0010**
A.1.14. Program Element :	**WM**
A.1.15. Is this a Pure, Operational, or Privatization Project?	**O: Operational**
A.1.16. Is this a High Visibility Project? (Y/N)	**Y**

A.1.17. DOE Project Manager's Signature/Date	**A.1.18. Contractor Project Manager's Signature/Date**

A.2. Technical and Scope Narratives (Section A.1. in 2/28/97 PBS)

A.2.1. Purpose of Project:

Predecessor: None. This project is an integral part of the WIPP program and it is not possible to separate this project from the overall objectives of the WIPP program.

The purpose of the Carlsbad Area Office (CAO) Transportation project is to provide the interfaces necessary for safely and efficiently transporting Transuranic (TRU) waste from TRU waste sites that exist across the nation to the Waste Isolation Pilot Plant (WIPP). A discussion of transportation is included in this document to illustrate the level of controls and regulations maintained for the transportation segment of the WIPP program. This provides baseline information on transportation packaging, transportation fleet, and number of waste shipments. It also provides crucial information on transportation needs related to emergency response and transportation risk.

A.2.2. Definition of Scope:

This project includes all transportation activities required to meet the National TRU Waste Management Plan, Revision 1, (NTWMP). These activities include: Emergency Response training; establishing and opening transportation corridors; Contact-Handled (CH) and Remote-Handled (RH) TRU waste packaging initiatives; carrier services; and stakeholder interfaces related to transportation. TRU waste has been generated and stored resulting from the Nation`s nuclear defense, research, and production activities. Primary locations where TRU waste is currently stored are: Idaho National Engineering and Environmental Laboratory (INEEL), Los Alamos National Laboratory (LANL), Rocky Flats Environmental Technology Site (RFETS), Oak Ridge National Laboratory (ORNL), Savannah River Site (SRS), Hanford Reservation (Hanford), Nevada Test Site (NTS), Lawrence Livermore National Laboratory (LLNL), Argonne National Lavoratory - East (ANL-E), and Mound Plant (Mound). Other sites have small quantities of TRU waste that will be disposed at WIPP The TRU waste sites scheduled to initially ship CH TRU waste to WIPP in FY98, are INEEL, LANL, and RFETS. Using the shipment schedules in the NTWMP, Hanford, ANL-E, Mound, SRS, and selected small quantity sites will begin shipping waste to WIPP in FY99 while LLNL and NTS will begin shipments in FY00. By FY 2000, the WIPP facility will be at a full throughput rate of 17 CH shipments per week. In FY 2003, CAO will begin receiving shipments of RH from ORNL and LANL at a rate of two (2) shipments per week and work to ten shipments per week.

CAO must open and maintain transportation corridors across the United States between each TRU waste site and the WIPP site. Currently, one corridor from INEEL, RFETS, and LANL is open. Activities required to open other corridors will require approximately two (2) years prior to shipment campaigns beginning at the sites. The phasing of corridors correspond with site shipping schedules and eliminates the need for corridor maintenance thus reducing TRU waste complex costs.

A.2.3. Technical Approach:

The NTWMP configuration has WIPP beginning waste receipt operations in May 1998 for CH TRU waste and FY 2003 for RH TRU waste operations. WIPP is scheduled to receive CH TRU waste in May 1998, at which time five truck sets (a set consists of a truck, trailer, and three shipping

containers) will be in service. Starting in mid-FY 1999, truck sets are added until the fleet size reaches 20 truck sets during FY 2000. The WIPP CH TRU waste handling capacity starts at 67 shipments in FY 1998 and increases to 751 shipments per year starting in FY 2000. RH TRU waste is received at a rate of approximately 150 shipments per year beginning in FY 2003. Capacity should increase to approximately 500 shipments per year by FY 2005 using 12 truck sets (i.e., one truck, trailer, and RH cask). Previous planning called for maintaining open transportation corridors with minimal waste transportation traffic. Regardless of the expected traffic, the corridors would incur ongoing costs such as emergency response training and institutional payments to state governments. Designating waste work-off campaigns for some sites allows for idle corridors to be closed thus avoiding associated costs. For example, the shipping corridors from LLNL and NTS will open in FY99 to ship all stored waste, after which time the corridors will be closed. Thereafter, dedicated waste shipments would occur intermittently, or the corridor could be opened periodically to work off newly generated waste.

