National Transportation Program

Environmental Management Transportation Forecast

Rev. 2

10 May 2002

EXECUTIVE SUMMARY

This Environmental Management (EM) Transportation Forecast was compiled for the purpose of determining if the eleven major Department of Energy sites had the transportation and packaging resources available to implement their planned shipping schedules. The analyses encompassed off-site[1] transportation activities planned through 2010 (inclusive) as part of the EM mission. However, it should be noted that the plans do not yet represent those in support of the accelerated clean-up by 2012. The waste and material analyzed were: low-level radioactive waste, mixed low-level radioactive waste, transuranic waste, nuclear material, high-level waste, and spent nuclear fuel. Transportation activities pertaining to the Weapons and Naval Nuclear Propulsion Programs are excluded.

In order to accomplish the purpose of this Forecast, sub-tier products were developed to establish a basis for the analyses. These products include the following:

1) **Transportation Baseline –** This is the baseline of the schedule and quantities of all planned EM shipments through 2010;

2) **Type B and Type A-Fissile Packaging Baseline –** This baseline consists of a certification schedule and identifies the packaging required to meet the transportation baseline through 2010;

3) **Enhanced Data –** This is an improvement to the transportation data from the Integrated Planning, Accountability, and Budgeting System. The existing data was modified to reflect the site baseline shipping plans and missing data was provided to fill many of the gaps up through 2010; and

4) **Barriers Analysis –** This is the documentation of the barriers to execution of the transportation baseline.

These various products resulting from the analyses are found in the individual site tabs.

The key aspect of the data analysis was carried out with the objective of determining if transportation activities can be executed as planned and the nature and magnitude of any barriers to planned execution. The major packaging issues are having:

(1) A package certified for the planned shipments,
(2) The packaging inventory available to support the schedules, and
(3) The material sufficiently characterized to enable package selection.

At this point of the analysis, it appears that planned transportation activities for commercial shipments in Type B packaging can be executed if funding and packagings are made available, and if the barriers identified are resolved as planned. The exception to this is the packaging for the Non-Actinide Isotopes and Sealed Sources. Packaging has not been identified for all of this

[1] An off-site shipment is defined as an in-commerce shipment over a public highway.

material; however, the National Transportation Program is working jointly with several programs to resolve this issue.

During the data gathering process, it became apparent that comprehensive information does not reside with any single organization at the sites. In order to build an accurate and comprehensive data set, it is necessary to confer with personnel from various site organizations who both have access to, and a thorough knowledge of their specific data subsets. By working with the sites, significant data improvements were made by updating existing data and filling in missing data. However, it should be noted that although contact has been made with the major eleven sites to update transportation plans and data; the quality of data and understanding to perform the necessary analyses does not compare with conducting site visits.

As the National Transportation Program continues its analyses of complex-wide shipping activities, the interrelationships between the sites utilization of common transportation resources (e.g., packaging, carriers) can be better evaluated. The data, at this point, is not sufficient to make an accurate determination of potential conflicts in resource utilization. Additionally, the National Transportation Program recommends further analyses be performed to include other DOE programs, beyond EM, that may be planning to utilize the same transportation resources. It is also recommended that cost analyses be performed to explore opportunities for cost sharing and savings.

Current packaging and transportation policies and procedures should be reviewed for improved methods to remove materials from sites (including intermodal transportation). This will result in decreased costs, reduced risk, and increased success in meeting planned clean-up and closure milestones. Furthermore, a better approach to packaging procurement and certification should be developed, including both EM internal actions and improved coordination with other involved parties.

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INTRODUCTION

During December 2001, the National Transportation Program developed an EM Transportation Forecast for the Hanford Site to establish the format and content of the EM Transportation Forecast for the DOE-complex. The established format and content were then used to document the Idaho National Engineering and Environmental Laboratory Transportation Forecast and subsequently this EM Transportation Forecast follows the outline of the former and includes site data for the following eleven major sites:

- Fernald Environmental Management Project
- Hanford Site
- Idaho National Engineering and Environmental Laboratory
- Los Alamos National Laboratory
- Nevada Test Site
- Oak Ridge National Laboratory
- Rocky Flats Environmental Technology Site
- Savannah River Site
- Sandia National Laboratories – New Mexico
- West Valley Demonstration Project
- Waste Isolation Pilot Plant.

This Forecast is focused on off-site transportation activities planned as part of the EM clean-up mission. In addition to the off-site transportation, some analysis of planned on-site shipping is needed to determine its impact on resources needed for off-site shipments. The waste and material types included are: low-level radioactive waste (LLW), mixed low-level radioactive waste (MLLW), transuranic waste (TRU), nuclear material (NM), high-level waste (HLW) and spent nuclear fuel (SNF). Transportation activities pertaining to the Weapons and Naval Nuclear Propulsion Programs are excluded.

As a result of the data gathering efforts, four sets of updated and enhanced data have been generated and are presented in this report for each of the eleven sites:

- **Enhanced Baseline -** updates and fills gaps in the 2001 Integrated Planning, Accountability, and Budgeting System (IPBAS) database information;
- **Type B and Type A-Fissile Packaging Baseline -** updates and fills gaps in the October 9, 2001 NTP Type B and Type A Fissile Packaging Report; and
- **Planned vs. Actual FY 2001 Shipments -** contains information concerning shipments, requiring Type B packaging, planned for FY 2001 as compared with those actually made;
- **Baseline Transportation Barriers -** a compilation of anticipated barriers to Site shipping activities. The barriers were compiled from those reported in the Gaps Analysis Report of March 2002 and from discussion with site personnel.

Using these four basic data sets, enhanced data presentations were developed and analyses were carried out with the aim of assessing the feasibility of executing planned Site shipping activities. These products are included for each of the eleven major sites:

- **Transportation Baseline Summary** - consisting of one chart for each waste and material type, showing annual quantities to be transported through 2010 (inclusive). This is intended to be a ten-year rolling window to be updated with each release of this Forecast.
- **Type B and Type A-Fissile Packaging Needs Assessment** - detailing the identity and numbers of packagings that will be required to carry out planned shipping activities. This summary was developed through analysis of the Transportation Activity Maps in comparison with the Packaging Baseline.
- **Transportation Activity Maps** - a highly detailed view of each planned Transportation Activity for the years 2001 through 2010. For the purposes of this report, a "Transportation Activity" is defined as a movement or set of movements from origin to destination, of a specific waste/material stream, in a specific year, in a specific packaging type. Due to the hundreds of pages these occupy, the Transportation Activity Maps for each site are not attached to this Forecast, however, the Maps for the Hanford Site are included under its site tab.
- **Type B Package Certification Schedule** - listing early and late dates, as determined by analysis of the Transportation Barriers, required for certification of packagings needed to execute planned shipments.
- **Transportation Data Reported From Shipper and Receiver** – comparing the packaging and transportation data as reported by the shippers and receivers of EM's waste and material. This data was compiled from the enhanced baseline transportation data and the Type B and Type A-Fissile Packaging Report.
- **Conclusions** - reached through analysis of anticipated packaging needs, current packaging inventory, barriers, baseline assumptions, and other information to determine the feasibility of executing planned Site shipping activities.

It is the intent of this Forecast to communicate to EM management those areas of concern needing immediate attention. The transportation activities that are associated with meeting regulatory or state agreements will logically be given a high priority.

BACKGROUND

The Department of Energy (DOE) Environmental Management Program (EM) is tasked with cleaning up 53 sites within the nuclear weapons complex. The clean-up and closure mission involves activities such as characterization, treatment, packaging, storing, shipping, and disposition. Packaging wastes and materials and transporting them to their disposition destinations are complex functions that warrant careful management and planning, especially when dealing with the magnitude of the transportation activities projected over the life-cycle of the clean-up mission. As a tool for planning, the National Transportation Program (NTP) developed an annually updated corporate transportation baseline for the EM clean-up and closure activities in October 2000. This baseline identifies waste and material types, quantities to be moved by year, packages to be used by type per year, and number of shipments per year, and is based on data collected through the Integrated Planning, Accountability and Budgeting System (IPABS).

The NTP began using the IPABS data collection system in 1997. The original intent was to document the transportation and packaging information tied to various waste streams and material streams corporately. Unfortunately, some DOE Sites have resisted providing the required information through IPABS, challenging the validity of the requirements and preferring to rely on site-based systems and deriving their own reports from those systems. This practice, however, ignores the need for the kind of integrated, long-range planning necessitated by the scope of the clean-up and closure mission, and the basic premise that wastes/materials from many sites will be consolidated centrally for disposition. To address this problem, attempts have been made over the last four years to refine and streamline the IPABS transportation data collection requirements. In spite of this effort, analysis has shown that the data collected does not provide the requisite complete and accurate portrayal of the EM Transportation Baseline. Thus, it was recognized that an enhanced transportation data collection process is needed to ensure that the DOE Environmental Management (EM) Clean-up and Closure Mission can be accomplished.

Pilot Project

To evolve an enhanced data collection process, a “Packaging and Transportation Management Pilot Project Plan" was developed. Following this plan, the project was carried out using the Hanford Site as a model on the premise that the scope of its shipping activities and the nature and magnitude of its barriers to execution were representative of those at other sites. The methodology chosen was to compile existing data for the Hanford Site, identify gaps and uncertainties in that data, and work with appropriate site personnel to fill gaps, clarify uncertainties, and gather data that had not been previously captured. The objective of the data-gathering process was to obtain the necessary information to update the Site's baseline and perform the required analyses to determine the status of its transportation activities. The analyses were to focus on identifying barriers that threaten key clean-up and closure milestones by asking: “Can the depicted baseline be executed?" The Hanford Site-specific data so gathered was to be used to develop the model EM Transportation Forecast. Further, experience and information gained during the execution of the pilot project is to be used to refine the data-gathering process that will be used to complete other sites' data sets. That process will be the subject of a subsequent report.

Pilot Project Methodology

To initiate the gathering of additional Hanford Site data, the National Transportation Program-Idaho (NTP-ID) team developed a ‘Line of Inquiry’ (LOI - **Appendix A**). This LOI was intended to ascertain the status of the Hanford transportation data and to compare it to the transportation data found in the Integrated Planning, Accountability, and Budgeting System (IPABS) for the Hanford site. The responses were used to help complete the transportation baseline. In addition to the initial LOI, the NTP-ID team developed a set of questions (**Appendix B, Questions to Determine Status**) intended to elicit data at the level of detail necessary to assess ability to execute the baseline. These questions were used during a visit to the Hanford Site by the NTP team. They were asked to ensure that the necessary data was available for such tasks as the selection of packagings, handling equipment, and modes of transportation, and to ensure that origin and destination sites can accommodate the selected

packaging and mode of transportation. The resulting answers, data provided by Hanford Site personnel from Site databases, and the answers provided to the 'Line of Inquiry' (previously obtained) were used to update transportation data. NTP-ID also compared the data obtained during the inquiries with the data contained in the IPABS for consistency. Recommendations on how to best gather and report transportation data related to future EM transportation activities, not only at the Hanford Site but complex-wide will be developed from this comparison, discussions with Hanford Site personnel, and the experiences and insights gained during execution of the Pilot Project.

ENHANCED BASELINE TRANSPORTATION DATA

This section discusses the updated and enhanced basic data sets obtained through the data gathering activities.

Enhanced Baseline

Enhanced Baseline data is presented for each site individually under its appropriate Site tab. (Note that data from the original IPABS database is printed in black while additional and corrected data is printed in red.)

In an effort to make the IPABS transportation data more accurate and complete, the NTP-Idaho staff has requested updated information from the eleven major DOE sites and worked personally with two of the eleven. The transportation data from the IPABS 8/28/01 dataset was subsequently provided to the sites for verification and completion of empty data fields.

Prior to working with the sites, the transportation data in IPABS was marginally populated and has been improved through efforts to ensure their data is current with planning. The enhancements are shown by comparison in Figures 1-4.

Figure 1 is a summary of all the transportation data elements in IPABS that were considered before and after the data enhancement effort. The data elements included were: packaging name identified, number of packgings to be used, number of shipments, and the mode of transportation. This summary depiction of the data elements illustrates that the resulting enhancements from working with the sites reduced the empty data fields by 31%.

Figure 2 compares the packaging elements, (i.e., name of packaging and number of packagings needed) that were in IPABS before and after the transportation data enhancement. The figure displays the fact that there are 20% less empty data fields related to packaging than with the August 2001 IPABS dataset.

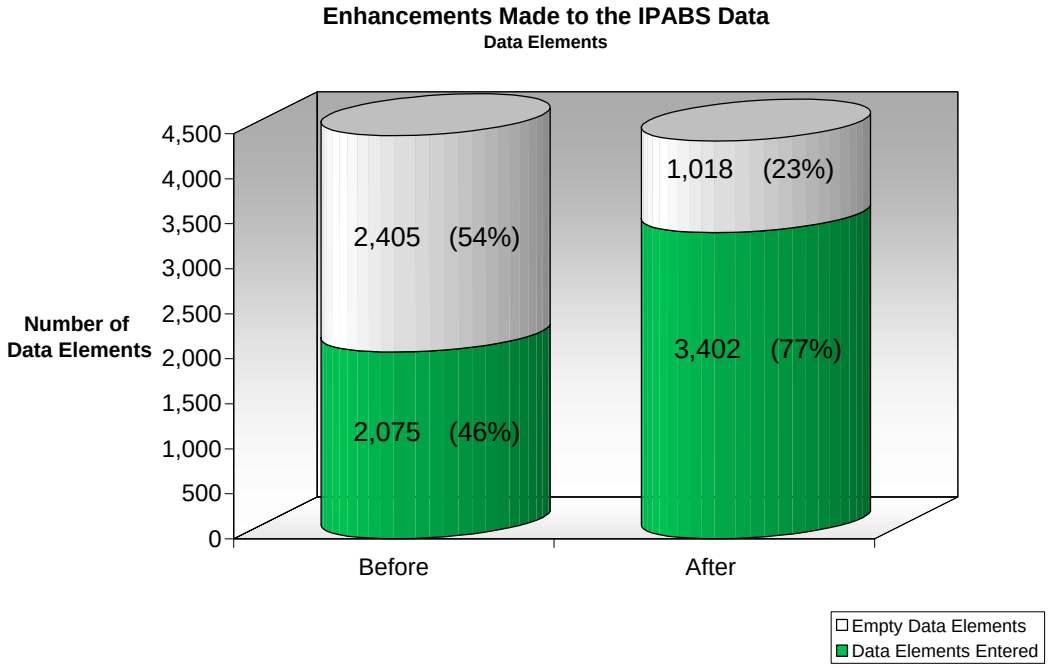


Figure 1. Data Elements

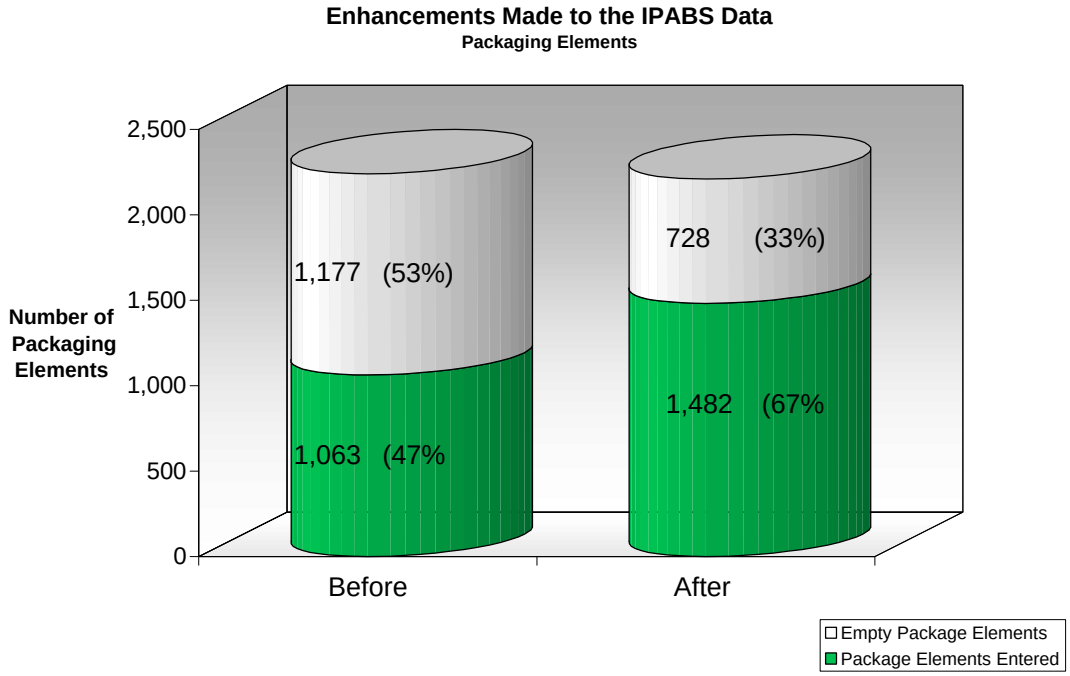


Figure 2. Packaging Elements

Figure 3 is a pie chart of the transportation campaigns[2] from the August 2001 IPABS data set. The chart is divided into 3 sections:

(1) Incomplete Campaign Data – where none of the transportation data fields have information entered;
(2) Partially Complete Campaigns – where one or more of the fields have transportation data entered; and
(3) Totally Complete Campaigns – where all of the transportation data fields have data entered.

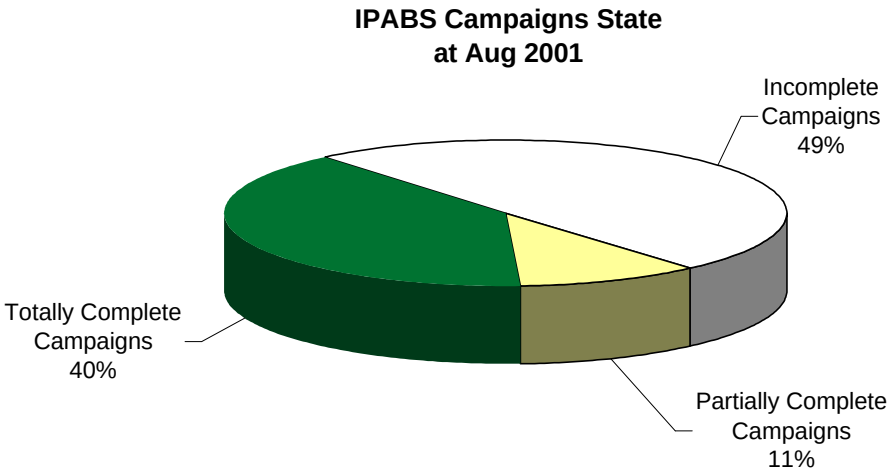


Figure 3. August 2001 IPABS Transportation Campaigns

Figure 4 is a pie chart of the transportation campaigns on March 2002 after working with the sites to enhance transportation data.

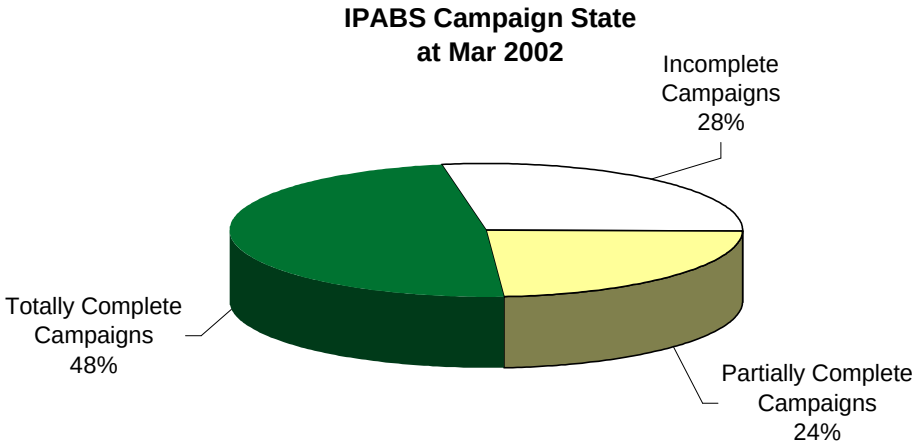


Figure 4. March 2002 IPABS Transportation Campaigns.

[2] A transportation campaign is discreet set of the four data elements represented in Figure 1. They are: 1) packaging name, 2) number of packagings needed, 3) number of shipments, and 4) mode of transportation. If any one of these elements changes for a particular stream, it is considered a new transportation campaign.

A comparison of the charts in **Figures 3 & 4** indicates that an additional 8% of the transportation campaigns now have complete data. Also, the transportation campaigns having no data were reduced from 49% to 28%.

As a result of the site data reviews, the sites were able to focus management attention on problem areas. The sites expressed that the increased visibility on the transportation details was instrumental in making needed planning decisions. These planning decisions have been included in this EM Transportation Forecast, The Gaps Analysis, and the Type B and Type A-Fissile Packaging Report.

As shown in the figures above, the transportation data is improving; however discrepancies between site baseline plans and IPABS data still exist and there are yet many data fields that are not populated. These facts confirm the need for an improved methodology for collecting and reporting transportation data.

Type B and Type A-Fissile Packaging Baseline

The Type B and Type A-Fissile Packaging Baseline updates and fills gaps in the Site data from the October 9, 2001 *Type B and Type A-Fissile Packaging Report*. The site-specific data for packaging is found in the Site tabs. The packaging data is presented from the shipper's perspective. The packaging data for the shippers not included in the major eleven sites is found in **Appendix C**.

There are other programs, in addition to EM, planning to use Type B and Type A-Fissile packaging. Although non-EM transportation activities are beyond the scope of this Forecast, the packagings planned for use through 2010 for the non-EM programs should be considered as they plan to use similar transportation and packaging resources. An example of these non-EM shipments is included under the INEEL site tab in **Attachment 2**.

Planned vs. Actual FY 2001 Shipments

Actual numbers of shipments made in Type B or Type A-Fissile packaging, as provided by Hanford and INEEL personnel, are compared with those entered as planned for FY 2001 in the IPABS database. The purposes of the comparisons are to gauge the success of executing plans, to investigate methods to improve planning, and to determine whether key clean up and closure milestones are being threatened. Included are some non-EM shipments and receipts. The non-EM shipments are included for information; given they have the minimum potential to impact EM transportation resources.

At this point of the analysis of planned vs. actual shipments for the two sites named above, there doesn't appear to be a problematic back log of shipments. However, the baseline for actual shipments made is being established with the intent of monitoring the effectiveness of planning and executing shipments. The remainder of the sites will be included in the analysis as the EM Transportation Forecast matures.

Baseline Transportation Barriers

Transportation barriers have been documented complex-wide for each DOE-EM site. The barriers were captured for a five-year window (2002 – 2006) and focused on those barriers that were specifically related to Type B and Type A-Fissile packaging. A summary of the barriers is found below in **Table 1** with greater details found in the Gaps Analysis Report of March 2002.

The barriers listed in **Table 1** could be categorized as follows:

- Insufficient material characterization – The lack of characterization has prevented the selection of packaging, number of shipments, and shipping dates.
- Package Certification – A packaging has been identified, but a SARP revision is required for the package to be certified for the intended contents.
- Special Case Shipment – A special circumstance is required, such as an out-of-commerce shipment.

Table 1. Summary Transportation Barriers from Gaps Analysis Report

Site	Packaging	Material	Barrier
Fernald	TBD	NM	Insufficient material characterization. No packaging or shipping data identified for the transportation campaign.
	Type A - 7A, Type AF (SBWSC)	NM	No shipping data identified for the transportation campaign.
Hanford	S-100	NM	The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.
INEEL	HFEF-6	SNF	Out of Commerce shipment, requires closure of a state highway.
	NAC-LWT	SNF	NAC-LWT is not certified for all INEEL fuel types.
	Peach Bottom	SNF	No destination identified for the transportation campaign.
	6M	NM	No shipping data identified for the transportation campaign.
Los Alamos	S-100	NM	The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.
NTS	S-100	NM	The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.
	TBD	TRU	Insufficient characterizing, sampling, and repackaging resources. No destination, packaging, or shipping date identified for the transportation campaign.

Site	Packaging	Material	Barrier
	TBD	TRU	Insufficient sanitization and repackaging resources. No packaging or shipping data identified for the transportation campaign.
ORNL	5320	NM	No destination or shipping data identified for the transportation campaign.
	S-100	NM	The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.
	TBD	NM	No destination, packaging, shipping data identified for the transportation campaign.
	TBD	LLW	No packaging identified for the transportation campaign.
Rocky Flats	Self-contained	NM	No destination identified for the transportation campaign.
	TBD	NM	No packaging or shipping data identified for the transportation campaign.
	IP	NM	No destination or shipping data identified for the transportation campaign.
	ES-2100	NM	ES 2100 as a suggested container. It is available but not certified. This is part of the LLW Stream.
SRS	Type 7A	NM	No shipping date identified for the transportation campaign.
	6M or ES-2100	NM	No shipping data identified for the transportation campaign. ES-2100 is available but not certified.
	IP	NM	No destination or shipping data identified for the transportation campaign.
Sandia	TBD	SNF	No packaging or shipping data identified for the transportation campaign.
	IP	NM	No shipping data identified for the transportation campaign.
WVDP	TN-BRP/REG	SNF	No shipping date identified for the transportation campaign.

In addition to the barriers of the Gaps Analysis Report, NTP personnel documented barriers identified during the site visits to Hanford and the INEEL. The barriers captured during the site visits are listed, along with their consequences, in their separate site tabs of this Forecast.

ENHANCED BASELINE ANALYSIS

The data products presented above have been processed and analyzed in ways intended to facilitate long-range planning and evaluate the feasibility of planned shipping activities. Analysis is based on assessment of the validity of appropriate Transportation Baseline Attributes. These attributes are listed below, followed by the data analysis and processing products.

Transportation Baseline Attributes

The following are baseline attributes that must be validated in order for DOE sites to execute off-site transportation activities for wastes and materials. The focus is on those streams that must be shipped in Type B containers. Questions designed to elicit data at the level of detail necessary to validate these assumptions are listed in **Appendix B**.

- **Characterization** – It is assumed that waste streams are adequately characterized to satisfy transportation regulations and disposal site waste acceptance criteria, or can be so characterized in time to carry out the planned transportation activity.

  For already-characterized waste, it is further assumed that:

  - Transportation regulations and disposal site waste acceptance criteria will not change prior to completion of shipping and,
  - Characteristics of the waste will not change during the time between characterization and shipping in such a manner as to fall outside regulatory or criteria limits.

  For uncharacterized waste (including waste to be generated), it is further assumed that:

  - Adequate characterization is technically achievable in time to carry out the planned transportation activity and,
  - Adequate characterization can be carried out in a timely manner within the constraints of budget and safety requirements.

  For waste requiring treatment to meet characteristics requirements:

  - Treatment capability will be available and have sufficient capacity for the need for as long as needed and,
  - Waste in current form can, if necessary, be transported to the treatment facility in time to carry out the planned transportation activity. If the treatment is to prepare the material for transport, the treatment facility must be on site. Off-site treatment to meet waste acceptance criteria is acceptable.

- **Quantity** – It is assumed that:

  - For existing wastes, the actual quantity (in terms of volume, weight, activity, etc.) does not greatly exceed that which has been measured or estimated.

- For wastes to be generated, the actual quantity will not greatly exceed that which is predicted.

- **Package Availability** - It is assumed that sufficient numbers of appropriate Type B packagings will be available to meet the shipping schedule.

  For currently existing packagings, this further assumes that:

  - Other uses such as storage or other unanticipated shipping activities will not interfere with planned shipping use,
  - Packagings will be maintained in shippable condition,
  - Necessary certification renewals will be obtained in a timely manner and,
  - Regulatory changes will not prohibit use of the packaging.

  For new packaging designs, this further assumes that:

  - Timely certification will be obtained,
  - Fabrication of the required number of new packagings can be accomplished in time to carry out the planned transportation activity.

- **Disposal Site Availability** – It is assumed that disposal sites will:

  - Become or continue to be operational within the constraints of regulatory, stakeholder, and other requirements,
  - Provide waste acceptance criteria to sites in time to meet characterization needs,
  - Have sufficient capacity for the planned waste disposition,
  - Have the ability to accept waste at the planned time (assumes coordination with other sites and adequate interim storage capacity where necessary),
  - Continue or begin to accept waste having the characteristics of the planned stream and,
  - Be accessible using the planned transportation mode.

- **Mode and Carrier** – It is assumed that:

  - Appropriate transportation infrastructure exists, or can be provided in a timely manner, and will continue to exist as long as necessary for the planned transportation mode and,
  - Adequate carrier capacity will be available.

- **Regulations and Agreements** – It is assumed that:

  - Applicable regulations and agreements will not be changed in such a way as to preclude or significantly delay the shipping schedule,
  - Planned regulatory changes can be achieved and needed agreements can be negotiated in time to carry out the planned transportation activity.

- **Classification** – For classified wastes and materials, it is assumed that:

- Required classified shipping capability will be available and/or,
- Required declassification capacity will be available.

- **Budget -** It is assumed that sufficient funding will be allocated to carry out those activities upon which successful execution of the transportation activity depends.

EM Transportation Baseline Summary

The Transportation Baseline Summary section provides the reader with an indication of the volume of shipments, when they are being shipped, what the material is, and what packaging is planned. This, along with the detailed view provided by the Transportation Activity Maps, is the basis for determining if the transportation systems, packages, and schedules can accommodate the Transportation Forecast.

The Transportation Baseline Summary depicts MLLW, LLW, TRU, and SNF volumes involved in transportation events for all EM sites. NM data is not shown due to classification and HLW is not shipped before 2010. **Figures 5-8** depict, for each waste or material stream, a summary of the annual volume of all EM shipments. The volumes being shipped into and out of the major eleven sites are represented in the summary charts located within each site tab. In these figures, the quantity of waste that does not have completed transportation data is shown in yellow. This is waste that has a reported volume but has no associated package type, number of shipments, transportation mode, etc.

Figures 9-12, show the Type B and other packagings required for pre-disposal (treatment) and for disposal activities for all EM sites, illustrating the dual role transportation may play in the disposition of waste and material. Some waste/material streams must be transported to an off-site facility for treatment, returned to the site for packaging, and finally shipped to a permanent disposal facility. **Figure 13** provides an annual depiction of all EM shipments to be made by rail, truck, or intermodal.

In reviewing this ten-year window of transportation activities, the peak shipments and packagings required occur within the first four years. After this time period, the numbers are reduced to nearly half of the previous years. It appears a cost analysis would be warranted to determine the impacts of level-loading the shipments over time. Clean-up and closure milestones as well as other commitments would need to be considered, but as it stands, but a cursory view indicates that it would be more cost effective to require a reduced inventory of packagings and transportation resources. Additionally, the out-years need to be considered to determine if a similar peak inventory would be required at a later time.

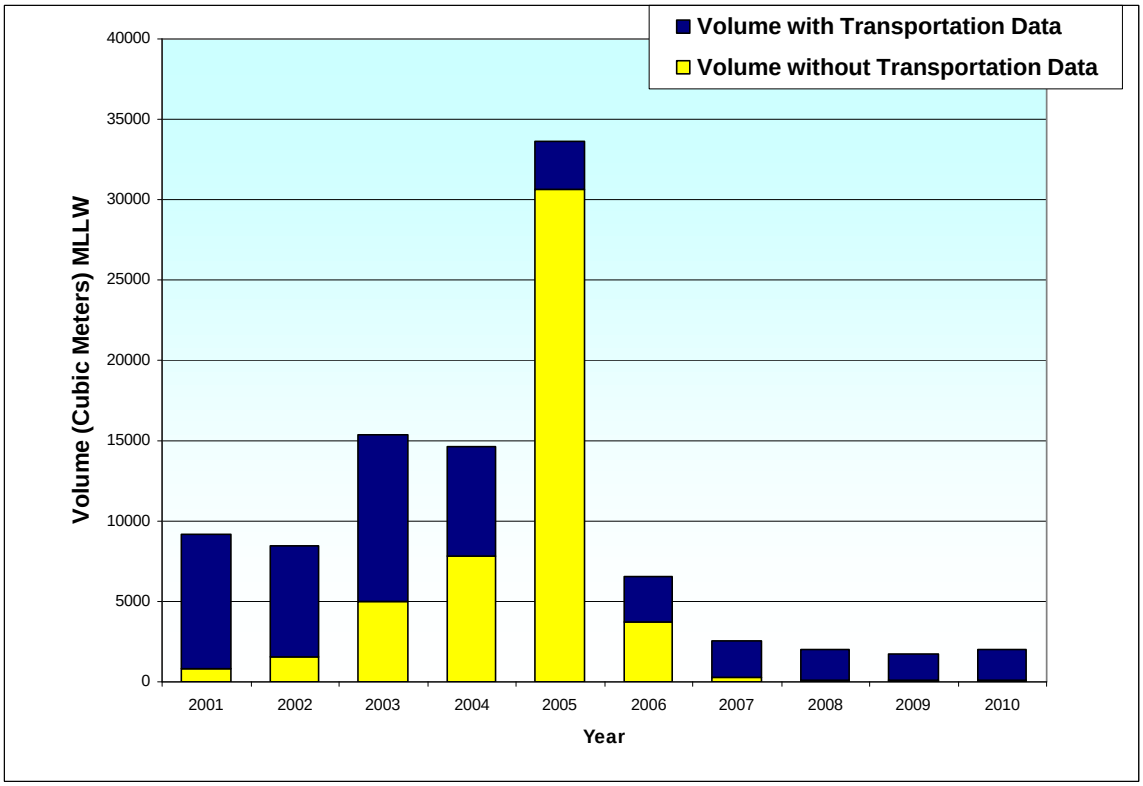


Figure 5. Quantity of MLLW to be shipped by year through 2010

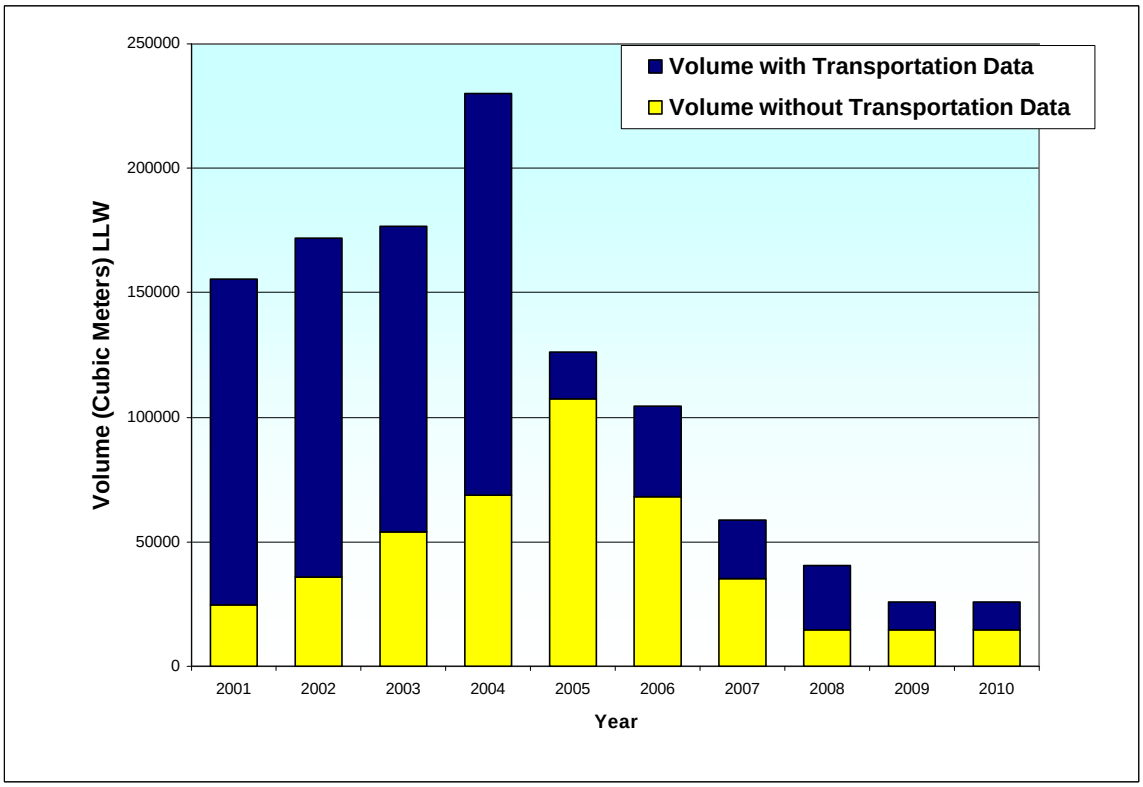


Figure 6. Quantity of LLW to be shipped by year through 2010

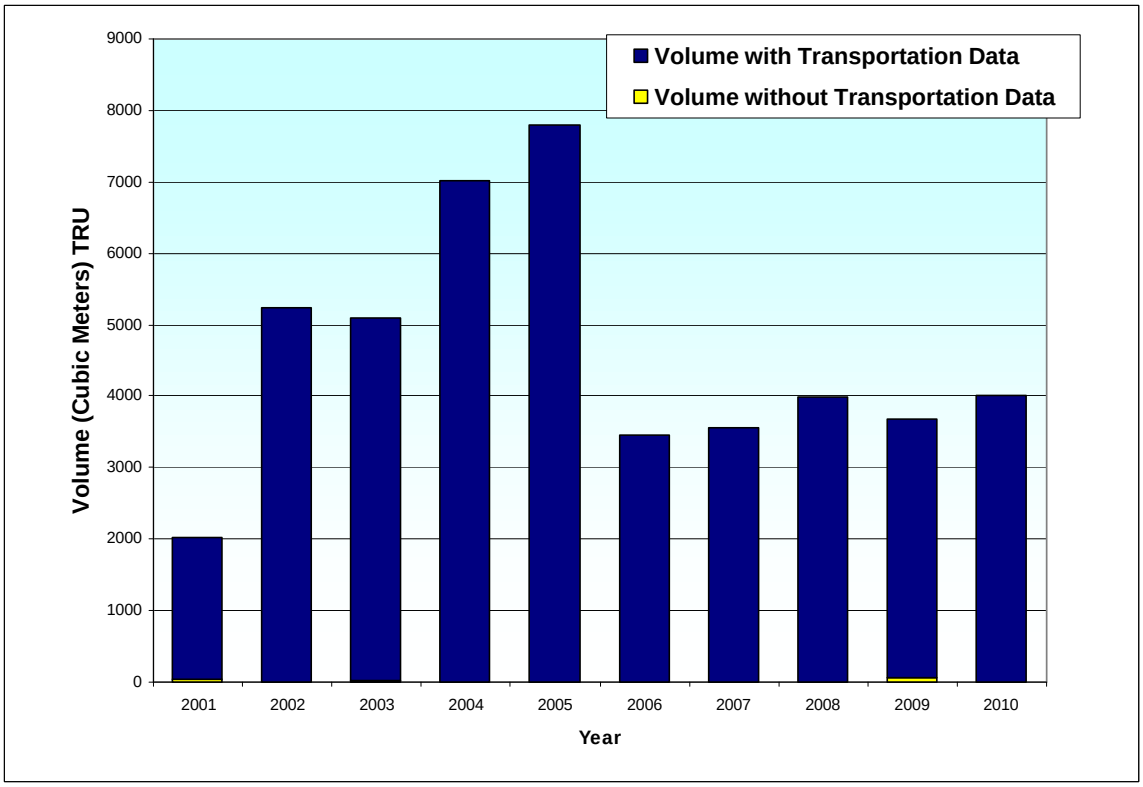


Figure 7. Quantity of TRU to be shipped by year through 2010

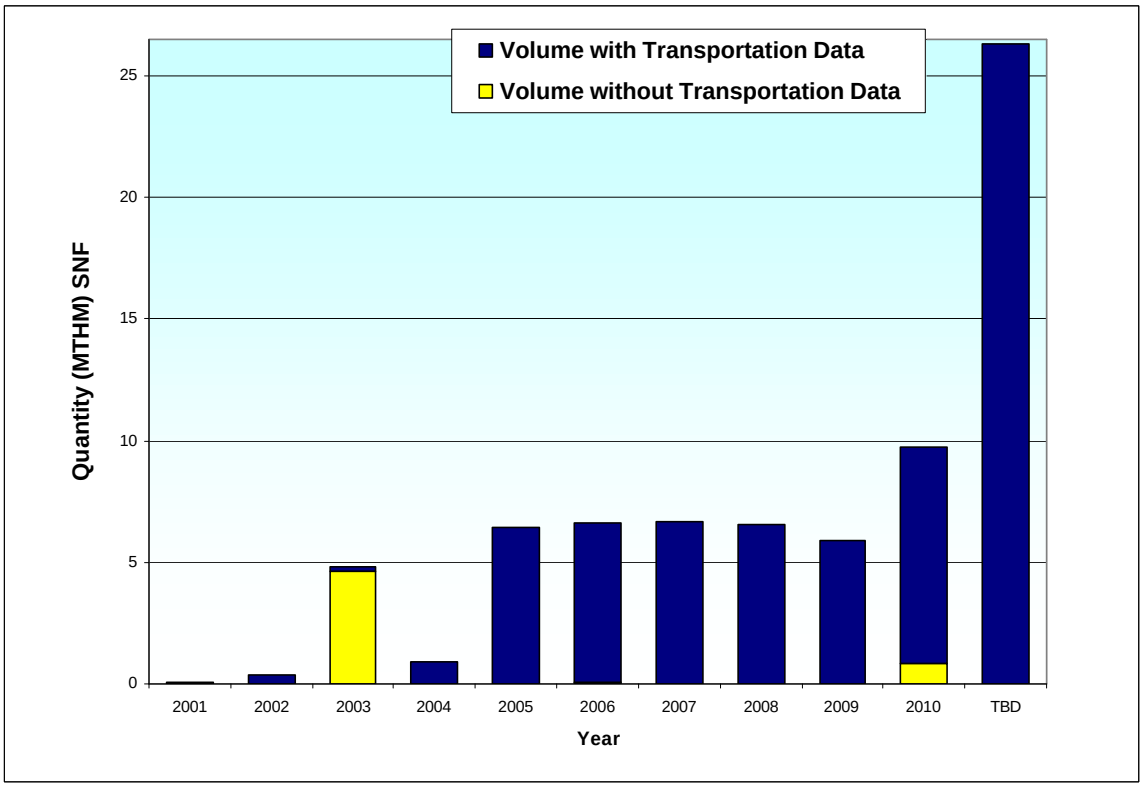
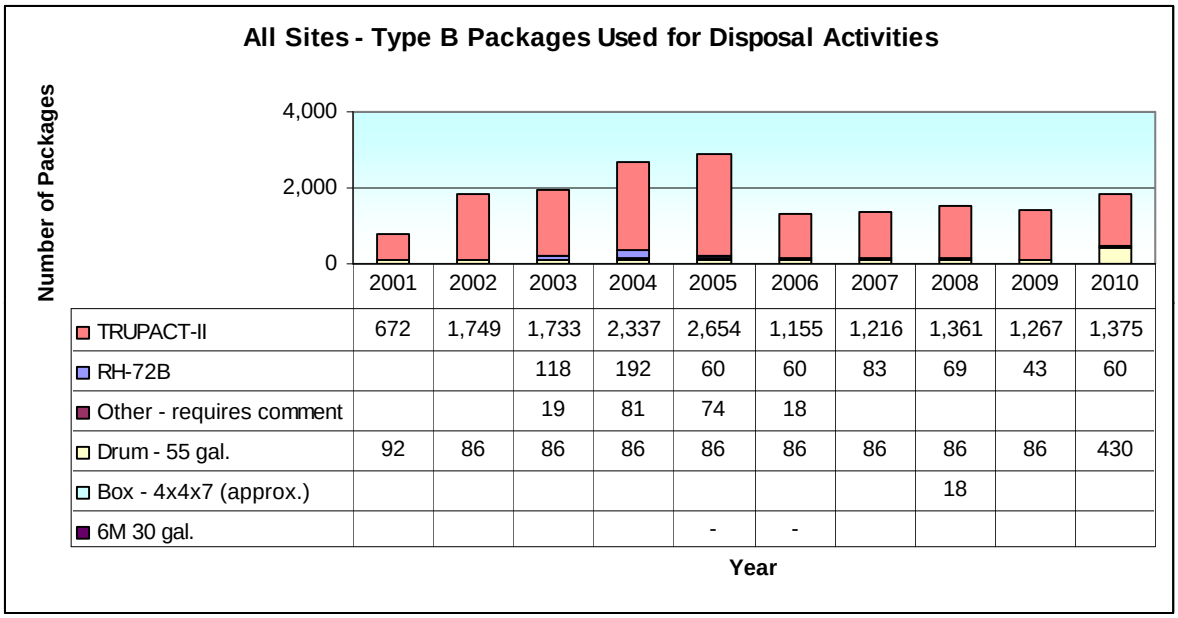
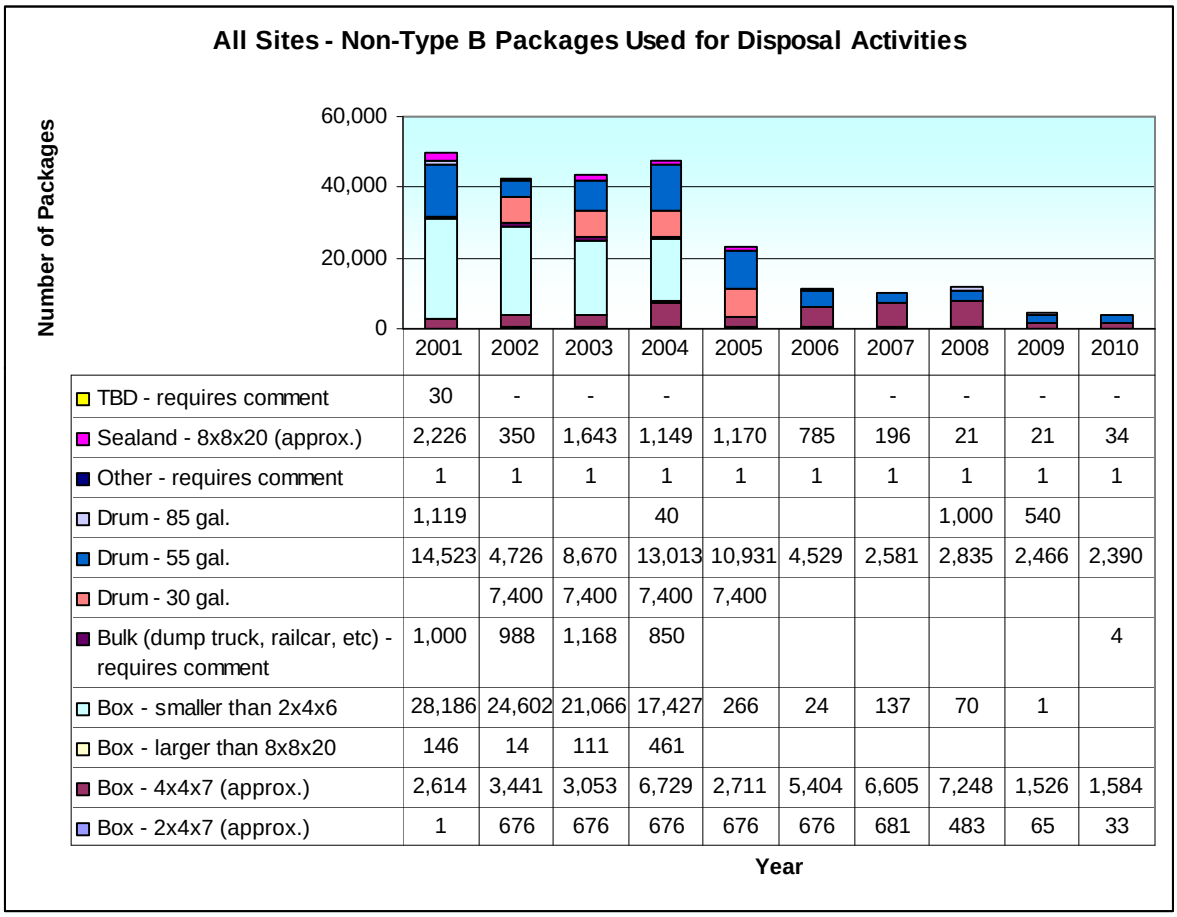