A.2.4. Project Status in FY 2006:

The TRU Waste Management Plan configuration identifies site-specific waste processing rates that are coordinated with an optimal shipping fleet to complement the WIPP`s waste handling and disposal capacities. Shipments of CH-TRU waste to WIPP through FY06 closely match the waste handling and disposal capabilities of WIPP. During this time, WIPP can accept 6,588 shipments of CH TRU waste and 5,866 shipments are made. Through FY 2006, 89% of the WIPP`s CH-TRU waste handling capacity is utilized. By the end of FY 2006, RFETS, Mound, NTS, and selected small quantity sites have completely disposed of all CH-TRU waste at WIPP. Shipments of RH-TRU waste begin in FY 2003 at 148 shipments per year and increases to approximately 500 shipments per year in FY 2005. From FY 2003 through FY 2006, the WIPP can accept approximately 1,750 RH TRU waste shipments and 1,603 shipments are made resulting in a 94% utilization of RH TRU waste handling capacity. The following table represents the shipments by TRU waste site through FY 2006.

TRU Waste Site	# CH of Shipments	# RH of Shipments
ANL-E	27	0
Hanford	770	19
INEEL	1,884	0
LANL	1,265	152
LLNL	54	0
Mound	45	0
NTS	89	0
ORNL	58	1,308
RFETS	1,370	0
SRS	269	0
SQS	35	124

A.2.5. Post 2006 Project Scope:

Continued disposal of the remaining TRU waste inventory until the WIPP waste volume capacity reaches the statutory limits in FY2033, after which five years are planned to seal the repository and dismantle and decommission the surface facilities. Active institutional controls will then be activated and maintained for 100 years.

CH-TRU waste handling capacity utilization slightly decreases after FY06 but then remains steady until FY20 when INEEL completes shipping to the WIPP. From FY20, only those sites still generating TRU waste continue to ship to the WIPP. RH-TRU waste handling capacity utilization decreases in mid-FY08, ranging from 300 to 400 shipments per year, until FY16, when only Hanford and LANL continue to ship newly generated waste. The NTWMP configuration results in 18,286 shipments of CH-TRU waste and 5,854 shipments of RH TRU waste over the 35-year disposal period. These shipments result in a 78% CH-TRU utilization and a 74% RH-TRU utilization of the WIPP waste volume capacity statutory limits. After FY16 it appears as though disposal capacity at WIPP is underutilized, however, these projections do not yet account for waste that is expected to occur from Department of Energy environmental restoration (ER) projects, facility decontamination and decommissioning (D&D) activities, or future waste streams. These TRU waste streams will complete the remaining WIPP capacity of 175,600 cubic meters by FY33. CH-TRU waste disposal from these sources can be accommodated beginning in FY16. RH-TRU waste disposal from these sources can begin in FY10.

A.2.6. Project End State:

TRU waste management activities for both CH and RH waste are projected to be completed by FY 2038 after completing the Disposal Phase in FY 2033 and five years for decommissioning of the surface facilities and permanently closing the underground. In accordance with the WIPP Land Withdrawal Amendment Act of 1996, DOE will have disposed of up to175,600 cubic meters of TRU waste in the WIPP facility. Starting in FY 2039, a reduced Federal staff and technical contractor support will maintain the active institutional controls associates with the land and records of the WIPP. Monuments and markers will be built at the site to warn people of the presence of the repository. Active institutional controls over the site will be maintained for 100 years. Low risk has been assigned based upon performance assessments included in the licensing of the facility, which requires no migration of hazardous or radioactive material for 10,000 years. Following completion of the active institutional control phase, the surface area will be unrestricted for recreational and agricultural uses.

Project CAO-3 ends after the last shipment is completed in FY33. At that time, the transportation system will be terminated, all routes and corridors closed, and institutional payments to the states will end.

(Safety and Health Narrative, Section A.1.7. in the 2/28/97 PBS, has been replaced and is no longer maintained. Safety and Health Narratives are now found in Section D.1.)

A.2.7. General Narrative:

The CAO has recommended a Management Plan configuration for implementation that will guide the ten-year planning process consistent with the strategic objectives, as well as achieve the overall TRU waste management goals. The facilities and activities described in the National TRU Waste Management Plan, Revision 1, combined with the disposal-ready waste preparation schedules, summarize current guidance to support development of site 2006 Plan.

The WIPP program is statutorily directed by the WIPP Land Withdrawal Amendment Act of 1996 (Public Law 104-201). EPA has been designated as the primary regulator for repository stability; the

state of New Mexico regulates the RCRA permit; and independent oversight is provided by the Environmental Evaluation Group (EEG) and the National Academy of Sciences. The Sandia National Laboratories has performed as the WIPP program Scientific Advisor. 40 CFR 194 establishes the specific criteria which must be met prior to EPA`s approval of the Compliance Certification Application which was submitted to EPA in October 1996. The WIPP Disposal Decision Plan (Rev. 4) identifies major milestones which must be completed in order to start disposal operations.