Figure 8. Quantity of SNF to be shipped by year through 2010



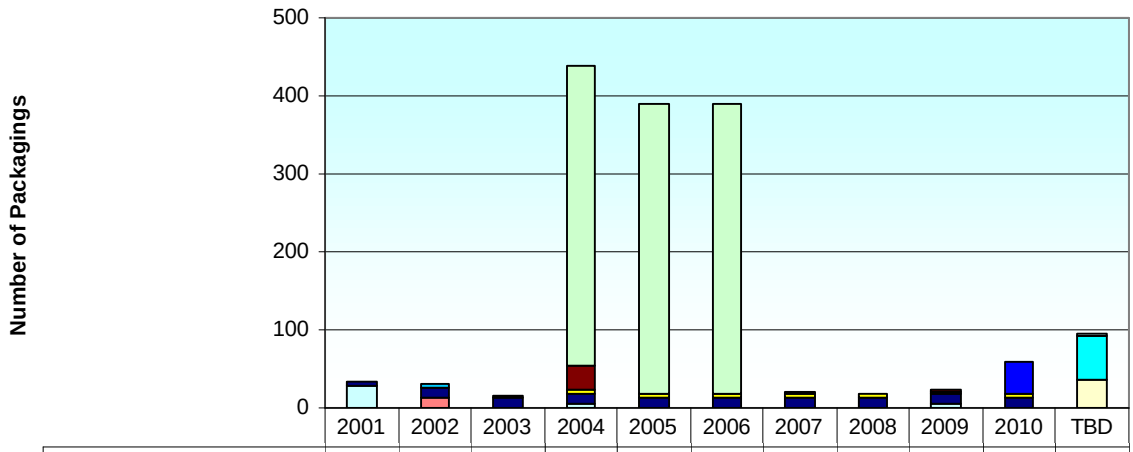
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TRUPACT-II	672	1,749	1,733	2,337	2,654	1,155	1,216	1,361	1,267	1,375
RH-72B			118	192	60	60	83	69	43	60
Other - requires comment			19	81	74	18				
Drum - 55 gal.	92	86	86	86	86	86	86	86	86	430
Box - 4x4x7 (approx.)								18		
6M 30 gal.					-	-				

Figure 9. Number of Type B packages to be used for disposal activities



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TBD - requires comment	30	-	-	-			-	-	-	-
Sealand - 8x8x20 (approx.)	2,226	350	1,643	1,149	1,170	785	196	21	21	34
Other - requires comment	1	1	1	1	1	1	1	1	1	1
Drum - 85 gal.	1,119			40				1,000	540	
Drum - 55 gal.	14,523	4,726	8,670	13,013	10,931	4,529	2,581	2,835	2,466	2,390
Drum - 30 gal.		7,400	7,400	7,400	7,400					
Bulk (dump truck, railcar, etc) - requires comment	1,000	988	1,168	850						4
Box - smaller than 2x4x6	28,186	24,602	21,066	17,427	266	24	137	70	1	
Box - larger than 8x8x20	146	14	111	461						
Box - 4x4x7 (approx.)	2,614	3,441	3,053	6,729	2,711	5,404	6,605	7,248	1,526	1,584
Box - 2x4x7 (approx.)	1	676	676	676	676	676	681	483	65	33

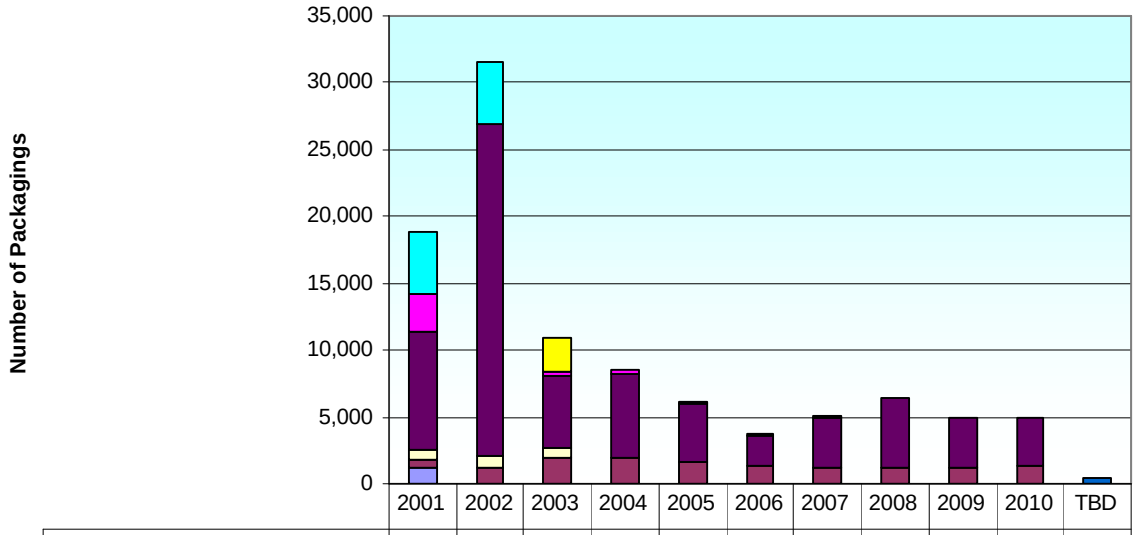
Figure 10. Number of non-Type B packages to be used for disposal activities



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TBD
TRUPACT-II				383	373	373			2		
TN-REG / TN-BRP											2
TN-FSV		5									
TBD - requires comment						-				40	
T-3 Cask							2				
RH-72B				32					1		
Peach Bottom					1	1	1	1	1	1	
Other - requires comment											58
LWT	-	1	2	4	3	3	3	4	2	3	
HFEF-6					1	1	1	1		1	
GE-2000 Cask	6	13	13	13	13	13	13	13	13	13	
FL 10-1											-
ES-2100											-
9975		12									
6M or ES-2100					-						
6M 55 gal.	28			6					5		
6M 110 gal											35
6M											-
5320											-

Year

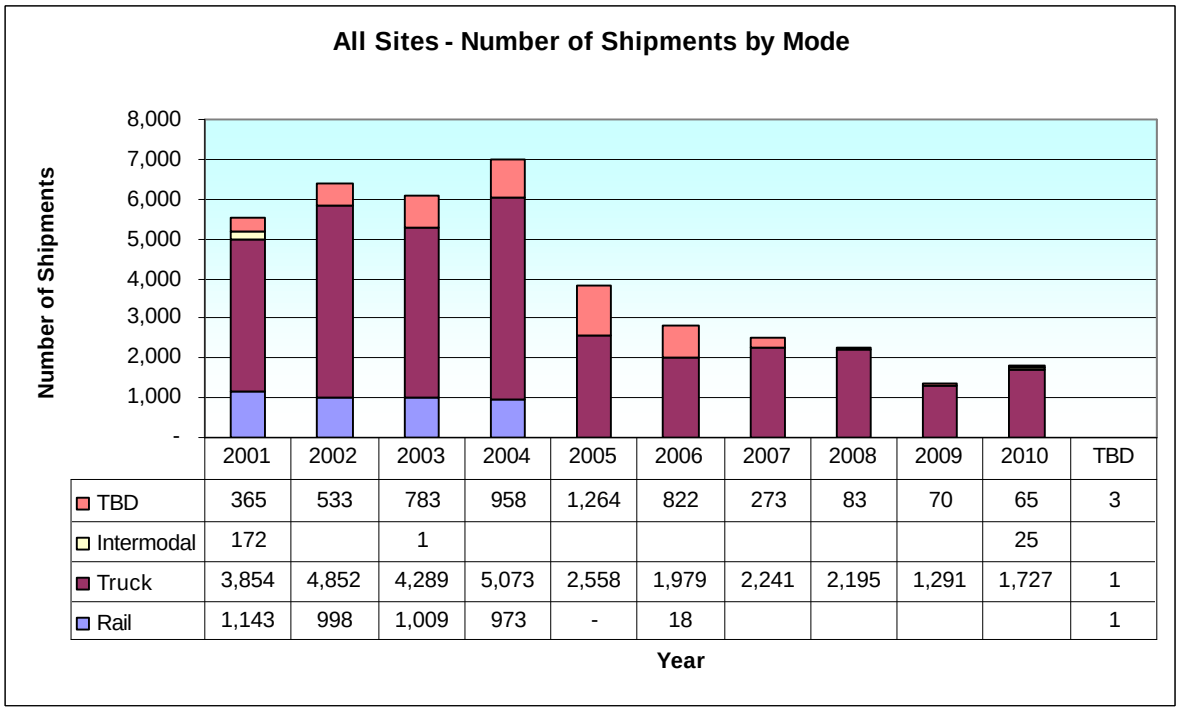
Figure 11. Number of Type B packages to be used for pre-disposal activities.



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TBD
Type A - 7A, Type AF (SBWSC)		-									
Type 7A (or LLW pkg)											-
Type 7A (or 6M w hile available)											-
Type 7A											10
TBD - requires comment	4,771	4,576	-	-		20	-				-
Strong Tight / IP-1			2,500								
Sealand - 8x8x20 (approx.)	2,748	8	329	184	44	45	34	34	34	34	
S-100		55									-
Other - requires comment	1	1	1	1	1	1	1	1	1	1	
IP											393
Drum - 85 gal.		2	5	5	5	5	5	5	5	5	
Drum - 55 gal.	8,859	24,82	5,368	6,354	4,348	2,351	3,738	5,169	3,669	3,561	
Bulk (dump truck, railcar, etc) - requires comment	3			1	-	-	1				
Box - smaller than 2x4x6	803	802	790								
Box - 4x4x7 (approx.)	513	1,222	1,911	1,919	1,705	1,300	1,256	1,243	1,268	1,313	
Box - 2x4x7 (approx.)	1,221										

Year

Figure 12. Number of non-Type B packages to be used for pre-disposal activities



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TBD
TBD	365	533	783	958	1,264	822	273	83	70	65	3
Intermodal	172		1							25	
Truck	3,854	4,852	4,289	5,073	2,558	1,979	2,241	2,195	1,291	1,727	1
Rail	1,143	998	1,009	973	-	18					1

Figure 13. Number of shipments by mode for all major sites

Type B and Type A-Fissile Packaging Needs Assessment

Packaging and transportation data were extracted from the enhanced baseline transportation data and the Type B and Type A-Fissile Packaging Report to develop a table of packaging needs for each site to execute their transportation baseline. This Type B and Type A-Fissile Packaging Needs table is included under each of the individual site tabs.

Below in **Table 2,** Type B/Type A-Fissile Packaging and Shipping Suite**,** is a summary of the packagings and shipments needed to carry out the EM Transportation Baseline. The summary is an annual depiction of the packagings needed for the year, with the number of packagings required and number of shipments shown below the packaging (i.e., number of packagings/number of shipments). Question marks "?" after the packaging indicate the numbers were unknown at the time of the report. A to-be-determined (TBD) designation is used when the packaging or shipping date is unknown.

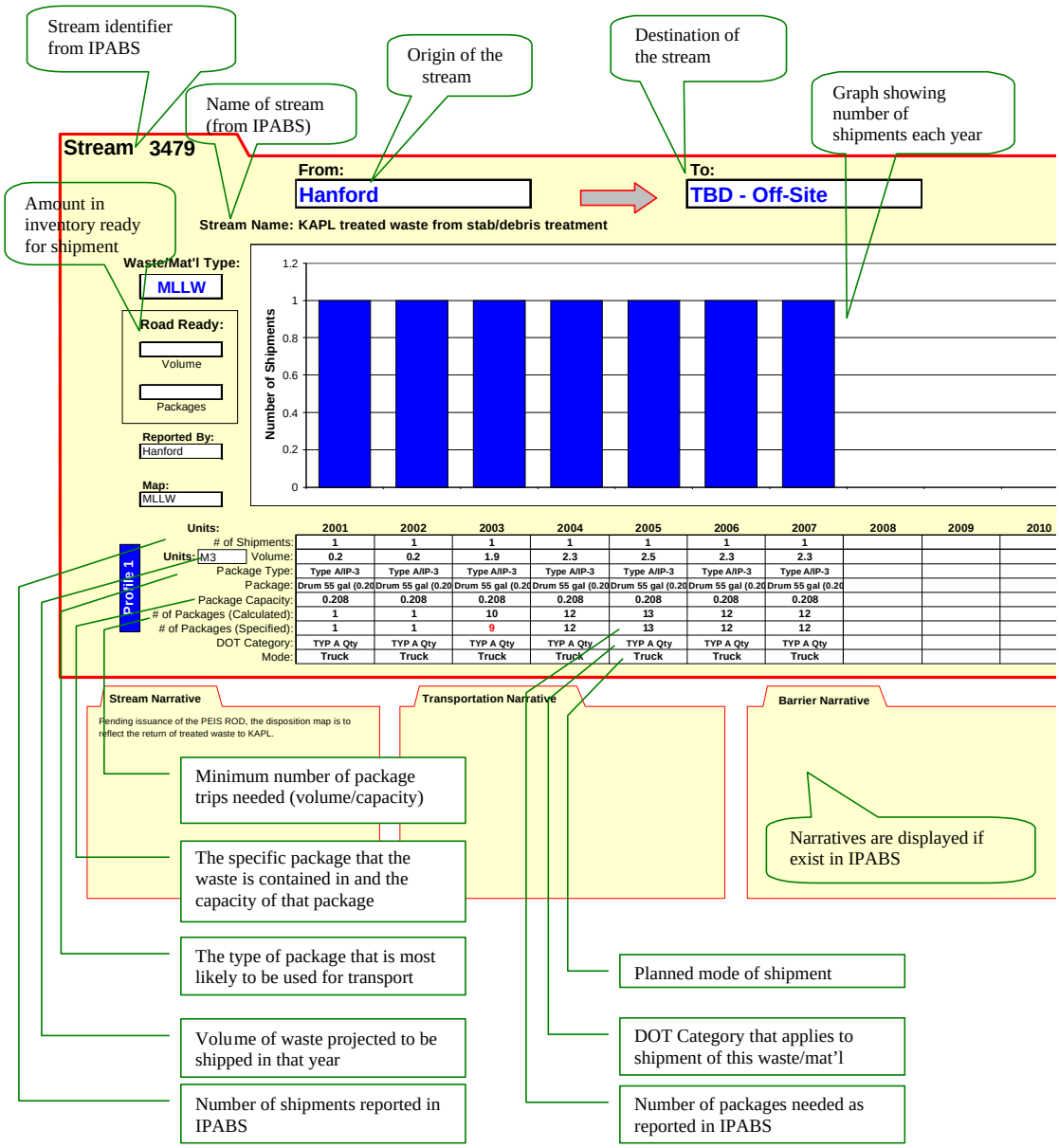
Table 2. Type B / Type A-Fissile Packaging and Shipping Suite

2002	2002-2004	2003	2004	2005	2005-2007	2006	2007	2007 +	2008	2009	2010	Year TBD
9975 ***12/1***	S-100 ***55/?***	GE-2000 Cask ***13/13***	GE-2000 Cask ***13/13***	GE-2000 Cask ***13/13***	6M or ES-2100 ***?/?***	GE-2000 Cask ***13/13***	GE-2000 Cask ***13/13***	TBD **86/87**	GE-2000 Cask ***13/13***	GE-2000 Cask ***13/13***	GE-2000 Cask ***13/13***	5320 ***?/?***
GE-2000 Cask ***13/13***		NAC-LWT ***?/?***	LWT ***2/11***	HFEF-6 ***1/6***		HFEF-6 ***1/6***	HFEF-6 ***1/6***		HFEF-6 ***1/5***	Peach Bottom ***1/3***	HFEF-6 ***1/1***	6M ***?/?***
RH-72B or CNS 10-160B ***?/?***		T-2 or NAC-LWT ***1/1***	NAC-LWT ***?/?***	LWT ***1/18***		LWT ***1/18***	LWT ***1/18***		LWT ***2/19***	PKG/ TBD ***86/86***	LWT ***2/24***	6M 110 gal ***35/1***
TN-FSV ***5/5***		PKG/ TBD ***105/ 105***	PKG/ TBD ***167/ 167***	NAC-LWT ***?/?***		NAC-LWT ***?/?***	Peach Bottom ***1/2***		Peach Bottom ***1/2***		Peach Bottom ***1/3***	DC-1 ***?/?***
Type A - 7A, Type AF (SBW SC) **?/?**				Peach Bottom ***1/2***		Peach Bottom ***1/2***	T-3 Cask ***2/8***		PKG/ TBD ***122/88***		PKG/ TBD ***470/ 453***	ES-2100 ***?/?***
PKG/ TBD ***86/86***				PKG/ TBD ***160/ 160***			PKG/ TBD ***122/88***					FL 10-1 ***?/?***
						PKG/ TBD ***124/ 124***						IP ***?/?***
												OTMX ***?/?***

2002	2002-2004	2003	2004	2005	2005-2007	2006	2007	2007 +	2008	2009	2010	Year TBD
												S-100 ***?/?***
												TN-REG / TN-BRP ***2/1***
												Type 7A (or 6M while avail-able) ***1/1***
												PKG/ TBD ***58/?***

Transportation Activity Maps

The enhanced data, previously addressed, was organized into Transportation Activity Maps. For the purposes of this report, a "Transportation Activity" is defined as a movement or set of movements from origin to destination, of a specific waste/material stream, in a specific year, in a specific packaging type. Transportation Activity Maps may be used to analyze transportation activities in detail to ensure that sufficient information has been gathered to determine if the activity can be executed. The Annotated Activity Map (**Figure 14**) explains the features of the Transportation Activity Maps. Transportation Activity Maps have been developed for the Sites using the baseline data changes. Due to the large volume, the Transportation Activity Maps are only shown for the Hanford Site.



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
# of Shipments:	1	1	1	1	1	1	1			
Volume:	0.2	0.2	1.9	2.3	2.5	2.3	2.3			
Package Type:	Type A/IP-3	Type A/IP-3	Type A/IP-3	Type A/IP-3	Type A/IP-3	Type A/IP-3	Type A/IP-3			
Package:	Drum 55 gal (0.20	Drum 55 gal (0.20	Drum 55 gal (0.20	Drum 55 gal (0.20	Drum 55 gal (0.20	Drum 55 gal (0.20	Drum 55 gal (0.20			
Package Capacity:	0.208	0.208	0.208	0.208	0.208	0.208	0.208			
# of Packages (Calculated):	1	1	10	12	13	12	12			
# of Packages (Specified):	1	1	9	12	13	12	12			
DOT Category:	TYP A Qty	TYP A Qty	TYP A Qty	TYP A Qty	TYP A Qty	TYP A Qty	TYP A Qty			
Mode:	Truck	Truck	Truck	Truck	Truck	Truck	Truck			

Figure 14. Annotated Transportation Activity Map

Type B Package Certification Schedule

The Type B Package Certification Schedule was developed to assist in the coordination of packages being certified. By being cognizant of what revisions are needed, EM can better work with the certifying agencies' schedules and coordinate the submittals to allow time for the reviews and certification to be obtained to meet key clean-up and closure milestones.

A table was developed for each site and is included in its appropriate site tab. It was developed from transportation information extracted from the enhanced baseline data and the Type B and Type A-Fissile Packaging Report. From this information, an early and late need date was extrapolated for meeting the Enhanced Baseline.

Analysis of the individual certification schedules indicates that careful consideration of key milestones must be taken into account. The success of meeting some EM clean-up and closure milestones is dependent upon having packages certified and ready for transportation. Additionally, in-commerce shipments are generally supported with a wide range of available package designs and transportation service providers. Most of the packages for commercial shipments are already supported by an NRC, or a combination of an NRC and a DOE certificate. This situation will result in the least impact to the NRC if/when the EM certification efforts are transitioned to them.

Transportation Data Reported From Shipper and Receiver

A comparison of the enhanced IPABS transportation data as reported by the shipper and receiver was assembled to look for discrepancies in the data. **Appendix D** contains a table, grouped by waste or material stream, showing the quantity, number of shipments, and the number of packages needed for the shipper and receiver. In some cases, only one of the entities reported transportation data; therefore no comparison was made.

Analysis of this comparison indicates there are few instances where the shipper and receiver transportation data is the same. However, there are several that have similar data, but the conclusion is that the majority diverge enough that it would be prudent for the shipper and receiver to initiate dialogue to resolve the discrepancies in transportation data.

SUMMARY AND CONCLUSIONS

The data set presented and analyzed in this Forecast is a compilation of the data from the following sources: 1) The 2001 Integrated Planning, Accountability, and Budgeting System (IPBAS) database, 2) The National TRU Program databases, and 3) The Type B and Type A-Fissile Packaging Report. It encompasses offsite transportation activities planned for the next ten years as a part of the EM mission. Data for transportation activities beyond the ten years was not analyzed in this Forecast Report; however each subsequent version of this Report will analyze a ten-year rolling window.

The waste and material streams analyzed are: low-level radioactive waste (LLW), mixed low-level radioactive waste (MLLW), Transuranic waste (TRU), nuclear material (NM), high-level waste (HLW) and spent nuclear fuel (SNF). The analyses produced the following products:

1) Transportation Baseline – This is the baseline of the schedule and quantities of all planned EM shipments through 2010;
2) Type B and Type A-Fissile Packaging Baseline – This baseline consists of a certification schedule and identifies the packaging required to meet the transportation baseline through 2010;
3) Enhanced Data – This is an improvement to the transportation data from IPABS. The existing data was modified to reflect the site baseline shipping plans and missing data was provided to fill many of the gaps up through 2010; and
4) Barriers Analysis – This is the documentation of the barriers to execution of the transportation baseline.

These various products resulting from the analyses are found in the individual site tabs.

The key aspect of the data analysis was carried out with the objective of determining if transportation activities can be executed as planned and the nature and magnitude of any barriers to planned execution. The major packaging issues are having: (1) a package certified for the planned shipments, (2) the packaging inventory available to support the schedules, and (3) the material sufficiently characterized to enable package selection. At this point of the analysis, it appears that planned transportation activities for commercial shipments in Type B packaging can be executed if funding and packagings are made available, and if the barriers identified are resolved as planned. The exception to this is the packaging for the Non-Actinide Isotopes and Sealed Sources. Packaging has not been identified for all of this material; however, the National Transportation Program is working jointly with several programs to resolve this issue.

During the data gathering process, it became apparent that comprehensive information does not reside with any single organization at the sites. In order to build an accurate and comprehensive data set, it is necessary to confer with personnel from various site organizations who both have access to, and a thorough knowledge of their specific data subsets. By working with the sites, significant data improvements were made by updating existing data and filling in missing data. However, it should be noted that although contact has been made with the major eleven sites to update transportation plans and data; the quality of data and understanding to perform the necessary analyses does not compare with conducting site visits.

As the National Transportation Program continues its analyses of complex-wide shipping activities, the interrelationships between the sites utilization of common transportation resources (e.g., packaging, carriers) can be better evaluated. The data, at this point, is not sufficient to make an accurate determination of potential conflicts in resource utilization. Additionally, the National Transportation Program recommends further analyses be performed to include other DOE programs, beyond EM, that may be planning to utilize the same transportation resources. It is also recommended that cost analyses be performed to explore opportunities for cost sharing and savings.

Current packaging and transportation policies and procedures should be reviewed for improved methods to remove materials from sites (including intermodal transportation), resulting in

decreased costs, risk reduction, and increased success in meeting planned clean-up and closure milestones. Furthermore, a better approach to packaging procurement and certification should be developed, including both EM internal actions and improved coordination with other involved parties.

Appendix A

PILOT PROJECT LINE OF INQUIRY (LOI)

10 May 2002

<u>Attachment A</u>
Line of Inquiry
Radioactive Waste & Nuclear Materials Packaging

It will be the Team's responsibility to find out how the Hanford Site calculates and records information for current and future radioactive waste and nuclear material shipments and compile a complete data set. The purpose of this project is to improve the quality of IPABS submissions. Improving the quality of the information from the Hanford Site will help to ensure the availability of the various types of packagings needed to meet shipping obligations.

Table 1. Summary of data elements to be acquired.

	Waste Streams					NM	
Data Elements	**LLW**	**MLLW**	**TRU**	**SNF**	**HLW**	**CAT I & II**	**CAT III**
% Qty. Packaged							
% Qty. to be Packaged							
# of Shippable Packages							
Type of Packages							
# Packages per year							
Mode of Transportation							
# of Shipments per year							

Table 1.

Pre-Visit Line of Inquiry

Prior to the Team visiting the Hanford Site, those individuals with key knowledge and experience in recording the waste streams and nuclear materials dispositions will be requested to answer the following questions. The pre-visit information will be utilized by the Team to prepare for the inquiry.

Line of Inquiry

Please provide the following information based on the shipments that will originate from your site for the ten-year period FY-2001 to FY-2010. [Indicate who is providing the information (name and organization), their position, Email, and telephone number.]

1. Which databases are you currently using to record information for disposition of waste streams and nuclear materials? List all databases and categories that are tracked.

2. What procedures are you using to determine the volume and categories of the material?

3. What type of quality assurance and controls are placed on the data being recorded for materials disposition? Have you done a sample verification of data?

4. Who is responsible for entering data on IPABS? Who determines which calculations and formulas will be used to estimate the number and type of packagings required for current and future shipments?

5. Do you have a current inventory listing of Type B packagings at your site? If so please provide the name(s) and serial number(s).

6. Are there any MOAs, MOUs, and Settlement Agreements that influence planned Hanford Site radioactive material shipments?

7. Are transportation and packaging costs tracked at your site? If yes, who is responsible for these records and what database is used to track them?

8. Does your site have a transportation and packaging forecast plan?

9. Does your site have waste streams or nuclear materials that have no identified packages for shipping? Please indicate the materials, if any.

10. Do you lack guidance, equipment, or other support that could be supplied by NTP to meet your shipping goals/timelines?

11. Does your site have materials that do not fit in one of the categories listed below? LLW, MLLW, TRU, SNF, HLW, Nuclear Materials

12. Do you have an inventory list of the radioactive material packagings that are used for on-site and off-site shipments? If yes, please provide that information.

13. Are you aware of any Type B Packages you will need to have certified or re-certified prior to shipping? Please list them by Model, Certification and Serial number.

14. Will you be leasing any Type B Packages from private companies for shipments? If so, which company will provide them and which packagings are they? (Model, Certification, and Serial numbers)

15. Do you have a priority list for future shipments from your site? If so, what process was used to derive the list?

Please return all pre-visit information by email or hardcopy to:

Traci Taul, NTP Idaho
INEEL
PO Box 1625 MS 3404
Idaho Falls, ID 83415-3404

Telephone (208) 526-3195
Fax (208) 526-3857
Email taultj@inel.gov

Appendix B

QUESTIONS TO DETERMINE STATUS

Questions to Determine Status

The following questions were developed to elicit appropriate and sufficiently detailed information about individual waste/material streams to allow for analysis to validate the applicable Baseline Assumptions.

Location:

- Where did it come from?
- How is it stored?
  - Inside or outside?
  - Packaged?
- Why must it be transported?
- When must it all be gone?
- What is the cost for storing it.

Identity:

- Is it a "waste" or a "material"?
- How is it classified for the purposes of:
  - DOE? DOT? EPA? Disposal site WAC?
    - What is the chemical composition and gas generation potential?
    - What is the activity?
    - What is the isotopic composition?
    - What is the distribution of contamination and is it fixed?
- Is characterization by sample analysis possible/practical? If not can conservative characteristics be assigned?
- What is the cost of necessary characterization?

Quantity:

- Is quantity known in terms of:
  - Volume? Mass? Total activity? Isotopes?
- Is the density and specific activity known?
- How exactly is the quantity known, and in what units?
- How was the quantity measured/estimated?
- Is the quantity changing and, if so, at what rate?
- Is there a cost for determining quantity?

Containers:

- What are the characteristics of the container that is required for:
  - Storage? Transportation? Following treatment? Disposal?
- Is it currently in a proper package for all applicable of the above?

If not, is/are proper container(s) available for all of the above purposes.
If not, what steps have been taken to assure future container availability?
If so, will they continue to be available as long as necessary?
What is the capacity of the container and, on average, to what percent of that capacity will it be filled?
What is the cost to procure necessary containers?

Destination:

Are treatment and/or repackaging necessary? If so, is it to be:

Carried out in place?

Requiring transportation on-site or off-site?

Returned afterward?

Sent for final disposition afterward?

Is final disposition to be on-site or off-site?

Has the WAC been met? (See Identity and Containers)

Has adequate disposal/treatment capacity been confirmed?

What is the cost of: Treatment? Repackaging (excluding package cost)? Disposal?

Schedule:

Has a treatment/disposition schedule been established and, if so, what was the basis/rationale?

Was the schedule coordinated with the destination site?

Was the availability of necessary containers, vehicles, and personnel considered?

If so, what is the risk that these might not be available?

What is the cost to establish and update the schedule?

Mode:

Has a transportation mode been selected and, if so, what was the rationale for selection?

Is the necessary infrastructure present at both the origin and the destination?

If not, what steps have been taken to put it in place and what is the risk that it will not be in place when required?

If so, will it continue to be in place as long as required?

Has a carrier been selected?

Has a route been selected and, if so:

What was the rationale for selection?

Was selection coordinated with the carrier and appropriate stakeholders and regulators?

What is the shipping cost?

Regulations/Agreements:

Are changes to applicable regulations or agreements being sought to facilitate the disposition process and, if so, what is the risk that these changes will not take place?

Are new regulations or agreements being sought to enable or facilitate the disposition process and, if so, what is the risk that these will enacted or procured?

What is the cost to pursue the above?

Appendix C

TYPE B AND TYPE A-FISSILE PACKAGING BASELINE FOR NON-MAJOR ELEVEN SITES

10 May 2002

Argonne West

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
2003	Idaho	SNF		NAC-LWT	Yes / Yes	
2004	Idaho	SNF		NAC-LWT	Yes / Yes	
2005	Idaho	SNF		NAC-LWT	Yes / Yes	
2006	Idaho	SNF		NAC-LWT	Yes / Yes	
TBD	Idaho	NM-NISS		S-100	**No** / Yes	
TBD	Idaho	NM-NISS		S-100	**No** / Yes	
TBD	Idaho	NM-NISS		S-100	**No** / Yes	

At this point the transportation data requested is unknown. As a result, I put TBD in all the empty blocks on the attached files. If you have any questions contact Tony Bindokas.
Michael Klimas
DOE Chicago Traffic Manager

Brookhaven

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
2001	Commercial - TBD	LLW	1	Cask (0.21 M3)	**No / No**	
2001	Hanford	LLW	1	Cask (0.21 M3)	**No / No**	

At this point the transportation data requested is unknown. As a result, I put TBD in all the empty blocks on the attached files. If you have any questions contact Tony Bindokas.
Michael Klimas
DOE Chicago Traffic Manager

ETEC

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
2002	**TBD**	TRU		RH-72B or CNS 10-160B	**No / No**	

ETEC (Energy Technology Engineering Center) is a former DOE nuclear facility that is now performing final cleanup under a DOE site closure contract. The Contract closure date is September 2006. The critical path is the removal of the TRU waste that is currently in on-site storage. That waste must be removed by the end of September 2002 to meet the DOE site closure schedule. The ETEC site is located within the Boeing Rocketdyne Division's Santa Susana Field Laboratory, which is in the Simi Hills near Canoga Park, California. Boeing owns the land occupied by the DOE facilities.

The ETEC TRU waste inventory includes approximately 2.3 m3 of CH waste and 8.7 m3 of RH waste (storage volume, when on-going repackaging activities are completed). The CH waste includes 7 drums of non-mixed debris waste and 4 drums of mixed (RCRA) homogeneous waste. The RH TRU is predominantly homogeneous mixed waste that has a PCB concentration of about 100 ppm.

The DOE-HQ baseline path forward for the ETEC CH waste is shipment to the Centralized Characterization Facility (CCF) at WIPP using mobile vendors when the associated WIPP mod is approved and implemented. We do not expect that mod to be approved in time to meet our September 2002 critical path milestone. Also, the mobile vendors do not plan to develop coring and sampling capabilities to certify homogeneous waste for WIPP disposal. A proposed WIPP mod to delete the homogeneous waste sampling requirement is still in the planning stages and is not expected to be implemented in time to meet ETEC requirements.

An alternative that has been considered recently for the ETEC CH waste is shipment to LLNL (Lawrence Livermore National Laboratory) for certification by mobile vendors. However, it is our understanding from DOE-Oakland that the LLNL RCRA Part B permit will not allow receipt of off-site waste. If the LLNL Part B permit were changed (or if our understanding were incorrect), the inability of the mobile vendors to certify our homogeneous waste remains. The waste drums could be characterized and certified in all other aspects, but would have to remain at some storage site until a WIPP mod addressing homogeneous waste is approved.

The DOE-HQ baseline path forward for the ETEC RH waste is certification at ETEC based on Acceptable Knowledge and shipment directly to WIPP for disposal. That requires a separate WIPP RH permit mod that is expected to be submitted in November, but which we do not expect to be implemented in time to meet ETEC requirements. A WIPP EPA PCB mod (in process) is also required. An alternative (including both RH and CH) is intersite shipment to either Hanford or Oak Ridge, for which political negotiations between DOE-HQ and the state of Washington or Tennessee are required.

Transportation of the CH waste is expected to be by TRUPACT-II. Transportation of the RH waste is expected to use the RH-72B or the Duratek10-160B cask. A third alternative for part of the RH waste is a shielded pipe component in TRUPACT-II. However, that option changes the waste certification requirements from RH to CH, requiring certified characterization processes that may not be obtainable for this high-specific-activity waste.

Dennis Kneff, Boeing Rocketdyne

General Atomics

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
2003	Idaho	SNF		T-2 or NAC-LWT	Yes / Yes	Stream_Name: Hot Cell Facility Irradiated Fuel Material - Reduced-Enrichment Research and Test Reactor (RERTR). Stream # 4265 (HTGR) and # 4266 (RERTR) will be packaged and shipped together. - per Doug Toomer 1/10/02.
2003	Idaho	SNF	1	T-2 or NAC-LWT	Yes / Yes	Stream_Name: Hot Cell Facility Irradiated Fuel Materials - High-Temperature Gas-Cooled Reactor (HTGR). The T-2 shipping cask is preferred, however, the IFSF at the INEEL does not currently accommodate the T-2 cask. There will one shipment of RERTR (stream # 4266) and HTGR (stream # 4265) to the INEEL in the T-2 cask consisting of two cans of the above fuel. -per Doug Toomer 1/10/02.
2005	**TBD**	SNF		NAC-LWT	Yes / Yes	Stream_Name: TRIGA Reactor SNF

Lawrence Berkeley

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
TBD	Oak Ridge	NM-NISS		S-100	**No** / Yes	

Due to time and resource restrictions, the information will be provided in the next update. The procedure must go through the chain of command to be completed by the contractors. They will begin to prepare the information for the next update.
Per Ron Claverie
Traffic Manager, DOE Oakland

Lawrence Livermore

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
TBD	Los Alamos	TRU		OTMX	No / No	
TBD	Oak Ridge	NM-NISS		S-100	No / Yes	
TBD	Oak Ridge	NM-U-233		DC-1	No / No	

Due to time and resource restrictions, the information will be provided in the next update. The procedure must go through the chain of command to be completed by the contractors. They will begin to prepare the information for the next update.
Per Ron Claverie
Traffic Manager, DOE Oakland

NTP comment: At the Small Quantities Workshop, 9/11/01, Traci Taul met with Paul Ko to discuss 31 oversize boxes of TRU waste. Traci Taul has contacted Robert Fischer to obtain further information.

New Brunswick Lab

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
TBD	Argonne East	NM-NISS		S-100	No / Yes	

At this point the transportation data requested is unknown. As a result, I put TBD in all the empty blocks on the attached files. If you have any questions contact Tony Bindokas.
Michael Klimas
DOE Chicago Traffic Manager

Appendix D

COMPARISON OF TRANSPORTATION DATA AS REPORTED BY SHIPPER AND RECEIVER

10 May 2002

LLW

Origin	Destination	REPORTING SITE	Quantity (m^3)	# Shipments	# Packages
AMES	**HASI**	AMES **HASI**	41.34 **41**	10 **0**	40 **0**
ANLE	**HASI**	ANLE **HASI**	2436 **2651**	75 **0**	2688 **0**
BRNL	**HASI**	BRNL **HASI**	2694 **2507**	178 **0**	780 **0**
CEMP	**HASI**	CEMP **HASI**	1032 **1085**	0 **0**	0 **0**
ETEC	**HASI**	ETEC **HASI**	1454 **1512**	294 **0**	1160 **0**
FNAL	**HASI**	FNAL **HASI**	618 **642**	20 **22**	20 **22**
INEL	**HASI**	INEL	5.64	10	31
LABL	**HASI**	LABL **HASI**	36 **85**	6 **0**	237 **0**
LEHR	**HASI**	LEHR	8	37	39
ORTN	**HASI**	ORTN	43	56	56
PGDP	**HASI**	PGDP **HASI**	90 **90**	7 **0**	34 **0**
PORT	**HASI**	**HASI**	**292**	**0**	**0**
PPPL	**HASI**	PPPL **HASI**	1076 **1296**	48 **41**	108 **41**
SLAC	**HASI**	SLAC **HASI**	168 **176**	10 **10**	10 **10**
ANLW	**INEL**	ANLW **INEL**	1308 **1329**	158 **95**	6303 **3745**
AEMP	**NVTS**	AEMP **NVTS**	389 **389**	70 **13**	69 **13**
ETEC	**NVTS**	ETEC	221	9	9

LLW

Origin	Destination	REPORTING SITE	Quantity (m^3)	# Shipments	# Packages
		NVTS	221	9	9
FEMP	NVTS	FEMP NVTS	58375 58375	4126 536	54583 536
INEL	NVTS	INEL NVTS	4458 4446	155 140	1216 140
KSCP	NVTS	KSCP NVTS	4.6 4.6	2 0	29 0
LEHR	NVTS	LEHR	4935	240	240
LLMS	NVTS	LLMS NVTS	2744 2744	323 86	13217 86
LRRI	NVTS	LRRI NVTS	339 339	11 11	11 11
MEMP	NVTS	MEMP NVTS	39524 39524	1252 593	9392 593
ORTN	NVTS	ORTN NVTS	57421 70355	3153 2138	21475 2138
PAPL	NVTS	PAPL NVTS	0 1.25	 1	 7
PGDP	NVTS	PGDP NVTS	39430 39430	1746 1199	34432 1199
PPPL	NVTS	PPPL	255	14	14
RFTS	NVTS	RFTS NVTS	260687 260687	3899 3893	4063 3893
SARS	NVTS	SARS NVTS	11113 11113	882 172	22832 172
SNLN	NVTS	SNLN NVTS	1394 1394	169 46	3449 46

MLLW

Origin	Destination	Reporting Site	Quantity (m^3)	# Shipments	# Packages
CEMP	**HASI**	**HASI**	**5**	**0**	**0**
LANL	**HASI**	LANL	5	0	0
LABL	**INEL**	LABL	9.6	38	61
LLMS	**INEL**	LLMS	317	42	1533
PGDP	**INEL**	PGDP	25	3	121
PORT	**INEL**	PORT	83	10	401
SNLN	**INEL**	SNLN	0		
WVDP	**INEL**	WVDP	61	0	0
PGDP	**NVTS**	PGDP	650	22	22
		NVTS	**650**	**22**	**22**
SARS	**NVTS**	SARS	44	2	36
		NVTS	**44**	**1**	**1**
ANLW	**ORTN**	ANLW	0.1	1	1
FEMP	**ORTN**	FEMP	261	13	57
		ORTN	**114**	**0**	**0**
INEL	**ORTN**	INEL	3.6	7	40
		ORTN	**0.88**	**0**	**0**
LANL	**ORTN**	**ORTN**	**0.04**	**0**	**0**
LLMS	**ORTN**	**ORTN**	**0**		
NVTS	**ORTN**	NVTS	0.31	2	3
		ORTN	**0.05**	**1**	**1**
PGDP	**ORTN**	PGDP	318	52	1613
		ORTN	**238**	**31**	**1150**
PORT	**ORTN**	PORT	26	10	720
		ORTN	**322**	**0**	**0**
RFTS	**ORTN**	RFTS	389	39	1653
		ORTN	**268**	**0**	**0**
SARS	**ORTN**	SARS	2	1	10

MLLW

Origin	Destination	Reporting Site	Quantity (m^3)	# Shipments	# Packages
		ORTN	**0.2**	**1**	**1**
WVDP	**ORTN**	**ORTN**	**0.3**	**0**	**0**

SNF

Origin	Destination	Reporting Site	Quantity (MTHM)	# Shipments	# Packages
HASI	**ANLW**	HASI	0.31	8	2
		ANLW	**0.31**	**0**	**0**
INEL	**ANLW**	INEL	2.01	107	11
		ANLW	**2.01**	**0**	**0**
ANLE	**INEL**	INEL	0.001	0	0
ANLW	**INEL**	ANLW	4.74		
		INEL	**4.74**	**0**	**0**
GEAT	**INEL**	GEAT	0.0031	1	
GEAT	~~**INEL**~~ **TBD**	GEAT	0.06		
		INEL	**0.06**	**5**	**0**
INEL	~~**INEL**~~ **TBD**	INEL	34	16	7
ORTN	**INEL**	ORTN	0.22	5	5
		INEL	**0.22**	**0**	**0**
SARS	**INEL**	SARS	2.89	22	39
		INEL	**2.07**	**0**	**0**
SNLN	**INEL**	SNLN	0.04		
		INEL	**0.04**	**0**	**0**
WVDP	**INEL**	WVDP	26	1	2
		INEL	**0**		
INEL	**SARS**	INEL	0.37	25	3

SNF

Origin	Destination	Reporting Site	Quantity (MTHM)	# Shipments	# Packages
		SARS	**0.1**	**0**	**0**
ORTN	**SARS**	ORTN **SARS**	1.23 **0.45**	123 **0**	123 **0**

TRU

Origin	Destination	Reporting Site	Quantity (m^3)	# Shipments	# Packages
ANLW	**INEL**	ANLW	11.8	16	44
LABL	**INEL**	LABL	1.13	1	6
MEMP	**INEL**	MEMP	0.005	1	1
RFTS	**INEL**	RFTS **INEL**	235 **0**	36	1119
SNLN	**LANL**	SNLN **LANL**	58 **0**	52	84
PGDP	**ORTN**	PGDP **ORTN**	11.7 **11.7**	2 **2**	57 **57**
MEMP	**SARS**	MEMP	247	18	88
LRRI	**SNLN**	LRRI **SNLN**	5 **7**	10 **0**	30 **0**
ANLE	**WIPP**	ANLE **WIPP**	111 **128**	13 **46**	39 **67**
ETEC	~~**WIPP**~~ **TBD**	ETEC	11	2	6
HASI	**WIPP**	HASI **WIPP**	3032 **3032**	400 **413**	11129 **1051**
INEL	**WIPP**	INEL **WIPP**	20733 **17954**	4238 **3456**	12911 **6268**

TRU

Origin	Destination	Reporting Site	Quantity (m^3)	# Shipments	# Packages
LANL	**WIPP**	LANL	4215	544	1974
		WIPP	**4134**	**523**	**1431**
LLMS	**WIPP**	LLMS	378	51	1387
		WIPP	**245**	**45**	**87**
NVTS	**WIPP**	NVTS	372	59	177
		WIPP	**692**	**87**	**241**
ORTN	**WIPP**	ORTN	915	734	983
		WIPP	**2215**	**691**	**1213**
RFTS	**WIPP**	RFTS	14877	1809	21542
		WIPP	**15082**	**1930**	**5204**
SARS	**WIPP**	SARS	978	122	420
		WIPP	**1489**	**172**	**522**

Fernald Environmental Management Project
ENHANCED BASELINE TRANSPORTATION DATA

This section presents and discusses the updated and enhanced basic data sets obtained through the data gathering activities.

Fernald Environmental Management Enhanced Baseline

Fernald Environmental Management Enhanced Baseline data is presented in **Attachment 1**. (Note that data from the original IPABS database is printed in black while additional and corrected data is printed in red.) This information was compiled based on the 2001 IPABS database and was updated and enhanced with data from the Type B and Type A-Fissile Packaging Report and limited input from the reporting site.

Comparison of the 2001 IPABS data with the Enhanced Baseline yields the following observations:

(1) IPABS data does not necessarily represent the site's baseline shipping plans, and
(2) Additional data calls were effective in collecting transportation data for empty data fields.

The discrepancies confirm the need for an improved methodology for collecting and reporting transportation data.

Fernald Environmental Management Type B and Type A-Fissile Packaging Baseline

The Fernald Environmental Management Type B and Type A-Fissile Packaging Baseline (**Attachment 2**) updates and fills gaps in the Fernald Environmental Management data from the October 9, 2001 "NTP Type B and Type A Fissile Packaging Report". Discussion and comments follow the table in Attachment 2.

Planned vs. Actual FY 2001 Shipments

Actual volumes and numbers of containers shipped, and numbers of shipments were not available at the time this Forecast was prepared.

ENHANCED BASELINE ANALYSIS

The data products presented above have been processed and analyzed in ways intended to facilitate long-range planning and evaluate the feasibility of planned shipping activities. Analysis is based on assessment of the validity of appropriate Transportation Baseline Attributes. These attributes are listed at the beginning of this EM Transportation Forecast. The following sections present the results of the data analyses.

Transportation Baseline Summary

The Fernald Environmental Management Transportation Baseline Summary (**Attachment 3**) depicts MLLW and LLW volumes involved in transportation events. The data is displayed by waste type. **Figures 1 and 2 (Attachment 3)** depict, for each waste or material stream, a summary of the annual volume of all Fernald shipments. In these figures, the quantity of waste that does not have completed transportation data is shown in yellow. This is waste that has a reported volume but has no associated package type, number of shipments, transportation mode, etc.

Figures 3 and 4, show packagings required for treatment and for disposal activities, illustrating the dual role transportation may play in the disposition of waste and material. Some waste/material streams must be transported to an off-site facility for treatment, returned to the site for packaging, and finally shipped to a permanent disposal facility. **Figure 5** provides an annual depiction of shipments to be made by rail, truck, or intermodaly.

Figure 1, below, summarizes outgoing waste and material shipments planned for Fernald Environmental Management over the next 10 years as reported in the enhanced data set. The map depicts the destination of a set of shipments and indicates the number of shipments expected to be completed. It should be noted that in the absence of complete transportation activity profiles the number of shipments have been estimated.

Fernald Environmental Management Project
Stream Disposition
2001 - 2010 Outgoing Enhanced Shipments

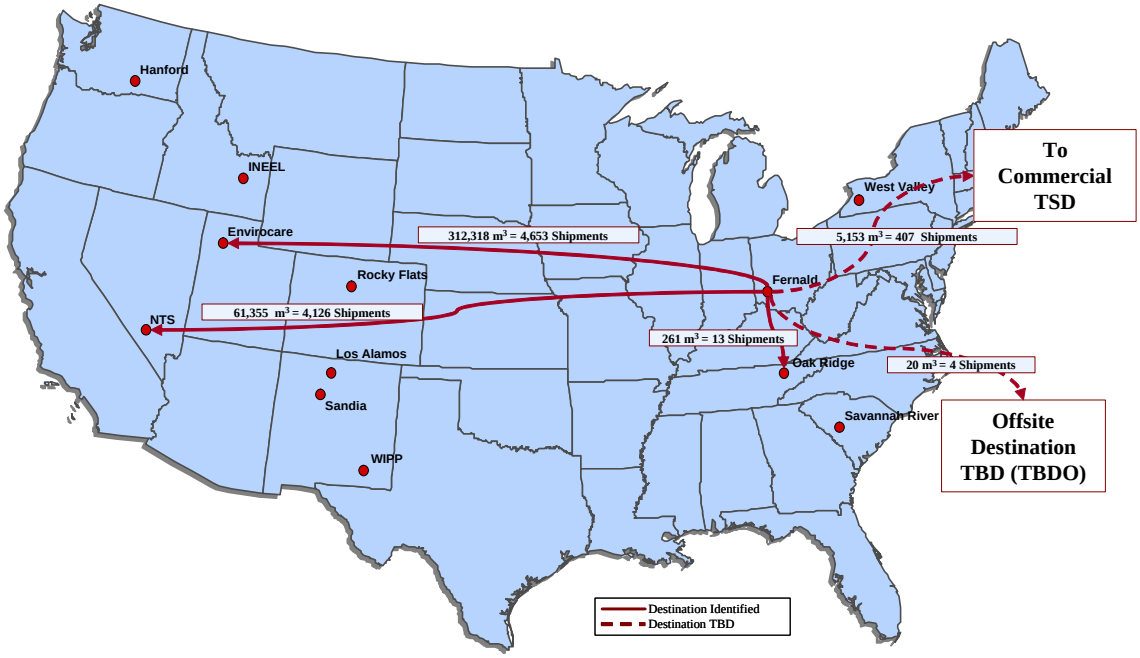


Figure 1. **Fernald Environmental Management Outgoing Shipments.**

Fernald Environmental Management Baseline Transportation Barriers

In addition to the summary barriers reported at the beginning of this EM Transportation Forecast, barriers, as found in IPABS or the Type B and Type A-Fissile Packaging Report, are found listed below in **Table 1**. **The barriers listed have not been assigned a priority order.**

Origin Site	Barrier(s) Impacting this Site *(see attached table)*	Number of Waste Streams Reporting Barrier	Number of Shipments Potentially Affected by Barrier *(NR=not reported or estimated)*
FEMP	**17** - Waste not characterized	18	1524
	20 - Treatment option not available	1	2
	22 - Disposition site TBD	5	10
	23 - Stakeholder buy-in not achieved	1	2
	25 - No agreements with receiving, shipping, treatment facility	4	8
	27 - Regulatory change concerns	1	2
	TOTAL Waste Streams (with one or more barriers) = 20	**TOTAL Shipments (w/one or more barriers) = 1528**	

Table 1. Barriers from IPABS and Type B and Type A-Fissile Packaging Report

Transportation Activity Maps

Transportation Activity Maps were developed for Fernald Environmental Management, but are not included due to the large volume of data. For the inquisitive reader, Transportation Activity Maps are included for the Hanford Site.

Type B and Type A-Fissile Packaging Needs Assessment

Analysis of the Transportation Activity Maps in comparison with the Packaging Baseline produced this summary which details the identity and numbers of Type B and Type A-Fissile packagings that will be required to carry out planned shipping activities. **Table 2** provides a list, by year, of the Type B packages needed by Fernald Environmental Management to execute the EM Transportation Baseline along with a short description of the current status of the package. Additional identification and discussion of the packaging issues is presented following the table. Further analysis of packaging status is included in the Transportation Baseline Barriers Analysis section as appropriate. *(At the time of this Forecast, the Packaging Needs Assessment was incomplete.)*

Table 2. Fernald Environmental Management Site Type B Packaging Needs

Year	Package	Need	Available	Status
TBD	IP	TBD	?	Certified / Available
TBD	Type A - 7A, Type AF (SBWSC)	TBD	?	Availability TBD

The following packaging issues are associated with these needs:

- At the time of this report, the packaging has been identified. However, the data did not specify when they were needed or how many would be required.

Type B Package Certification Schedule

The Type B Package Certification Schedule (**Table 3**) was developed to assist in the coordination of packages being certified. By being cognizant of what revisions are needed, EM can better work with the certifying agencies' schedules and coordinate the submittals to allow time for the reviews and certification to be obtained to meet key clean-up and closure milestones.

The table below was developed from transportation information extracted from the enhanced baseline data set and the Type B and Type A-Fissile Packaging Report. From this information, an early and late need date was extrapolated for meeting the Enhanced Baseline.

Table 3. Type B Package Certification Schedule

Package Name	Certification Status	Early – Late Need Dates	Certification Expiration	Comments
SBWSC (USA/5467 /AF-85(DOE))	DOE certification is current.	2002 - 2004	11/30/2002	The Type AF (SBWSC) will be used for uranium metal. All shipments expected to be completed by 06/2002.
S-100	NRC - Not Yet Certified.	2002 - 2004	N/A	A new SARP (Rev. 21) is expected in Summer of 2002. Only good for contents up to – 28 curies in activity.

SUMMARY AND CONCLUSIONS

The data set presented and analyzed in this Forecast is a compilation of the data from the following sources: 1) The 2001 Integrated Planning, Accountability, and Budgeting System (IPBAS) database, 2) The National TRU Program databases, and 3) The Type B and Type A-Fissile Packaging Report. It encompasses offsite transportation activities planned for the next ten years as a part of the EM mission.

The waste and material streams analyzed are: low-level radioactive waste and mixed low-level radioactive waste. The analyses produced the following products:

1) Transportation Baseline – This is the baseline of the schedule and quantities of all planned shipments through 2010;

2) Type B and Type A-Fissile Packaging Baseline – This baseline consists of a certification schedule and identifies the packaging required to meet the transportation baseline through 2010;
3) Enhanced Data – This is an improvement to the transportation data from IPABS. The existing data was modified to reflect the site baseline shipping plans and missing data was provided to fill many of the gaps up through 2010; and
4) Barriers Analysis – This is the documentation of the barriers to execution of the transportation baseline.

During the data gathering process, it became apparent that comprehensive information does not reside with any single organization at the sites. In order to build an accurate and comprehensive data set, it is necessary to confer with personnel from various site organizations who both have access to, and a thorough knowledge of their specific data subsets. By working with the sites, significant data improvements can be made by updating existing data and filling in missing data.

The key aspect of the data analysis was carried out with the objective of determining if transportation activities can be executed as planned and the nature and magnitude of any barriers to planned execution. At this point of the analysis, it appears that planned transportation activities can be executed if funding and packagings are made available, and if the barriers identified are resolved as planned. However, it should be noted that although contact has been made with the major eleven sites to update transportation plans and data; the quality of data and understanding to perform the necessary analyses does not compare with conducting site visits.

Attachment 1

FERNALD ENVIRONMENTAL MANAGEMENT ENHANCED BASELINE

Note: Data from the original IPABS database is printed in black, while additional and corrected data is printed in red.

Fernald Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ER	4108	LLW Residues	FEMP	ENVR	2002	277	100 %	277	M3	4	4	Rail	LSA1	Bulk	~~Bulk (77 M3)~~ **Bulk (dump truck, railcar, etc) - requires comment**
Barrier Comments:		No formal agreement between waste management and WPRAP contractor to receive and process waste. Material profile for off-site disposal facility has not been generated, reviewed, or approved.													
ER	4109	LLW Filtercake	FEMP	ENVR	2002	32	100 %	32	M3	1	1	Rail	LSA1	Bulk	~~Bulk (77 M3)~~ **Bulk (dump truck, railcar, etc) - requires comment**
Barrier Comments:		No formal agreement has been reached between Waste Management and WPRAP Contractor to receive and process the waste. Material profile for off-site disposal facility has not been generated, received, or approved.													
ER	4253	Treated LLW Soils	FEMP	ENVR	2001	2051	100 %	2051	M3	39	39	Rail	LSA1	Bulk	~~Bulk (57 M3)~~ **Box - larger than 8x8x20**
ER	4255	Treated LLW Pit Waste	FEMP	ENVR	2001	341	100 %	341	M3	6	6	Rail	LSA1	Bulk	~~Bulk (57 M3)~~ **Box - larger than 8x8x20**
ER	4296	Treated Inorganic Residues	FEMP	ENVR	2010	60	100 %	60	M3	~~2~~ **3**	24	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	4297	Treated Inorganic Debris	FEMP	ENVR	2010	140	100 %	140	M3	8	56	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	4304	Treated Inorganic Soils	FEMP	ENVR	2005	38	100 %	38	M3	3	16	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	4309	LLW Soils	FEMP	ENVR	2001	2051	100 %	2051	M3	36	36	Rail	LSA1	Bulk	~~Bulk (57 M3)~~ **Box - larger than 8x8x20**
ER	29966	LLW Debris	FEMP	ENVR	2002	98	100 %	98	M3	2	~~1~~ **2**	Rail	LSA1	Bulk	~~Bulk (77 M3)~~ **Bulk (dump truck, railcar, etc) - requires comment**
Barrier Comments:		No formal agreement exists between waste management and the WPRAP contractor for receipt and processing. A profile for an off-site disposal facility has not been generated, reviewed, or approved.													
ER	29967	LLW Sludge	FEMP	ENVR	2002	33	100 %	33	M3	1	1	Rail	LSA1	Bulk	~~Bulk (77 M3)~~ **Bulk (dump truck, railcar, etc) - requires comment**

Fernald Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
Barrier Comments:		No formal agreement exists between waste management and the WPRAP contractor for receipt and processing. A profile for an off-site disposal facility has not been generated, reviewed, or approved.													
ER	29975	Treated Inorganic Residues	FEMP	ENVR	2002	28	100 %	28	M3	2	12	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Assumption is that off-site treatment will be done by Broad Spectrum (M&EC) who has a disposal contract with Envirocare.													
ER	29977	Treated Inorganic Filtercake	FEMP	ENVR	2002	28	100 %	28	M3	2	12	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	29979	Treated Inorganic Sludge	FEMP	ENVR	2002	48	100 %	48	M3	3	20	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	29981	Treated Inorganic Debris	FEMP	ENVR	2002	44	100 %	44	M3	3	18	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	30007	Treated Inorganic Residues	FEMP	ENVR	2002	6	100 %	6	M3	1	3	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	30009	Treated Organic Debris	FEMP	ENVR	2001	172	100 %	172	M3	10	69	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	92	100 %	92	M3	6	37	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	30017	Treated LLW Filtercake	FEMP	ENVR	2001	546	100 %	546	M3	10	10	Rail	LSA1	Bulk	~~Bulk (57 M3)~~ **Box - larger than 8x8x20**
					2002	546	100 %	546	M3	10	10	Rail	LSA1	Bulk	~~Bulk (57 M3)~~ **Box - larger than 8x8x20**
					2003	546	100 %	546	M3	10	10	Rail	LSA1	Bulk	~~Bulk (57 M3)~~ **Box - larger than 8x8x20**
					2004	548	100 %	548	M3	10	10	Rail	LSA1	Bulk	~~Bulk (57 M3)~~ **Box - larger than 8x8x20**
ER	30026	Treated Pit Waste	FEMP	ENVR	2001	68400	100 %	68400	M3	1000	1000	Rail	LSA1	Bulk	~~Bulk (92 M3)~~ **Bulk (dump truck, railcar, etc) - requires comment**
					2002	66860	100 %	66860	M3	980	980	Rail	LSA1	Bulk	~~Bulk (92 M3)~~ **Bulk (dump truck, railcar, etc) - requires comment**

Fernald Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2003	63000	100 %	63000	M3	980	980	Rail	LSA1	Bulk	~~Bulk (92 M3)~~ **Bulk (dump truck, railcar, etc) - requires comment**
					2004	63520	100 %	63520	M3	850	850	Rail	LSA1	Bulk	~~Bulk (92 M3)~~ **Bulk (dump truck, railcar, etc) - requires comment**
ER	30045	Treated Inorganic Soils	FEMP	ENVR	2002	740	100 %	740	M3	43	300	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	860	100 %	860	M3	48	340	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	870	100 %	870	M3	50	350	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	870	100 %	870	M3	50	350	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2006	120	100 %	120	M3	7	50	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	30052	LLW Soil and Debris	FEMP	ENVR	2001	3383	100 %	3383	M3	~~1~~ **13**	~~24~~ **51**	Rail	LSA1	Bulk	~~Bulk (57 M3)~~ **Box - larger than 8x8x20**
					2003	411	100 %	411	M3	2	97	Rail	LSA1	Bulk	~~Bulk (57 M3)~~ **Box - larger than 8x8x20**
					2004	29916	100 %	29916	M3	~~5~~ **112**	~~290~~ **447**	Rail	LSA1	Bulk	~~Bulk (57 M3)~~ **Box - larger than 8x8x20**
ER	30092	Treated Inorganic Residues	FEMP	ENVR	2002	280	100 %	280	M3	16	112	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Assumes two times volume of non-treated waste in MLLW - 1007 due to cement stabilization.													
ER	4288	LLW Sludge/Residues	FEMP	NVTS	2010	160	50 %	80	M3	5	32	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2010	160	50 %	80	M3	3	3	Truck	LSA1	Bulk	~~Bulk (28 M3)~~ **Sealand - 8x8x20 (approx.)**
ER	4289	LLW Debris	FEMP	NVTS	2010	190	50 %	95	M3	4	4	Truck	LSA1	Bulk	~~Bulk (28 M3)~~ **Sealand - 8x8x20 (approx.)**
					2010	190	50 %	95	M3	~~4~~ **5**	38	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**

Fernald Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ER	4293	LLW Asbestos	FEMP	NVTS	2010	150	100 %	150	M3	6	6	Truck	LSA1	STC/IP-1	~~Box - Other (28 M3)~~ **Sealand - 8x8x20 (approx.)**
ER	4295	LLW Trash	FEMP	NVTS	2010	50	100 %	50	M3	3	20	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	4298	Treated RCRA Uranium Waste	FEMP	NVTS	2002	2	100 %	2	M3	1	1	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	10	100 %	10	M3	1	4	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	4301	LLW Trash Off Site	FEMP	NVTS	2001	273	100 %	273	M3	~~5~~ **13**	110	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2002	274	100 %	274	M3	~~5~~ **13**	110	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	274	100 %	274	M3	~~5~~ **13**	110	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	275	100 %	275	M3	~~5~~ **13**	110	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	273	100 %	273	M3	~~5~~ **13**	110	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2006	273	100 %	273	M3	**13**	**101**				**Box - 4x4x7 (approx.)**
ER	4306	LLW Asbestos Off Site	FEMP	NVTS	2001	240	100 %	240	M3	9	9	Truck	LSA1	STC/IP-1	~~Box - Other (28 M3)~~ **Sealand - 8x8x20 (approx.)**
ER	4308	LLW Residues	FEMP	NVTS	2001	156	100 %	156	M3	9	63	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2002	1912	100 %	1912	M3	~~9~~ **88**	765	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	29965	LLW Thorium Residues	FEMP	NVTS	2002	0.2	100 %	0.2	M3	1	1	Truck	LSA2	Type A/IP-3	~~Box - Other (2.1 M3)~~ **Box - 4x4x7 (approx.)**
ER	29968	LLW Asbestos	FEMP	NVTS	2002	4	100 %	4	M3	1	2	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	29983	Treated Thorium Residues	FEMP	NVTS	2001	2	100 %	2	M3	1	1	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	29989	LLW Debris	FEMP	NVTS	2001	160	100 %	160	M3	**8**	**59**				**Box - 4x4x7 (approx.)**
					2003	780	100 %	780	M3	~~23~~ **36**	~~156~~ **287**	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**

Fernald Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2004	1170	80 %	936	M3	54	375	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	1170	20 %	234	M3	9	9	Truck	LSA1	STC/IP-1	~~Sealand (30 M3)~~ **Sealand - 8x8x20 (approx.)**
					2006	210	100 %	210	M3						
										10	**78**				**Box - 4x4x7 (approx.)**
ER	29991	LLW Sludge	FEMP	NVTS	2001	11	100 %	11	M3	1	5	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	20	100 %	20	M3	2	8	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	3	100 %	3	M3	1	2	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	29992	LLW Residues	FEMP	NVTS	2001	2	100 %	2	M3	1	1	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	20	100 %	20	M3	2	8	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	3	100 %	3	M3	1	2	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	29993	LLW Asbestos	FEMP	NVTS	2001	8	100 %	8	M3	1	1	Truck	LSA1	STC/IP-1	~~Sealand (30 M3)~~ **Sealand - 8x8x20 (approx.)**
					2003	200	100 %	200	M3	8	8	Truck	LSA1	STC/IP-1	~~Sealand (30 M3)~~ **Sealand - 8x8x20 (approx.)**
					2005	18	100 %	18	M3	1	1	Truck	LSA1	STC/IP-1	~~Sealand (30 M3)~~ **Sealand - 8x8x20 (approx.)**
					2006	10	100 %	10	M3	1	4	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	29995	LLW Trash	FEMP	NVTS	2001	430	100 %	430	M3	16	16	Truck	LSA1	STC/IP-1	~~Sealand (30 M3)~~ **Sealand - 8x8x20 (approx.)**
					2002	20	100 %	20	M3	1	1	Truck	LSA1	STC/IP-1	~~Sealand (30 M3)~~ **Sealand - 8x8x20 (approx.)**
					2003	180	100 %	180	M3	7	7	Truck	LSA1	STC/IP-1	~~Sealand (30 M3)~~ **Sealand - 8x8x20 (approx.)**

Fernald Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2004	40	100 %	40	M3	2	2	Truck	LSA1	STC/IP-1	~~Sealand (30 M3)~~ **Sealand - 8x8x20 (approx.)**
					2005	21	100 %	21	M3	1	1	Truck	LSA1	STC/IP-1	~~Sealand (30 M3)~~ **Sealand - 8x8x20 (approx.)**
ER	30019	LLW Filtercake	FEMP	NVTS	2005	317	100 %	317	M3	18	127	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2006	316	100 %	316	M3	18	127	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2007	316	100 %	316	M3	18	127	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2009	316	100 %	316	M3	18	127	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	30028	LLW Asbestos	FEMP	NVTS	2002	70	50 %	35	M3	4	~~75~~ **169**	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2002	70	50 %	35	M3	2	14	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	70	50 %	35	M3	4	~~75~~ **169**	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2003	70	50 %	35	M3	2	14	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	70	50 %	35	M3	4	~~75~~ **169**	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2004	70	50 %	35	M3	2	14	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	70	50 %	35	M3	4	~~75~~ **169**	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2005	70	50 %	35	M3	2	14	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Significant uncertainty exists as to the volume and timing of non-typical pit waste generation. Volumes used represent a worst case scenario.													
ER	30029	LLW Debris	FEMP	NVTS	2002	20	100 %	20	M3	1	1	Truck	LSA1	STC/IP-1	~~Sealand (30 M3)~~ **Sealand - 8x8x20 (approx.)**
					2003	20	100 %	20	M3	2	8	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	20	100 %	20	M3	1	1	Truck	LSA1	STC/IP-1	~~Sealand (30 M3)~~ **Sealand - 8x8x20 (approx.)**
					2005	20	100 %	20	M3	2	8	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**

Fernald Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
Stream Comments: Significant uncertainty exists as to the volume and timing of non-typical pit waste generation. Volumes used represent a worst case scenario.															
ER	30030	Thorium Metal	FEMP	NVTS	2002	175	50 %	87.5	M3	88	4400	Truck	LSA1	STC/IP-1	~~Drum - Other (0.02 M3)~~ **Drum - 30 gal.**
					2002	175	50 %	87.5	M3	88	440	Truck	LSA1	STC/IP-1	~~Box - Other (0.2 M3)~~ **Drum - 55 gal.**
					2003	175	50 %	87.5	M3	88	4400	Truck	LSA1	STC/IP-1	~~Drum - Other (0.02 M3)~~ **Drum - 30 gal.**
					2003	175	50 %	87.5	M3	88	440	Truck	LSA1	STC/IP-1	~~Box - Other (0.2 M3)~~ **Drum - 55 gal.**
					2004	175	50 %	87.5	M3	88	4400	Truck	LSA1	STC/IP-1	~~Drum - Other (0.02 M3)~~ **Drum - 30 gal.**
					2004	175	50 %	87.5	M3	88	440	Truck	LSA1	STC/IP-1	~~Box - Other (0.2 M3)~~ **Drum - 55 gal.**
					2005	175	50 %	87.5	M3	88	440	Truck	LSA1	STC/IP-1	~~Box - Other (0.2 M3)~~ **Drum - 55 gal.**
					2005	175	50 %	87.5	M3	88	4400	Truck	LSA1	STC/IP-1	~~Drum - Other (0.02 M3)~~ **Drum - 30 gal.**
Transportation Comments: Assumes 50 drums or five boxes per shipment due to does rate concerns.															
Stream Comments: Significant uncertainity exists as to the volume and timing of non-typical pit waste generation. Volumes used represent a worst case scenario.															
ER	30031	Uranium Metal	FEMP	NVTS	2002	120	50 %	60	M3	60	3000	Truck	LSA1	STC/IP-1	~~Drum - Other (0.02 M3)~~ **Drum - 30 gal.**
					2002	120	50 %	60	M3	60	300	Truck	LSA1	STC/IP-1	~~Box - Other (0.2 M3)~~ **Drum - 55 gal.**
					2003	120	50 %	60	M3	60	3000	Truck	LSA1	STC/IP-1	~~Drum - Other (0.02 M3)~~ **Drum - 30 gal.**
					2003	120	50 %	60	M3	60	300	Truck	LSA1	STC/IP-1	~~Box - Other (0.2 M3)~~ **Drum - 55 gal.**
					2004	120	50 %	60	M3	60	300	Truck	LSA1	STC/IP-1	~~Box - Other (0.2 M3)~~ **Drum - 55 gal.**
					2004	120	50 %	60	M3	60	3000	Truck	LSA1	STC/IP-1	~~Drum - Other (0.02 M3)~~ **Drum - 30 gal.**
					2005	120	50 %	60	M3	60	3000	Truck	LSA1	STC/IP-1	~~Drum - Other (0.02 M3)~~ **Drum - 30 gal.**
					2005	120	50 %	60	M3	60	300	Truck	LSA1	STC/IP-1	~~Box - Other (0.2 M3)~~ **Drum - 55 gal.**
Stream Comments: Significant uncertainty exists as to the volumes and timing of non-typical pit waste generation. Volumes used represent a worst case scenario.															
ER	30053	Prohibited Items	FEMP	NVTS	2001	83	100 %	83	M3	**4**	**31**				**Box - 4x4x7 (approx.)**
					2002	83	100 %	83	M3	~~1~~ **4**	~~1~~ **31**	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	83	100 %	83	M3	~~4~~	~~24~~ **31**	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**

Fernald Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2004	9721	100 %	9721	M3	4 **448**	~~24~~ **3577**	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	30064	Treated Silos 1 & 2 Residues	FEMP	NVTS	2006	7920	100 %	7920	M3	453	3168	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2007	11520	100 %	11520	M3	659	4608	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2008	15275	100 %	15275	M3	~~665~~ **703**	~~4651~~ **5620**	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Transportation Comments: At least 40% of the material is packaged in shippable containers.															
ER	30066	Treated Silo 3 Residues	FEMP	NVTS	2002	2580	100 %	2580	M3	148	1032	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	30090	Treated Thorium	FEMP	NVTS	2001	211	100 %	211	M3	17	84	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2002	270	100 %	270	M3	22	108	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**

Fernald Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ER	4147	Organic Sludge/Residues	FEMP	COMM	2010	12	100 %	12	M3	1	5	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments: Treatment will increase volume.															
ER	4149	Organic Debris	FEMP	COMM	2010	28	100 %	28	M3	2	12	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments: Treatment will increase waste volume.															
ER	4151	Inorganic Residues	FEMP	COMM	2010	30	100 %	30	M3	2	12	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments: Treatment will increase waste volume.															
ER	4153	Inorganic Debris	FEMP	COMM	2010	70	100 %	70	M3	4	28	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments: Treatment will increase volume.															

Fernald Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ER	4302	Inorganic Soils	FEMP	COMM	2005	19	100 %	19	M3						
Transportation Comments:		Transportation data for this stream is to be determined at a later date.													
ER	29972	Organic Residues	FEMP	COMM	2002	2	100 %	2	M3	1	1	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Waste volume will increase as a result of treatment.													
ER	29974	Inorganic Residues	FEMP	COMM	2002	14	100 %	14	M3	1	6	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Treatment will cause waste volumes to increase.													
ER	29976	Inorganic Filtercake	FEMP	COMM	2002	14	100 %	14	M3	1	6	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Treatment will increase waste volume.													
ER	29978	Inorganic Sludge	FEMP	COMM	2002	24	100 %	24	M3	2	10	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Treatment will increase waste volume.													
ER	29980	Inorganic Debris	FEMP	COMM	2002	17	100 %	17	M3	2	9	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Treatment will increase waste volume.													
ER	29984	Lead	FEMP	COMM	2002	0.2	100 %	0.2	M3	1	1	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	29986	Lead	FEMP	COMM	2001	0.2	100 %	0.2	M3	1	1	Truck	Non-DOT Rad/HAZ	POP	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	30000	Organic Liquids	FEMP	COMM											
					2004	15	100 %	15	M3	1	1	Truck	LSA1	Bulk	~~Bulk (740 M3)~~ **Bulk (dump truck, railcar, etc) - requires comment**
					2007	5	100 %	5	M3	1	1	Truck	LSA1	Bulk	~~Bulk (740 M3)~~ **Bulk (dump truck, railcar, etc) - requires comment**
Stream Comments:		Treatment may be incinerator or disposal.													
Barrier Comments:		TSCA incinerator scheduled for closure in FY 2003. No defined alternative or agreement for these materials. Assumption is that these materials will become part of Broad													
ER	30002	Organic Filtercake	FEMP	COMM	2001	10	100 %	10	M3	1	4	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	2	100 %	2	M3	1	1	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Treatment will increase waste volumes.													

Fernald Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ER	30004	Organic Debris	FEMP	COMM											
					2003	5	100 %	5	M3	1	3	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	6	100 %	6	M3	1	~~2~~ **3**	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments: Treatment will increase waste volume. Process produces solvent extracts and stabilized waste.															
ER	30006	Inorganic Residue	FEMP	COMM	2002	3	100 %	3	M3	1	2	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments: Treatment will increase waste volumes.															
ER	30008	Inorganic Debris	FEMP	COMM	2001	80	100 %	80	M3	5	35	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	59	100 %	59	M3	3	~~19~~ **22**	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments: Treatment will increase waste volumes.															
ER	30010	Lead	FEMP	COMM	2001	4	100 %	4	M3	1	20	Truck	Non-DOT Rad/HAZ	POP	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2003	7	100 %	7	M3	1	35	Truck	Non-DOT Rad/HAZ	POP	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2004	1	100 %	1	M3	**1**	**5**				**Drum - 55 gal.**
					2005	2	100 %	2	M3	1	~~5~~ **10**	Truck	Non-DOT Rad/HAZ	POP	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
ER	30011	Lead	FEMP	COMM											
					2002	6	100 %	6	M3	1	3	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	4	100 %	4	M3	1	2	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	4	100 %	4	M3	1	2	Truck	LSA1	STC/IP-1	~~Drum - Other (2.5 M3)~~ **Box - 4x4x7 (approx.)**
ER	30033	Organic Liquids	FEMP	COMM											
					2004	16	100 %	16	M3	2	80	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
Stream Comments: Waste may be incinerated or stabilized. Timing and quantity of non-typical pit waste is uncertain.															
ER	30035	Organic Soils	FEMP	COMM											
					2002	120	100 %	120	M3	8	50	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**

Fernald Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2003	145	100 %	145	M3	9	60	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	145	100 %	145	M3	9	60	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	145	100 %	145	M3	9	60	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2006	25	100 %	25	M3	2	10	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Significant uncertainty exists as to volume and timing of non-typical pit waste generation. Volumes used represent worst case scenario. Treatment will increase waste volume.													
ER	30037	Small Explosives	FEMP	COMM											
					2002	0.25	100 %	0.25	M3	1	2	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
ER	30037	Small Explosives	FEMP	COMM	2003	0.25	100 %	0.25	M3	1	2	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2004	0.25	100 %	0.25	M3	1	2	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2005	0.25	100 %	0.25	M3	1	2	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
Stream Comments:		Significant uncertainty exists as to the volume and timing of non-typical pit waste generation. Volumes used represent a worst case scenario. Treatment will increase waste volume.													
Barrier Comments:		Need comment here.													
ER	30039	PCB Liquids	FEMP	COMM											
					2002	97	5 %	4.85	M3	1	~~5~~ **24**	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2002	97	95 %	92.15	M3	~~1~~ **3**	~~1~~ **3**	Truck	LSA1	Bulk	~~Bulk (38 M3)~~ **Sealand - 8x8x20 (approx.)**
					2003	1	100 %	1	M3	1	5	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2004	1	100 %	1	M3	1	5	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2005	1	100 %	1	M3	1	5	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
Stream Comments:		Significant uncertainty exists as to the volume and timing of non-typical pit waste generation. Volumes used represent a worst case scenario. Treatment will increase waste volume.													
ER	30041	PCB Equipment	FEMP	COMM											
					2002	27	100 %	27	M3	2	10	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	11	100 %	11	M3	1	5	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**

Fernald Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2004	11	100 %	11	M3	1	5	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	11	100 %	11	M3	1	5	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Significant uncertainty exists as to the volumes and timing of non-typical pit waste generation. Volumes used represent a worst case scenario. Treatment will increase volume. The process wil produce solvent extracts and stabilized waste.													
ER	30044	Inorganic Soils	FEMP	COMM											
					2002	430	100 %	430	M3	25	170	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	430	100 %	430	M3	25	170	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	430	100 %	430	M3	25	170	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	430	100 %	430	M3	25	170	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Significant uncertainty exists as to the volume and timing of non-typical pit waste generation. Volumes used represent a worst case scenario. Treatment will increase waste volume.													
ER	30046	Lead	FEMP	COMM											
					2002	0.1	100 %	0.1	M3	1	1	Truck	Non-DOT Rad/HAZ	POP	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2003	0.1	100 %	0.1	M3	1	1	Truck	Non-DOT Rad/HAZ	POP	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2004	0.1	100 %	0.1	M3	1	1	Truck	Non-DOT Rad/HAZ	POP	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2005	0.1	100 %	0.1	M3	1	1	Truck	Non-DOT Rad/HAZ	POP	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
Stream Comments:		Significant uncertainty exists as to the volumes and timing of non-typical pit waste generation. Volumes used represent a worst case scenario.													
ER	30047	Lead	FEMP	COMM											
					2002	0.1	100 %	0.1	M3	1	1	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2003	0.1	100 %	0.1	M3	1	1	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2004	0.1	100 %	0.1	M3	1	1	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2005	0.1	100 %	0.1	M3	1	1	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**

Fernald Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ER	30050	Hazardous Chemicals	FEMP	COMM											
					2002	12	100 %	12	M3	2	60	Truck	Non-DOT Rad/HAZ	POP	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2003	12	100 %	12	M3	2	60	Truck	Non-DOT Rad/HAZ	POP	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2004	12	100 %	12	M3	2	60	Truck	Non-DOT Rad/HAZ	POP	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2005	12	100 %	12	M3	2	60	Truck	Non-DOT Rad/HAZ	POP	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
Stream Comments:		Significant uncertainty exists as to the volume and timing of non-typical pit waste generation. Volumes used represent a worst case scenario.													
ER	30059	Organic Soils	FEMP	COMM	2002	80	100 %	80	M3	31	184	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	767	100 %	767	M3	**36**	**283**				**Box - 4x4x7 (approx.)**
					2004	360	100 %	360	M3	40	240	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	360	100 %	360	M3	**17**	**133**				**Box - 4x4x7 (approx.)**
					2006	47	100 %	47	M3	**3**	**18**				**Box - 4x4x7 (approx.)**
Stream Comments:		Treatment will increase waste volume.													
ER	30083	PCBs	FEMP	COMM	2001	167	100 %	167	M3	8	~~56~~ **62**	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Treatment will cause waste volume to increase.													
ER	30086	Organic Debris	FEMP	COMM	2001	54	100 %	54	M3	3	22	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	30091	Inorganic Residues	FEMP	COMM	2002	140	100 %	140	M3	8	56	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	30093	Inorganic Non-LDR	FEMP	COMM	2002	46	100 %	46	M3	3	19	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	30094	Lead (R)	FEMP	COMM	2002	20	100 %	20	M3	15	100	Truck	LSA1	STC/IP-1	~~Box - Other (0.2 M3)~~ **Drum - 55 gal.**
ER	30095	Treated Lead (R)	FEMP	COMM	2002	20	100 %	20	M3	15	100	Truck	LSA1	STC/IP-1	~~Box - Other (0.2 M3)~~ **Drum - 55 gal.**

Fernald Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ER	30096	Treated Lead (C)	FEMP	COMM	2002	20	100 %	20	M3	15	100	Truck	LSA1	STC/IP-1	~~Box - Other (0.2 M3)~~ **Drum - 55 gal.**
ER	30098	RCRA Uranium Waste	FEMP	COMM	2002	1	100 %	1	M3	1	1	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	5	100 %	5	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	4148	Treated Organic Sludges/Residues	FEMP	ENVR	2010	24	100 %	24	M3	2	10	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	4150	Treated Organic Debris	FEMP	ENVR	2010	56	100 %	56	M3	4	23	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	4155	Carbon/Filter Media	FEMP	ENVR	2010	124	100 %	124	M3	7	50	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	4156	Resin	FEMP	ENVR	2010	130	100 %	130	M3	8	52	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	29973	Treated Organic Residues	FEMP	ENVR	2002	4	100 %	4	M3	2	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Treatment caused waste volume to double.													
ER	29985	Treated Lead	FEMP	ENVR	2002	0.2	100 %	0.2	M3	1	1	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	30003	Treated Organic Filtercake	FEMP	ENVR	2001	20	100 %	20	M3	2	8	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	4	100 %	4	M3	1	2	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	30005	Treated Organic Debris	FEMP	ENVR	2003	10	100 %	10	M3	1	4	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	12	100 %	12	M3	1	5	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	30012	Treated Lead	FEMP	ENVR	2002	6	100 %	6	M3	1	3	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	4	100 %	4	M3	1	2	Truck/Rail	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	4	100 %	4	M3	1	2	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	30020	Carbon/Filter Media	FEMP	ENVR	2001	120	100 %	120	M3	12	48	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**

Fernald Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2003	80	100 %	80	M3	5	32	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	80	100 %	80	M3	5	32	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2007	80	100 %	80	M3	5	32	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	30021	Resin	FEMP	ENVR											
					2003	120	100 %	120	M3	7	48	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2007	80	100 %	80	M3	5	32	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2008	40	100 %	40	M3	3	16	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	30036	Treated Organic Soils	FEMP	ENVR	2002	240	100 %	240	M3	14	100	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	290	100 %	290	M3	18	120	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	290	100 %	290	M3	18	120	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	290	100 %	290	M3	18	120	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2006	50	100 %	50	M3	3	20	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	30038	Treated Small Explosives	FEMP	ENVR	2002	0.5	100 %	0.5	M3	1	4	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2003	0.5	100 %	0.5	M3	1	4	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2004	0.5	100 %	0.5	M3	1	4	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2005	0.5	100 %	0.5	M3	1	4	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
Barrier Comments:		Need comment here.													
ER	30040	Treated PCB Liquids	FEMP	ENVR	2002	194	100 %	194	M3	25	100	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	2	100 %	2	M3	1	1	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	2	100 %	2	M3	1	1	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	2	100 %	2	M3	1	1	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**

Fernald Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ER	30043	Treated PCB Equipment	FEMP	ENVR	2002	54	100 %	54	M3	4	20	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	22	100 %	22	M3	2	9	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	22	100 %	22	M3	2	9	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	22	100 %	22	M3	2	9	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	30048	Treated Lead	FEMP	ENVR	2002	0.1	100 %	0.1	M3	1	2	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2003	0.1	100 %	0.1	M3	1	2	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2004	0.1	100 %	0.1	M3	1	2	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2005	0.1	100 %	0.1	M3	1	2	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
ER	30060	Treated Organic Soils - Off Site	FEMP	ENVR	2004	480	100 %	480	M3	13	88	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										23	**177**				**Box - 4x4x7 (approx.)**
					2005	480	100 %	480	M3						
										23	**177**				**Box - 4x4x7 (approx.)**
					2006	480	100 %	480	M3	~~2~~	~~8~~	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										23	**177**				**Box - 4x4x7 (approx.)**
					2007	94	100 %	94	M3						
										5	**35**				**Box - 4x4x7 (approx.)**
ER	30084	Treated PCBs	FEMP	ENVR	2001	1240.5	100 %	1240.5	M3	60	~~416~~ **457**	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	30087	Treated Organic Debris	FEMP	ENVR	2001	108	100 %	108	M3	7	43	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Assumes two times the volumes for untreated waste in MLLW-1004a due to chemical stabilization.													
ER	29970	Organic Liquids	FEMP	ORTN	2001	53	100 %	53	M3	2	~~1~~ **2**	Truck	LSA1	Bulk	~~Bulk (38 M3)~~ **Sealand - 8x8x20 (approx.)**
Transportation Comments:		Assumes use of 10,000 gallon tanks for bulk conveyance to TSCA incinerator.													
ER	29999	Organic Liquids	FEMP	ORTN	2001	77	100 %	77	M3	1 **2**	1 **2**	Truck	LSA1	Bulk	~~Bulk (740 M3)~~ **Bulk (dump truck, railcar, etc) - requires comment**
Stream Comments:		TSCA incinerator will close in FY03.													
Barrier Comments:		Stakeholder concerns with receipt of waste inconsistent with TSCA Burn Plan.													