(Section A.1.9. in the 2/28/97 PBS has been moved to Section A.2.14.)
(Section A.1.10. in the 2/28/97 PBS has been moved to Section A.2.15.)
(Section A.1.11. in the 2/28/97 has been moved to Section A.2.16.)

A.2.8. Cost Baseline Narrative (A.2.5. in 2/28/97 PBS)

Since 1994, the CAO has institutionalized a formal program planning and budget execution process. The confidence level of cost estimates for the next three years is very high (+/- 5%). Out year estimates through FY 2008 have been developed with a confidence level of +/- 10 to 20%. Estimates from FY 2009 through completion are within +/- 30%. There are no contingency funds included in the CAO estimates.

Current CAO assumptions support operations of the WIPP facility, including its infrastructure, as an operational nuclear facility capable of receiving CH TRU waste at an initial disposal at a rate of 5 shipments per week and ramping to 17 shipments per week. The statutory requirement to pay impact assistance to the State of New Mexico is funded. The CAO baseline provides adequate funding to meet the National TRU Waste Management Plan, Rev. 1. Escalation has been applied to the activities in accordance with the DOE Environmental Management guidelines.

A.2.9. Discuss How NEPA will be or has been Addressed

The WIPP Supplemental Environmental Impact Statement (SEIS) was approved in September 1997 and the Record of Decision was issued in January 1998. A supplemental analysis may be required as WIPP prepares to receive Remote-handled TRU waste. The SEIS examined various alternatives for the disposal of TRU waste at WIPP, as well as alternatives for continued storage at TRU waste sites rather than disposal at WIPP. The process began with public meetings to obtain comment on the scope of the analysis. On November 19, 1996, DOE issued a draft SEIS and began the public hearings process to get comments on the SEIS. The final SEIS addresses all public comments and contains a revised analysis of the environmental impacts for the alternatives considered. DOE weighed the environmental impacts and considered all public comments prior to reaching a Record of Decision for WIPP. The SEIS is intended to provide information required for making a sound and justifiable decision to dispose or not dispose of TRU waste at WIPP. The Waste Management Programmatic Environmental Impact Statement, which followed the same process as the WIPP SEIS, is intended to provide the same type of information needed for deciding the proper locations to treat and store TRU waste prior to shipping to WIPP for permanent disposal.

A.2.10. 1997 Actual Accomplishments

October - DOE submitted the Compliance Certification Application to EPA
LANL site certified

Moble systems cooperative Agreement Awarded
Transportation services request for proposal issued.

A.2.11. 1998 Planned Accomplishments

The following accomplishments are contingent upon completion of all FY97 activities and all activities included in the remainder of the CAO projects. It is expected:
1) The Secretary of Energy will issue a Record of Decision for theWIPP SEIS in January 1998;
2) WIPP will be declared operationally ready to receive waste in March;
3) The EPA will certify WIPP by approving the Compliance Certification Application in April;
4) The Secretary of Energy will make the decision to operate WIPP as a disposal facility in April;
5) DOE will notify the States and Native American Tribes of the intent to transport TRU waste in April;
6) Non-mixed, Contact-Handled TRU waste disposal will begin at WIPP with a rate of 5 shipments per week in May.
CAO will receive approximately 67 shipments or approximately 592 cubic meters of non-mixed TRU waste from the Idaho National Engineering and Environmental Laboratory, Rocky Flats Environmental Technology Site, and Los Alamos National Laboratory.

A.2.12. 1999 Planned Accomplishments

The following accomplishments are contingent upon completion of all FY98 activities and all activities included in the remainder of the CAO projects. It is expected:
1) DOE will receive a RCRA Part B permit from the State of New Mexico sometime in FY 1999;
2) WIPP will receive approximately 500 shipments or approximately 3,786 cubic meters of Contact-handled TRU waste. This includes:

TRU Waste Site	# CH of Shipments
ANL-E	18
Hanford	36
INEEL	88
LANL	91
LLNL	0
Mound	20
NTS	0
ORNL	0
RFETS	233
SRS	11
SQS	3

A.2.13. 2000 Planned Accomplishments

The following accomplishments are contingent upon completion of all FY99 activities and all activities included in the remainder of the CAO projects. It is expected:
1) WIPP will receive approximately 751 shipments or approximately 5,474 cubic meters of Contact-handled TRU waste. Waste shipments will continue from the FY99 TRU waste sites first three sites and WIPP will begin receiving Contact-handled TRU waste from Lawrence Livermore National Laboratory, Nevada Test Site, and Small Quantity Sites.