Fernald Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ER	30013	Organic Liquids	FEMP	ORTN	2001	1	100 %	1	M3	1	1	Truck	LSA1	Bulk	~~Bulk (740 M3)~~ **Bulk (dump truck, railcar, etc) - requires comment**
ER	30085	Organic Liquids	FEMP	ORTN	2001	130	100 %	130	M3	8	52	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	4118	Organic Liquids	FEMP	TBDO											
					2003	10	100 %	10	M3	2	1	Truck	LSA1	Bulk	~~Bulk (38 M3)~~ **Sealand - 8x8x20 (approx.)**
					2006	10	100 %	10	M3	2	1	Truck	LSA1	Bulk	~~Bulk (38 M3)~~ **Sealand - 8x8x20 (approx.)**

Fernald Outgoing - Low Enriched Uranium (NM-LEU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
LEU	31006	BAA - Stream	FEMP	PORT			100 %		G						
					2002										**Type A - 7A, Type AF (SBWSC)**

Barrier Comments: This information will be updated to represent the new Closure Contract Baseline after its approval in October 2001.

Fernald Outgoing - Nonactinide Isotopes and Sealed Sources (NM-NISS)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name

NISS	31596	BAF - Stream	FEMP	COMM			100 %	NI							
					2004										TBD - requires comment
NISS	31597	BAG - Stream	FEMP	SARS			100 %	NI							
					2004										TBD - requires comment
Stream Comments:		Projected path is H-B Line demo.													
NISS	31605	BAK - Stream	FEMP	TBDO			100 %	NI							
					2004										TBD - requires comment
Stream Comments:		Contains material from generation stream NS-2. Projected path is offsite recovery program.													

Fernald Outgoing - Natural Uranium (NM-NU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
NU	31010	BAC - Stream	FEMP	PORT			100 %		G						
					TBD										IP
Barrier Comments:		This information will be updated to represent the new Closure Contract Baseline after its approval in October 2001.													

Attachment 2

FERNALD ENVIRONMENTAL MANAGEMENT

TYPE B AND TYPE A-FISSILE PACKAGING BASELINE

10 May 2002

Fernald

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
2002	Portsmouth	NM-LEU		Type A - 7A, Type AF (SBWSC)	Yes / Yes	Type A - 7A, Type AF (SBWSC). All packages used for storage - will complete shipments by 6/1/2002. Type A - 7A will be used for uranium compounds, oxides, and metal. Type AF (USA/5467/AF-85 (DOE)) will be used for uranium metal. Number of shipments vary due to number of packages changing with each shipment.
2004	Commercial - TBD	NM-NISS		**TBD**	- / -	Material has not been characterized sufficiently to correctly select the package at this time. The S-100 is planned to be used. A new SARP (Rev. 21) is expected in Spring/Summer of 2002.
2004	Savannah	NM-NISS		**TBD**	- / -	Project path is H-B Line demo. Material has not been characterized sufficiently to correctly select the package at this time. The S-100 is planned to be used. A new SARP (Rev. 21) is expected in Spring/Summer of 2002.
2004	**TBD**	NM-NISS		**TBD**	- / -	Contains material from generation stream NS-2. Project path is offsite recovery program. Material has not been characterized sufficiently to correctly select the package at this time. The S-100 is planned to be used. A new SARP (Rev. 21) is expected in Spring/Summer of 2002.

Attachment 3

FERNALD ENVIRONMENTAL MANAGEMENT TRANSPORTATION BASELINE SUMMARY

10 May 2002

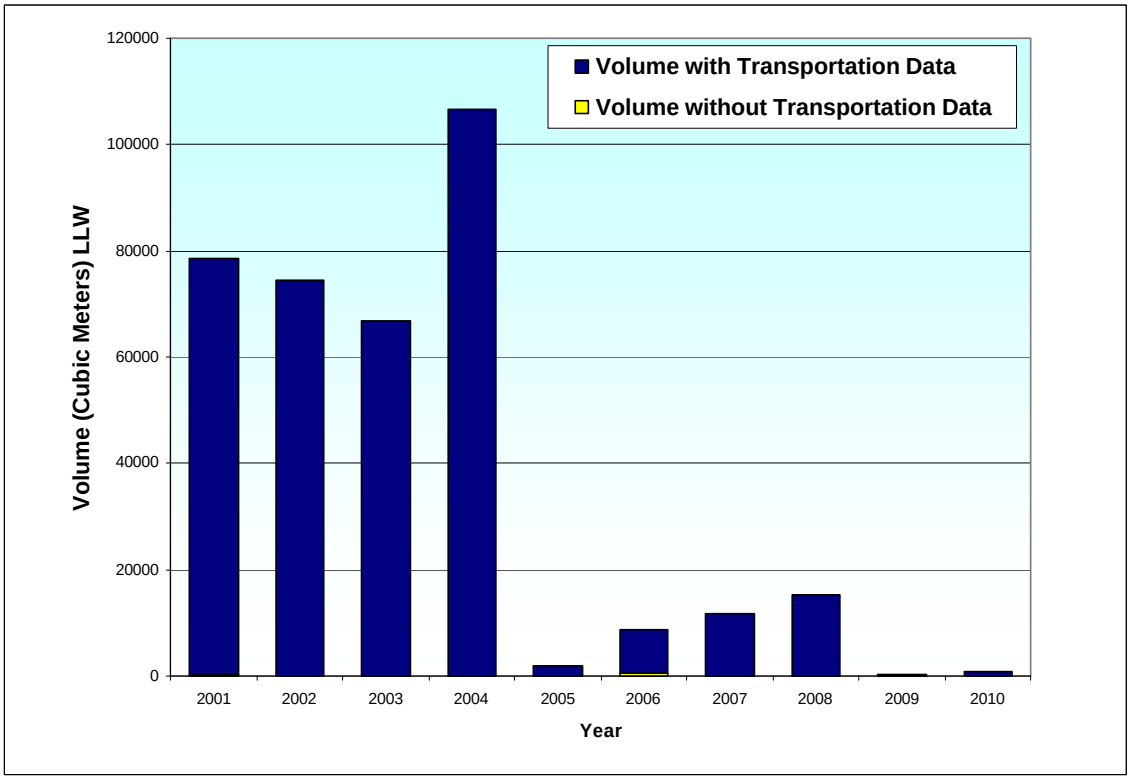


Figure 1. Quantity of LLW to be shipped by year through 2010

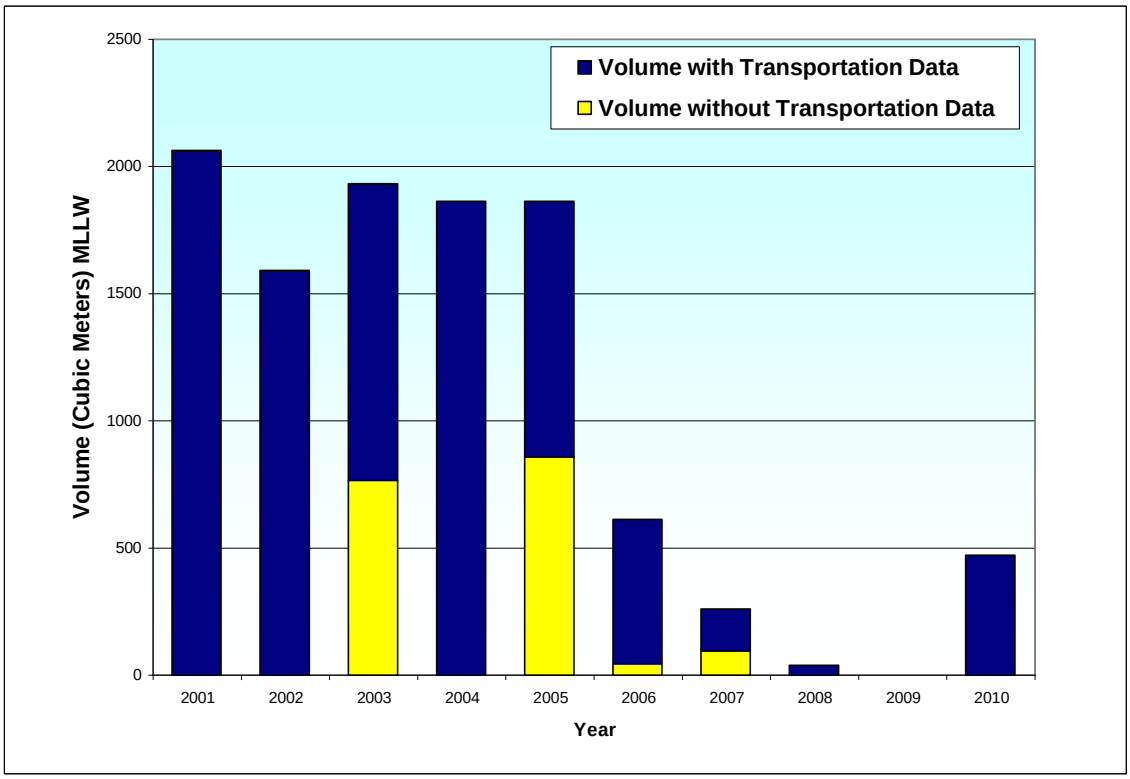
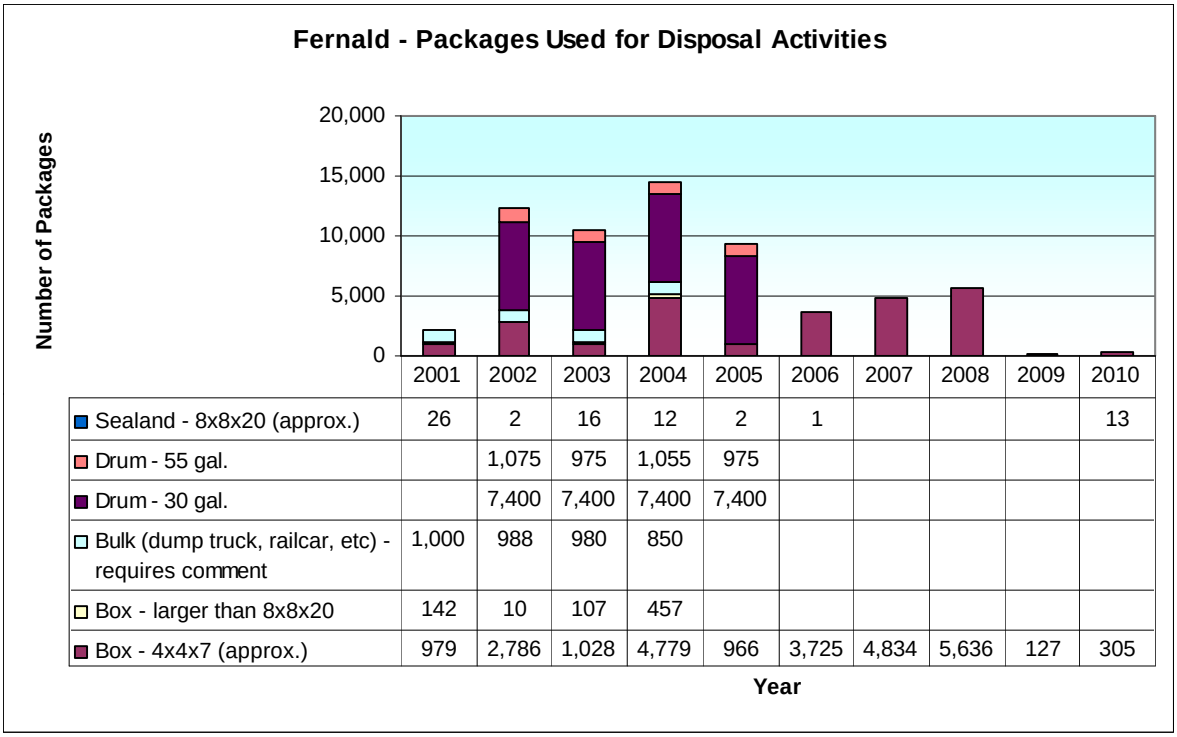
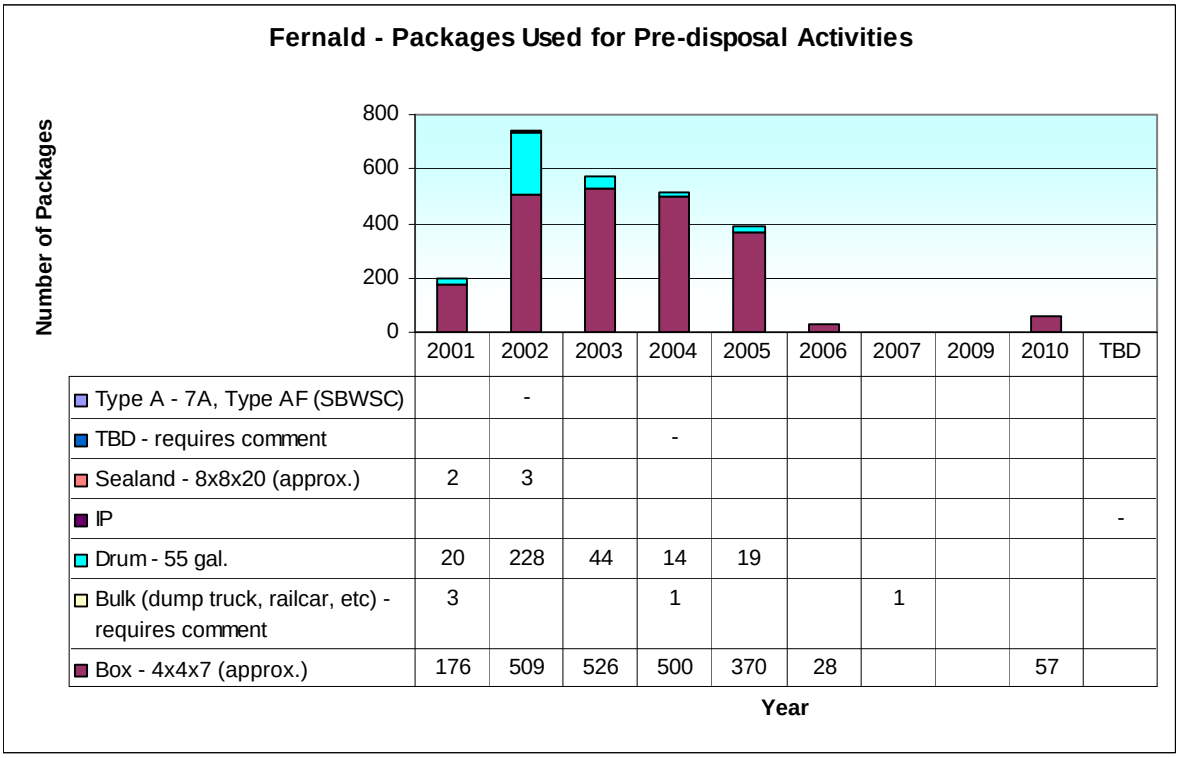


Figure 2. Quantity of MLLW to be shipped by year through 2010



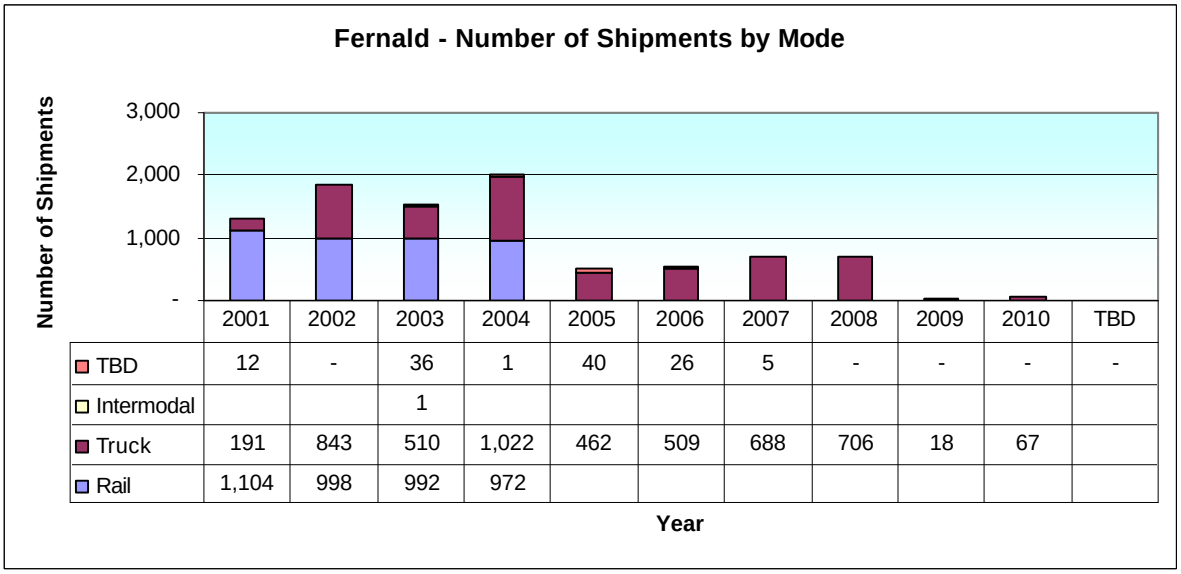
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Sealand - 8x8x20 (approx.)	26	2	16	12	2	1				13
Drum - 55 gal.		1,075	975	1,055	975					
Drum - 30 gal.		7,400	7,400	7,400	7,400					
Bulk (dump truck, railcar, etc) - requires comment	1,000	988	980	850						
Box - larger than 8x8x20	142	10	107	457						
Box - 4x4x7 (approx.)	979	2,786	1,028	4,779	966	3,725	4,834	5,636	127	305

Figure 3. Number of packages to be shipped to disposal



	2001	2002	2003	2004	2005	2006	2007	2009	2010	TBD
Type A - 7A, Type AF (SBWSC)		-								
TBD - requires comment				-						
Sealand - 8x8x20 (approx.)	2	3								
IP										-
Drum - 55 gal.	20	228	44	14	19					
Bulk (dump truck, railcar, etc) - requires comment	3			1			1			
Box - 4x4x7 (approx.)	176	509	526	500	370	28			57	

Figure 4. Number of packages to be used for pre-disposal activities



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TBD
TBD	12	-	36	1	40	26	5	-	-	-	-
Intermodal			1								
Truck	191	843	510	1,022	462	509	688	706	18	67	
Rail	1,104	998	992	972							

Figure 5. Number of shipments by mode

Hanford Site
ENHANCED BASELINE TRANSPORTATION DATA

This section presents and discusses the four basic updated and enhanced data sets obtained through the data gathering activities of the Hanford Site Pilot Project.

Hanford Site Enhanced Baseline

Hanford Site Enhanced Baseline data is presented in **Appendix C**. (Note that data from the original IPABS database is printed in black while additional and corrected data is printed in red.) This information was compiled based on the 2001 IPABS database and was updated and enhanced with data from the following sources:

- Hanford Pilot Project LOI (See **Appendix A** for LOI and Hanford responses.)
- Hanford Site's Solid Waste Integrated Forecast Technical Report (SWIFT)
- Hanford Site Technical Data (HSTD)
- WIPP National TRU Management Plan, Revision 3 (to be published in January, 2002)
- Discussions with Hanford site personnel

It should be noted that for shipments where reusable packagings are used, the number of packages (# Pkgs) is assumed to actually be number of package trips. The term "package trip" is defined as a single package shipped from origin to destination (and returned if appropriate). This will be verified with Hanford Site personnel.

Comparison of the 2001 IPABS data with the Enhanced Baseline yields the following observations:

(1) Planned MLLW, LLW, and TRU quantities and shipping years in the Enhanced Baseline were unchanged from the 2001 IPABS data but a larger number of planned shipments for these waste types are reported in the Enhanced Baseline.
(2) The SNF quantities and numbers of shipments during the next 10 years were unchanged from the IPABS data, but the Enhanced Baseline shows that shipments are planned for the year 2007 rather than for the 2005-2006 time period.
(3) The total number of planned shipments of all waste/material types from the Hanford site to treatment and disposal during the next 10 years increased from 796 reported in the 2001 IPABS data to 1,198 in the Enhanced Baseline. In addition, the peak of approximately 110 truck shipments projected to occur in 2004-2005 in the 2001 IPABS data shifted to a peak of approximately 210 shipments in the year 2010 in the Enhanced Baseline.
(4) The total number of packages (package trips) for all waste/material types decreased by more than 30% from 37,782 in the 2001 IPABS data to 28,457 in the Enhanced Baseline. As reported in the 2001 IPABS data, the number of packages (package trips) was projected to peak at 5,035 in the year 2004, whereas in the Enhanced Baseline, the projected peak is 4,528 in the year 2008.

Factors such as funding and priorities change over time and have an impact on actual shipments. However, forecasting methods and assumptions should be reviewed to investigate improvements.

Hanford Site Type B and Type A-Fissile Packaging Baseline

The Hanford Site Type B and Type A-Fissile Packaging Baseline (**Appendix D**) updates and fills gaps in the Hanford Site data from the October 9, 2001 "NTP Type B and Type A Fissile Packaging Report". The table displays by year the spent nuclear fuel and nuclear material to be shipped, the package type, destination, and the expected number of shipments. The needed packages are: S-100 Pipe Overpack Component, 9975, SAFKEG, and the T-3 cask. Further discussion and comments follow the table in **Appendix D**.

Planned vs. Actual FY 2001 Shipments

Actual volumes, numbers of containers shipped, and numbers of shipments, as provided by Hanford's Performance Incentive report for FY2001, are compared with those entered as planned for FY 2001 in the IPABS database (**Table 1**). The purpose of this comparison is to gauge the success of executing plans, to investigate methods to improve planning, and to determine whether key clean up and closure milestones are being threatened.

At present, actual shipping data is available for only two streams. Examination of the data presented for these two streams reveals little discrepancy between planned and actual volumes. However, for stream 3486 significantly fewer shipments and containers were actually used than were planned. For stream 1578, fewer actual shipments were required than the number planned, while the number of packages actually used was somewhat larger than planned. The reasons for these discrepancies will be investigated to learn if there should be adjustments made in the planning assumptions. As the blank fields in the table are filled, further analyses will be performed to ascertain if there are discrepancies between planned vs. actual shipments that could have adverse impacts on key clean up and closure milestones.

Stream No.	Name:	Waste Type	FY01 Forecasted Volume Shipped (M3)	FY01 Forecasted Number of Shippments	FY01 Forecasted Number of Containers	FY01 ACTUAL Volume Shipped (M3)	FY01 ACTUAL Number of Shippments	FY01 ACTUAL Number of Containers	Comments
2123	GW Treatment Residue to Commercial	MLLW	NONE	NONE	NONE	N/A	N/A	N/A	No Shipping Forcasts or other information. These are filter resins from GW treatment which are shipped for regeneration and returned.
3479	KAPL treated waste from stab/debris treatment	MLLW	5.4	NONE	NONE				Commercial vendor filed bankruptcy; shipments hopefully will resume after reorganization and facility is permitted.
3480	PHNS treated waste from stab/debris treatment	MLLW	1.9	1	13				Commercial vendor filed bankruptcy; shipments hopefully will resume after reorganization and facility is permitted.
3481	PNS treated waste from stab/debris treatment	MLLW	0.8	1	5				Commercial vendor filed bankruptcy; shipments hopefully will resume after reorganization and facility is permitted.
3482	PSNS treated waste from stab/debris treatment	MLLW	10.1	NONE	NONE				Commercial vendor filed bankruptcy; shipments hopefully will resume after reorganization and facility is permitted.
3486	Feed to commercial thermal treatment	MLLW	119	44	3444	126.2	13	702	Type A package - Actuals from FH Performance Incentives Report 10/11/2001 - Note: Each shipment contained a different number of packages and not all packages were drums.
3489	Treated waste from commercial thermal treatment	MLLW	119	NONE	NONE	N/A	N/A	N/A	Return shippment of Stream # 3486 from Commercial Treatment to Hanford
1578	WRAP Product Available to WIPP	TRU	42	12	264	62	7	294	Type A package - Actuals from FH Performance Incentives Report 10/11/2001 - Note: all shippents were 42 drums each

Table 1. Planned vs. Actual

ENHANCED BASELINE ANALYSIS

The data products presented above have been processed and analyzed in ways intended to facilitate long-range planning and evaluate the feasibility of executing planned shipping activities. Analysis is based on assessment of the validity of appropriate Transportation Baseline

Attributes, where the attributes are those of an executable baseline. These attributes are listed in the following section.

The Transportation Baseline Summary section provides the reader with an indication of the volume of shipments, when they are being shipped, what the material is, and what package is planned. This, along with the detailed view provided by the Transportation Activity Maps, is the basis for determining if the transportation systems, packages, and schedules can accommodate the transportation forecast. The output of these analyses is shown in the following sections.

Transportation Baseline Summary

The Hanford Site Transportation Baseline Summary (**Attachment 3**) depicts MLLW, LLW, TRU, and SNF volumes involved in transportation activities. The data is displayed by waste type. The first chart for each waste type is a rolling, 10-year view, followed in the second chart by the total lifecycle amount shown in five year increments. In the 10-year view, the amount of waste that still does not have completed transportation data is shown in yellow. This is waste that has a reported volume but has no associated package type, number of shipments, transportation mode, etc.

Figures 9-11 (**Attachment 3**) show how much total transportation is required for treatment activities and for disposal activities, illustrating the dual role transportation may play the disposition of waste and material. Some waste/material streams must be transported to an offsite facility for treatment, returned to the site for packaging, and finally shipped to a permanent disposal facility.

Figures 2 and 3, below, summarize outgoing and incoming waste and material shipments planned for the Hanford Site over the next 10 years as reported in the enhanced data set. The map depicts the destination of a set of shipments and indicates the number of shipments expected to be completed. It should be noted that in the absence of complete transportation activity profiles, numbers of shipments have been estimated.

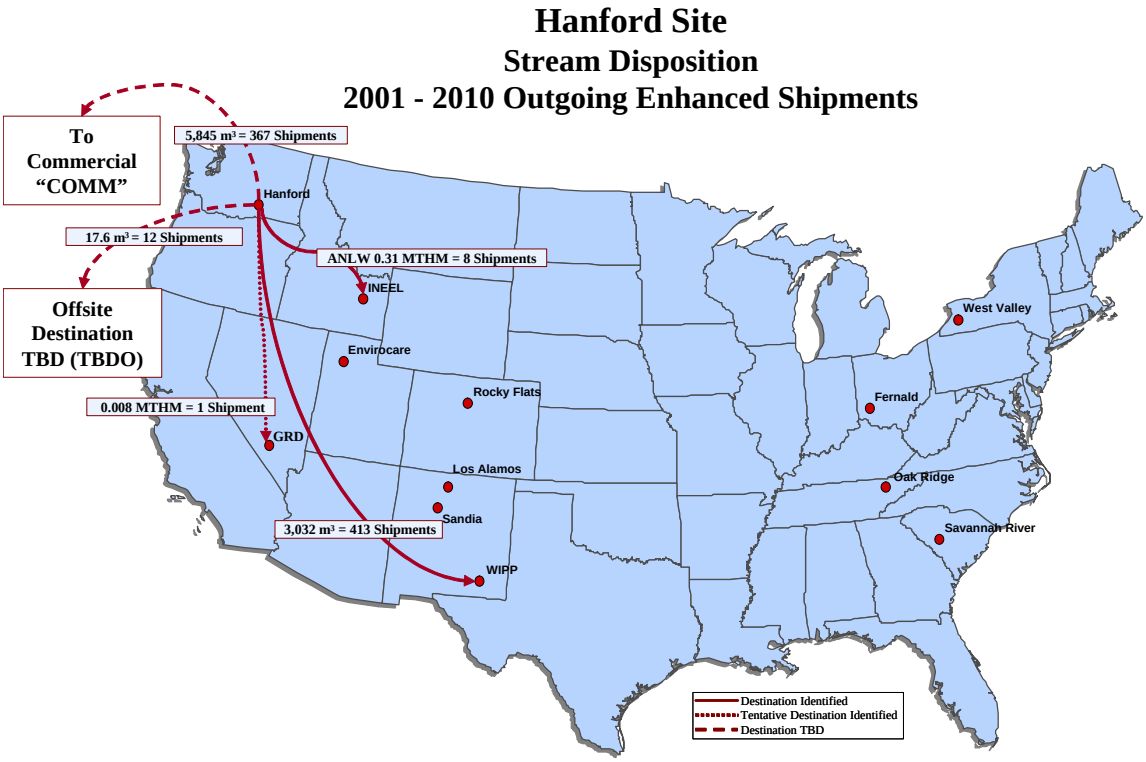


Figure 2. Hanford Outgoing Shipments

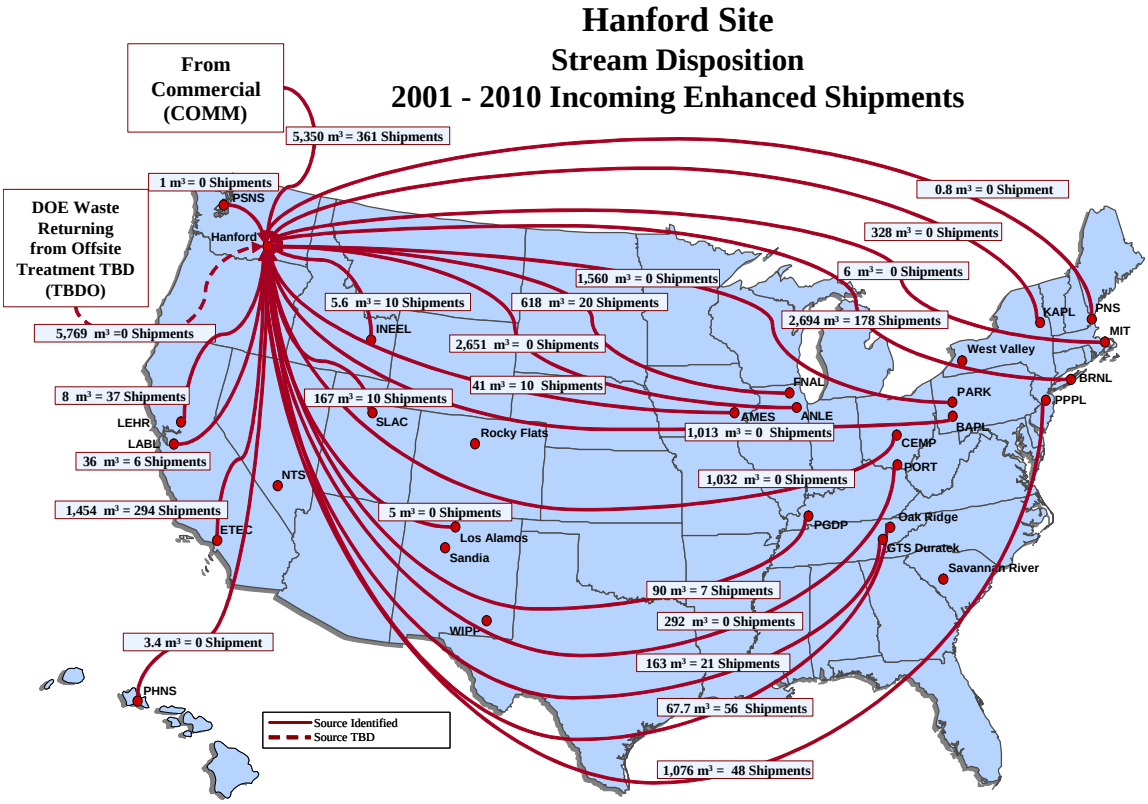


Figure 3. Hanford Incoming Shipments

Hanford Site Baseline Transportation Barriers

Barriers, as outlined or confirmed by Hanford Site personnel during the data gathering process for development of this Report, are documented in this section. The Hanford Site has plans in place for timely mitigation of these barriers. However, unanticipated failure to achieve resolution could adversely affect the ability to execute planned shipping activities. **The barriers listed have not been assigned a priority order.**

1. **Certification change is needed for the T-3 Cask.**

Consequences:
Note: Consequences of failure to overcome this barrier apply only if the Hanford Site Fast Flux Test Facility (FFTF) is ordered to be shutdown:
If T-3 cask certification is not obtained in time to ship in 2003:

- Cannot meet schedule for shipping fresh fuel and spent nuclear fuel.

If not obtained in time to ship in 2004:

- Must purchase two storage casks costing $350K each.
- Must build transloading facility at Canister Storage Building (CSB) at a cost of $2M.

If not obtained in time to ship in 2007:

- T-3 cask loses NRC license.
- If T-3 must be used without modification, shipments increase from 8 to 55, affecting Idaho agreement and increasing cost.
- May exceed window for Idaho processing capability.
- If T-3 use must be abandoned, may need facility modifications at cost of $2M.
- If cask larger than T-3 is used, Idaho receiving capability is affected.

This barrier is a subset of: Barrier 1, "There are excessive delays in processing Type B and fissile packaging certifications." (Transportation Challenges, "Problems Tied to Disposition Pathways", 1999 Transportation Barriers Analysis, November 19, 1999.)

The T-3 Cask Barrier Timeline shown below summarizes issues and key dates related to the certification and use of the T-3 type-B packaging.

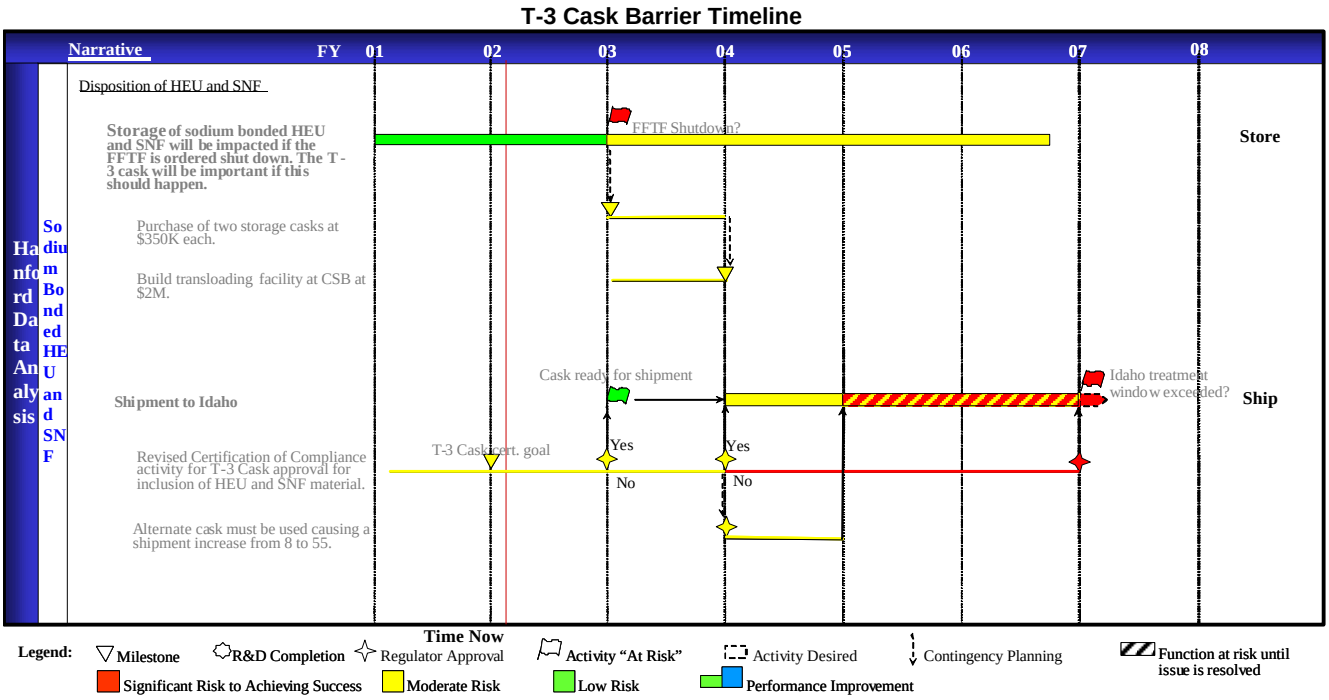


Figure 1. T-3 Cask Barrier Timeline

2. **Lack of availability of an on-site rail system.**

The Hanford Site has an extensive on-site railroad infrastructure that has fallen into disrepair and currently cannot be used. Repair and upgrade of this system could be anticipated to greatly facilitate in-bound and out-bound off-site shipping. A decision to re-open the rail system is expected during December 2001. With sufficient funding, the rail system could be available as soon as March 2002.

Consequences:

- Highway transportation off-site is more expensive than rail.
- Increased costs to repair state roads due to damage from hundreds of shipments.

3. **Certificate modifications are needed to ship Pu-239 fuel pins, pellets, and powders <u>under a rapid consolidation scenario</u>:**

1) approval of modification 14 (August 2002) to the C of C for the 9975, or
2) recertification of the Radial Reflector Shipping Container, or
3) recertification of the Model 60 and 60A.

Consequences:

- Costs $35M to download excess Pu pins, pellets, and powders from existing containers into 3013 containers.
- No funding in baseline to do the download.

This barrier is a subset of: Barrier 1, “There are excessive delays in processing Type B and fissile packaging certifications.” (Transportation Challenges, “Problems Tied to Disposition Pathways”, 1999 Transportation Barriers Analysis, November 19, 1999.)

4. **Transportation container specifications for high level waste and spent nuclear fuel being shipped to the proposed geologic repository have not been finalized.**

   Consequences:
   - Can not design load-out facilities.
   - Can not plan shipping rates.

This barrier is a subset of Barrier #11 “HLW packagings do not exist.” (Transportation Challenges, “Problems Tied to Disposition Pathways”, 1999 Transportation Barriers Analysis, November 19, 1999.

5. **The waste acceptance criteria for remote-handled TRU at the Waste Isolation Pilot Plant have not been finalized (need by 2003).**

   Consequences:
   - Cannot design facilities and equipment to prepare TRU for disposal.

6. **There is a lack of guidance for compliance with 10 CFR 830.**

For the purposes of complex-wide, long-range planning, barriers should be ranked and resolution alternatives developed by the Hanford Site. This has not yet been done but Hanford personnel have provided a path forward to resolve each of the barriers identified in this report.

The barriers below were extracted from IPABS.

Origin Site	**Barrier(s) Impacting this Site** *(see attached table)*	**Number of Waste Streams Reporting Barrier**	**Number of Shipments Potentially Affected by Barrier** *(NR=not reported or estimated)*
HASI	**17 -** Waste not characterized	2	NR
	21 - Waste Acceptance Criteria not available	3	NR
	22 - Disposition site TBD	11	1 +
	24 - ROD/EIS not issued	5	12
	25 - No agreements with receiving, shipping, treatment facility	1	8
	27 - Regulatory change concerns	1	NR
	TOTAL Waste Streams (with one or more barriers) = 19	**TOTAL Shipments (w/one or more barriers) = 21 +**	

Transportation Activity Maps

The enhanced Hanford data was organized into Hanford Site Transportation Activity Maps (**Attachment 4**). For the purposes of this report, a "Transportation Activity" is defined as a movement or set of movements from origin to destination, of a specific waste/material stream, in

a specific year, in a specific packaging type. Transportation Activity Maps may be used to analyze transportation activities in detail to ensure that sufficient information has been gathered to determine if the activity can be executed. The Annotated Activity Map in the front section of this Forecast (**Figure 13**) explains the features of the Transportation Activity Maps. Transportation Activity Maps have been developed for the Hanford Site using the agreed upon baseline data changes.

Examination of the Enhanced Baseline data revealed several instances where the proposed content volume exceeded the capacity of the package. These are highlighted in red on the Transportation Activity Maps. The majority of the mismatches between contents and capacity differ only by a few packages. There are, however, some instances where the discrepancy is nearly 300 packages.

Type B and Type A-Fissile Packaging Needs Assessment

Analysis of the Transportation Activity Maps in comparison with the Packaging Baseline produced this summary which details the identity and numbers of Type B and Type A-Fissile packagings that will be required to carry out planned shipping activities. **Table 2** provides a list, by year, of the Type B packages needed by the Hanford Site to execute the EM Transportation Baseline along with a short description of the current status of the package. Additional identification and discussion of packaging issues is presented following the table. Additional analysis of packaging status is included in the Transportation Baseline Barriers Analysis section as appropriate.

Table 2. Hanford Site Type B Packaging Needs

Year	Package	Need	Available	Status
2002	S-100 Pipe Overpack	14	Potentially developed by OSRP	Package Needs to be Developed
2002	9975 or SAFKEG	TBD There is a possibility these may not be needed until 2006.	No/No	9975 needs modification for the contents of the 3013 container. If using the SAFKEG it still needs packaging configuration change to Certification in order to ship the materials from Hanford
2003	TRUPACT-II	36*	70	Availability TBD
2003	T^3	1 cask for 1 Shipment Offsite to the INEEL	Yes	Needs Modification for one stainless steel FFTF fuel assembly.

Year	Package	Need	Available	Status
				Might also be used for on-site shipments
2004	TRUPACT-II	48*	70	Availability TBD
2005	TRUPACT-II	60*	70	Availability TBD
2006	9975 or SAFKEG	500 Please note that some data collected from Hanford indicates 3000 to be purchased.		Begin to purchase combination of 9975 and SAFKEG
2006	TRUPACT-II	84*	70	Availability TBD
2007	T^3	1 cask for 8 Shipments offsite to ANL-W	Yes	Needs Modification for Dry Na Bonded Fuel. Cask might also be used for on-site shipments
2007	TRUPACT-II	114*	70	Availability TBD
2008	TRUPACT-II	204*	70	Availability TBD
2009	9975 or SAFKEG	TBD		Planned year for shipments to start being sent to SRS using 9975 or SAFKEG
2009	TRUPACT-II	306*	70	Availability TBD
2010	TRUPACT-II	366*	70	Availability TBD

* The number of TRUCPACT-II packages reported in the table is the number of **package trips**. The actual number of packagings needed to make the indicated number of trips must be calculated based on the number of drums to be carried in each TRUPACT-II and the turn-around time for the package to again be available for loading.

The following packaging issues are associated with these needs:

- The DOT 6M container is being removed from DOE nuclear materials transport service in the SST. The new 9975 certification/supporting SARP does not allow Hanford to ship SNM in its current 3013 container configuration. Hanford is working with SRS to include the Hanford 3013 packaging configuration in the next revision to the 9975 SARP.

- Hanford is also pursuing including Hanford SNM forms and packaging into the LANL-designed SAFKEG as it moves toward certification. For on-site shipments of materials transferred to the CWC and ultimately to WIPP, Hanford has established an Operational S-

100 Pipe Overpack Component developed by OSRP process at the Plutonium Finishing Plant (PFP).

- Once the SAFKEG and 9975 are approved for Hanford materials, a combined total of 500 will be purchased in FY 2006. When emptied at SRS, they will be returned to RL to be loaded and shipped again.

- The Hanford site needs to develop a certified shipping container (T^{3} - has NRC Certification good through 2006, DOE Certification is needed.) to ship Fast Flux Test Facility (FFTF) materials to ANL-W. This may be two shipping containers – one for spent nuclear fuel assemblies and one for smaller items. The packages that have been used to ship to Hanford and for on-site storage are no longer certified and are unlikely to be certifiable in the future. In addition, the off-specification HEU and inspection reactor fuel at Hanford do not have certified shipping containers to support their off-site transportation. This is, therefore, another packaging need for certified shipping containers to support their off-site transport. The Hanford site also projects modifications to the ISC, NAC-1, and WRAP - One Trip Drum over the next five years (for on-site shipments only). The NAC-1 SARP revision has been submitted to RL for review/approval to support shipments beginning in FY02. A certification (with increased allowable sodium payload) for existing T-3 cask is needed for shipments starting as early as FY04 or obtain certification of a different cask.

- Difficulties in planning and scheduling of packaging certifications are significant because they hold open the possibility that packages will not be available when they are needed. An improved planning capability is needed to ensure that SARPs are prepared on a schedule that will make packagings available when they are needed by the programs.

- There is no inventory list for packagings for any required 300 Area Fuel Supply Shutdown uranium shipments. Presently there are no requirements identified for off-site or on-site packages, and none are projected. At this time, the 300 Area expects to repackage uranium materials using only DOT approved containers.

- The Area 324 and 327 waste inventory forecast reports include the following types of packages: 208 liter metal drums, 4x4x8 wooden boxes, 5x5x9 wooden boxes, 4x4x8 wood boxes designed to drawing H-2-42701, 322 liter drums, concrete lined 208 liter drums, HN-200 liner (used with a commercially contracted package 3-82B Container), 61 liter drums, Steel Waste Package (unique SARP for Hanford approved container), lead lined 208 liter drums, and 3x3x6 wooden boxes. Hanford could possibly realize cost savings if these types of packagings were purchased in bulk and made available through a standard vendor for all DOE Sites. SNF will be transported to the ISA in modified NAC-1 cask procured and authorized under an RL approved SARP. For 324 building, 3-82B shipping containers are leased from its owner, ATG Nuclear Services. 324 also procured NAC-1 casks from the Nuclear Assurance Corporation. There are no other known leases that are anticipated at this time, but considering that programs will review and evaluate ways to minimize costs in the future, the possibility exists that leasing containers may be identified in future studies.

Type B Package Certification Schedule

The Type B Package Certification Schedule (**Table 3**) was developed to assist in the coordination of packaging certification. By being cognizant of needed revisions, EM can better work with the certifying agencies' schedules and coordinate submittals so that certification may be obtained in time to meet key clean-up and closure milestones.

The table below was developed from information provided to the NTP team during the Hanford site visit. Based on the barriers provided during that visit, an early and late need date was extrapolated for meeting the Hanford Enhanced Baseline.

Table 3. Type B Package Certification Schedule

Package Name	Certification Status	Early – Late Need Dates	Certification Expiration	Comments
T-3	NRC certification is current. DOE certification has expired.	2003 - 2007	4/1/2006 (NRC)	A revision to the SARP needs to be submitted for the inclusion of sodium bonded HEU and SNF and changes in payload. Hanford would prefer to re-certify for the differing payload and configurations under the DOE certification.
9975	Rev. 5 of DOE certification is current for oxides and metals.	2002 - 2006	7/1/2006 (DOE)	Revision 13 to update editorial will be submitted to EM-5 during February 2002. Revision 14 is being worked to include Neptunium.
SAFKE G 3940A	Under review.	2002 - 2006	TBD	Draft SARP has been sent to Albuquerque and WSD during October 2001. WSD is the certifier for NNSA, but not for EM contents. Planned to be certified in April 2002, but may need modification for RL material.

SUMMARY AND CONCLUSIONS

The data set presented and analyzed in this Report is a compilation of the data from the following sources: 1) The 2001 Integrated Planning, Accountability, and Budgeting System (IPBAS) database. 2) The National TRU Program databases. 3) Data provided in response to the preliminary line of inquiry. 4) Data gathered during meetings with Hanford Site personnel and follow-on activities. It encompasses off-site transportation activities planned for the next ten years as a part of the Hanford EM mission. Data for transportation activities beyond ten years was limited to quantities and was not analyzed.

The waste and material streams analyzed are: low-level radioactive waste (LLW), mixed low-level radioactive waste (MLLW), Transuranic waste (TRU), nuclear material (NM), high-level waste (HLW) and spent nuclear fuel (SNF). During the data gathering process, it became apparent that comprehensive information does not reside with any single organization at the Hanford Site. In order to build an accurate and comprehensive data set, it was necessary to confer with personnel from various site organizations who have both access to, and a thorough knowledge of their specific data subsets.

The key aspect of the data analysis was carried out with the objective of determining if transportation activities can be executed as planned, and the nature and magnitude of any barriers to planned execution. A summary of baseline shipping assumptions was developed and compared with Hanford's shipping plans. **Under current requirements and assumptions, it appears that all planned Hanford Site transportation activities can be executed if the barriers listed below are resolved as planned by Hanford.** It should be noted that in carrying out analysis, Hanford transportation activities were considered independently from the remainder of the EM transportation activities. As the NTP continues its analyses of complex-wide shipping activities, interrelationships between the various shipping sites will be taken into consideration.

Analysis of Type-B packagings indicated a need for more packages in order to execute the baseline. Hanford personnel assume these additional packages can be purchased to fill the need if the 9975 and SAFKEG packages are certified as planned.

In addition to the need described above, the following barriers were documented during the site visit:

- A certification change for the T-3 Cask is needed to transport fuel from FFTF.
- The on-site rail system is currently unavailable for on-site or off-site use.
- Certificate modifications are needed (for 9975, Radial Reflector Shipping Container, or the Model 60 and 60A) to ship Pu-239 fuel pins, pellets, and powders under a rapid consolidation scenario.
- Transportation container specifications for high level waste and spent nuclear fuel being shipped to the proposed geologic repository are not finalized.

- The waste acceptance criteria for remote-handled TRU at the Waste Isolation Pilot Plant are not finalized.

- Guidance for compliance with 10 CFR 830 is needed.

Attachment 1

HANFORD SITE
ENHANCED BASELINE

Note: Data from the original IPABS database is printed in black, while additional and corrected data is printed in red.

Hanford Outgoing - High Level Waste (HLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
HLW	7220	NAB - Stream	HASI	GRD			100 %		M3						

Hanford Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
LLW	1553	LLW Cat 1 Liquids	HASI	COMM	2008	299	100 %	299	M3	~~11~~ **TBD**	~~865~~ **1500**	Truck	TYP A Qty	Type A/IP-3	~~Other (0.208 M3)~~ **Drum - 55 gal.**

Hanford Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
LLW	275	Low Level Waste	AMES	HASI	2001	5.24	100 %	5.24	M3	1	4	Truck	LTD Qty	TBD	~~TBD (1 M3)~~ **Box - smaller than 2x4x6**
					2002	4	100 %	4	M3	1	4	Truck	LTD Qty	TBD	~~TBD (1 M3)~~ **Box - smaller than 2x4x6**
					2003	4	100 %	4	M3	1	4	Truck	LTD Qty	TBD	~~TBD (1 M3)~~ **Box - smaller than 2x4x6**
					2004	4	100 %	4	M3	1	4	Truck	LTD Qty	TBD	~~TBD (1 M3)~~ **Box - smaller than 2x4x6**
					2005	4	100 %	4	M3	1	4	Truck	LTD Qty	TBD	~~TBD (1 M3)~~ **Box - smaller than 2x4x6**
					2006	4	100 %	4	M3	1	4	Truck	LTD Qty	TBD	~~TBD (1 M3)~~ **Box - smaller than 2x4x6**
					2007	4	100 %	4	M3	1	4	Truck	LTD Qty	TBD	~~TBD (1 M3)~~ **Box - smaller than 2x4x6**

Hanford Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2008	4	100 %	4	M3	1	4	Truck	LTD Qty	TBD	~~TBD (1 M3)~~ **Box - smaller than 2x4x6**
					2009	4	100 %	4	M3	1	4	Truck	LTD Qty	TBD	~~TBD (1 M3)~~ **Box - smaller than 2x4x6**
					2010	4	100 %	4	M3	1	4	Truck	LTD Qty	TBD	~~TBD (1 M3)~~ **Box - smaller than 2x4x6**
LLW	3941	TRU Waste	AMES	HASI	2001	0.1	100 %	0.1	M3						
Transportation Comments: MATERIAL WAS SHIPPED IN 55 GALLON DRUMS															
Stream Comments: This waste stream consisted of legacy high alpha radioactive liquid research samples. The samples were bulked, nuetralized, and stabilized. Final analysis showed the waste to be classified as LLW.															
ER	1133	LLW-Contaminated Rubble/Debris	ANLE	HASI	2001	148	100 %	148	M3	~~0~~ **17**	~~0~~ **712**	TBD	TBD	TBD	~~TBD (0 M3)~~ **Drum - 55 gal.**
					2002	201	100 %	201	M3	~~0~~ **23**	~~0~~ **967**	TBD	TBD	TBD	~~TBD (0 M3)~~ **Drum - 55 gal.**
					2003	101	100 %	101	M3	~~0~~ **12**	~~0~~ **486**	TBD	TBD	TBD	~~TBD (0 M3)~~ **Drum - 55 gal.**
Transportation Comments: 5/4/99 - Transportation data unknown.															
Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: A packaging and/or shipping facility is currently operational.															
LLW	1157	Sorted LLW to Hanford	ANLE	HASI	2001	188	100 %	188	M3	0	0	Truck	TBD	TBD	~~TBD (0 M3)~~ **TBD - requires comment**
					2002	188	100 %	188	M3	0	0	Truck	TBD	TBD	~~TBD (0 M3)~~ **TBD - requires comment**
					2003	188	100 %	188	M3	0	0	Truck	TBD	TBD	~~TBD (0 M3)~~ **TBD - requires comment**
					2004	188	100 %	188	M3	0	0	Truck	TBD	TBD	~~TBD (0 M3)~~ **TBD - requires comment**
					2005	188	100 %	188	M3	0	0	Truck	TBD	TBD	~~TBD (0 M3)~~ **TBD - requires comment**
					2006	188	100 %	188	M3	0	0	Truck	TBD	TBD	~~TBD (0 M3)~~ **TBD - requires comment**

Hanford Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2007	188	100 %	188	M3	0	0	Truck	TBD	TBD	~~TBD (0 M3)~~ **TBD - requires comment**
					2008	188	100 %	188	M3	0	0	Truck	TBD	TBD	~~TBD (0 M3)~~ **TBD - requires comment**
					2009	188	100 %	188	M3	0	0	Truck	TBD	TBD	~~TBD (0 M3)~~ **TBD - requires comment**
					2010	188	100 %	188	M3	0	0	Truck	TBD	TBD	~~TBD (0 M3)~~ **TBD - requires comment**
Transportation Comments: 5/4/99 - Transportation data unknown.															
LLW	1159	Evaporator Bottoms	ANLE	HASI	2001	4	100 %	4	M3	~~0~~ **1**	~~0~~ **20**	Truck	TBD	TBD	~~TBD (0 M3)~~ **Drum - 55 gal.**
					2002	4	100 %	4	M3	~~0~~ **1**	~~0~~ **20**	Truck	TBD	TBD	~~TBD (0 M3)~~ **Drum - 55 gal.**
					2003	3.5	100 %	3.5	M3	~~0~~ **1**	~~0~~ **17**	Truck	TBD	TBD	~~TBD (0 M3)~~ **Drum - 55 gal.**
					2004	3.5	100 %	3.5	M3	~~0~~ **1**	~~0~~ **17**	Truck	TBD	TBD	~~TBD (0 M3)~~ **Drum - 55 gal.**
					2005	3.5	100 %	3.5	M3	~~0~~ **1**	~~0~~ **17**	Truck	TBD	TBD	~~TBD (0 M3)~~ **Drum - 55 gal.**
					2006	3.5	100 %	3.5	M3	~~0~~ **1**	~~0~~ **17**	Truck	TBD	TBD	~~TBD (0 M3)~~ **Drum - 55 gal.**
					2007	3.5	100 %	3.5	M3	~~0~~ **1**	~~0~~ **17**	Truck	TBD	TBD	~~TBD (0 M3)~~ **Drum - 55 gal.**
					2008	3.5	100 %	3.5	M3	~~0~~ **1**	~~0~~ **17**	Truck	TBD	TBD	~~TBD (0 M3)~~ **Drum - 55 gal.**
					2009	3.5	100 %	3.5	M3	~~0~~ **1**	~~0~~ **17**	Truck	TBD	TBD	~~TBD (0 M3)~~ **Drum - 55 gal.**
					2010	3.5	100 %	3.5	M3	~~0~~ **1**	~~0~~ **17**	Truck	TBD	TBD	~~TBD (0 M3)~~ **Drum - 55 gal.**
Transportation Comments: 5/4/99 - Transportation data unknown. Barrier Comments: Intersite Dependency: Activity involves multiple sites. No concurrence has been reached between sites.															
MLLW	1166	Solidified Mixed Waste	ANLE	HASI	2001	25	100 %	25	M3	~~0~~ **3**	~~0~~ **121**	Truck	TBD	TBD	~~TBD (0 M3)~~ **Drum - 55 gal.**
					2002	5	100 %	5	M3	~~0~~ **1**	~~0~~ **25**	Truck	TBD	TBD	~~TBD (0 M3)~~ **Drum - 55 gal.**
					2003	5	100 %	5	M3	~~0~~ **1**	~~0~~ **25**	Truck	TBD	TBD	~~TBD (0 M3)~~ **Drum - 55 gal.**

Hanford Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2004	5	100 %	5	M3	~~0~~	~~0~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										1	**25**				**Drum - 55 gal.**
					2005	5	100 %	5	M3	~~0~~	~~0~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										1	**25**				**Drum - 55 gal.**
					2006	5	100 %	5	M3	~~0~~	~~0~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										1	**25**				**Drum - 55 gal.**
					2007	5	100 %	5	M3	~~0~~	~~0~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										1	**25**				**Drum - 55 gal.**
					2008	5	100 %	5	M3	~~0~~	~~0~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										1	**25**				**Drum - 55 gal.**
					2009	5	100 %	5	M3	~~0~~	~~0~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										1	**25**				**Drum - 55 gal.**
					2010	5	100 %	5	M3	0	~~0~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										1	**25**				**Drum - 55 gal.**

Transportation Comments: 5/4/99 - Transportation data unknown.
Stream Comments: Waste treatment increases volume by 2.

MLLW	1174	Amalgamated Mercury	ANLE	HASI	2001	0.208	100 %	0.208	M3						
										1	**1**				**Drum - 55 gal.**

Transportation Comments: MATERIAL TO BE SHIPPED VIA TRUCK
Stream Comments: Waste consists of a nonhazardous solid amalgam.
Barrier Comments: WORK SCOPE DEFINITION - INADEQUATE FUNDING: It is not known if the facility can obtain the required permits, licenses, and/or NEPA documentation. ANL-East has no means to dispose of waste and no agreements in place with any other DOE sites for waste disposal. No commercial contracts are in place for many waste streams due to the excessive cost, however, ANL-E will select a commercial vendor if required. The facility is not currently operational. ANL-East has no to dispose of waste and no agreements in place with any other DOE sites for waste disposal. No commercial contracts are in place for many waste streams due to the excessive cost. However, ANL-E will select a commercial vendor if required.
IntersiteDependency:Activity involves multiple sites.NoConcurrence.

LLW	2109	Offsite Cat 3 LLW from BAPL	BAPL	HASI	2001	160.92	100 %	160.92	M3						
					2002	188.23	100 %	188.23	M3						
					2003	279.69	100 %	279.69	M3						
					2004	212.88	100 %	212.88	M3						
					2005	66.81	100 %	66.81	M3						
					2006	45.342	100 %	45.342	M3						
					2007	29.714	100 %	29.714	M3						
					2008	29.714	100 %	29.714	M3						

LLW	1185	Packaged LLW	BRNL	HASI	2001	80	100 %	80	M3	4	48	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~
															Box - 4x4x7 (approx.)
					2002	80	100 %	80	M3	4	48	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~
															Box - 4x4x7 (approx.)
					2003	80	100 %	80	M3	4	48	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~
															Box - 4x4x7 (approx.)
					2004	80	100 %	80	M3	4	48	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~
															Box - 4x4x7 (approx.)

Hanford Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2005	80	100 %	80	M3	4	48	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
					2006	80	100 %	80	M3	4	48	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
					2007	80	100 %	80	M3	4	48	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
					2008	80	100 %	80	M3	4	48	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
					2009	80	100 %	80	M3	4	48	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
					2010	80	100 %	80	M3	4	48	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Assuming sufficient funding is available for disposal.													
ER	2285	OU I HWMF Building 444 (A)	BRNL	HASI	2003	53	100 %	53	M3	3	20	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Reference Document: HWMF Buildings D & D - Memorandum to F. Petschauer from C. Newson, Dated 1/3/97 Waste Stream: 26 cubic meters Concrete; 27 cubic meters Metal, Sheet Rock, Insulation. Act ID: 010351													
ER	2287	Boneyard Radium Source	BRNL	HASI	2001	0.2	100 %	0.2	M3	1	1	Truck	TBD	Type B	~~Cask (0.21 M3)~~ **Drum - 55 gal.**
Barrier Comments:		Assumption is Hanford disposal.													
ER	2517	OU I HWMF Soil	BRNL	HASI	2003	22	100 %	22	M3	2	2	Truck	TBD	STC/IP-1	~~Other (16 M3)~~ **Sealand - 8x8x20 (approx.)**
					2004	243	100 %	243	M3	~~15~~ **16**	~~15~~ **16**	Truck	TBD	STC/IP-1	~~Other (16 M3)~~ **Sealand - 8x8x20 (approx.)**
					2005	242	100 %	242	M3	~~15~~ **16**	~~15~~ **16**	Truck	TBD	STC/IP-1	~~Other (16 M3)~~ **Sealand - 8x8x20 (approx.)**
					2006	105	100 %	105	M3	7	7	Truck	TBD	STC/IP-1	~~Other (16 M3)~~ **Sealand - 8x8x20 (approx.)**
Stream Comments:		Reference Document: OU I Feasibility Study, Scheduled Date 1/13/99. Act ID: 010459													
ER	2522	OU I HWMF Building 445 (A)	BRNL	HASI	2006	202	100 %	202	M3	~~6~~ **10**	75	Truck	TBD	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Reference Document: HWMF Buildings D & D - Memorandum to F. Petschauer from C. Newson, Dated 1/3/97 Waste Stream: 117 cubic meters of Concrete, 85 cubic meters of Metal, Sheet Rock, and Insulation. Act ID: 010462													
ER	2528	OU I HWMF Building 446 (A)	BRNL	HASI	2001	59	100 %	59	M3	3	22	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Reference Document: HWMF Buildings D & D - Memorandum to F. Petschauer from C. Newson, Dated 1/3/97 Waste Stream: 23 cubic meters Concrete, 36 cubic meters Metal,													

Hanford Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ER	2532	OUI HWMF Building 447 (A)	BRNL	HASI	2001	23	100 %	23	M3	2	9	Truck	TBD	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Reference Document: HWMF Buildings D & D - Memorandum to F. Petschauer from C. Newson, Dated 1/3/97 Waste Stream: 9 cubic meters of Concrete; 14 cubic meters of Metal, Sheet Rock, and Insulation. Act ID: 010353													
ER	2539	OUI HWMF Building 448 (A)	BRNL	HASI	2001	56	100 %	56	M3	3	21	Truck	TBD	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Reference Document: HMWF Buildings D & D - Memorandum to F. Petschauer from C. Newson, Dated 1/3/97 Waste Stream: 22 cubic meters of Concrete; 34 cubic meters of Metal, Sheet Rock, and Insulation. Act ID: 010354													
ER	2651	OU III WCF/Pile Fan Sump Sr90 Well Installation PPE	BRNL	HASI	2004	3	100 %	3	M3	1	2	Truck	TBD	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Act ID: 03S9530 - Construction of Sr90 RA System													
ER	2652	OU III WCF/Pile Fan Sump Sr90 Well Installation Soils	BRNL	HASI	2004	21	100 %	21	M3	1	8	Truck	TBD	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Act ID: 03S9530 - Construction Sr90 RA System													
ER	2685	Sitewide PPE/Tubing	BRNL	HASI	2001	2.35	100 %	2.35	M3	1	1	Truck	TBD	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2002	2.35	100 %	2.35	M3	1	1	Truck	TBD	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2003	2.35	100 %	2.35	M3	1	1	Truck	TBD	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2004	2.35	100 %	2.35	M3	1	1	Truck	TBD	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2005	2.35	100 %	2.35	M3	1	1	Truck	TBD	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2006	2.35	100 %	2.35	M3	1	1	Truck	TBD	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2007	2.35	100 %	2.35	M3	1	1	Truck	TBD	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2008	2.35	100 %	2.35	M3	1	1	Truck	TBD	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2009	2.35	100 %	2.35	M3	1	1	Truck	TBD	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2010	2.35	100 %	2.35	M3	1	1	Truck	TBD	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
LLW	3180	BLIP Solids	BRNL	HASI	2001	0.5	100 %	0.5	M3	1	2	Truck	TYP A Qty Type	A/IP-3	~~Other (0.3 M3)~~ **Drum - 85 gal.**
					2002	0.7	100 %	0.7	M3	1	4	Truck	TYP A Qty Type	A/IP-3	~~Other (0.3 M3)~~ **Drum - 85 gal.**

Hanford Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2003	0.7	100 %	0.7	M3	1	4	Truck	TYP A Qty	Type A/IP-3	~~Other (0.3 M3)~~ **Drum - 85 gal.**
					2004	0.7	100 %	0.7	M3	1	4	Truck	TYP A Qty	Type A/IP-3	~~Other (0.3 M3)~~ **Drum - 85 gal.**
					2005	0.7	100 %	0.7	M3	1	4	Truck	TYP A Qty	Type A/IP-3	~~Other (0.3 M3)~~ **Drum - 85 gal.**
					2006	0.7	100 %	0.7	M3	1	4	Truck	TYP A Qty	Type A/IP-3	~~Other (0.3 M3)~~ **Drum - 85 gal.**
					2007	0.7	100 %	0.7	M3	1	4	Truck	TYP A Qty	Type A/IP-3	~~Other (0.3 M3)~~ **Drum - 85 gal.**
					2008	0.7	100 %	0.7	M3	1	4	Truck	TYP A Qty	Type A/IP-3	~~Other (0.3 M3)~~ **Drum - 85 gal.**
					2009	0.7	100 %	0.7	M3	1	4	Truck	TYP A Qty	Type A/IP-3	~~Other (0.3 M3)~~ **Drum - 85 gal.**
					2010	0.7	100 %	0.7	M3	1	4	Truck	TYP A Qty	Type A/IP-3	~~Other (0.3 M3)~~ **Drum - 85 gal.**
LLW	3187	Radioactive Asbestos	BRNL	HASI	2001	18	100 %	18	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (18 M3)~~ **Sealand - 8x8x20 (approx.)**
ER	3195	Boneyard Shielding Blocks and Debris	BRNL	HASI	2001	816	100 %	816	M3	~~50~~ **51**	~~50~~ **51**	Truck	TBD	STC/IP-1	~~Sealand (16 M3)~~ **Sealand - 8x8x20 (approx.)**
Stream Comments: Characterization of this waste is continuing. Act ID: BW0692															
ER	3212	Boneyard Sources	BRNL	HASI	2001	0.2	100 %	0.2	M3	1	1	Truck	TBD	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
Stream Comments: Includes 45,000 Ci 90 Sr Source. Act ID: BW0690 Barrier Comments: uncertainty regarding reuse versus disposal and regarding disposal pathway															
ER	7	LLW Bulk Construction Debris (to HANF)	CEMP	HASI	2001	260.04	100 %	260.04	M3						
					2002	102.1	100 %	102.1	M3						
					2003	242.77	100 %	242.77	M3						
					2004	269.25	100 %	269.25	M3						
					2005	115.63	100 %	115.63	M3						
					2006	41.73	100 %	41.73	M3						
Transportation Comments: Transportataion data unavailable at this time Stream Comments: All OH-CL-02-D West Jefferson Related Waste 1,108.15 cu. meters															
LLW	1559	LLW Treated Liquid to Disp	COMM	HASI	2008	299 **TBD**	100 %	299 **TBD**	M3	**TBD**	**TBD**	**Truck**	**TBD**	**TBD**	**TBD - requires comment**

Hanford Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ER	3203	Boneyard Treated Transport Pigs	COMM	HASI	2001	57	100 %	57	M3	30	~~0~~	Truck	TBD	STC/IP-1	~~Other (0 M3)~~
											275				**Drum - 55 gal.**
Stream Comments: Commercial Treatment prior to disposal. Act ID: BW0550 Process output from rec# 3690															
ER	1671	LLW-Non-defense D&D Waste (from ER)	ETEC	HASI	2001	25	100 %	25	M3	53	210	Truck	TBD	STC/IP-1	~~Box - Other (1.5 M3)~~
															Box - 2x4x7 (approx.)
					2002	77	100 %	77	M3	15	50	Truck	TBD	STC/IP-1	~~Box - Other (1.5 M3)~~
															Box - 2x4x7 (approx.)
					2003	225	100 %	225	M3	40	150	Truck	TBD	STC/IP-1	~~Box - Other (1.5 M3)~~
															Box - 2x4x7 (approx.)
					2004	318	100 %	318	M3	50	210	Truck	TBD	STC/IP-1	~~Box - Other (1.5 M3)~~
															Box - 2x4x7 (approx.)
					2005	93	100 %	93	M3	16	60	Truck	TBD	STC/IP-1	~~Box - Other (1.5 M3)~~
															Box - 2x4x7 (approx.)
					2006	716	100 %	716	M3	120	480	Truck	TBD	STC/IP-1	~~Box - Other (1.5 M3)~~
															Box - 2x4x7 (approx.)
Barrier Comments: Disposition activity to meet Hanford WAC.															
LLW	4106	Fermi LLW to Hanford	FNAL	HASI	2001	60	100 %	60	M3						
										2	**2**				**Sealand - 8x8x20 (approx.)**
					2002	60	100 %	60	M3						
										2	**2**				**Sealand - 8x8x20 (approx.)**
					2003	62.27	100 %	62.27	M3						
										2	**2**				**Sealand - 8x8x20 (approx.)**
					2004	62.27	100 %	62.27	M3						
										2	**2**				**Sealand - 8x8x20 (approx.)**
					2005	62.27	100 %	62.27	M3						
										2	**2**				**Sealand - 8x8x20 (approx.)**
					2006	62.27	100 %	62.27	M3						
										2	**2**				**Sealand - 8x8x20 (approx.)**
					2007	62.27	100 %	62.27	M3						
										2	**2**				**Sealand - 8x8x20 (approx.)**

Hanford Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2008	62.27	100 %	62.27	M3						
										2	**2**				**Sealand - 8x8x20 (approx.)**
					2009	62.27	100 %	62.27	M3						
										2	**2**				**Sealand - 8x8x20 (approx.)**
					2010	62.27	100 %	62.27	M3						
										2	**2**				**Sealand - 8x8x20 (approx.)**
Transportation Comments:		Transportation details TBD													
LLW	31717	INEEL (sspd-smc filings)	INEL	HASI	2001	1.87	100 %	1.87	M3	1	~~7~~	Truck	LSA2	Type B	~~Drum 55 gal (0.208 M3)~~
											9			**IP-2**	**Drum - 55 gal.**
					2002	0.29	100 %	0.29	M3	1	~~1~~	Truck	LSA2	Type B	~~Drum 55 gal (0.208 M3)~~
											2			**IP-2**	**Drum - 55 gal.**
					2003	0.58	100 %	0.58	M3	1	~~2~~	Truck	LSA2	Type B	~~Drum 55 gal (0.208 M3)~~
											3			**IP-2**	**Drum - 55 gal.**
					2004	0.29	100 %	0.29	M3	1	~~1~~	Truck	LSA2	Type B	~~Drum 55 gal (0.208 M3)~~
											2			**IP-2**	**Drum - 55 gal.**
					2005	0.58	100 %	0.58	M3	1	~~2~~	Truck	LSA2	Type B	~~Drum 55 gal (0.208 M3)~~
											3			**IP-2**	**Drum - 55 gal.**
					2006	0.29	100 %	0.29	M3	1	~~1~~	Truck	LSA2	Type B	~~Drum 55 gal (0.208 M3)~~
											2			**IP-2**	**Drum - 55 gal.**
					2007	0.58	100 %	0.58	M3	1	~~2~~	Truck	LSA2	Type B	~~Drum 55 gal (0.208 M3)~~
											3			**IP-2**	**Drum - 55 gal.**
					2008	0.29	100 %	0.29	M3	1	~~1~~	Truck	LSA2	Type B	~~Drum 55 gal (0.208 M3)~~
											2			**IP-2**	**Drum - 55 gal.**
					2009	0.58	100 %	0.58	M3	1	~~2~~	Truck	LSA2	Type B	~~Drum 55 gal (0.208 M3)~~
											3			**IP-2**	**Drum - 55 gal.**
					2010	0.29	100 %	0.29	M3	1	~~1~~	Truck	LSA2	Type B	~~Drum 55 gal (0.208 M3)~~
											2			**IP-2**	**Drum - 55 gal.**
Stream Comments:		Formerly classified as Site Specific Disposal Problem (SSPD). Waste disposal now identified for shipment to Hanford. Starting in FY 2001.													
Barrier Comments:		A path for completing final disposition of this waste/material now exists. INEEL (formerly SSDP) waste currently can be accepted at Hanford without significant treatment. Treatment will only involve size reduction, if applicable, to fit shipping containers.													
LLW	2112	Offsite Cat 3 LLW from KAPL	KAPL	HASI	2002	59.39	100 %	59.39	M3						
LLW	2170	Offsite Cat 1 LLW from KAPL	KAPL	HASI	2001	36.04	100 %	36.04	M3						
					2002	36.04	100 %	36.04	M3						
					2003	72.08	100 %	72.08	M3						
					2004	36.04	100 %	36.04	M3						
					2005	36.04	100 %	36.04	M3						
					2006	36.04	100 %	36.04	M3						

Hanford Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
LLW	1742	LLW Tritiated Water on Gel, Metal (Activated & Non), Soil & Gravel	LABL	HASI	2003	4.7	100 %	4.7	M3	1	~~7~~	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~
											23				**Drum - 55 gal.**
					2007	5.2	100 %	5.2	M3	1	~~7~~	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~
											25				**Drum - 55 gal.**

Stream Comments: OK-016 PBS is for Newly Generated waste.

Barrier Comments: INTERSITE DEPENDENCY - OTHER INTERSITE DEPENDENCY ISSUES: It is not known if there are problems with receiving capabilities (staging, storage, off loading,etc.). For the LLW tritiated water on silica gel, the high levels of tritium may not be acceptable by Hanford. No commercial facilities can accept this material. Disposition is unclear.

WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: It is not known if the waste/material meets the subsequent treatment/disposal facility waste acceptance criteria (WAC). Disposition for tritiated waste, HEPAs, and Cd contaminated lead are unclear. It is not known if a plausible and feasible path for treating and completing final disposition of this waste/material exists. LLW tritiated water on silica gel is too hot for commercial treatment (400 to 500 Ci/drum) so it is planned to be shipped directly to Hanford for disposal. No problems are foreseen. The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc.). Waste can be characterized using existing capabilities. It is not known if a plausible and feasible path for treating and completing final disposition of this waste/material exists. LLW metals may be able to be decontaminated at GTS Duratek and be free-released. Portions of the waste stream that cannot be free-released will be disposed at Hanford. Most of LBNL's lead inventory is expected be shipped to GTS Duratek for use in the shielded container recycling project. LBNL has a small amount that has a cadmium code attached to it. The disposition is unclear at this time. It will probably be handled as mixed waste. Characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. Waste can be characterized for shipping using existing capabilities. Waste/material retrieval is not applicable. Waste is in containerized storage. Retrieval is not required. R&D, not already identified by an STCG need, is associated with this waste/material stream (i.e., EM-50 Operational projects funded out of EM-30 or EM-40). LBNL is trying to develop a method to effectively assay HEPAs, but it would most likely be site-specific and not transferable to another site (e.g. use of a low-background facility at LBNL). No STCG Need has been identified. It is not known if a plausible and feasible path for treating and completing final disposition of this waste/material exists. HEPAs pose a problem due to lack of process knowledge and in-service lives up to 25 years. Currently, LBNL is trying to find a cost-effective method to assay HEPAs without having to sample every filter. A low-background counting facility is currently being used. The HEPAs could potentially contain RCRA metals, but they are not expected to be mixed waste.

LLW	2853	Legacy Combustible/Noncombustible Debris	LABL	HASI	2001	13.4	100 %	13.4	M3	~~1~~	127	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~
										2					**Drum - 55 gal.**
					2002	12.7	100 %	12.7	M3	~~1~~	~~49~~	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~
										2	**62**				**Drum - 55 gal.**

Stream Comments: Legacy Waste PBS OK-015

LLW	2826	Imhoff sludge waste - disposal	LEHR	HASI	2002	8	100 %	8	M3	37	~~37~~	Truck	LSA1	Type A/IP-3	~~Box - Other (0.22 M3)~~
											39				**Drum - 55 gal.**

Stream Comments: This waste includes the contents of the Red box which orginated from Imhoff tank A

Barrier Comments: INTERSITE DEPENDENCY - OTHER INTERSITE DEPENDENCY ISSUES: If the sludge in tank A is regulated under RCRA after further TCLP analysis, then the waste will have to be managed as a MLLW. A TSD for this waste will have to be found if this waste if is regulated under RCRA.

LLW	2101	Offsite Cat 1 LLW from Bates	MIT	HASI	2001	0.257	100 %	0.257	M3
					2003	0.257	100 %	0.257	M3

Hanford Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2005	0.257	100 %	0.257	M3						
					2007	0.257	100 %	0.257	M3						
					2009	0.257	100 %	0.257	M3						
					2010	5.14	100 %	5.14	M3						
LLW	1612	RH Post-Treatment	ORTN	HASI	2004	18.51	100 %	18.51	M3	24	24	Truck	TYP B Qty Type B		~~Cask (1 M3)~~ **Other - requires comment**
					2005	13.8	0 %	0	M3			Truck	TYP B Qty Type B		~~Cask (0.007 M3)~~ **6M 30 gal.**
					2005	13.8	100 %	13.8	M3	18	18	Truck	TYP B Qty Type B		~~Cask (1 M3)~~ **Other - requires comment**
					2006	10.8	0 %	0	M3			Truck	TYP B Qty Type B		~~Cask (0.007 M3)~~ **6M 30 gal.**
					2006	10.8	100 %	10.8	M3	14	14	Truck	TYP B Qty Type B		~~Cask (1 M3)~~ **Other - requires comment**

Transportation Comments: HN200 Cask
Stream Comments: Some portion of this stream will likely be Special PA-Restricted waste requiring deep geologic disposal.
Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.

LLW	4314	Remote Handled LLW - 3	ORTN	HASI			100 %		M3						

Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.

LLW	4261	Offsite Cat 1 LLW from Parks Township	PARK	HASI	2001	1560.0	100 %	1560.0	M3						
LLW	3652	LLW Other Solids	PGDP	HASI	2001	90	100 %	90	M3	7	~~33~~ **34**	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
LLW	493	Non-Compactable LLW	PPPL	HASI	2001	0	100 %	0	M3	~~3~~ **0**	~~55~~ **0**	Truck	LSA2	Type A/IP-3	~~Other (2.9 M3)~~ **Box - 4x4x7 (approx.)**
					2002	0	100 %	0	M3	~~7~~ **0**	~~28~~ **0**	Truck	LSA2	Type A/IP-3	~~Other (2.9 M3)~~ **Box - 4x4x7 (approx.)**
					2003	0	100 %	0	M3	~~3~~ **0**	~~11~~ **0**	Truck	LSA2	Type A/IP-3	~~Other (2.9 M3)~~ **Box - 4x4x7 (approx.)**
					2004	0	100 %	0	M3	~~15~~ **0**	~~55~~ **0**	Truck	LSA2	IP-2	~~Other (2.9 M3)~~ **Box - 4x4x7 (approx.)**
					2005	0	100 %	0	M3	~~15~~ **0**	~~55~~ **0**	Truck	LSA2	IP-2	~~Other (2.9 M3)~~ **Box - 4x4x7 (approx.)**
					2006	0	100 %	0	M3	~~15~~ **0**	~~55~~ **0**	Truck	LSA2	IP-2	~~Other (2.9 M3)~~ **Box - 4x4x7 (approx.)**
					2007	0	100 %	0	M3	~~15~~ **0**	~~55~~ **0**	Truck	LSA2	IP-2	~~Other (2.9 M3)~~ **Box - 4x4x7 (approx.)**

Hanford Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2008	0	100 %	0	M3	~~15~~	~~55~~	Truck	LSA2	IP-2	~~Other (2.9 M3)~~
										0	**0**				**Box - 4x4x7 (approx.)**
					2009	0	100 %	0	M3	~~15~~	~~55~~	Truck	LSA2	IP-2	~~Other (2.9 M3)~~
										0	**0**				**Box - 4x4x7 (approx.)**
					2010	0	100 %	0	M3	~~15~~	~~55~~	Truck	LSA2	IP-2	~~Other (2.9 M3)~~
										0	**0**				**Box - 4x4x7 (approx.)**
Stream Comments: Note: SDD 493 Hanford disposal volumes have been moved to SDD 7299															
LLW	1233	Compacted Waste	PPPL	HASI	2001	0	100 %	0	M3	~~3~~	~~94~~	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										0	**0**				**Drum - 55 gal.**
					2002	0	100 %	0	M3	~~24~~	~~71~~	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										0	**0**				**Drum - 55 gal.**
					2003	0	100 %	0	M3	~~3~~	~~33~~	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										0	**0**				**Drum - 55 gal.**
					2004	0	100 %	0	M3	~~3~~	~~33~~	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										0	**0**				**Drum - 55 gal.**
					2005	0	100 %	0	M3	~~3~~	~~33~~	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										0	**0**				**Drum - 55 gal.**
					2006	0	100 %	0	M3	~~3~~	~~33~~	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										0	**0**				**Drum - 55 gal.**
					2007	0	100 %	0	M3	~~3~~	~~33~~	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										0	**0**				**Drum - 55 gal.**
					2008	0	100 %	0	M3	~~3~~	~~33~~	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										0	**0**				**Drum - 55 gal.**
					2009	0	100 %	0	M3	~~3~~	~~33~~	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										0	**0**				**Drum - 55 gal.**
					2010	0	100 %	0	M3	~~3~~	~~33~~	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										0	**0**				**Drum - 55 gal.**
LLW	1234	Treated Non-CompactIble MLLW	PPPL	HASI	2001	2	100 %	2	M3	1	4	Truck	LSA2	Type A/IP-3	~~Other (0.54 M3)~~
											7				**Drum - 85 gal.**
					2002	2	100 %	2	M3	1	4	Truck	LSA2	Type A/IP-3	~~Other (0.54 M3)~~
											7				**Drum - 85 gal.**
					2003	2	100 %	2	M3	1	4	Truck	LSA2	Type A/IP-3	~~Other (0.54 M3)~~
											7				**Drum - 85 gal.**
					2004	2	100 %	2	M3	1	4	Truck	LSA2	Type A/IP-3	~~Other (0.54 M3)~~
											7				**Drum - 85 gal.**
					2005	2	100 %	2	M3	1	4	Truck	LSA2	Type A/IP-3	~~Other (0.54 M3)~~
											7				**Drum - 85 gal.**
					2006	2	100 %	2	M3	1	4	Truck	LSA2	Type A/IP-3	~~Other (0.54 M3)~~
											7				**Drum - 85 gal.**
					2007	2	100 %	2	M3	1	4	Truck	LSA2	Type A/IP-3	~~Other (0.54 M3)~~
											7				**Drum - 85 gal.**

Hanford Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2008	2	100 %	2	M3	1	~~4~~ 7	Truck	LSA2	Type A/IP-3	~~Other (0.54 M3)~~ **Drum - 85 gal.**
					2009	2	100 %	2	M3	1	~~4~~ 7	Truck	LSA2	Type A/IP-3	~~Other (0.54 M3)~~ **Drum - 85 gal.**
					2010	2	100 %	2	M3	1	~~4~~ 7	Truck	LSA2	Type A/IP-3	~~Other (0.54 M3)~~ **Drum - 85 gal.**
LLW	7299	LLW FOR DISPOSAL	PPPL	HASI	2001	801	100 %	801	M3	**25**	**25**				**Sealand - 8x8x20 (approx.)**
					2002	135	100 %	135	M3	**5**	**5**				**Sealand - 8x8x20 (approx.)**
					2003	15	100 %	15	M3	**1**	**1**				**Sealand - 8x8x20 (approx.)**
					2004	15	100 %	15	M3	**1**	**1**				**Sealand - 8x8x20 (approx.)**
					2005	15	100 %	15	M3	**1**	**1**				**Sealand - 8x8x20 (approx.)**
					2006	15	100 %	15	M3	**1**	**1**				**Sealand - 8x8x20 (approx.)**
					2007	15	100 %	15	M3	**1**	**1**				**Sealand - 8x8x20 (approx.)**
					2008	15	100 %	15	M3	**1**	**1**				**Sealand - 8x8x20 (approx.)**
					2009	15	100 %	15	M3	**1**	**1**				**Sealand - 8x8x20 (approx.)**
					2010	15	100 %	15	M3	**1**	**1**				**Sealand - 8x8x20 (approx.)**

Transportation Comments: MATERIAL TO BE SHIPPED VIA TRUCK
Stream Comments: Note: SDD 493 and 1233 volume information for FY 2000 is now inmcorporated in this SDD

ER	9	Compacted LLW	SEG	HASI	2001	23.26	100 %	23.26	M3	**3**	**112**				**Drum - 55 gal.**

Hanford Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2002	12.25	100 %	12.25	M3						
										2	**59**				**Drum - 55 gal.**
					2003	12.25	100 %	12.25	M3						
										2	**59**				**Drum - 55 gal.**
					2004	40.66	100 %	40.66	M3						
										5	**196**				**Drum - 55 gal.**
					2005	32.26	100 %	32.26	M3						
										4	**156**				**Drum - 55 gal.**
					2006	42.78	100 %	42.78	M3						
										5	**206**				**Drum - 55 gal.**
Transportation Comments: Transportation data unavailable at this time															
Stream Comments: OH-CL-02-D West Jefferson Related Waste 115.61 cu. meters Above volumes based on 10:1 reduction factor from supercompaction															
LLW	4107	SLAC LLW to Hanford	SLAC	HASI	2001	16.79	100 %	16.79	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2002	16.79	100 %	16.79	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2003	16.79	100 %	16.79	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2004	16.79	100 %	16.79	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2005	16.79	100 %	16.79	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2006	16.79	100 %	16.79	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2007	16.79	100 %	16.79	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2008	16.79	100 %	16.79	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2009	16.79	100 %	16.79	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2010	16.79	100 %	16.79	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**

Hanford Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name

Transportation Comments: Transportation details TBD

Hanford Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ER	2123	GW Treatment Residue to Commercial	HASI	COMM	2001	30	100 %	30	M3						
										TBD	**TBD**	**TBD**			
					2002	30	100 %	30	M3						
										TBD	**TBD**	**TBD**			
					2003	30	100 %	30	M3						
										TBD	**TBD**	**TBD**			
					2004	30	100 %	30	M3						
										TBD	**TBD**	**TBD**			
					2005	30	100 %	30	M3						
										TBD	**TBD**	**TBD**			
					2006	30	100 %	30	M3						
										TBD	**TBD**	**TBD**			
					2007	30	100 %	30	M3						
										TBD	**TBD**	**TBD**			
					2008	30	100 %	30	M3						
										TBD	**TBD**	**TBD**			
					2009	30	100 %	30	M3						
										TBD	**TBD**	**TBD**			
					2010	30	100 %	30	M3						
										TBD	**TBD**	**TBD**			

Transportation Comments: Media consists of filter resins used for GW treatment. Filter resins are regenerated and shipped back to Hanford for reuse.
Stream Comments: FY2001 - Operations have been extended through FY2020. Total waste volume to be reviewed for FY2002 reporting.
Barrier Comments: TECHNOLOGY - INADEQUATE CHARACTERIZATION CAPABILITIES

MLLW	3470	Commercial stabilization feed	HASI	COMM	2006	~~15~~	100 %	~~15~~	M3						
						16		**16**		**1**	**77**			**Type A/IP-3**	**Drum - 55 gal.**
					2007	~~1~~	~~100 %~~	~~1~~	M3						
						0	**0 %**	**0**							
MLLW	3486	Feed to commercial thermal treatment	HASI	COMM	2001	119	100 %	119	M3	~~44~~	~~3444~~	Truck	TYP A Qty Type A/IP-3	~~Other (0.208 M3)~~	
										12	**700**				**Drum - 55 gal.**
					2002	264	100 %	264	M3	~~37~~	~~2882~~	Truck	TYP A Qty Type A/IP-3	~~Other (0.208 M3)~~	
										15	**1000**				**Drum - 55 gal.**

Hanford Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2003	717	100 %	717	M3	~~37~~	~~2882~~	Truck	TYP A Qty	Type A/IP-3	~~Other (0.208 M3)~~
										52	**3447**				**Drum - 55 gal.**
					2004	717	100 %	717	M3	~~37~~	~~2882~~	Truck	TYP A Qty	Type A/IP-3	~~Other (0.208 M3)~~
										52	**3447**				**Drum - 55 gal.**
					2005	717	100 %	717	M3	~~37~~	~~2882~~	~~Truck~~	TYP A Qty	Type A/IP-3	~~Other (0.208 M3)~~
										52	**3447**				**Drum - 55 gal.**
					2006	310	100 %	310	M3	~~19~~	1489	Truck	TYP A Qty	Type A/IP-3	~~Other (0.208 M3)~~
										22					**Drum - 55 gal.**
					2007	600	100 %	600	M3	~~17~~	~~1293~~	Truck	TYP A Qty	Type A/IP-3	~~Other (0.208 M3)~~
										43	**2885**				**Drum - 55 gal.**
					2008	600	100 %	600	M3	~~12~~	~~940~~	Truck	TYP A Qty	Type A/IP-3	~~Other (0.208 M3)~~
										43	**2885**				**Drum - 55 gal.**
					2009	600	100 %	600	M3	~~13~~	~~991~~	Truck	TYP A Qty	Type A/IP-3	~~Other (0.208 M3)~~
										43	**2885**				**Drum - 55 gal.**
					2010	586	100 %	586	M3	~~13~~	~~1007~~	Truck	TYP A Qty	Type A/IP-3	~~Other (0.208 M3)~~
										43	**2817**				**Drum - 55 gal.**
ER	1483	MLLW GW 100/200 Areas	HASI	TBD			100 %		M3						

Barrier Comments: Potential regulatory problems exists. Technical limitations processing groundwater.