TRU Waste Site	# CH of Shipments
ANL-E	2
Hanford	106
INEEL	109
LANL	174
LLNL	25
Mound	25
NTS	37
ORNL	0
RFETS	245
RS	18
SQS	10

A.2.14. Baseline Cost Summary

(Section A.2.1. in the 2/28/97 PBS)

1997-2006:	253,154	Post 2006:	1,320,903	Total Project Cost:	1,574,057

A.2.15. Baseline Costs

(Section A.2.2. in the 2/28/97 PBS)

All dollars in thousands.	Date Submitted	1997-2006 Total	2007-Completion Total	Grand Total	1997		1998	1999	2000
					Planned	Actual			
Original	2/28/97	**259,907**	**1,320,903**	**1,580,810**	17,462	Empty	15,469	23,734	24,382
Current Cost Baseline		**219,534**	**1,320,903**	**1,540,437**	14,196	14,196	8,982	20,263	24,345
Escalation Rate							0.00%	2.70%	2.70%
Cost Baseline in Constant FY 1998 Dollars					**14,196**	**14,196**	**8,982**	**19,730**	**23,082**

All dollars in thousands.	Date Submitted	2001	2002	2003	2004	2005	2006	2007	2008
Original	2/28/97	25,828	28,989	29,654	30,539	31,453	32,397	34,601	34,601
Current Cost Baseline		23,411	23,779	26,689	25,297	25,907	26,665	33,372	34,373
Escalation Rate		2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%
Cost Baseline in Constant FY 1998 Dollars		**21,613**	**21,375**	**23,360**	**21,560**	**21,499**	**21,547**	**26,257**	**26,334**

All dollars in thousands.	Date Submitted	2009	2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035
Original	2/28/97	34,601	34,601	195,379	225,401	260,035	299,992	201,691
Current Cost Baseline		34,825	35,835	195,379	225,401	260,035	299,992	201,691
Escalation Rate		2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%
Cost Baseline in Constant FY 1998 Dollars		**25,979**	**26,029**	**131,108**	**132,390**	**133,684**	**134,991**	**79,438**

(Section A.2.3. in the 2/28/97 PBS has been removed.)
(Section A.2.4. in the 2/28/97 PBS has been removed.)
(Section A.2.5. in the 2/28/97 PBS has been moved to Section A.2.9.)
(Section A.2.6. in the 2/28/97 PBS has been moved to Section A.2.13.)

A.2.16. Non-EM Costs Included in the Cost Baseline

(Section A.2.6. in the 2/28/97 PBS) (All dollars in thousands)

	Organization	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
% EM	EM	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
EM Dollars (Calculated)		14,196	11,982	23,734	24,382	25,828	28,989	29,654	30,539	31,453	32,397

	Organization	2007	2008	2009	2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040
% EM	EM	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
EM Dollars (Calculated)		33,372	34,373	34,825	35,835	195,379	225,401	260,035	299,992	201,691	0

	Organization	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
% EM	EM	100%	100%	100%	100%	100%	100%

A.2.17. Related Projects at the Same Site or Operations/Field Office (Section A.1.9. in the 2/28/97 PBS)

Unique Site-Designated Project ID and Project Name	Relation to this Project
008: CB, CAO-1 – WIPP Base Operations	Primary support to all WIPP facility operations
009: CB, CAO-2 – WIPP Disposal Phase certification and Experimental Program	Regulatory activity and continuing experimental programs for continued WIPP compliance certainty
011: CB, CAO-4 – WIPP TRU Waste Sites Integration and Preparation	Continued TRU waste sites communication and preparation for waste acceptance at the WIPP
013: CB, CAO-6 – WIPP TRU Waste Transportation Privatization	Privatization Projects

A.2.18. Operations/Field Offices with Activities Related to this Project (Section A.1.10. in the 2/28/97 PBS)

Operations/ Field Office Name	Unique Site-Designated Project ID	Relation to this Project
All	All	All TRU programs are dependent upon disposal availability at WIPP

A.2.19. Drivers (Section A.1.11. in the 2/28/97 PBS)

	CERCLA	RCRA	DNFSB	AEA	UMTRCA	State	DOE Orders	Other
Select all applicable Drivers	X	X	X	X		X	X	X

A.2.20. Is this project A-106 (FEDPLAN) compliant? Yes

(Section D.2.1. in the FY 1999 Budget Update)