It is unknown if the waste/material cannot be retrieved or removed. It is not known if the waste material meets the processing/disposal facility waste acceptance criteria (WAC). It is not known if shipping systems, including interim containers or packaging, are available to transport the waste/material to treatment.

A packaging and/or shipping facility is not currently operational. There are proposed near-term changes that could make completing the processing and disposition path non-feasible. There are proposed near-term changes that could make completing the processing and disposition path non-feasible.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	3479	KAPL treated waste from stab/debris treatment	HASI	TBDO	2001	~~5.4~~	100 %	~~5.4~~	M3						
						0.2		**0.2**		**1**	**1**	**Truck**	**TYP A Qty**	**Type A/IP-3**	**Drum - 55 gal.**
					2002	~~3.5~~	100 %	~~3.5~~	M3	~~1~~	~~9~~	Truck	TYP A Qty	Type A/IP-3	~~Other (0.208 M3)~~
						0.2		**0.2**			**1**				**Drum - 55 gal.**
					2003	1.9	100 %	1.9	M3	~~1~~	9	Truck	TYP A Qty	Type A/IP-3	~~Other (0.208 M3)~~
															Drum - 55 gal.
					2004	2.3	100 %	2.3	M3	~~1~~	~~10~~	Truck	TYP A Qty	Type A/IP-3	~~Other (0.208 M3)~~
											12				**Drum - 55 gal.**
					2005	2.5	100 %	2.5	M3	~~1~~	~~9~~	Truck	TYP A Qty	Type A/IP-3	~~Other (0.208 M3)~~
											13				**Drum - 55 gal.**
					2006	2.3	100 %	2.3	M3						
										1	**12**	**Truck**	**TYP A Qty**	**Type A/IP-3**	**Drum - 55 gal.**
					2007	2.3	100 %	2.3	M3						
										1	**12**	**Truck**	**TYP A Qty**	**Type A/IP-3**	**Drum - 55 gal.**

Stream Comments: Pending issuance of the PEIS ROD, the disposition map is to reflect the return of treated waste to KAPL.

Hanford Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	3480	PHNS treated waste from stab/debris treatment	HASI	TBDO	2001	~~1.9~~	100 %	~~1.9~~	M3	~~1~~	~~13~~	Truck	TYP A Qty	Type A/IP-3	~~Other (0.208 M3)~~
						0		**0**		**0**	**0**				**Drum - 55 gal.**
					2002	1.5	100 %	1.5	M3						
										1	**8**	**Truck**	**TYP A Qty**	**Type A/IP-3**	**Drum - 55 gal.**
Stream Comments:		Pending issuance of the PEIS ROD, the disposition map is to reflect the return of treated waste to PHNS.													
MLLW	3481	PNS treated waste from stab/debris treatment	HASI	TBDO	2001	~~0.8~~	100 %	~~0.8~~	M3	1	~~5~~	Truck	TYP A Qty	Type A/IP-3	~~Other (0.208 M3)~~
						0.2		**0.2**			**1**				**Drum - 55 gal.**
					2002	0.2	100 %	0.2	M3						
										1	**1**	**Truck**	**TYP A Qty**	**Type A/IP-3**	**Drum - 55 gal.**
Stream Comments:		Pending issuance of the PEIS ROD, the disposition map is to reflect the return of treated waste to PNS.													
MLLW	3482	PSNS treated waste from stab/debris treatment	HASI	TBDO	2001	~~10.1~~	100 %	~~10.1~~	M3						
						0.2		**0.2**		**1**	**1**	**Truck**	**TYP A Qty**	**Type A/IP-3**	**Drum - 55 gal.**
Stream Comments:		Pending issuance of the PEIS ROD, the disposition map is to reflect the return of treated waste to PSNS.													
MLLW	3483	BCL treated waste from stab/debris treatment	HASI	TBDO	2004	3.8	100 %	3.8	M3	1	~~29~~	Truck	TYP A Qty	Type A/IP-3	~~Other (0.208 M3)~~
											18				**Drum - 55 gal.**
Stream Comments:		Pending issuance of the PEIS ROD, the disposition map is to reflect the return of treated waste to BCL.													

Hanford Incoming - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	3455	BAPL solids requiring non-thermal treatment	BAPL	HASI			100 %		M3						
MLLW	3477	Treated waste from commercial stabilization	COMM	HASI	2006	225	100 %	225	M3						
										11	**90**	**Truck**	**LSA***	**STC/IP-1**	**Box - 4x4x7 (approx.)**
					2007	15	100 %	15	M3						
										1	**6**	**Truck**	**LSA***	**STC/IP-1**	**Box - 4x4x7 (approx.)**
MLLW	3489	Treated waste from commercial thermal treatment	COMM	HASI	2001	~~119~~	100 %	~~119~~	M3						
						0		**0**				**Truck**	**LSA***	**STC/IP-1**	**Box - 4x4x7 (approx.)**
					2002	264	100 %	264	M3						
										18	**90**	**Truck**	**LSA***	**STC/IP-1**	**Box - 4x4x7 (approx.)**

Hanford Incoming - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2003	717	100 %	717	M3						
										49	**245**	**Truck**	**LSA***	**STC/IP-1**	**Box - 4x4x7 (approx.)**
					2004	717	100 %	717	M3						
										49	**245**	**Truck**	**LSA***	**STC/IP-1**	**Box - 4x4x7 (approx.)**
					2005	717	100 %	717	M3						
										49	**245**	**Truck**	**LSA***	**STC/IP-1**	**Box - 4x4x7 (approx.)**
					2006	310	100 %	310	M3						
										22	**106**	**Truck**	**LSA***	**STC/IP-1**	**Box - 4x4x7 (approx.)**
					2007	600	100 %	600	M3						
										41	**205**	**Truck**	**LSA***	**STC/IP-1**	**Box - 4x4x7 (approx.)**
					2008	600	100 %	600	M3						
										41	**205**	**Truck**	**LSA***	**STC/IP-1**	**Box - 4x4x7 (approx.)**
					2009	600	100 %	600	M3						
										41	**205**	**Truck**	**LSA***	**STC/IP-1**	**Box - 4x4x7 (approx.)**
					2010	586	100 %	586	M3						
										40	**200**	**Truck**	**LSA***	**STC/IP-1**	**Box - 4x4x7 (approx.)**
MLLW	7282	Treated Waste to be Disposed at Hanford	COMM	HASI	2003	100	100 %	100	M3						
					2004	100	100 %	100	M3						
					2005	100	100 %	100	M3						
					2006	100	100 %	100	M3						

Transportation Comments: Currently there have not been specific containers identified for shipment to Hanford. Once specific containers are identified container specifics will be entered into the database.

Stream Comments: This stream includes all waste that has been treated that will be disposed at Hanford.

Barrier Comments: Work Scope/Score-1: Waste material quantities have been estimated.

Intersite Dependency-1: Other DOE facilities have been identified and estimated. Commercial facility exists as well.

MLLW	3456	KAPL solids requiring non-thermal treatment	KAPL	HASI	2001	3.9	100 %	3.9	M3						
					2002	3.3	100 %	3.3	M3						
					2003	1.5	100 %	1.5	M3						
					2004	1.8	100 %	1.8	M3						
					2005	2.1	100 %	2.1	M3						
					2006	1.8	100 %	1.8	M3						
					2007	1.8	100 %	1.8	M3						
MLLW	31728	High Activity Waste	LANL	HASI	2004	5.1	100 %	5.1	M3						

Transportation Comments: TBD.

Stream Comments: This waste currently has no disposal path.

Barrier Comments: This waste currently has no disposal path due to high activity.

MLLW	3457	PHNS solids requiring non-thermal treatment	PHNS	HASI	2001	1.3	100 %	1.3	M3						

Hanford Incoming - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2002	2.1	100 %	2.1	M3						
MLLW	3458	PNS solids requiring non-thermal treatment	PNS	HASI	2001	0.5	100 %	0.5	M3						
					2002	0.3	100 %	0.3	M3						
MLLW	3459	PSNS solids requiring non-thermal treatment	PSNS	HASI	2001	9.5	100 %	9.5	M3						

Hanford Outgoing - Americium-241 (NM-Am-241)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
HASI-Am241	7225	DPP - Stream	HASI	LANL			100 %		G						
					2002-2004					**1**	**4**				**S-100**
HASI-Am241	31390	BAA - Stream	HASI	ORTN			100 %		G						
					2002-2004					**1**	**4**				**S-100**

Hanford Outgoing - Americium-243 and Curium (NM-AmCm)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
PNNL-Am241	7243	TAL - Stream	HASI	COMM			100 %		G						
					2002-2004										**S-100**
HASI-AmCm	7226	DKL - Stream	HASI	LANL			100 %		G						
					2002-2004										**S-100**
PNNL-AmCm	7240	TAA - Stream	HASI	ORTN			100 %		G						
					2002-2004					**1**	**2**				**S-100**
PNNL-Am241	7242	TAK - Stream	HASI	ORTN			100 %		G						
					2002-2004					**1**	**2**				**S-100**

Hanford Outgoing - Americium-243 and Curium (NM-AmCm)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
HASI-AmCm	31397	BAH - Stream	HASI	ORTN			100 %		G						
					2002-2004					1	2				S-100

Hanford Outgoing - Berkelium-249 and Californium-252 (NM-BkCf)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
HASI-BkCf	7261	GGG - Stream	HASI	LANL			100 %		G						
					2002-2004					1	4			S-100	
HASI-BkCf	31400	BAH - Stream	HASI	ORTN			100 %		G						
					2002-2004					1	4				S-100

Hanford Incoming - Depleted Uranium (NM-DU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
DU	30359	Metal	FNAL	HASI			100 %		G						
					TBD										IP-1

Stream Comments: Qty: 100 - 1,000 MT Currently in programmatic use. Once excess, would be slated for disposal at Hanford as LLW.

Hanford Outgoing - Nonactinide Isotopes and Sealed Sources (NM-NISS)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
PNNL-NISS	7246	VAE - Stream	HASI	LANL			100 %		NI						
					TBD										S-100
PNNL-NISS	31217	BBB - Stream	HASI	LANL			100 %		NI						
					2002-2004					1	2				S-100

Stream Comments: Contains Pu-238 and Pu-239 from primary streams 31216 and 31214, respectively.

Hanford Outgoing - Nonactinide Isotopes and Sealed Sources (NM-NISS)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
PNNL-NISS	7250	VEH - Stream	HASI	ORTN			100 %		NI						
					TBD										**S-100**
PNNL-NISS	31208	BAT - Stream	HASI	ORTN			100 %		NI						
					2002-2004					**1**	**1**				**S-100**
Stream Comments:		Contains Californium and Curium 246.													
HASI-NISS	31424	BAY - Stream	HASI	ORTN			100 %		NI						
					2002-2004					**1**	**20**				**S-100**
Stream Comments:		Projected path is isotope program source recovery.													

Hanford Outgoing - Neptunium-237 (NM-Np-237)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
HASI-Np237	7224	DNN - Stream	HASI	LANL			100 %		G						
					2002-2004					**1**	**5**				**S-100**
HASI-Np237	7223	DMM - Stream	HASI	ORTN			100 %		G						
					2002-2004					**1**	**5**				**S-100**
Stream Comments:		Projected path is to send to ORNL on the Oak Ridge Reservation.													

Hanford Outgoing - Spent Nuclear Fuel (SNF)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
SNF	1494	Dry Sodium Bonded Fuel	HASI	ANLW	~~2005~~	0.31	100 %	0.31	MTHM						
					2007					**8**	**2**		**TYP B Qty**	**Type B**	**T-3 Cask**

Transportation Comments: Shipping details TBD prior to material being transloaded and shipped to INEL in FY05.
Stream Comments: Material to be transloaded and shipped to INEL FY03.
Barrier Comments: Hanford has concerns that ANL-W may not be ready to receive, handle, and process the Na bonded fuel in compliance with existing negotiated milestones. The shipping schedule has not been established yet but will be fixed based on negotiated milestones. There is R&D (on-going or planned) associated with this SNF, that is not already identified by an STCG need (i.e., EM-50 operational projects funded out of EM-30, EM-40, or EM-60). Activities are being conducted at various locations to benefit disposal considerations for spent fuel. These include SNF characterization activities at Hanford, metallic fuel oxidation rate tests at ANL-W and ORNL, leach rate tests at ANL-E & PNL, EMT processing at ANL-W, and poison dispersion and co-disposal repository waste forms.

Hanford Outgoing - Spent Nuclear Fuel (SNF)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
SNF	1491	Dry Low Exposure Fuel	HASI	GRD			100 %		MTHM						

Transportation Comments: Shipping details are TBD pending Geologic Repository details.

Stream Comments: 0.6 MTHM of FFTF fuel was not irradiated enough to be self-protecting, so will require extra security storage at PFP. RE: # of Vehicle Trips: "-1" used to identify "TBD."

This fuel was moved to PFP in 1997 so the future disposition quantities associated with this stream have been adjusted to 0.

Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: There is R&D (on-going or planned) associated with this SNF, that is not already identified by an STCG need (i.e., EM-50 operational projects funded out of EM-30, EM-40, or EM-60). Activities are being conducted at various locations to benefit disposal considerations for spent fuel. These include SNF characterization activities at Hanford, metallic fuel oxidation rate tests at ANL-W and ORNL, leach rate tests at ANL-E & PNL, EMT processing at ANL-W, and poison dispersion and co-disposal repository waste forms.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
SNF	1498	PFP Miscellaneous SNF	HASI	~~GRD~~	~~2006~~	0.008	100 %	0.008	MTHM						
				TBD	**2007**					**1**					**TBD - requires comment**

Transportation Comments: Shipping details are TBD pending Geologic Repository details.

Stream Comments: 0.008 MTHM does not show up as decimal was set at one digit. HQ will expand form to 3rd decimal. Material to be repackaged in FY06. 0.6 MTHM to be received from FFTF in FY00 for secure interim storage. RE: # of Vehicle Trips: "-1" used to identify "TBD"

Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: There is R&D (on-going or planned) associated with this SNF, that is not already identified by an STCG need (i.e., EM-50 operational projects funded out of EM-30, EM-40, or EM-60). Activities are being conducted at various locations to benefit disposal considerations for spent fuel. These include SNF characterization activities at Hanford, metallic fuel oxidation rate tests at ANL-W and ORNL, leach rate tests at ANL-E & PNL, EMT processing at ANL-W, and poison dispersion and co-disposal repository waste forms.

Hanford Outgoing - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	1950	CH TRU from Hanford	HASI	WIPP	2001	~~34~~	100 %	~~34~~	M3	~~12~~	~~36~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						61.7		**61.7**		**7**	**22**				**TRUPACT-II**
					2002	~~41~~	100 %	~~41~~	M3	~~59~~	~~177~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						0		**0**		**0**	**0**				**TRUPACT-II**
					2003	~~165~~	100 %	~~165~~	M3	~~59~~	~~177~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						82		**82**		**12**	**29**				**TRUPACT-II**
					2004	~~359~~	100 %	~~359~~	M3	~~73~~	~~219~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						117		**117**		**16**	**41**				**TRUPACT-II**
					2005	~~462~~	100 %	~~462~~	M3	~~78~~	~~234~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						144		**144**		**20**	**50**				**TRUPACT-II**
					2006	~~479~~	100 %	~~479~~	M3	~~101~~	~~303~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						204		**204**		**28**	**71**				**TRUPACT-II**
					2007	~~442~~	100 %	~~442~~	M3	~~91~~	~~273~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						275		**275**		**38**	**95**				**TRUPACT-II**
					2008	~~444~~	100 %	~~444~~	M3	~~72~~	~~216~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						499		**499**		**68**	**173**				**TRUPACT-II**

Hanford Outgoing - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2009	~~449~~	100 %	~~449~~	M3	~~84~~	~~252~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						749		**749**		**102**	**259**				**TRUPACT-II**
					2010	~~447~~	100 %	447	M3	~~93~~	~~279~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						900		**900**		**122**	**311**				**TRUPACT-II**

Stream Comments: Total volumes to be disposed at WIPP and the site disposition schedule differ due to the sites using different baseline assumptions. Disposition schedules vary because of the need to maintain receipts within WIPP receipt limit of 850 shipments per year. Hanford changes over shipping data are in FY04 and F05. The number of shipment values are provided by Hanford.

Attachment 2

HANFORD SITE
TYPE B AND TYPE A-FISSILE
PACKAGING BASELINE

10 May 2002

Hanford

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
2002-2004	Commercial - TBD	NM-AmCm		S-100	**No** / Yes	Potential S-100 Pipe Overpack Component developed by OSRP.
2002-2004	Los Alamos	NM-Am-241	1	S-100	**No** / Yes	Potential S-100 Pipe Overpack Component developed by OSRP.
2002-2004	Los Alamos	NM-AmCm		S-100	**No** / Yes	Potential S-100 Pipe Overpack Component developed by OSRP.
2002-2004	Los Alamos	NM-BkCf	1	S-100	**No** / Yes	Potential S-100 Pipe Overpack Component developed by OSRP.
2002-2004	Los Alamos	NM-NISS	1	S-100	**No** / Yes	Potential S-100 Pipe Overpack Component developed by OSRP. Contains Pu-238 and Pu-239.
2002-2004	Los Alamos	NM-Np-237	1	S-100	**No** / Yes	Potential S-100 Pipe Overpack Component developed by OSRP.
2002-2004	Oak Ridge	NM-Am-241	1	S-100	**No** / Yes	Potential S-100 Pipe Overpack Component developed by OSRP.
2002-2004	Oak Ridge	NM-AmCm	1	S-100	**No** / Yes	Potential S-100 Pipe Overpack Component developed by OSRP.
2002-2004	Oak Ridge	NM-AmCm	1	S-100	**No** / Yes	Potential S-100 Pipe Overpack Component developed by OSRP.
2002-2004	Oak Ridge	NM-AmCm	1	S-100	**No** / Yes	Potential S-100 Pipe Overpack Component developed by OSRP.
2002-2004	Oak Ridge	NM-BkCf	1	S-100	**No** / Yes	Potential S-100 Pipe Overpack Component developed by OSRP.
2002-2004	Oak Ridge	NM-NISS	1	S-100	**No** / Yes	Potential S-100 Pipe Overpack Component developed by OSRP.
2002-2004	Oak Ridge	NM-NISS	1	S-100	**No** / Yes	Potential S-100 Pipe Overpack Component developed by OSRP. Contains Californium and Curium 246.

Hanford

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
2002-2004	Oak Ridge	NM-Np-237	1	S-100	**No** / Yes	Potential S-100 Pipe Overpack Component developed by OSRP.
2007	Argonne West	SNF	8	T-3 Cask	**No** / Yes	
2007	**TBD**	SNF	1	**TBD**	**-** / **-**	
TBD	Los Alamos	NM-NISS		S-100	**No** / Yes	
TBD	Oak Ridge	NM-NISS		S-100	**No** / Yes	

The DOT-6M container is being removed from DOE nuclear materials transport service in the SST and may soon be discontinued for any DOE transportation use altogether. The new 9975 certification/supporting SARP does not allow Hanford to ship SNM in its current 3013 container configuration. RL is working with SR to include the Hanford 3013 packaging configuration in the next revision to the 9975 SARP.

We are also pursuing including Hanford SNM forms and packaging into the LANL-designed SAFKEG as it moves toward certification. For onsite shipments of materials transferred to the CWC and ultimately to WIPP, we have the established an operational Pipe Overpack Process at PFP.

The biggest problem is getting a shipping container certified for differing material types and forms whose packaging is in excess of 20 curies of activity. Certification for the 9975 container has taken over 3 years and is still highly restrictive on contents and packaging configurations.

- 9975 Certificate of Compliance USA/9975/B(M)F-85 needs to be certified for Hanford 3013 Packaging.
- SAFKEG 3940A needs to be certified for Hanford contents and packaging configurations.

A combined total of 500 SAFEKEG and 9975 will be purchased in FY 2006. When emptied at SRS, they will be returned to RL to be loaded and shipped again.

Attachment 3

HANFORD SITE
TRANSPORTATION BASELINE SUMMARY

10 May 2002

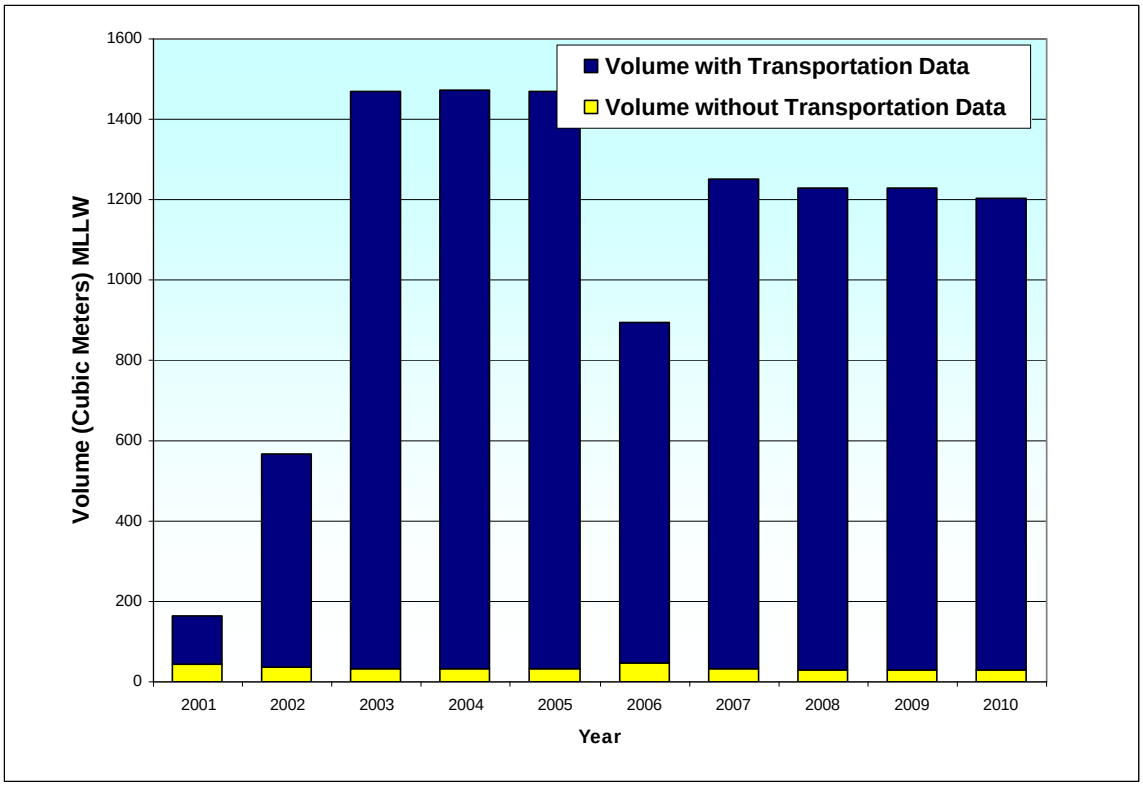


Figure 1. Quantity of MLLW to be shipped by year through 2010

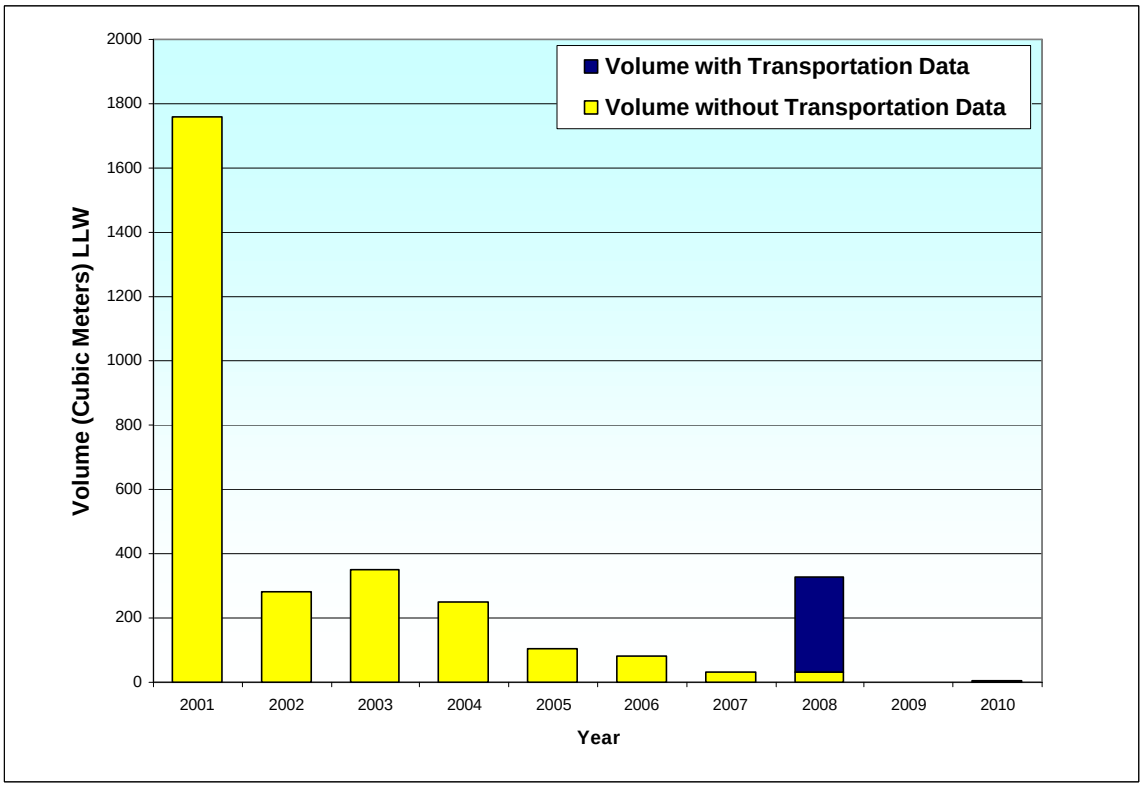


Figure 2. Quantity of LLW to be shipped by year through 2010

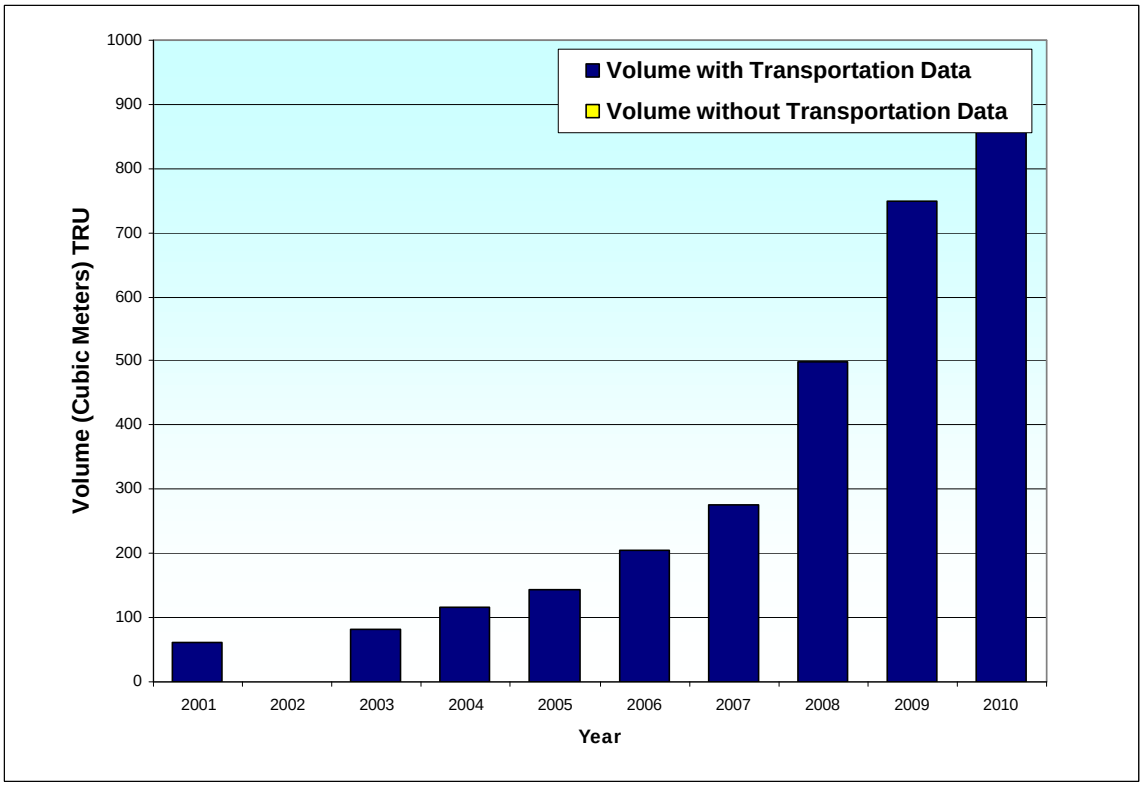


Figure 3. Quantity of TRU to be shipped by year through 2010

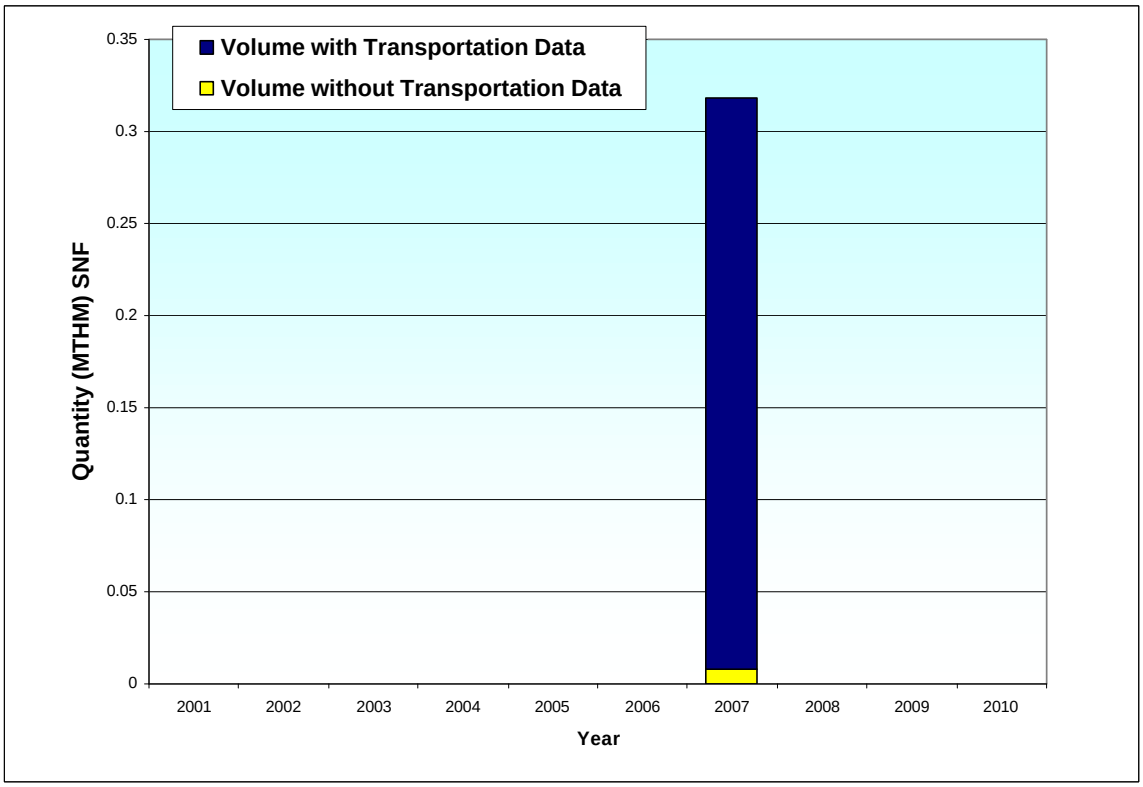
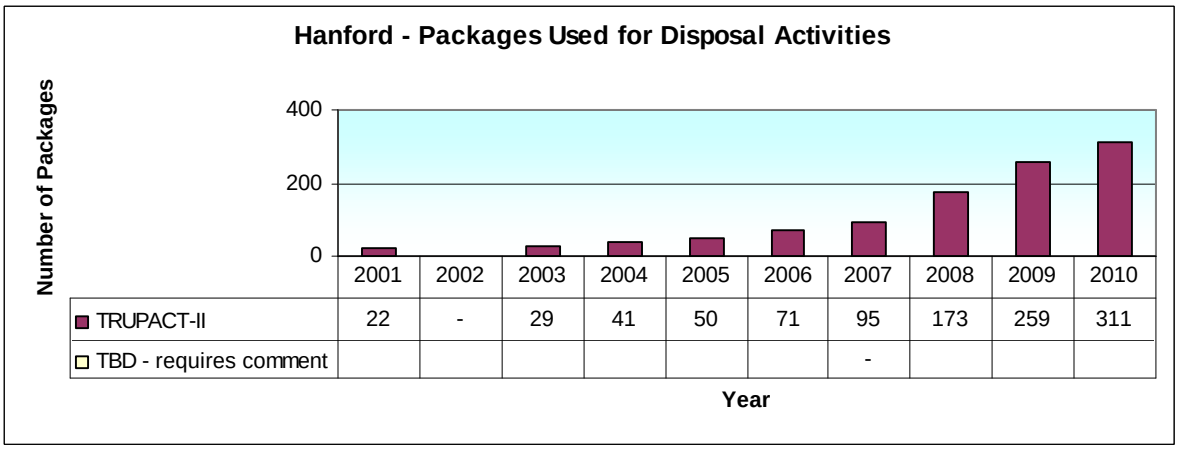
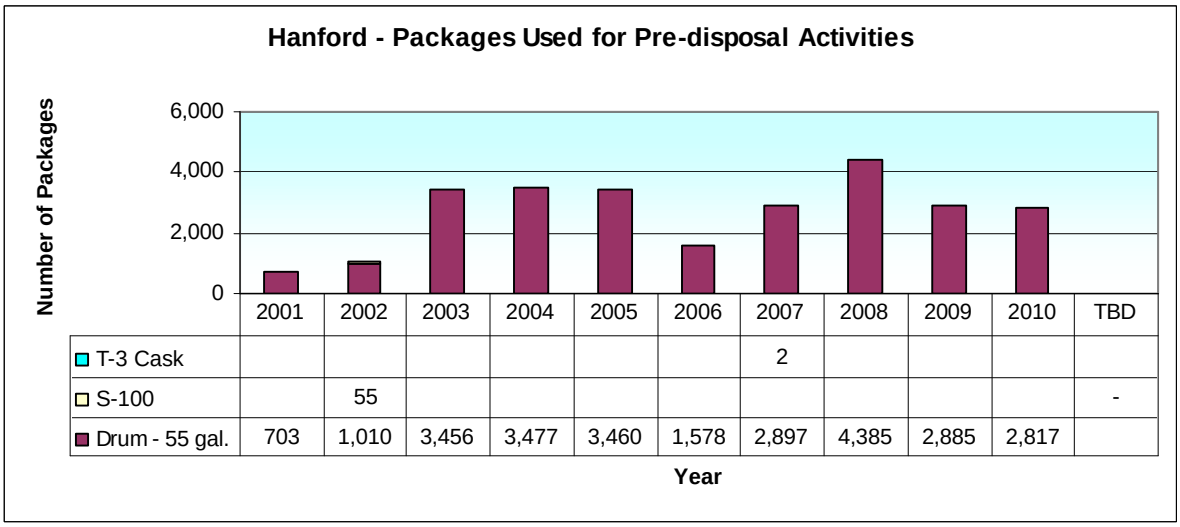


Figure 4. Quantity of SNF to be shipped by year through 2010



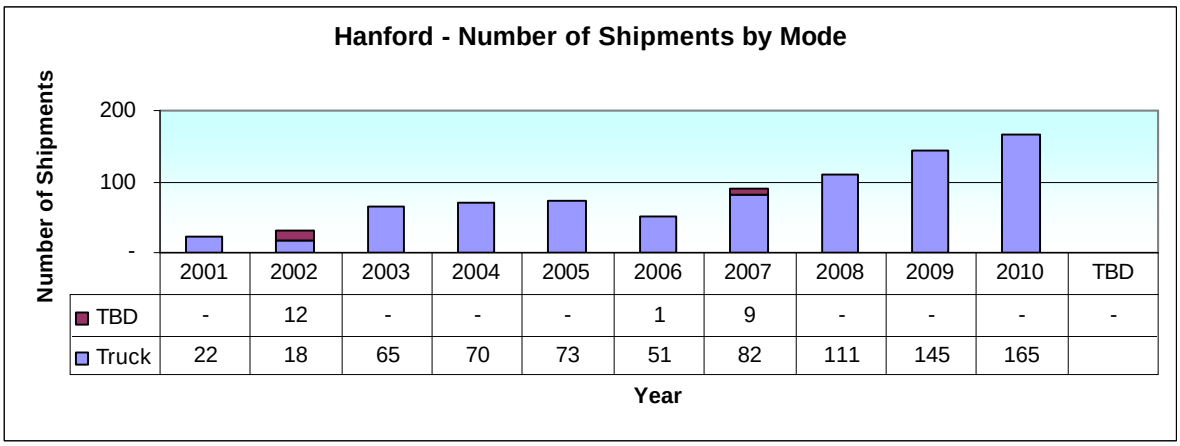
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TRUPACT-II	22	-	29	41	50	71	95	173	259	311
TBD - requires comment							-			

Figure 5. Number of packages to be shipped to disposal.



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TBD
T-3 Cask							2				
S-100		55									-
Drum - 55 gal.	703	1,010	3,456	3,477	3,460	1,578	2,897	4,385	2,885	2,817	

Figure 6. Number of packages to be used for pre-disposal activities.



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TBD
TBD	-	12	-	-	-	1	9	-	-	-	-
Truck	22	18	65	70	73	51	82	111	145	165	

Figure 7. Number of shipments by mode.

Attachment 4

HANFORD SITE
TRANSPORTATION ACTIVITY MAPS

10 May 2002

Stream 1553

From: Hanford → **To:** Commercial - TBD

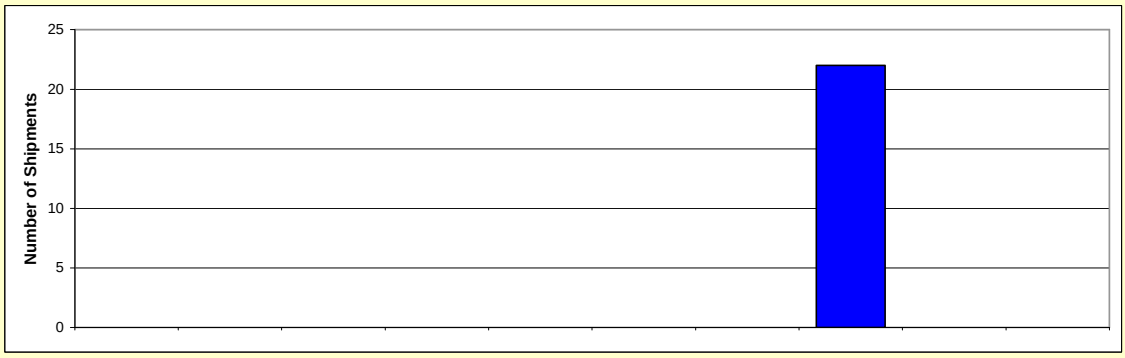
Stream Name: LLW Cat 1 Liquids

Waste/Mat'l Type: LLW

Road Ready:
Volume
Packages

Reported By: Hanford

Map: LLW



Profile 1

Units:	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
# of Shipments:								22		
Units: M3 Volume:								299		
Package Type:								Type A/IP-3		
Package:								Drum 55 gal (0.20		
Package Capacity:								0.208		
# of Packages (Calculated):								1438		
# of Packages (Specified):								1438		
DOT Category:								TYP A Qty		
Mode:								Truck		

Stream 1559

From: Commercial - TBD → **To:** Hanford

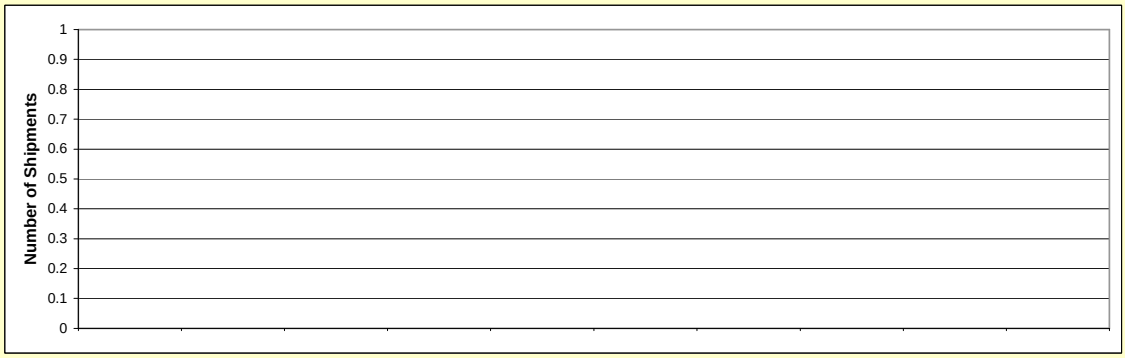
Stream Name: LLW Treated Liquid to Disp

Waste/Mat'l Type: LLW

Road Ready:
Volume
Packages

Reported By: Hanford

Map: LLW



Profile 1

Units:	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
# of Shipments:										
Units: M3 Volume:								299		
Package Type:										
Package:										
Package Capacity:										
# of Packages (Calculated):										
# of Packages (Specified):										
DOT Category:										
Mode:										

Stream 1578

From: Hanford → **To:** WIPP

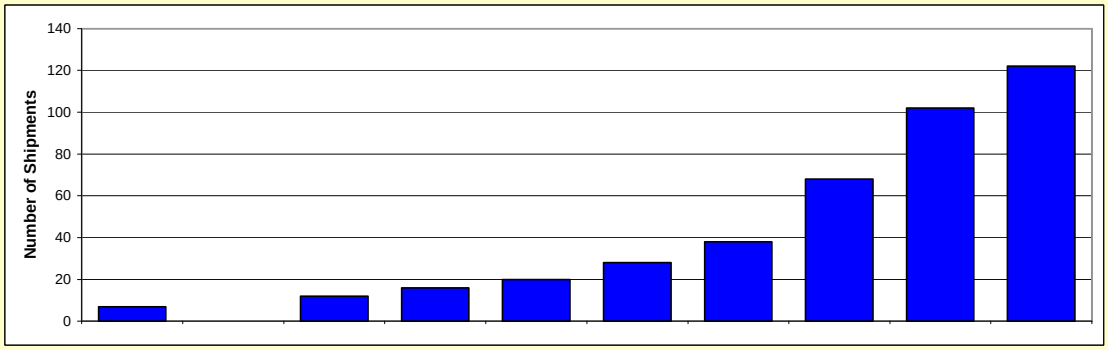
Stream Name: WRAP Product Available to WIPP

Waste/Mat'l Type: TRU

Road Ready:
Volume
Packages

Reported By: Hanford

Map: TRU



Profile 1

Units:	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
# of Shipments:	7		12	16	20	28	38	68	102	122
Units: M3 Volume:	61.7		82	117	144	204	275	499	749	900
Package Type:	Type B		Type B	Type B	Type B	Type B	Type B	Type B	Type B	Type B
Package:	Cask - TRUPACT-		Cask - TRUPACT-	Cask - TRUPACT-	Cask - TRUPACT-	Cask - TRUPACT-	Cask - TRUPACT-	Cask - TRUPACT-	Cask - TRUPACT-	Cask - TRUPACT-II (2.9
Package Capacity:	2.9		2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
# of Packages (Calculated):	22		29	41	50	71	95	173	259	311
# of Packages (Specified):	21		36	48	60	84	114	204	306	366
DOT Category:	LSA1		LSA1	LSA1	LSA1	LSA1	LSA1	LSA1	LSA1	LSA1
Mode:	Truck		Truck	Truck	Truck	Truck	Truck	Truck	Truck	Truck

Stream 2123

From: Hanford → **To:** Commercial - TBD

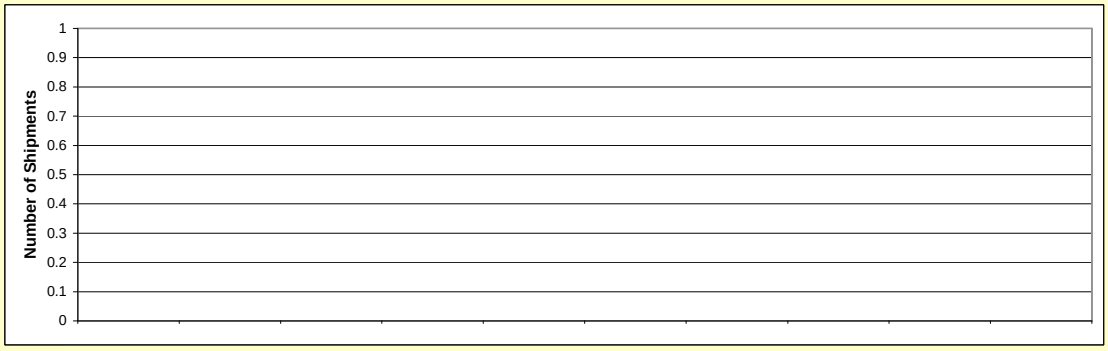
Stream Name: GW Treatment Residue to Commercial

Waste/Mat'l Type: MLLW

Road Ready:
Volume
Packages

Reported By: Hanford

Map: ER



Profile 1

Units:	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
# of Shipments:										
Units: M3 Volume:	30	30	30	30	30	30	30	30	30	30
Package Type:										
Package:										
Package Capacity:										
# of Packages (Calculated):										
# of Packages (Specified):										
DOT Category:										
Mode:										

Stream 3470

From: Hanford → **To:** Commercial - TBD

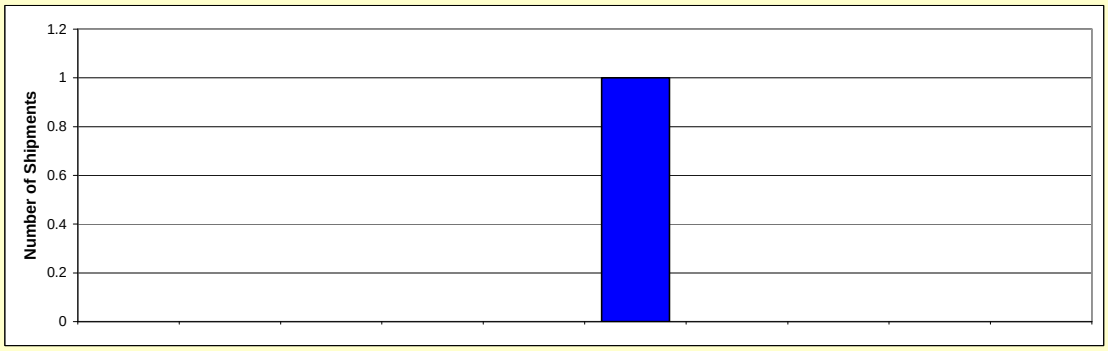
Stream Name: Commercial stabilization feed

Waste/Mat'l Type: MLLW

Road Ready:
Volume
Packages

Reported By: Hanford

Map: MLLW



Profile 1

Units:	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
# of Shipments:						1				
Units: M3 Volume:						16				
Package Type:						Type A/IP-3				
Package:						Drum 55 gal (0.20				
Package Capacity:						0.208				
# of Packages (Calculated):						77				
# of Packages (Specified):						77				
DOT Category:						TYP A Qty				
Mode:						Truck				

Stream 3476

From: Commercial - TBD → **To:** TBD - Off-Site

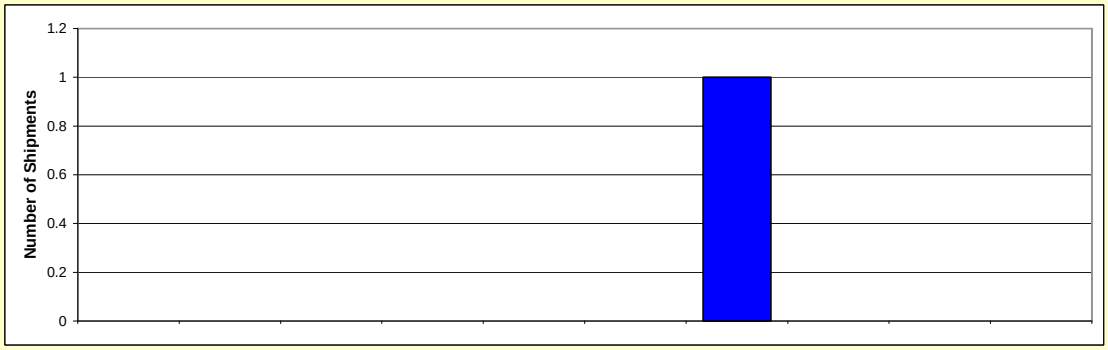
Stream Name: BCL treated waste from commercial stabilization

Waste/Mat'l Type: MLLW

Road Ready:
Volume
Packages

Reported By: Hanford

Map: MLLW



Profile 1

Units:	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
# of Shipments:							1			
Units: M3 Volume:							13			
Package Type:							STC/IP-1			
Package:							Box 4x4x6 (2.7 M			
Package Capacity:							2.7			
# of Packages (Calculated):							5			
# of Packages (Specified):							5			
DOT Category:							LSA1			
Mode:							Truck			

Stream 3477

From: Commercial - TBD → **To:** Hanford

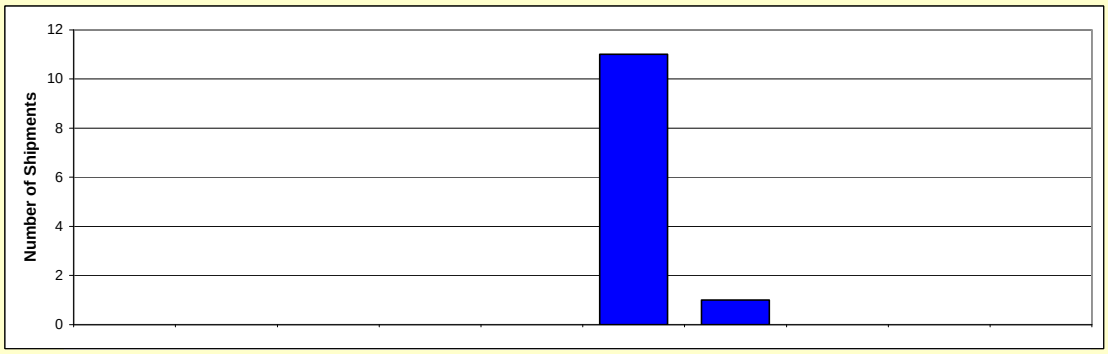
Stream Name: Treated waste from commercial stabilization

Waste/Mat'l Type: MLLW

Road Ready:
Volume
Packages

Reported By: Hanford

Map: MLLW



Profile 1

Units:	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
# of Shipments:						11	1			
Units: M3 Volume:						225	15			
Package Type:						STC/IP-1	STC/IP-1			
Package:						Box 4x4x6 (2.7 M	Box 4x4x6 (2.7 M			
Package Capacity:						2.7	2.7			
# of Packages (Calculated):						84	6			
# of Packages (Specified):						90	6			
DOT Category:						LSA1	LSA1			
Mode:						Truck	Truck			

Stream 3478

From: Commercial - TBD → **To:** TBD - Off-Site

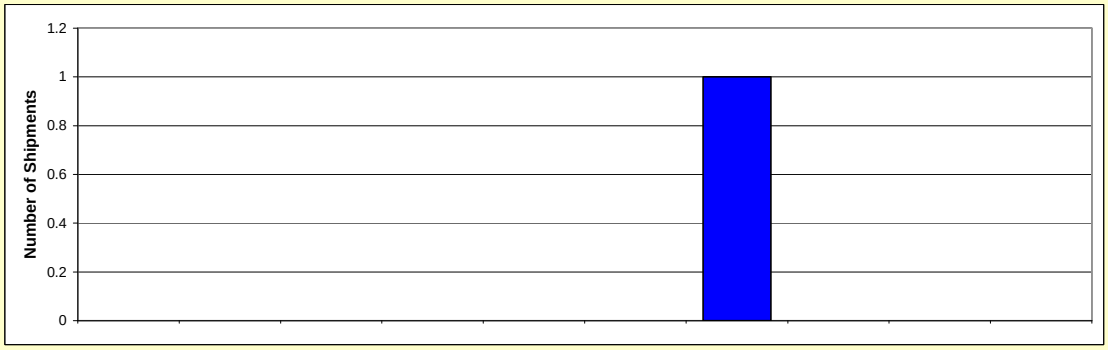
Stream Name: BAPL treated waste from stab/debris treatment

Waste/Mat'l Type: MLLW

Road Ready:
Volume
Packages

Reported By: Hanford

Map: MLLW



Profile 1

Units:	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
# of Shipments:							1			
Units: M3 Volume:							3.9			
Package Type:							STC/IP-1			
Package:							Box 4x4x6 (2.7 M			
Package Capacity:							2.7			
# of Packages (Calculated):							2			
# of Packages (Specified):							2			
DOT Category:							LSA1			
Mode:							Truck			

Stream 3479

From: Hanford → **To:** TBD - Off-Site

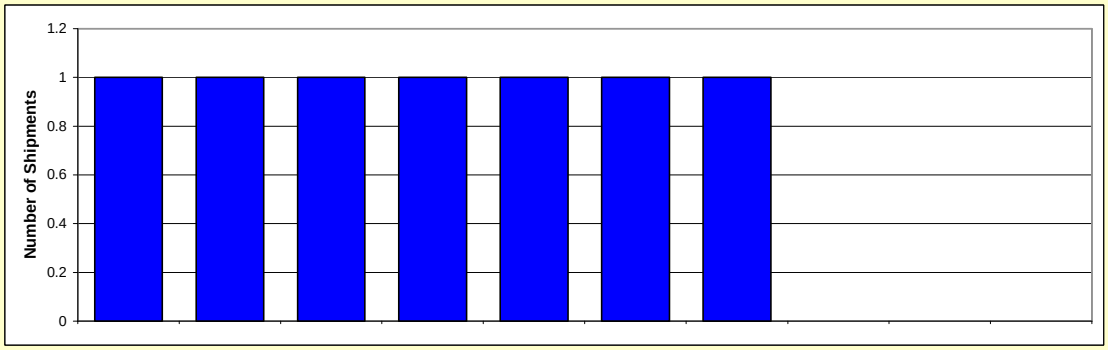
Stream Name: KAPL treated waste from stab/debris treatment

Waste/Mat'l Type: MLLW

Road Ready:
Volume
Packages

Reported By: Hanford

Map: MLLW



Profile 1

Units:	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
# of Shipments:	1	1	1	1	1	1	1			
Units: M3 Volume:	0.2	0.2	1.9	2.3	2.5	2.3	2.3			
Package Type:	Type A/IP-3	Type A/IP-3	Type A/IP-3	Type A/IP-3	Type A/IP-3	Type A/IP-3	Type A/IP-3			
Package:	Drum 55 gal (0.20	Drum 55 gal (0.20	Drum 55 gal (0.20	Drum 55 gal (0.20	Drum 55 gal (0.20	Drum 55 gal (0.20	Drum 55 gal (0.20			
Package Capacity:	0.208	0.208	0.208	0.208	0.208	0.208	0.208			
# of Packages (Calculated):	1	1	10	12	13	12	12			
# of Packages (Specified):	1	1	9	12	13	12	12			
DOT Category:	TYP A Qty	TYP A Qty	TYP A Qty	TYP A Qty	TYP A Qty	TYP A Qty	TYP A Qty			
Mode:	Truck	Truck	Truck	Truck	Truck	Truck	Truck			

Stream 3480

From: Hanford → **To:** TBD - Off-Site

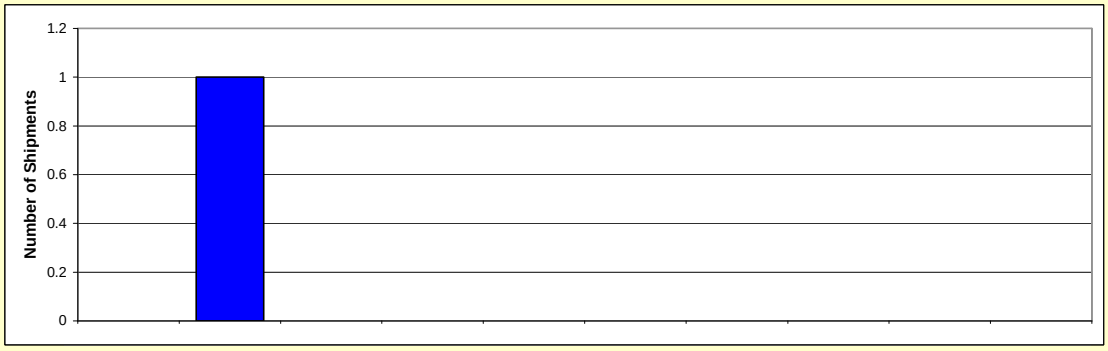
Stream Name: PHNS treated waste from stab/debris treatment

Waste/Mat'l Type: MLLW

Road Ready:
Volume
Packages

Reported By: Hanford

Map: MLLW



Profile 1

Units:	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
# of Shipments:		1								
Units: M3 Volume:		1.5								
Package Type:		Type A/IP-3								
Package:		Drum 55 gal (0.20								
Package Capacity:		0.208								
# of Packages (Calculated):		8								
# of Packages (Specified):		8								
DOT Category:		TYP A Qty								
Mode:		Truck								

Stream 3481

From: Hanford → **To:** TBD - Off-Site

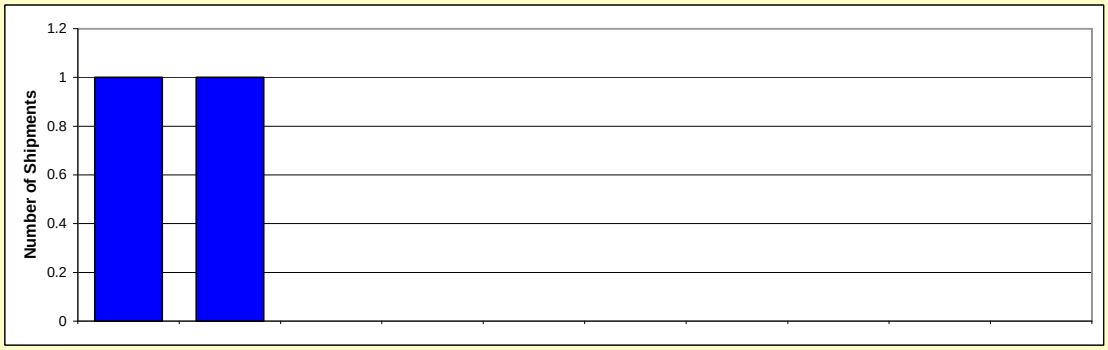
Stream Name: PNS treated waste from stab/debris treatment

Waste/Mat'l Type: MLLW

Road Ready:
Volume
Packages

Reported By: Hanford

Map: MLLW



Profile 1

Units:	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
# of Shipments:	1	1								
Units: M3 Volume:	0.2	0.2								
Package Type:	Type A/IP-3	Type A/IP-3								
Package:	Drum 55 gal (0.20	Drum 55 gal (0.20								
Package Capacity:	0.208	0.208								
# of Packages (Calculated):	1	1								
# of Packages (Specified):	1	1								
DOT Category:	TYP A Qty	TYP A Qty								
Mode:	Truck	Truck								

Stream 3482

From: Hanford → **To:** TBD - Off-Site

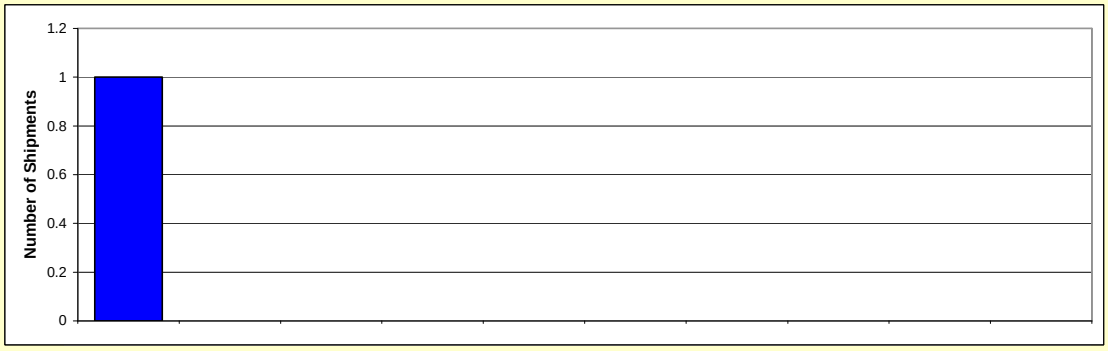
Stream Name: PSNS treated waste from stab/debris treatment

Waste/Mat'l Type: MLLW

Road Ready:
Volume
Packages

Reported By: Hanford

Map: MLLW



Profile 1

Units:	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
# of Shipments:	1									
Units: M3 Volume:	0.2									
Package Type:	Type A/IP-3									
Package:	Drum 55 gal (0.20									
Package Capacity:	0.208									
# of Packages (Calculated):	1									
# of Packages (Specified):	1									
DOT Category:	TYP A Qty									
Mode:	Truck									

Stream 3483

From: Hanford → **To:** TBD - Off-Site

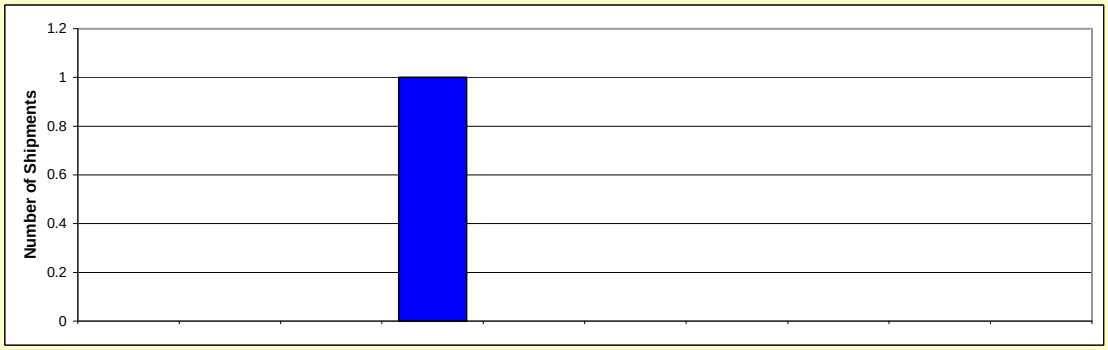
Stream Name: BCL treated waste from stab/debris treatment

Waste/Mat'l Type: MLLW

Road Ready:
Volume
Packages

Reported By: Hanford

Map: MLLW



Profile 1

Units:	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
# of Shipments:				1						
Units: M3 Volume:				3.8						
Package Type:				Type A/IP-3						
Package:				Drum 55 gal (0.20						
Package Capacity:				0.208						
# of Packages (Calculated):				19						
# of Packages (Specified):				18						
DOT Category:				TYP A Qty						
Mode:				Truck						

Stream 3486

From: Hanford → **To:** Commercial - TBD

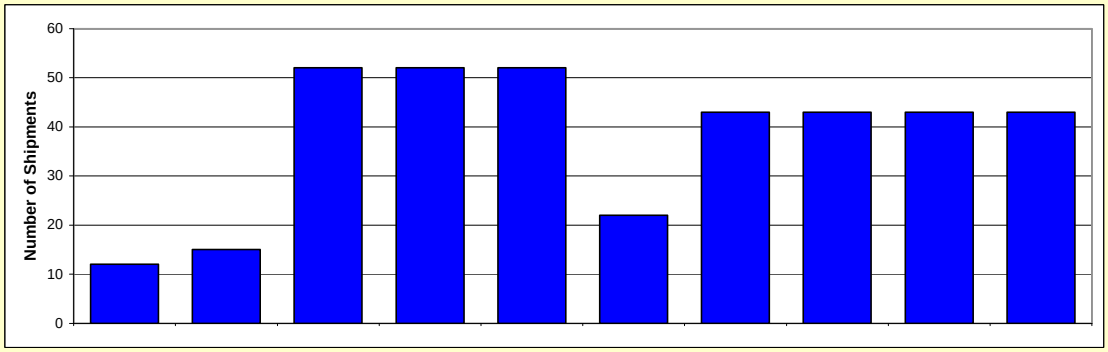
Stream Name: Feed to commercial thermal treatment

Waste/Mat'l Type: MLLW

Road Ready:
Volume
Packages

Reported By: Hanford

Map: MLLW



Profile 1

Units:	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
# of Shipments:	12	15	52	52	52	22	43	43	43	43
Units: M3 Volume:	119	264	717	717	717	310	600	600	600	586
Package Type:	Type A/IP-3	Type A/IP-3	Type A/IP-3	Type A/IP-3	Type A/IP-3	Type A/IP-3	Type A/IP-3	Type A/IP-3	Type A/IP-3	Type A/IP-3
Package:	Drum 55 gal (0.20	Drum 55 gal (0.20	Drum 55 gal (0.20	Drum 55 gal (0.20	Drum 55 gal (0.20	Drum 55 gal (0.20	Drum 55 gal (0.20	Drum 55 gal (0.20	Drum 55 gal (0.20	Drum 55 gal (0.208 M3)
Package Capacity:	0.208	0.208	0.208	0.208	0.208	0.208	0.208	0.208	0.208	0.208
# of Packages (Calculated):	573	1270	3448	3448	3448	1491	2885	2885	2885	2818
# of Packages (Specified):	700	1000	3447	3447	3447	1489	2885	2885	2885	2817
DOT Category:	TYP A Qty	TYP A Qty	TYP A Qty	TYP A Qty	TYP A Qty	TYP A Qty	TYP A Qty	TYP A Qty	TYP A Qty	TYP A Qty
Mode:	Truck	Truck	Truck	Truck	Truck	Truck	Truck	Truck	Truck	Truck

Stream 3489

From: Commercial - TBD → **To:** Hanford

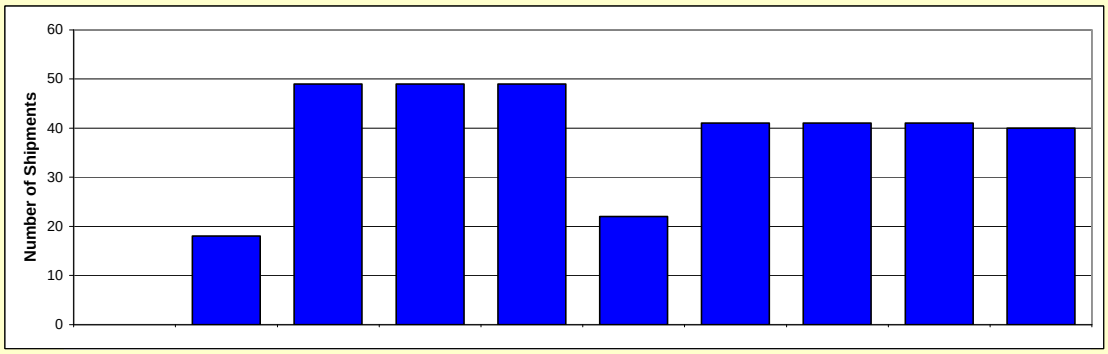
Stream Name: Treated waste from commercial thermal treatment

Waste/Mat'l Type: MLLW

Road Ready:
Volume
Packages

Reported By: Hanford

Map: MLLW



Profile 1

Units:	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
# of Shipments:		18	49	49	49	22	41	41	41	40
Units: M3 Volume:		264	717	717	717	310	600	600	600	586
Package Type:		STC/IP-2	STC/IP-3	STC/IP-4	STC/IP-5	STC/IP-6	STC/IP-7	STC/IP-8	STC/IP-9	STC/IP-10
Package:		Box 4x4x6 (2.7 M	Box 4x4x6 (2.7 M	Box 4x4x6 (2.7 M	Box 4x4x6 (2.7 M	Box 4x4x6 (2.7 M	Box 4x4x6 (2.7 M	Box 4x4x6 (2.7 M	Box 4x4x6 (2.7 M	Box 4x4x6 (2.7 M3)
Package Capacity:		2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
# of Packages (Calculated):		98	266	266	266	115	223	223	223	218
# of Packages (Specified):		90	245	245	245	106	205	205	205	200
DOT Category:		LSA1	LSA1	LSA1	LSA1	LSA1	LSA1	LSA1	LSA1	LSA1
Mode:		Truck	Truck	Truck	Truck	Truck	Truck	Truck	Truck	Truck

Stream 1494

From: Hanford → **To:** Argonne West

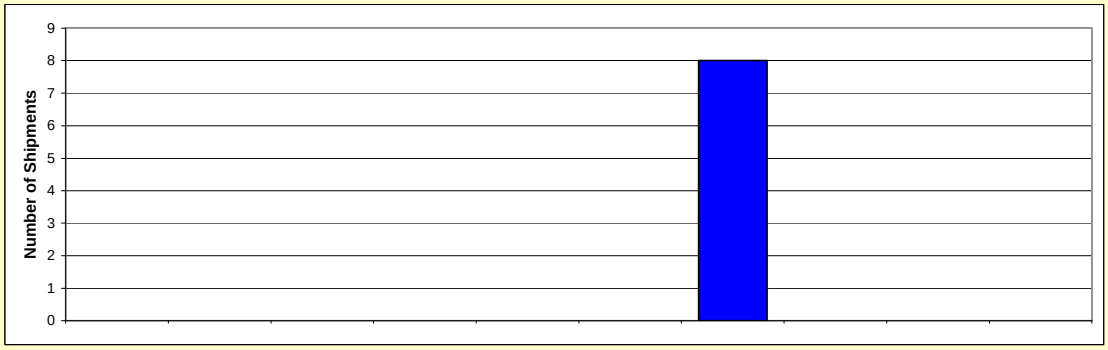
Stream Name: Dry Sodium Bonded Fuel

Waste/Mat'l Type: SNF

Road Ready:
Volume
Packages

Reported By: Hanford

Map: SNF



Profile 1

Units:	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
# of Shipments:							8			
Units: MTHM Volume:							0.31			
Package Type:										
Package:							T-3 Cask			
Package Capacity:										
# of Packages (Calculated):										
# of Packages (Specified):							2			
DOT Category:										
Mode:										

Stream 1498

From: Hanford → **To:** Repository

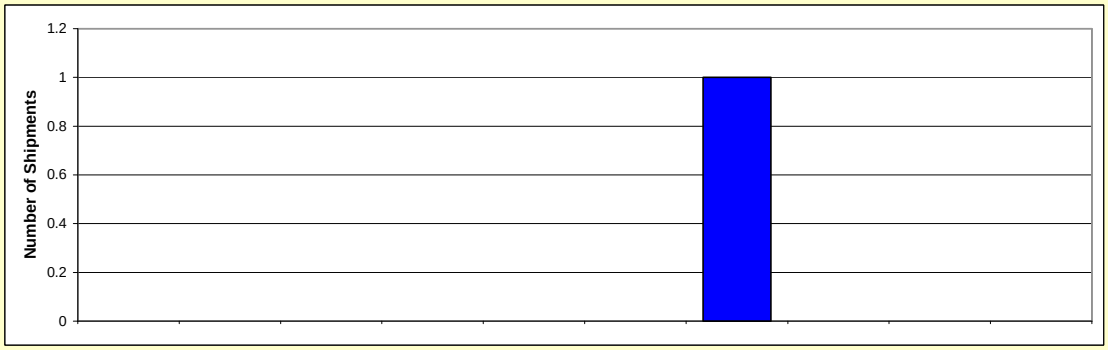
Stream Name: PFP Miscellaneous SNF

Waste/Mat'l Type: SNF

Road Ready:
- Volume
- Packages

Reported By: Hanford

Map: SNF



Profile 1

Units:	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
# of Shipments:							1			
Units: MTHM Volume:							0.008			
Package Type:										
Package:							TBD			
Package Capacity:										
# of Packages (Calculated):										
# of Packages (Specified):										
DOT Category:										
Mode:										

Idaho National Engineering and Environmental Laboratory
ENHANCED BASELINE TRANSPORTATION DATA

This section presents and discusses the four updated and enhanced basic data sets obtained through the data gathering activities.

Idaho National Engineering and Environmental Laboratory Enhanced Baseline

Idaho National Engineering and Environmental Laboratory (INEEL) Enhanced Baseline data is presented in **Attachment 1**. (Note that data from the original IPABS database is printed in black while additional and corrected data is printed in red. Additionally, both INEEL and WIPP TRU data are displayed for comparative purposes.) This information was compiled based on the 2001 IPABS database and was updated and enhanced with data from the WIPP National TRU Management Plan, Revision 3 (March, 2002) and discussions with INEEL personnel.

It should be noted that for shipments where reusable packagings are used, the number of packages (# Pkgs) is assumed to actually be number of package trips. The term "package trip" is defined as a single package shipped from origin to destination (and returned if appropriate).

Comparison of the 2001 IPABS data with the Enhanced Baseline is displayed below in **Table 1**.

Waste/ Material	Transportation Activity	2001 IPABS Data	Enhanced Baseline	Change (approximate)
SNF	Packages	660	37	18X decrease
LLW	Packages	2531	3348	0.3X increase
MLLW	Packages	793	7808	10X increase
TRU	Packages	12,141	12,911	0.6X increase
SNF	Shipments	263	195	0.4X decrease
LLW	Shipments	269	438	0.6X increase
MLLW	Shipments	10	226	23X increase
TRU	Shipments	3,195	4,238	0.3X increase

Table 1. Comparison of 2001 IPABS data and Enhanced Baseline

The volume of waste and material to be shipped over the 2001 – 2010 time period was unchanged from the 2001 IPABS data to the Enhanced Baseline. The nuclear material data is not compared in the above table since there is no data entered in IPABS.

The improvements in the data came from a review by subject matter experts. This review resulted in the update of data and the addition of missing transportation data. Some of the data changes may also be attributed to factors such as funding and priorities changing over time and having an impact on planned shipments. The National Transportation program will trend the planned versus actual data to determine the need for further improvements in planning and data collection. However, forecasting methods and assumptions should continue to be reviewed to explore areas for improved forecasting.

Idaho National Engineering and Environmental Laboratory Type B and Type A-Fissile Packaging Baseline

The INEEL Type B and Type A-Fissile Packaging Baseline (**Attachment 2**) updates and fills gaps in the INEEL data from the October 9, 2001 *NTP Type B and Type A Fissile Packaging Report*. The table displays by year the spent nuclear fuel and nuclear material to be shipped, the package type, destination, and the expected number of shipments. The HFEF-6 and Peach Bottom transportation casks need to be certified for their planned contents. In addition to these two casks, a packaging needs to be identified for the off-site shipment of MTR Canal Test Fuel. Further discussion is found in the comments section of the table in **Attachment 2**.

There are other programs, in addition to EM, planning to use Type B and Type A-Fissile packaging. Although non-EM transportation activities are beyond the scope of this Forecast, the packagings planned for use through 2010 for the INEEL's non-EM programs are included in **Appendix B** for information.

Planned vs. Actual FY 2001 Shipments

Actual numbers of shipments made in Type B packaging, as provided by INEEL personnel are compared with those entered as planned for FY 2001 in the IPABS database (**Table 2**). The purposes of the comparisons in this table are to gauge the success of executing plans, to investigate methods to improve planning, and to determine whether key clean up and closure milestones are being threatened. Included in the table are some non-EM shipments and receipts. These are identified by "Non-EM" in the 'Stream No.' column. The non-EM shipments are included for information; given they have the minimum potential to impact EM transportation resources.

The planned and actual shipments made were equal for FY01 for all but one case. The one case was the shipment of the West Valley spent nuclear fuel and the conditions were beyond the control of the project, as noted in the comments of **Table 2**. The comparison of the planned vs. actual shipments indicates well planned and executed shipments. At this point of the INEEL's shipping campaigns, there is no problematic back log of shipments. Therefore, planning assumptions have been sufficient; however, if the West Valley shipment continues to be delayed there will be adverse effects on the closure of West Valley.

Stream No.	Name	Material Type	FY01 Planned Shipments/ Receipts	FY01 Actual Shipments/ Receipts	Comments
00718	TMI-2	SNF	27	27	
02299	FRR	SNF	3	3	
02303	BRP & REG	SNF	2	0	Shipment postponed due to DOE focus on getting TRU waste shipments from INEEL to WIPP back on schedule.
Non-	RERTR-5	Fuel	1	1	

Stream No.	Name	Material Type	FY01 Planned Shipments/ Receipts	FY01 Actual Shipments/ Receipts	Comments
EM		Experiment			
Non-EM	Np-237	Pu-238 Production Experiment	2	2	Receipt of unirradiated experiment; shipment of irradiated experiment.
Non-EM	RERTR-4	Fuel Experiment	1	1	
Non-EM	JAPEIC	Materials Experiment	2	2	
Non-EM	CANUS	Materials Experiment	2	2	
None (EM test project)	GSAK	RH-TRU Type Z Surrogate Test	1	1	Shipment of calibration drum for RH-TRU program/GSAK (gamma ray spectroscopy and acceptable knowledge)

Table 2. Planned vs. Actual Shipments

ENHANCED BASELINE ANALYSIS

This section presents and discusses the enhanced data presentations that were developed through processing and analyzing the above data products. The intent of the analyses was to facilitate long-range planning and evaluate the feasibility of executing planned shipping activities.

Transportation Baseline Summary

The Transportation Baseline Summary section provides the reader with an indication of the volume of shipments, when they are being shipped, what the material is, and what packaging is planned. Although the other data analyses in this Forecast have focused on Type B or Type A-Fissile packaging, the Transportation Baseline Summary includes all transportation. This Baseline, along with the detailed view provided by the Transportation Activity Maps, is the basis for determining if the transportation systems, packages, and schedules can accommodate the Transportation Forecast.

The INEEL Transportation Baseline Summary, **Figures 1-4** (**Attachment 3**), depict MLLW, LLW, TRU, and SNF volumes involved in transportation activities through 2010. Nuclear material volumes are not shown due to classification and there is no summary for high-level waste since it is not shipped in the time frame being analyzed. The summary charts are intended to give a ten-year rolling view and will be updated accordingly. The charts show in yellow, the amount of waste that still has incomplete transportation data. This is waste that has a reported volume but has no associated packaging type, number of shipments, transportation mode, etc. (Note: The TRU data displayed in **Attachment 2** compares reported data from both WIPP and the INEEL. The summary chart displaying TRU data was populated from the INEEL data.)

Figures 5 and 6 (**Attachment 3**) show the total transportation required for treatment activities and for disposal activities, illustrating the dual role transportation may play in the disposition of waste and material. Some waste/material streams must be transported to an offsite facility for treatment, returned to the site for packaging, and finally shipped to a permanent disposal facility.

Figures 1 and 2, below, summarize outgoing and incoming waste and material shipments planned for the INEEL over the 2001 – 2010 time period as reported in the enhanced data set. The map depicts the destination of a set of shipments and indicates the number of shipments expected to be completed. It should be noted that in the absence of complete transportation activity profiles, numbers of shipments have been estimated as shown in yellow in the summary charts (**Attachment 3**).

Idaho National Engineering and Environmental Laboratory
Stream Disposition
2001 - 2010 Outgoing Enhanced Shipments

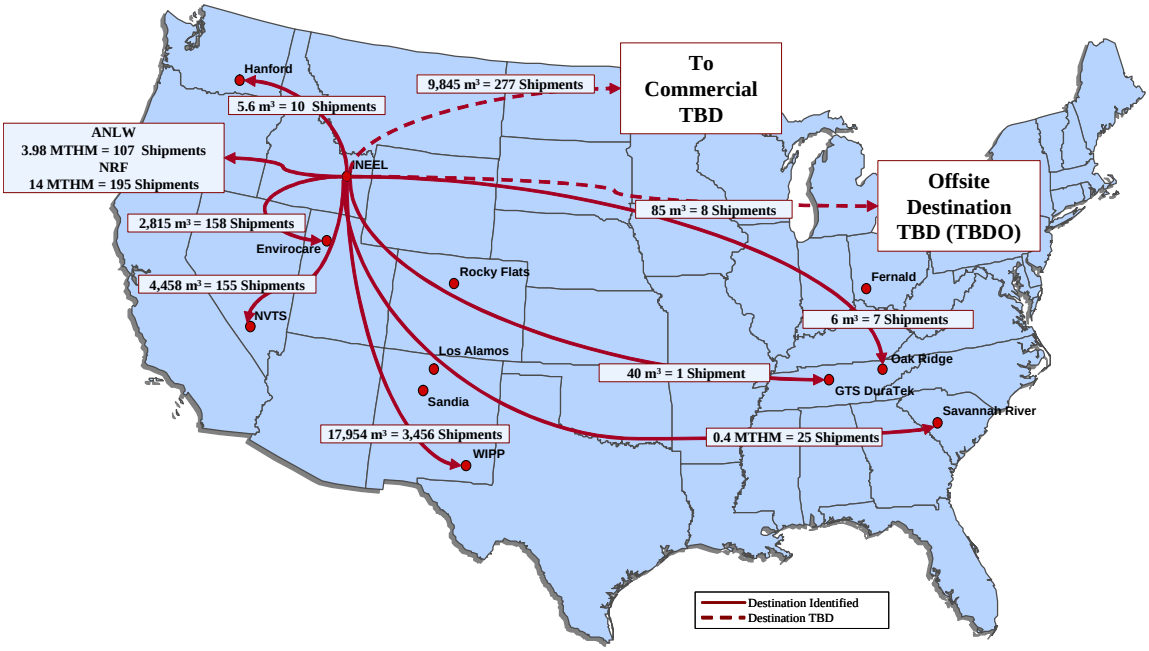


Figure 1, **Idaho National Engineering and Environmental Laboratory Outgoing Shipments.**

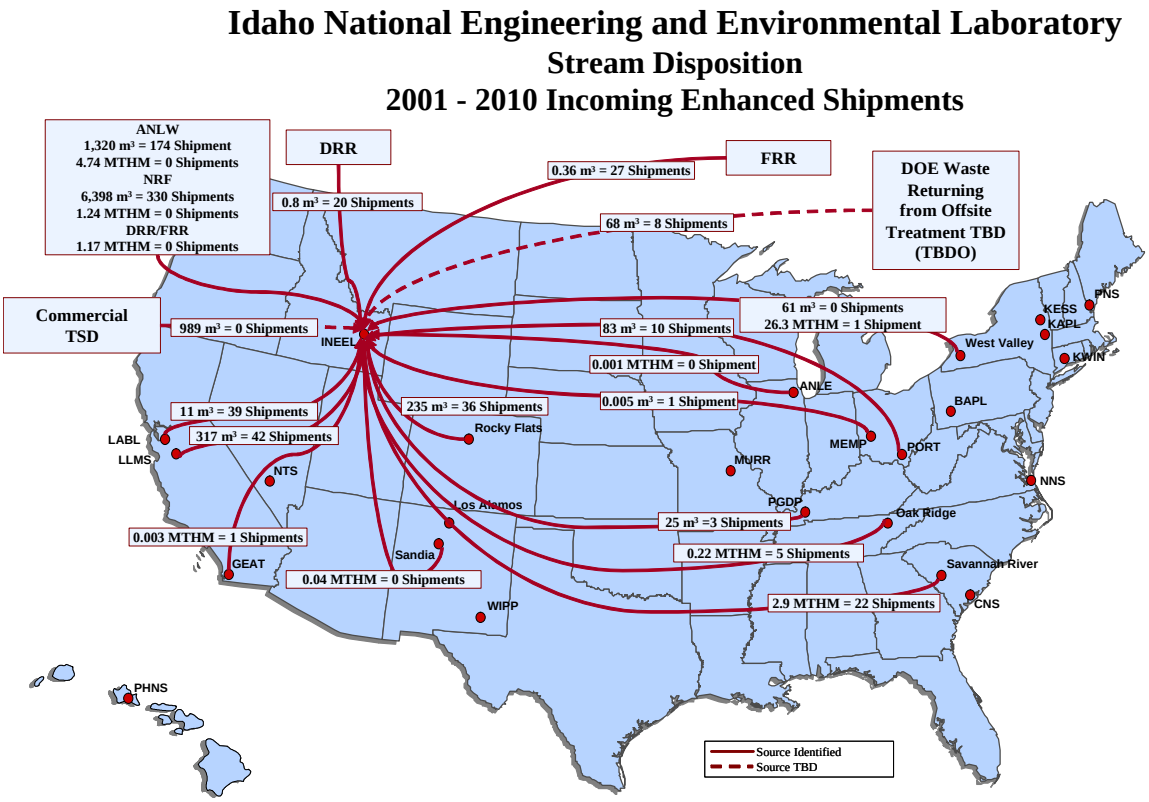


Figure 2. Idaho National Engineering and Environmental Laboratory Incoming Shipments

INEEL Baseline Transportation Barriers

Barriers, as outlined or confirmed by INEEL personnel during the data gathering process for development of this Report, are documented in this section. The INEEL has plans in place or is developing plans for timely mitigation of these barriers. However, unanticipated failure to achieve resolution could adversely affect the ability to execute planned shipping activities. **The barriers listed have not been assigned a priority order.**

1. **Treatment for epoxy and Fermi Blanket SNF and some NM needs to be determined.**

   Consequences:
   - Packaging for epoxy and Fermi Blanket SNF cannot be selected until the final form is known.
   - Some NM cannot be shipped without prior treatment.