.3. Milestones

Milestone/Activity	Field Milestone Code	Planned Date Month/Year	Forecast Date Month/Year	Actual Date Month/Year	Status Indicator	EA (Y/N)	DNFSB (Y/N)	EM-1 or S-1 (Y/N)	Intersite (Y/N)	HQ Change Control (Y/N)	Management Commitments (Y/N)	Key Decision (Y/N)
Project Start												
Project Mission Complete		Sep-33										
LT S&M Completion (If applicable)												
First INEEL CH shipment to WIPP		May-98				N	N	Y	Y	N	N	N
First RFETS CH shipment to WIPP		May-98				N	N	Y	Y	N	N	N
First LANL CH shipment to WIPP		May-98				N	N	Y	Y	N	N	N
First SRS CH shipment to WIPP		Mar-99				N	N	Y	Y	N	N	N
First ORNL CH shipment to WIPP		Jan-03				N	N	Y	Y	N	N	N
First Hanford CH shipment to WIPP		May-99				N	N	Y	Y	N	N	N
First LLNL CH shipment to WIPP		Oct-99				N	N	Y	Y	N	N	N
First NTS CH shipment to WIPP		Oct-99				N	N	Y	Y	N	N	N
Last LLNL CH shipment to WIPP		Sep-33				N	N	Y	Y	N	N	N
Last NTS CH shipment to WIPP		Jun-03				N	N	Y	Y	N	N	N
First ORNL RH shipment to WIPP		Jan-03				N	N	Y	Y	N	N	N
First LANL RH shipment to WIPP		Jan-03				N	N	Y	Y	N	N	N
First ANL-E CH shipment to WIPP		May-99				N	N	Y	Y	N	N	N
First Mound CH shipment to WIPP		May-99				N	N	Y	Y	N	N	N
First SQS CH shipment to WIPP		May-99				N	N	Y	Y	N	N	N
First SQS RH shipment to WIPP		Oct-03				N	N	Y	Y	N	N	N
Last ANL-E CH shipment to WIPP		Sep-22				N	N	Y	Y	N	N	N
Last SQS CH shipment to WIPP		Oct-23				N	N	Y	Y	N	N	N
Last Mound CH shipment to WIPP		Jun-00				N	N	Y	Y	N	N	N
First Hanford RH shipment to WIPP		Jan-06				N	N	Y	Y	N	N	N
Last RFETS CH shipment to WIPP		Jun-06				N	N	Y	Y	N	N	N
Last ORNL CH shipment to WIPP		Mar-15				N	N	Y	Y	N	N	N

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Milestone/Activity	Field Milestone Code	Planned Date Month/Year	Forecast Date Month/Year	Actual Date Month/Year	Status Indicator	EA (Y/N)	DNFSB (Y/N)	EM-1 or S-1 (Y/N)	Intersite (Y/N)	HQ Change Control (Y/N)	Management Commitments (Y/N)	Key Decision (Y/N)
Last LANL RH shipment to WIPP		Sep-33				N	N	Y	Y	N	N	N
Last INEEL CH shipment to WIPP		Mar-20				N	N	Y	Y	N	N	N
Last SRS CH shipment to WIPP		Jun-32				N	N	Y	Y	N	N	N
Last LANL CH shipment to WIPP		Sep-33				N	N	Y	Y	N	N	N
Last Hanford CH shipment to WIPP		Sep-31				N	N	Y	Y	N	N	N
Last ORNL RH shipment to WIPP		Sep-15				N	N	Y	Y	N	N	N
First SRS RH shipment to WIPP		Oct-03				N	N	Y	Y	N	N	N
Last SRS RH shipment to WIPP		Sep-07				N	N	Y	Y	N	N	N
Last Hanford RH shipment to WIPP		Sep-31				N	N	Y	Y	N	N	N
Last SQS RH shipment to WIPP		Sep-22				N	N	Y	Y	N	N	N
First INEEL RH shipment to WIPP		Apr-07				N	N	Y	Y	N	N	N
Last INEEL RH shipment to WIPP		Jun-13				N	N	Y	Y	N	N	N

A.4. Performance Measure Metrics

(Section A.4.a. in the 2/28/97 PBS; Attachment 2 in the 1997 Mid-year Performance Measures Update; SectionC.1. in the FY 1999 Budget Update)
[No information provided in this section]

A.5. Release Sites and Facilities

[No information provided in this section]

A.6. Validation (Section C.2. in the 2/28/97 PBS)

A.6.1. Project Validated? (Y/ N) Y

A.6.2. Date Validated: 9/23/96

A.6.3. Validation Method:

Public Law 104-201 Compliance Certification Application to EPA, SEIS-II, and the National Research Council Report, "WIPP, a Potential Solution for the Disposal of Transuranic Waste" dated November 1996.

A.6.4. Technical Approach Reference Documents:

WIPP SEIS-II
Compliance Certification Application
RCRA Part B Permit Application

A.6.5. Current Status of your Project Baseline:

Life Cycle cost and technical scope has had continuous reviews since FY 1988 by the GAO, IG, NAS, EEG, and other stakeholders.

A.6.6. Is this PBS Consistent with your Site Baseline? (Y/ N) Y

A.6.7. If A.6.6. was answered No, why not?

A.6.8. Future Validation Plans and Schedule

None

A.6.9. Site Baseline Consistency

How consistent is the Site Baseline(s) with this PBS? Check the appropriate box.

X 100% - PBS Fully Supported by Site Baseline(s)
75% - PBS Well Supported by Site Baseline(s)
50% - PBS Mostly Supported by Site Baseline(s)
25% or less- PBS Not Well Supported by Site Baseline(s)

A.6.10. Project End State Definition

How certain is the Project End State for this PBS? Check the appropriate box.

X 100% - Agreement with Stakeholders
75% - Project End State is Well Defined
50% - Project End State is Mostly Defined
25% or less- PBS Not Well Supported by Site Baseline(s)

A.7. Project Assumptions (Section C.3. in the 2/28/97 PBS)

1) WIPP will open in 1998
2) Funding will be adequate to meet the National TRU Waste Management Plan, Rev. 1 (NTWMP) schedule.

3) WIPP will receive non mixed TRU waste until the RCRA permit is received.
4) WIPP will receive only defense generated TRU waste.
5) CAO will provide an integrated transportation system.
6) TRU waste sites will have adequate road ready waste to meet the objectives of the NTWMP.
7) Remote Handled TRU waste will be disposed at WIPP starting in FY2003
8) WIPP will be filled to capacity (175.6 thousand cubic meters) by FY2033.
9) All WIPP dismantlement and decommissioning will take 5 years (FY2034 - FY2038)
10) Active institutional controls will be implemented in FY2039 and last for 100 years.
11) EPA will certify every 5 years.

B.1. Budget by Appropriations Account (in thousands)

Appropriations Account	1997 BA	1998 BA	1999 BA	2000 BA
Defense Environmental Management	14,196	11,982	23,734	24,382
Energy Supply, Research and Development				
Uranium Enrichment Decontamination and Decommissioning Fund				
Total	**14,196**	**11,982**	**23,734**	**24,382**

C.1. Risk (Section E.1. in the FY 1999 Budget Update)

C.1.1. Risk Data

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Public	2C	2C	2C	2C	2C	2C	2C	2C	2C	2C
Worker										
Environment	2C	2C	2C	2C	2C	2C	2C	2C	2C	2C

	2007	2008	2009	2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040
Public	2C	2C	2C	2C	2C	2C	2C	2C	2C	2C-C
Worker										
Environment	2C	2C	2C	2C	2C	2C	2C	2C	2C	2C-C

	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
Public	2C-C	2C-C	2C-C	2C-C	2C-C	2C-C
Worker						
Environment	2C-C	2C-C	2C-C	2C-C	2C-C	2C-C

C.1.2. Choose either the public, worker, or the environment as the End-State Risk driver: (P, W, or E):	
C.1.3. Choose either the public, worker, or the environment as the Interim Risk driver: (P, W, or E):	
C.1.4. If upon completion of this project, another project manages its hazards, indicate that project ID:	
C.1.5. Has the risk evaluation been internally peer reviewed by ES&H professionals? (Y/N)	Y
C.1.6. Has the risk evaluation been externally peer reviewed? (Y/N)	Y
C.1.7. Have regulators, stakeholders, & Tribal Nations been involved in validating the project risk evaluations? (Y/N)	Y

D.1. Direct Safety & Health and Risk Narratives

(Indirect Safety & Health Narratives are located in the Site Summary Level)
(Section D.1.1. in the FY 1999 Budget Update has been replaced by narratives below and in the Site Summary Level and is no longer maintained.)

D.1.2. Direct S&H Narrative - Hazards:

The transportation system for the WIPP consists of U.S. Nuclear Regulatory Commission (NRC) certified Type B packagings. Contact-handled (CH) transuranic (TRU) waste will be shipped in the TRUPACT-II and remote-handled (RH) TRU waste will be shipped in the 72-B. The TRUPACT was issued NRC Certificate of Compliance No. 9218 in 1989. The 72-B design is currently being reviewed by the NRC. The use of Type B packaging ensures that a radiological release or radiation exposure to the public is essentially a non-credible event. This is due to the hypothetical accident testing that Type B packagings are subjected to in accordance with the requirements of Title 10 Code of Federal Regulations Part 71 (10 CFR 71), "Packaging and Transportation of Radioactive Material." For additional details regarding shipments, the reader is referred to "The National TRU Waste Management Plan, DOE/NTP-96-1204."

To respond to the public's concern for safety, the WIPP is prepared for emergencies and has in place a States Tribal and Education Program (STEP), a Radiological Assistance Program (RAP), and the Incident / Accident Response Team (IART). Additional details regarding accident risk analysis may be found in the "Waste Isolation Pilot Plant Disposal Phase Final Supplemental Environmental Impact Statement, DOE/EIS-0026-S-2."

Each site that loads or unloads the TRUPACT-II, or 72-B, will use trained operators working to validated procedures. On-site
contingencies are included in each site's facility safety analysis report (FSAR). There are no unacceptable risks during loading or unloading operations.

No additional transportation hazards have been identified. The National Academy of Sciences has reviewed the WIPP transportation system and declared the system "Safer than any other used for hazardous materials."

D.1.3. Direct S&H Narrative - Controls:

Transportation Controls -- The WIPP transportation system meets the following requirements:
1. U.S. Department of Transportation (DOT) 49 CFR, Parts 171-179, Hazardous Materials Regulations.
2. U.S. Nuclear Regulatory Commission (NRC) 10 CFR, Part 71, Packaging and Transportation of Radioactive Material.
3. U.S. Department of Energy (DOE) Order: 460.1A, Packaging and Transportation Safety.
4. The WIPP Land Withdrawal Act requires that only NRC approved packaging may be used for shipments to the WIPP.

Each truck and trailer is inspected by a certified Commercial Vehicle Safety Alliance (CVSA) trained inspector prior to and during each trip. The drivers maintain current radiological worker training status. CAO coordinates all scheduling of intra-site and inter-site shipments of TRU waste. During

transportation each truck is tracked by TRANSCOM, a satellite tracking system which enables the WIPP, and the various states to monitor the progress and safety of the shipment.

D.1.4. Direct S&H Narrative - Work Performance:

The WIPP transportation system is currently part of the Managing and Operating (M&O) contract for the WIPP site. The M&O contract describes the scope of work and deliverables, including the transportation system. The CAO has announced that they intend to privatize the transportation system at a future date. The scope, budget, and deliverables are reviewed annually.

The CAO owns the transportation system and the costs associated with ownership are noted. No additional costs to the shippers are identified because the transportation costs are included in the WIPP operating budget.

D.1.5. Direct S&H Narrative - Feedback and Continuous Improvement:

The WIPP transportation system is subject to Quality Assurance requirements found in DOE Order 5700.6C and 10 CFR 71, Subpart H. Each of these programs requires routine audits and self assessment. The CAO has a goal to keep the transportation safety record incident level below the industry standard. The CAO has achieved that goal. In more than one million miles, there has only been one unavoidable accident (driver was not at fault). This far exceeds the trucking industry standard. The CAO also has a goal of less than 2% down time for the trucks and trailers. This goal has also been exceeded. The current rate is 1.5%.

All training courses are reviewed and critiqued by the students. Comments are addressed and the courses revised as needed. Reviewing bodies include the Federal Radiological Preparedness Coordinating Committee (FRPCC), whose members include the Environmental Protection Agency, the Federal Emergency Management Agency, the DOE, the Departments of Transportation, Health and Human Services. Course reviews have also been performed by the NRC and the 12 states in which the training has been provided.

D.1.6. Risk Evaluation Narrative (Indicate incremental risk reduction metric and references to supporting risk and review information):

The continued storage of TRU waste at TRU waste facilities poses concerns to the safety of the public, workers, and the environment. Some metal drums used to store TRU waste have exceeded their useful life expectancy and are beginning to show signs of deterioration. CAO will begin transporting TRU waste across the nation in approved NRC Type B containers in 1998. Waste will be loaded at the sites using site-constructed facilities or by mobile loading units. Waste is then transported along approved routes. Emergency and medical teams have been trained as first responders along each approved route should there be an incident involving one of the TRUPACT-IIs shipping TRU waste to the WIPP. All shipments are tracked via satellite link and each driving team is in constant contact with the central command center located at the WIPP facility. Transporting waste from sites and disposing it in WIPP prior to the need to repackage waste will eliminate all concerns of contamination to the environment. Utilizing the first responders, trained by CAO, minimizes impact to the environment should an incident occur along a transportation route. The impact of storing TRU waste at sites indefinitely could create environmental needs yet to be determined. As packages containing TRU waste exceed their life expectancy, the possibility of leaks created by corrosion become more evident. To eliminate the possibility of corrosion, waste is transferred from the old

drum to a new drum creating additional waste and increasing the possibility of environmental contamination by airborne radionuclides or spills.

D.2. Safety and Health Direct Data

(Section D.2.1. in the FY 1999 Budget Update has been moved to Section A.2.17.)

D.2.2. Safety and Health Cost Reporting - Direct Costs (All dollars in thousands)

	1997	1998	1999	2000
A. Emergency Preparedness	240	210	272	279
B. Fire Protection				
C. Industrial Hygiene				
D. Industrial Safety				
E. Occupational Medicine				
F. Nuclear Safety				
G. Radiation Protection				
H. Transportation Safety	3,187	2,029	1,844	1,894
I. Management Oversight				
Total S&H Direct Costs	**3,427**	**2,239**	**2,116**	**2,173**
Total Baseline Costs (from A.2.15.)	**14,196**	**11,982**	**23,734**	**24,382**
% S&H Direct Costs (calculated)	**24%**	**19%**	**9%**	**9%**

(Section D.2.3. in the FY 1999 Budget Update has been moved to the Site Summary Level)
(Section D.2.4. in the FY 1999 Budget Update has been removed)

D.2.5. Safety and Health FTE Reporting - Direct Contractor FTEs

	1997	1998	1999	2000
A. Emergency Preparedness	1.50	1.50	1.50	1.50
B. Fire Protection				
C. Industrial Hygiene				
D. Industrial Safety				
E. Occupational Medicine				
F. Nuclear Safety				
G. Radiation Protection				
H. Transportation Safety	12.00	12.00	11.00	11.00
I. Management Oversight				
Total Direct Contractor FTEs	**13.50**	**13.50**	**12.50**	**12.50**

(Section D.2.6. in the FY 1999 Budget Update has been moved to the Site Summary Level)

E. Enhanced Performance Measures

E.1. Project Estimates (All dollars in thousands)

E.1.1. Current Estimated Lifecycle Cost of Project: 1,574,057

E.1.2. Previously Estimated Lifecycle Cost of Project: 1,580,810

E.1.3. Projected Cost for FY 97: 14,196

E.1.4. Projected % Work Completed by End of FY 98: 0% [Assuming 0% was complete on 10/1/96]

E.1.5. Current Projected End Date of Project: Sep-33 ["Jan-00" is default value if the planned project completion milestone date is blank]

E.1.6. Previously Projected End Date of Project:

E.2. Performance for FY 1997 (All dollars in thousands)

E.2.1. Actual Cost for FY 97: **14,196**

E.2.2. Actual % Work Completed to Date: **0%** **[Assuming 0% was complete on 10/1/96]**

E.3. Comparing Baseline to the Actuals (All dollars in thousands)

E.3.1. Cost Deltas

		Change	% Difference
Diff. Between Actual and Projected Cost for FY 97:		**0**	**0%**
Change in Estimated Lifecycle Cost of Project:	**-**	**6,753**	**0%**

E.3.2. Change in % Work Completed: **[Empty until end of FY 1998]**

E.4. Enhanced Performance Categorization Process

	FY 1997		Lifecycle	
Change Type	**Applicable? (Y/N)**	**If Yes, Why?**	**Applicable? (Y/N)**	**If Yes, Why?**
End State	**N**		**N**	
Scope	**Y**	**SA: Scope Addition**	**Y**	**SA: Scope Addition**
End Date (Acceleration/Deferral)	**N**		**N**	

E.5. Categorizing Sources of Enhanced Performance

If enhanced performance (cost avoidance, scope deletion, or accelerated schedule) was indicated in E.4., provide the % of total change in cost next to the categories that best represent the sources of enhanced performance:

	FY 1997	Lifecycle
Use of new technologies or techniques		
Streamlined process		
Resequencing of projects (mortgage reduction)		
Privatization		
Innovative contracting		
Pollution prevention		
Site activity integration		
Site support cost changes		
Total % (calculated)	0%	0%

E.6. Total Calculated Enhanced Performance (All dollars in thousands)

FY 1997:	
Lifecycle Projected:	

E.7. Enhanced Performance Narratives

E.7.1. Cost Avoidance Narrative (if applicable):

Not applicable

E.7.2. Scope Deletion Narrative (if applicable):

There is a net effect of an increase for the cost of the Santa Fe Relief Route costing $3 million in FY 1998 and $8 million in FY 1999, offset by the deferral of the remote handled waste transportation system activities.

E.7.3. Accelerated Schedule Narrative (if applicable):

Not applicable

E.8. Mortgage Reduction Potential Narrative

Not applicable