2. **INEEL's SNF and NM has not been approved for specific, licensed Type B packaging.**

   Consequences:
   - Packaging identified for transportation is an estimation for planning purposes until the contents have been approved for a particular packaging.

- The number of shipments is an estimation and may not be accurate until the contents have been approved for a particular packaging.
- The INEEL may not be able to remove SNF and NM from the State in accordance with the Settlement Agreement.
- The 6M container is expected to be removed from service and currently there is no container identified to replace it. NM cannot be shipped without a replacement container.
- Due to the chemical and physical characteristics of some NM, it cannot be shipped without the availability of multiple packaging options.

3. **Agreements between shipper and receiver have not been established for SNF and NM.**

   Consequences:
   - The number of shipments, shipping dates, and packaging are subject to change until agreements between the shipper and receiver have been finalized.
   - The INEEL may not be able to remove SNF and NM from the State in accordance with the Settlement Agreement.
   - The clean up milestones at some sites may be affected if they are dependent on Idaho to receive their materials.

4. **Funding to transport SNF and NM has not been identified.**

   Consequences:
   - The INEEL cannot prepare for receipts or shipments without the funding to perform the work.
   - The INEEL may not be able to remove SNF and NM from the State in accordance with the Settlement Agreement.
   - The clean up milestones at some sites may be affected if they are dependent on Idaho to receive their materials.

This barrier is a subset of: Barrier 5, "DOE is unable to appropriately budget for the cost of packaging and transportation." (Transportation Challenges, "Problems Tied to Disposition Pathways", 1999 Transportation Barriers Analysis, November 19, 1999.)

5. **The Governor of Idaho has declared a halt on all shipments into the State.**

   Consequences:
   - The clean up milestones at some sites may be affected if they are dependent on Idaho to receive their materials.

6. **LLW disposal facilities require advance payment prior to shipping.**

   Consequences:
   - LLW shipments will not be made if advance payment is not made to disposal facility.

7. **There is no single headquarters organization having ownership of NM (NU, DU, LEU).**

Consequences:

- The material will not be a priority without singular responsibility.

8. **The majority of the material located in INTEC 651 requires Safe Secure Transport (SST).**

Consequences:

- INTEC 651 cannot be emptied without the availability of an SST.

9. **There are limited options for the packaging and transportation of unirradiated and irradiated fissile experiments and irradiated non-fissile experiments (non-EM).**

The most often used packaging for receipt of unirradiated fissile material experiments (6M drums) and the most often used type B packaging for shipments of irradiated experiments (GE-100 transportation casks) are both expected to be removed from service as a consequence of changes being proposed for the Department of Transportation and Nuclear Regulatory Commission transportation regulations.

Consequences:

- If the GE-100 is removed from service, the reason for its removal will also remove many other type B packages from service such that only one currently available Type-B packaging would exist as a suitable substitute, and it is physically too big to be handled at some of the smaller facilities that receive experiments for post-irradiation examination (PIE). It is uncertain whether any commercial entities would provide a suitable new replacement(s) given the small market for transporting radioactive experiments.
- If shipments cannot be made directly to these smaller facilities, then alternate facilities must be enlisted to either perform the PIE or to transfer the experiments to smaller casks for delivery, assuming smaller casks are available [these casks would necessarily have to be on-site-use only]. The obvious consequence here is a substantial increase in cost. If alternate arrangements could not be made at all, then the experiment could not be performed.
- If the 6M drums are removed from service, the replacement will most likely be a more robust (heavier) packaging. There are no significant consequences envisioned in handling the replacement packaging(s) for receipt activities per se, but there may be some effect on the new experiment assembly facility (in the TRA Hotcells) regarding storage of unirradiated fissile experiments. This consequence is likewise not envisioned to be significant.

For the purposes of complex-wide, long-range planning, barriers should be ranked and resolution alternatives developed by the INEEL. This has not yet been done but INEEL personnel are developing a path forward to resolve each of the barriers identified in this report.

Transportation Activity Maps

Transportation Activity Maps were developed for Idaho National Engineering and Environmental Laboratory, but are not included due to the large volume of data. For the inquisitive reader, Transportation Activity Maps are included for the Hanford Site.

Examination of the Enhanced Baseline data contained in the Transportation Activity Maps revealed several instances where the proposed content volume exceeded the capacity of the package. The majority of the mismatches between contents and capacity differ only by a few packages. There are, however, some instances where the discrepancy is hundreds of packages. The discrepancies may be attributed to a variety of reasons. The following explanations are provided: the conversion factors (0.208 vs. 0.210) used in converting from drums to m^3; varying sizes of drums, i.e., not all containers were 55-gallon drums; and inconsistency in using numbers for package trips and number of packages needed.

Type B and Type A-Fissile Packaging Needs Assessment

Analysis of the Transportation Activity Maps in comparison with the Packaging Baseline produced this summary which details the identity and numbers of Type B and Type A-Fissile packagings that will be required to carry out planned shipping activities. **Table 3** provides a list, by year, of the Type B packages needed by the INEEL to execute the EM Transportation Baseline along with a short description of the current status of the package. Additional identification and discussion of packaging issues is presented following the table. Additional analysis of packaging status is included in the Transportation Baseline Barriers Analysis section as appropriate.

Table 3. INEEL Type B Packaging Needs

Year	Package	Need	Available	Status
2002	6M (55-gal)	1	?	?
2002	TRUPACT-II	648*	70	Availability TBD
2002	GE-100	1	2	This is a non-EM (MOX) shipment.
2003	TRUPACT-II	531*	70	Availability TBD
2003	GE-100	1	2	This is a non-EM (MOX) shipment.
2003	TBD	1	?	This is a non-EM (ATW) shipment. Packaging has not been identified. 110-gallon 6M drums are too short.
2004	LWT	1	?	Cask selection will be final in FY03.
2004	TRUPACT-II	1158*	70	Availability TBD

Year	Package	Need	Available	Status
2004	GE-100	1	2	This is a non-EM (ATW) shipment. There is concern that regulatory changes may affect availability.
2005	NAC-LWT	?	?	Availability TBD
2005	HFEF-6	?	?	Availability TBD
2005	TRUPACT-II	1455*	70	Availability TBD
2005	Peach Bottom	1	2	Available
2006	LWT	?	?	Availability TBD
2006	HFEF-6	?	?	Availability TBD
2006	TRUPACT-II	1434*	70	Availability TBD
2006	Peach Bottom	1	2	Available
2007	LWT	?	?	Availability TBD
2007	HFEF-6	?	?	Availability TBD
2007	TRUPACT-II	1641*	70	Availability TBD
2007	RH-72B	34*	?	Availability TBD
2007	Peach Bottom	1	2	Available
2008	LWT	1	8	Availability TBD
2008	HFEF-6	?	?	Availability TBD
2008	TRUPACT-II	1986*	70	Availability TBD
2008	RH-72B	34*	?	Availability TBD
2008	Peach Bottom	1	2	Available
2009	TRUPACT-II	2775*	70	Availability TBD
2009	RH-72B	34*	?	Availability TBD
2009	Peach Bottom	1	2	Available
2010	LWT	1	8	Availability TBD
2010	TRUPACT-II	2952*	70	Availability TBD
2010	RH-72B	34*	?	Availability TBD
2010	Peach Bottom	1	2	Available
TBD	6M (110-gal)	30-35	0	There are several TBD years identified to use this drum for NM. There is concern that potential regulatory changes may affect availability.
TBD	6M (85-gal)	?	?	One TBD year is identified to use this drum for NM. There is concern that potential regulatory changes may affect availability.
TBD	DOT UN1A2 (35-gal)	?	?	One TBD year is identified to use this drum for NM.

Year	Package	Need	Available	Status
TBD	FL-10	TBD	?	No packages are available at the INEEL for NM.
TBD	GE-100	1	?	This is a non-EM (PBMR) shipment. There is concern that potential regulatory changes may affect availability.

* The number of TRUCPACT-II packages reported in the table is the number of **package trips**. The actual number of packagings needed to make the indicated number of trips must be calculated based on the number of drums to be carried in each TRUPACT-II and the turn-around time for the package to again be available for loading.

The following packaging issues are associated with these needs:

- The NAC-LWT (COC 9225) is a licensed transportation cask for SNF and safety documentation exists for using it in IFSF, however the cask is not yet approved for INEEL SNF.
- The HFEF-6 cask is not licensed for use on public highways. The INEEL SNF program plans to close the highway between INTEC and ANL-W to make the necessary transfers, therefore, the cask will not be required to be licensed.
- The Peach Bottom transportation cask is not licensed for INEEL's epoxy and Fermi Blanket SNF. The INEEL plans to treat the SNF so that it may be transported in the Peach Bottom cask. Funding is not currently available for treatment.
- The FL 10-1 has been identified as a potential packaging for the NM-LEU, however the packaging requirements have not been determined.
- [Non-EM shipments.] DOT Specification 6M Type B fissile packagings are being used for receiving domestic shipments of unirradiated fissile experiments at the Advanced Test Reactor (ATR) Canal and the Test Reactor Area Hotcells. However, these 6M packagings are to be phased out within the next couple of years. Replacement packaging has not been identified. Any new packaging is expected to be more robust (heavier) and thus require more effort to disassemble, handle, and reassemble, and to also require more space when used for the storage of fissile material experiments. The specific impact(s) on receipt activities and experiment assembly activities has not been fully accessed.
- [Non-EM shipment.] The GE-100 Type B fissile packagings are being used for making domestic shipments of irradiated experiments from the ATR Canal. However, a change is being considered in the packaging and transportation regulations that will likely remove this cask from service. If the GE-100 is removed from service, the reason will also remove from service other suitable candidate casks such that only one cask, the GE-2000, will remain as a replacement. The GE-2000 is much larger and the majority of the facilities to which it would be sent, will either require major modifications to the facility itself to be able to accommodate the larger cask, or will require changing facilities.

Type B Package Certification Schedule

The Type B Package Certification Schedule (**Table 4**) was developed to assist in the coordination of packaging certification. By being cognizant of needed revisions, EM can better work with the certifying agencies' schedules and coordinate submittals so that certification may be obtained in time to meet key clean-up and closure milestones.

The table below was developed from information provided to the NTP team during the INEEL visit. Based on the barriers provided during that visit, an early and late need date was extrapolated for meeting the INEEL Enhanced Baseline.

Package Name	Certification Status	Early – Late Need Dates	Certification Expiration	Comments
NAC-LWT	NRC certification is current. DOE certification is current.	2002 - 2004	2/28/05 (NRC) 12/31/05 (DOE)	A revision to the SARP is required to include the INEEL SNF.
HFEF-6	N/A	2005	N/A	The INEEL plans to ship this cask out of commerce; therefore, no certification is scheduled.
FL 10-1	NRC certification is current.	TBD	9/30/04 (NRC)	A revision to the SARP is required to include the INEEL SNF.
GE-100	NRC certification is current.	2002 – 2004	5/31/03 (NRC)	Non-EM shipments. Certification changes are not required.
GE-2000	NRC certification is current.	2003 – 2005	3/31/06 (NRC)	Non-EM shipments. The GE-2000 has been identified as a replacement for the GE-100.

Table 4. Type B Package Certification Schedule

SUMMARY AND CONCLUSIONS

The data set presented and analyzed in this Report is a compilation of the data from the following sources: 1) The 2001 Integrated Planning, Accountability, and Budgeting System (IPBAS) database, 2) The National TRU Program databases, and 3) Data gathered during meetings with INEEL personnel and follow-on activities. It encompasses off-site transportation activities planned for the next ten years as a part of the INEEL EM mission. Data for transportation activities beyond 2010 was not analyzed.

The waste and material analyzed were: low-level radioactive waste (LLW), mixed low-level radioactive waste (MLLW), transuranic waste (TRU), nuclear material (NM), high-level waste (HLW) and spent nuclear fuel (SNF). Of these, the SNF, NM, and TRU are within the scope of the report, i.e., transportation activities planned between 2001 through 2010 in Type B packaging. The MLLW and LLW streams are not planning to utilize Type B packaging during this time period and the HLW shipments are scheduled to begin beyond the 2010 time frame; therefore these streams are not included in this iteration of the INEEL Transportation Forecast.

During the data gathering process, it became apparent that comprehensive information does not reside with any single organization at the INEEL. In order to build an accurate and comprehensive data set, it was necessary to confer with personnel from various Site organizations who both have access to, and a thorough knowledge of their specific data subsets. By working with INEEL personnel, significant data improvements were made by updating existing data and filling in missing data.

The key aspect of the data analysis was carried out with the objective of determining if transportation activities can be executed as planned, and the nature and magnitude of any barriers to planned execution. A summary of transportation baseline attributes was developed and compared with INEEL's shipping plans. **Under current requirements and assumptions, it appears that all planned INEEL transportation activities can be executed** if funding and packagings are made available, and if the barriers identified below are resolved as planned. It should be noted that the INEEL transportation activities were considered separately from the remainder of the EM transportation activities. As the National Transportation Program continues its analyses of complex-wide shipping activities, interrelationships between the various shipping sites will be taken into consideration. Additionally, the scope and analysis should be expanded beyond EM due to other DOE programs' planning to utilize the same transportation resources (i.e., facilities, packaging, carriers).

Analysis of Type-B packagings indicates a need to evaluate the waste and materials for compatibility with the packaging and make funding available for packaging. For the non-EM shipments, replacement packaging may be needed for the DOT Specification 6M packaging and the GE-100 cask.

The following barriers were documented during the site visit:

- Treatment for epoxy and Fermi Blanket SNF and some NM needs to be determined;
- INEEL's SNF and NM has not been approved for specific, licensed Type B packaging;
- Agreements between shipper and receiver have not been established for SNF and NM;
- Funding to transport SNF and NM has not been identified;

- The Governor of Idaho had declared a halt on all shipments into the State;
- LLW disposal facilities require advance payment prior to shipping;
- There is no single headquarters organization having ownership of NM (NU, DU, LEU);
- The majority of the material located in INTEC 651 requires Safe Secure Transport (SST); and
- There are limited options for receiving unirradiated fissile experiments and for shipping irradiated fissile and non-fissile experiments. (non-EM)

Attachment 1

IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LABORATORY ENHANCED BASELINE

10 May 2002

Note: Data from the original IPABS database is printed in black, while additional and corrected data is printed in red.

Idaho Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
LLW	795	Commercial Sizable LLW	INEL	COMM	2002	67.22	100 %	67.22	M3	~~2~~ 3	19	Truck	LSA1	STC/IP-1	~~Other (3.62 M3)~~ Box - 4x4x7 (approx.)
					2003	69.22	100 %	69.22	M3	~~2~~ 3	20	Truck	LSA1	STC/IP-1	~~Other (3.62 M3)~~ Box - 4x4x7 (approx.)
					2004	67.22	100 %	67.22	M3	~~2~~ 3	19	Truck	LSA1	STC/IP-1	~~Other (3.62 M3)~~ Box - 4x4x7 (approx.)
					2005	63.6	100 %	63.6	M3	~~2~~ 3	18	Truck	LSA1	STC/IP-1	~~Other (3.62 M3)~~ Box - 4x4x7 (approx.)
					2006	60	100 %	60	M3	~~2~~ 3	17	Truck	LSA1	STC/IP-1	~~Other (3.62 M3)~~ Box - 4x4x7 (approx.)
					2007	60	100 %	60	M3	~~2~~ 3	17	Truck	LSA1	STC/IP-1	~~Other (3.62 M3)~~ Box - 4x4x7 (approx.)
					2008	60	100 %	60	M3	~~2~~ 3	17	Truck	LSA1	STC/IP-1	~~Other (3.62 M3)~~ Box - 4x4x7 (approx.)
					2009	60	100 %	60	M3	~~2~~ 3	17	Truck	LSA1	STC/IP-1	~~Other (3.62 M3)~~ Box - 4x4x7 (approx.)
					2010	60	100 %	60	M3	~~2~~ 3	17	Truck	LSA1	STC/IP-1	~~Other (3.62 M3)~~ Box - 4x4x7 (approx.)

Transportation Comments: After 2001. All packaging assumed to be Strong Tight Packaging/Excepted Packaging (rad), Low Specific Activity Type II. Shipment by truck to Offsite commercially (TBD) available facility.

Stream Comments: g. (ABD, ABK, ABL) The Commercial sizing facility will be utilized from FY 2004 and beyond. The volume reduction factor for this facility is assumed to be the same as the WERF sizing volume reduction factor of 5:1 per EDF RWMC-787, revision 5, April, 1999.

Barrier Comments: Commercial facility selection is in progress. Final subcontract for work has not been let.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
LLW	797	Commercial Compactible LLW	INEL	COMM	2002	885.92	100 %	885.92	M3	23 31	225 245	Truck	LSA2	STC/IP-1	~~Other (3.62 M3)~~ Box - 4x4x7 (approx.)
					2003	963.3	100 %	963.3	M3	~~27~~ 34	267	Truck	LSA2	STC/IP-1	~~Other (3.62 M3)~~ Box - 4x4x7 (approx.)
					2004	885.92	100 %	885.92	M3	~~23~~ 31	~~225~~ 245	Truck	LSA2	STC/IP-1	~~Other (3.62 M3)~~ Box - 4x4x7 (approx.)
					2005	710.9	100 %	710.9	M3	~~20~~ 25	197	Truck	LSA2	STC/IP-1	~~Other (3.62 M3)~~ Box - 4x4x7 (approx.)
					2006	713.5	100 %	713.5	M3	~~20~~ 25	198	Truck	LSA2	STC/IP-1	~~Other (3.62 M3)~~ Box - 4x4x7 (approx.)
					2007	710.9	100 %	710.9	M3	~~20~~ 25	197	Truck	LSA2	STC/IP-1	~~Other (3.62 M3)~~ Box - 4x4x7 (approx.)
					2008	710.92	100 %	710.92	M3	~~20~~ 25	197	Truck	LSA2	STC/IP-1	~~Other (3.62 M3)~~ Box - 4x4x7 (approx.)
					2009	710.9	100 %	710.9	M3	~~20~~ 25	197	Truck	LSA2	STC/IP-1	~~Other (3.62 M3)~~ Box - 4x4x7 (approx.)

Idaho Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2010	710.9	100 %	710.9	M3	~~20~~ **25**	197	Truck	LSA2	STC/IP-1	~~Other (3.62 M3)~~ **Box - 4x4x7 (approx.)**

Transportation Comments: After 2003. All packaging assumed to be Strong Tight Packaging/Excepted Packaging (rad), Low Specific Activity Type II. Shipment by truck to Offsite commercially (TBD) available facility.

Stream Comments: (ABF, ABN, ABO) The Commercial compactor facility will be utilized from FY 2004 and beyond. The volume reduction factor for this facility is assumed to be the same as the WERF compactor volume reduction factor 3.5:1 per EDF RWMC-787, revision 5, April, 1999.

Barrier Comments: Commercial facility is available but the final selection or subcontract has not been completed.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
LLW	31717	INEEL (sspd-smc filings)	INEL	HASI	2001	1.87	100 %	1.87	M3	1	~~7~~ **9**	Truck	LSA2	~~Type B~~ **IP-2**	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2002	0.29	100 %	0.29	M3	1	~~1~~ **2**	Truck	LSA2	~~Type B~~ **IP-2**	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2003	0.58	100 %	0.58	M3	1	~~2~~ **3**	Truck	LSA2	~~Type B~~ **IP-2**	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2004	0.29	100 %	0.29	M3	1	~~1~~ **2**	Truck	LSA2	~~Type B~~ **IP-2**	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2005	0.58	100 %	0.58	M3	1	~~2~~ **3**	Truck	LSA2	~~Type B~~ **IP-2**	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2006	0.29	100 %	0.29	M3	1	~~1~~ **2**	Truck	LSA2	~~Type B~~ **IP-2**	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2007	0.58	100 %	0.58	M3	1	~~2~~ **3**	Truck	LSA2	~~Type B~~ **IP-2**	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2008	0.29	100 %	0.29	M3	1	~~1~~ **2**	Truck	LSA2	~~Type B~~ **IP-2**	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2009	0.58	100 %	0.58	M3	1	~~2~~ **3**	Truck	LSA2	~~Type B~~ **IP-2**	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2010	0.29	100 %	0.29	M3	1	~~1~~ **2**	Truck	LSA2	~~Type B~~ **IP-2**	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**

Stream Comments: Formerly classified as Site Specific Disposal Problem (SSPD). Waste disposal now identified for shipment to Hanford. Starting in FY 2001.

Barrier Comments: A path for completing final disposition of this waste/material now exists. INEEL (formerly SSDP) waste currently can be accepted at Hanford without significant treatment.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit
LLW	785	INEEL smc (ssdp-legacy)	INEL	NVTS	2001	50.01	100 %	50.01	M3
					2002	7.7	100 %	7.7	M3
					2003	7.08	100 %	7.08	M3
					2004	2.5	100 %	2.5	M3

Transportation Comments: Transport smc legacy to NTS.

Stream Comments: WNPD is addressed in DOE order 435.1. The existing inventory for WNPD (AAT, formerly SSDP) was provided by Report INEEL/EXT-98-00825, Sept. 1998, "Inventory and Management of INEEL Waste With No Identified Path to Disposal". WNPD future generation volume is not projected in this report; however, WNPD can result from waste characterization changes, TS&D acceptance requirements changes, environmental regulation changes.

Barrier Comments: A path for completing final disposition of this waste/material now exists. INEEL (formerly SSDP) waste currently can be accepted at NTS without significant treatment. Treatment will only involve size reduction, if applicable, to fit shipping containers.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
LLW	789	CH DD LLW	INEL	NVTS	2004	504.51	100 %	504.51	M3	~~8~~ **18**	~~75~~ **140**	Truck	LSA2	STC/IP-1	~~Other (3.62 M3)~~ **Box - 4x4x7 (approx.)**

Idaho Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2005	393.9	100 %	393.9	M3	~~5~~	~~43~~	Truck	LSA2	STC/IP-1	~~Other (3.62 M3)~~
										14	**109**				**Box - 4x4x7 (approx.)**
					2006	671.69	100 %	671.69	M3	~~7~~	~~68~~	Truck	LSA2	STC/IP-1	~~Other (3.62 M3)~~
										24	**186**				**Box - 4x4x7 (approx.)**
					2007	597.04	100 %	597.04	M3	~~5~~	~~46~~	Truck	LSA2	STC/IP-1	~~Other (3.62 M3)~~
										21	**165**				**Box - 4x4x7 (approx.)**
					2008	599.15	100 %	599.15	M3	~~5~~	~~48~~	Truck	LSA2	STC/IP-1	~~Other (3.62 M3)~~
										21	**166**				**Box - 4x4x7 (approx.)**
					2009	858.32	100 %	858.32	M3	~~10~~	~~98~~	Truck	LSA2	STC/IP-1	~~Other (3.62 M3)~~
										30	**238**				**Box - 4x4x7 (approx.)**
					2010	766.01	100 %	766.01	M3	~~8~~	~~72~~	Truck	LSA2	STC/IP-1	~~Other (3.62 M3)~~
										27	**212**				**Box - 4x4x7 (approx.)**

Transportation Comments: All packaging assumed to be Strong Tight Packaging/Excepted Packaging (rad), Low Specific Activity Type II. Shipment by truck to Offsite CH LLW, DOE approved disposal Facility.

Stream Comments: AAX, Record #789 is the waste stream representing Offsite CH LLW disposal as defined in PEIS ROD (2/25/2000), Hanford Site in Washington and the Nevada Test Site (NTS) will be available to DOE sites for LLW disposal after 2006.

Barrier Comments: It is not known if shipping systems, packaging (containers, canisters, TRUPACTs and casks as required, etc. are available to transport the waste/material to the next facility. Offsite CH LLW disposal as defined in PEIS ROD (2/25/2000), Hanford Site in Washington and the Nevada Test Site (NTS) for LLW disposal.

WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: After 2003, work scope issues (capacity, capabilities, transport, receiving, etc.) dependent on Offsite CH LLW disposal facility (as defined in PEIS ROD (2/25/2000), the Nevada Test Site (NTS)).

NU	7308	KXK - Stream	INEL	NVTS			100 %		M3						
NU	7309	HAB - Stream	INEL	NVTS			100 %		M3						
NU	7310	HAA - Stream	INEL	NVTS			100 %		M3						
DU	7311	LAA - Stream	INEL	NVTS			100 %		M3						
LEU	7312	GAB - Stream	INEL	NVTS			100 %		M3						
LEU	7313	GAC - Stream	INEL	NVTS			100 %		M3						

Idaho Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ER	1181	Phyto-Remediation Residuals	ANLW	INEL	2001	0.3	100 %	0.3	M3						
										1	**2**				**Drum - 55 gal.**
					2002	0.9	100 %	0.9	M3						
										1	**5**				**Drum - 55 gal.**
					2003	0.6	100 %	0.6	M3						
										1	**3**				**Drum - 55 gal.**

Idaho Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
Stream Comments: Dried plants from phyto-remediation process.															
ER	4081	LLW Contaminated Rubble/Debris	ANLW	INEL	2001	12	100 %	12	M3						
										2	**58**				**Drum - 55 gal.**
					2003	7	100 %	7	M3						
										1	**34**				**Drum - 55 gal.**
					2004	7	100 %	7	M3						
										1	**34**				**Drum - 55 gal.**
					2005	7	100 %	7	M3						
										1	**34**				**Drum - 55 gal.**
					2006	7	100 %	7	M3						
										1	**34**				**Drum - 55 gal.**
Transportation Comments: MATERIAL TO BE SHIPPED VIA TRUCK															
Stream Comments: DOT regulations do not apply - is not going off-site															
LLW	4267	Contact Handled LLW	ANLW	INEL	2001	145	100 %	145	M3						
										17	**698**				**Drum - 55 gal.**
					2002	50	100 %	50	M3						
										6	**241**				**Drum - 55 gal.**
					2003	50	100 %	50	M3						
										6	**241**				**Drum - 55 gal.**
					2004	51.03	100 %	51.03	M3						
										6	**246**				**Drum - 55 gal.**
					2005	51.24	100 %	51.24	M3						
										6	**247**				**Drum - 55 gal.**
					2006	51.03	100 %	51.03	M3						
										6	**246**				**Drum - 55 gal.**
					2007	51.24	100 %	51.24	M3						
										6	**247**				**Drum - 55 gal.**
					2008	51.03	100 %	51.03	M3						
										6	**246**				**Drum - 55 gal.**
					2009	51.24	100 %	51.24	M3						
										6	**247**				**Drum - 55 gal.**
Transportation Comments: mATERIAL TO BE SHIPPED VIA TRUCK															
LLW	4268	Contact Handled LLW for Sizing	ANLW	INEL	2001	3.62	100 %	3.62	M3						
										1	**18**				**Drum - 55 gal.**
					2002	3.62	100 %	3.62	M3						
										1	**18**				**Drum - 55 gal.**
					2003	3.62	100 %	3.62	M3						
										1	**18**				**Drum - 55 gal.**
					2004	3.62	100 %	3.62	M3						
										1	**18**				**Drum - 55 gal.**

Idaho Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
Transportation Comments: MATERIAL TO BE SHIPPED VIA TRUCK															
LLW	4269	Contact Handled LLW for Compaction	ANLW	INEL	2001	175	100 %	175	M3						
										20	**842**				**Drum - 55 gal.**
					2002	175	100 %	175	M3						
										20	**842**				**Drum - 55 gal.**
					2003	175	100 %	175	M3						
										20	**842**				**Drum - 55 gal.**
					2004	175	100 %	175	M3						
										20	**842**				**Drum - 55 gal.**
Transportation Comments: MATERIAL TO BE SHIPPED VIA TRUCK															
LLW	803	Sized LLW	COMM	INEL	2002	13.44	100 %	13.44	M3						
					2003	13.84	100 %	13.84	M3						
					2004	13.44	100 %	13.44	M3						
					2005	12.72	100 %	12.72	M3						
					2006	12	100 %	12	M3						
					2007	12	100 %	12	M3						
					2008	12	100 %	12	M3						
					2009	12	100 %	12	M3						
					2010	12	100 %	12	M3						

Stream Comments: (ABD, ABL, ABK) The Commercial sizing facility will be utilized from FY 2004 and beyond. The volume reduction factor for this facility is assumed to be the same as the WERF sizing volume reduction factor of 5:1 per EDF RWMC-787, revision 5, April, 1999. Offsite CH LLW disposal as defined in PEIS ROD (2/25/2000), Hanford Site in Washington and the Nevada Test Site (NTS) will be available to DOE sites for LLW disposal after 2006.

Barrier Comments: COMPLIANCE ISSUES: It is not known if shipping systems, packaging (containers, canisters, TRUPACTs and casks as required, etc. are available to transport the waste/material to the next facility and meet DOT. Offsite CH LLW disposal as defined in PEIS ROD (2/25/2000), Hanford Site in Washington and the Nevada Test Site (NTS) will be available to DOE sites for LLW disposal. After 2020, waste will be sent to an offsite commercial facility for sizing.
OTHER WORK SCOPE DEFINITION ISSUES: It is not known if the waste/material meets the subsequent treatment/disposal facility waste acceptance criteria (WAC).The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility.

Commercial Facility has not been selected (4-18

LLW	806	Compacted LLW	COMM	INEL	2002	110.74	100 %	110.74	M3						
					2003	120.41	100 %	120.41	M3						
					2004	110.74	100 %	110.74	M3						
					2005	88.86	100 %	88.86	M3						
					2006	89.19	100 %	89.19	M3						
					2007	88.86	100 %	88.86	M3						
					2008	88.87	100 %	88.87	M3						
					2009	88.86	100 %	88.86	M3						
					2010	88.86	100 %	88.86	M3						

Idaho Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name

Stream Comments: (ABF, ABN, ABO) The Commercial compactor facility will be utilized from FY 2004 and beyond. The volume reduction factor for this facility is assumed to be the same as the WERF compactor volume reduction factor 3.5:1 per EDF RWMC-787, revision 5, April, 1999. The CH LLW portion of the RWMC SDA disposal area will not be available after FY-2006. From the end of FY 2006 and beyond, offsite disposal will be utilized, however Offsite CH LLW disposal as defined in PEIS ROD (2/25/2000), Hanford Site in Washington and the Nevada Test Site (NTS) will be available to DOE sites for LLW disposal after 2006.

Barrier Comments: WORK SCOPE DEFINITION - COMPLIANCE ISSUES: It is not known if shipping systems, packaging (containers, canisters, TRUPACTs and casks as required, etc. are available to transport the waste/material to the next facility. Offsite CH LLW disposal as defined in PEIS ROD (2/25/2000), Hanford Site in Washington and the Nevada Test Site (NTS) will be available to DOE sites for LLW disposal.

WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: After 2006, work scope issues (capacity, capabilities, transport, receiving, etc.) dependent on Offsite CH LLW disposal facility (as defined in PEIS ROD (2/25/2000), Hanford Site in Washington and the Nevada Test Site (NTS)). The waste acceptance criteria are not known; however, problems are not anticipated.

Idaho Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	7304	MLLW from Debris Treatment	INEL	COMM	2002	12.68	100 %	12.68	M3						
					2003	15.83	100 %	15.83	M3						
					2004	15.83	100 %	15.83	M3						
					2005	15.83	100 %	15.83	M3						
					2006	15.83	100 %	15.83	M3						

Transportation Comments: Containers specific to this process have not yet been identified. Once they are identified the containers specifics will be entered into IPABS.

MLLW	31683	MLLW Macroencapsulation	INEL	COMM	2001	25	100 %	25	M3						
					2002	212	100 %	212	M3						
					2003	240	100 %	240	M3						
					2004	505	100 %	505	M3						
					2005	505	100 %	505	M3						
					2006	259.77	100 %	259.77	M3						
					2007	30	100 %	30	M3						
					2008	30	100 %	30	M3						
					2009	30	100 %	30	M3						
					2010	30	100 %	30	M3						

Transportation Comments: There are many types of containers of waste contained within this profile. Until waste has been finally verified, the container will not be considered shippable. Updates will be added as waste is shipped offsite for treatment then disposal.

Stream Comments: For specific waste characteristic data, refer to Integrated Waste Tracking System (IWTS)at the INEEL. The individual profile numbers are located in the Stream Characteristics screen in IPABS. This stream includes waste that consists of debris only and can take the Alternative Treatment Standards for Macroencapsulation. Due to this, hazardous constituents do not drive the treatment of the waste.

Idaho Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name

Barrier Comments: Work Scope/Score-3: Waste material quantities are known and characterization is being reviewed to identify data gaps. Any data gaps will be addressed and sampling performed if needed. Current disposition is identified as Macroencapsulation.

Intersite Dependency-1: This work does not affect another DOE facility. Waste is being sent to commercial offsite vendor for treatment and disposal.

Facility/Equip. Limitation-2: Commercial facilities exists, but contracts are not in place.

Technology-3: ID-3.1.47 and ID-3.1.54.

MLLW	31684	MLLW Stabilization	INEL	COMM	2001	5	100 %	5	M3
					2002	68.6	100 %	68.6	M3
					2003	61.839	100 %	61.839	M3
					2004	10	100 %	10	M3
					2005	10	100 %	10	M3
					2006	10	100 %	10	M3
					2007	20	100 %	20	M3
					2008	20	100 %	20	M3
					2009	20	100 %	20	M3
					2010	20	100 %	20	M3

Transportation Comments: There are many types of containers of waste contained within this profile. Until waste has been finally verified, the container will not be considered shippable. Updates will be added as waste is shipped offsite for treatment then disposal.

Stream Comments: For specific waste characteristic data, refer to Integrated Waste Tracking System (IWTS)at the INEEL. The individual profile numbers are located in the Stream Characteristics screen in IPABS. Waste profiles that compose greater than 1% of the total stream will have radiological and hazardous characteristics listed in IPABS. All others will not be listed unless requested. Also, individual container types are located in IWTS and a general level of contianers will be listed in IPABS. Currently the containers will not be listed as shippable until the container has had a final verification and is being shipped offsite for treatment or disposal.

Barrier Comments: Work Scope/Score-3: Waste material quantities are known and characterization is being reviewed to identify data gaps. Any data gaps will be addressed and sampling performed if needed. Current disposition is identified as Stabilization.

Intersite Dependency-1: This work does not affect another DOE facility. Waste is being sent to commercial offsite vendor for treatment and disposal.

MLLW	31685	MLLW Thermal Treatment	INEL	COMM	2002	9	100 %	9	M3
					2003	5.613	100 %	5.613	M3
					2004	5	100 %	5	M3
					2005	5	100 %	5	M3
					2006	5	100 %	5	M3
					2007	10	100 %	10	M3
					2008	10	100 %	10	M3
					2009	10	100 %	10	M3
					2010	10	100 %	10	M3

Transportation Comments: There are many types of containers of waste contained within this profile. Until waste has been finally verified, the container will not be considered shippable. Updates will be added as waste is shipped offsite for treatment then disposal.

Idaho Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
Stream Comments:	For specific waste characteristic data, refer to Integrated Waste Tracking System (IWTS)at the INEEL. The individual profile numbers are located in the Stream Characteristics screen in IPABS. Waste profiles that compose greater than 1% of the total stream will have radiological and hazardous characteristics listed in IPABS. All others will not be listed unless requested. Also, individual container types are located in IWTS and a general level of contianers will be listed in IPABS. Currently the containers will not be listed as shippable until the container has had a final verification and is being shipped offsite for treatment or disposal.														
Barrier Comments:	Work Scope/Score-3: Waste material quantities are known and characterization is being reviewed to identify data gaps. Any data gaps will be addressed and sampling performed if needed. Current disposition is identified as Thermal treatment. Intersite Dependency-1: This work does not affect another DOE facility. Waste is being sent to commercial offsite vendor for treatment and disposal. Facility/Equip. Limitation-2: Commercial facilities exists, but contracts are not in place. Technology-2: ID-3.1.54 NDE/NDA for Mixed and LLW Containerized Wastes Verification have been identified.														
MLLW	31687	MLLW Mercury Waste	INEL	COMM	2002	5.724	50 %	2.862	M3		~~7~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										1	**14**				**Drum - 55 gal.**
					2002	5.724	50 %	2.862	M3		~~12~~	Truck	TBD	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										1	**14**				**Drum - 55 gal.**
					2003	2.697	50 %	1.3485	M3		~~5~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										1	**7**				**Drum - 55 gal.**
					2003	2.697	50 %	1.3485	M3		12	Truck	TBD	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										1					**Drum - 55 gal.**
Transportation Comments:	Profile #1 is for 55-gal metal drums (24). Profile #2 includes the following contianers: - 20-gal plastic (1) - 5-gal metal (6) - 30-gal metal (3) - 20-gal metal (1) - 30-gal plastic (1) Profile #3 is a 719 gallon steel tank. It is currently at ANL-W and will be treated at ANL-W and shipped to RWMC for disposal. As containers are prepared for shipment to offsite facilities for treatment and disposal the container will be examined to determine whether the present container is suitable for shipment or container needs to be repackaged or overpacked.														
Stream Comments:	For specific waste characteristic data, refer to Integrated Waste Tracking System (IWTS)at the INEEL. The individual profile numbers are located in the Stream Characteristics screen in IPABS. Waste profiles that compose greater than 1% of the total stream will have radiological and hazardous characteristics listed in IPABS. All others will not be listed unless requested. Also, individual container types are located in IWTS and a general level of contianers will be listed in IPABS. This waste stream consists of waste that are considered High and Low Mercury. If a profile contians a high mercury code that will be listed on all profiles under this stream.														
Barrier Comments:	Work Scope/Score-3: Waste material quantities are known and characterization is being reviewed to identify data gaps. Any data gaps will be addressed and sampling performed if needed. Current disposition is identified as Mercury treatment. Intersite Dependency-1: This work does not affect another DOE facility. Waste is being sent to commercial offsite vendor for treatment and disposal. Facility/Equip. Limitation-2: Commercial facilities exists, but contracts are not in place. Technology-4: ID-3.1.52 Mercury Contaminated Waste Treatment. ID-3.1.54 NDE/NDA for Mixed and LLW Containerized Wastes Verification have been identified. Technologies exists for both, a more cost-effective means of treatment is needed. Container ANL187 technology score of 4, all other waste= 2.														

Idaho Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ER	2427	WAG 5 MLLW Envirocare	INEL	ENVR	2001	0.5	100 %	0.5	M3						

Stream Comments: WAG-5 .5 M3.

Barrier Comments: The treatment facility (Envirocare) does not have a permit (license) to treat TSCA waste.

MLLW	31686	MLLW Direct Disposal	INEL	ENVR	2001	1407.3	99 %	1393.2	M3		~~59~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										156	**6699**				**Drum - 55 gal.**
					2001	1407.3	1 %	14.073	M3		~~2~~	Truck	TBD	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										2	**68**				**Drum - 55 gal.**

Transportation Comments: Profile #1 only includes 55-gal metal drums (2). Profile #2 includes all other containers. They are as follow:
- 128 ft3 wood box (19)
- 96 ft3 metal box (12)
- 5-gal metal drum (2)
- 32 ft3 wood box (6)
- 1280 ft3 cargo containers (20)

Reminder: There was a volume reduction of 258 m3 from repackaging operations and 312 m3 was previously sent to envirocare of Utah in Sept. 2000.

Stream Comments: For specific waste characteristic data, refer to Integrated Waste Tracking System (IWTS)at the INEEL. The individual profile numbers are located in the Stream Characteristics screen in IPABS. Waste profiles that compose greater than 1% of the total stream will have radiological and hazardous characteristics listed in IPABS. All others will not be listed unless requested. Also, individual container types are located in IWTS and a general level of contianers will be listed in IPABS. This stream consists of waste that has met LDR and is ready for direct disposal. The waste meets all WAC requirements for Envirocare disposal. However, NTS or Hanford disposal could be used in the future.

Barrier Comments: Work Scope/Score-1: Waste material quantities are known and characterization is acurate. Current disposition is identified as Direct Disposal.

Intersite Dependency-1: This work does not affect another DOE facility. Waste is being sent to commercial offsite vendor for disposal.

MLLW	31688	MLLW TSCA/PCB Waste	INEL	ORTN	2001	1.249	100 %	1.249	M3	5	~~5~~	Truck	TBD	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
											7				**Drum - 55 gal.**
					2003	2.355	50 %	1.1775	M3		25	Truck	TBD	TBD	~~TBD (0 M3)~~
										1					**Drum - 55 gal.**
					2003	2.355	50 %	1.1775	M3		8	Truck	TBD	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										1					**Drum - 55 gal.**

Transportation Comments: Containers under Profile # 2 of this waste stream are as follow: 5 gal. drum - 14, 8 gal. drum - 2, 20 gal. drum - 7, 30 gal. drum - 2. Total of 25 containers. 5 55-gal. drums were sent to oakridge during 2001 fiscal year.

Stream Comments: For specific waste characteristic data, refer to Integrated Waste Tracking System (IWTS)at the INEEL. The individual profile numbers are located in the Stream Characteristics screen in IPABS. Waste profiles that compose greater than 1% of the total stream will have radiological and hazardous characteristics listed in IPABS. All others will not be listed unless requested. Also, individual container types are located in IWTS and a general level of contianers will be listed in IPABS. Currently the containers will not be listed as shippable until the container has had a final verification and is being shipped offsite for treatment or disposal. Each waste stream has been tied to some type of technology need and has an accurate risk based score in the four identified categories.

Barrier Comments: Work Scope/Score-3: Waste material quantities are known and characterization is being reviewed to identify data gaps. Any data gaps will be addressed and sampling performed if needed. Current disposition is identified as TSCA/PCB thermal treatment.

Intersite Dependency-1: This work does not affect another DOE facility. Waste is being sent to commercial offsite vendor for treatment and disposal.

Facility/Equip. Limitation-2: Commercial facilities exists, but contracts are not in place.

Technology-2: ID-3.1.54 NDE/NDA for Mixed and LLW Containerized Wastes Verification as a need.

Idaho Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	31689	Lead for Recycle (INEEL)	INEL	SEG	2001	4	100 %	4	M3		~~0~~	Truck	TBD	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										1	**20**				**Drum - 55 gal.**
					2002	4	100 %	4	M3						
					2003	4	100 %	4	M3						
					2004	4	100 %	4	M3						
					2005	4	100 %	4	M3						
					2006	4	100 %	4	M3						
					2007	4	100 %	4	M3						
					2008	4	100 %	4	M3						
					2009	4	100 %	4	M3						
					2010	4	100 %	4	M3						

Transportation Comments: This waste stream includes a multitude of various containers and sizes. The first profile it set to inlude only 55-gallon drums. Profile #2 includes all others. Here is a comprehensive list of those containers. Number is parenthesis represents number of containers for that particular size.

Wood Boxes - 8 ft3(62)
9 ft3(69)
16 ft3 (6)
32 ft3 (6)
40 ft3 (6)
64 ft3 (2)

Metal Boxes - 30 ft3 (1)
98 ft3 (2)
103 ft3 (1)

Drums - 5 gal (4)
8 gal (1)
30 gal (2)
55 gal (2)

Others - 1 ft3 palletized (5)
7.39 ft3 wrapped (3)
32 ft3 wrapped (5)

Stream Comments: For specific characteristic data, refer to Integrated Waste Tracking System (IWTS)at the INEEL. The individual profile numbers are located in the Stream Characteristics screen in IPABS. Profiles that compose greater than 1% of the total stream will have radiological characteristics listed in IPABS. All others will not be listed unless requested. This stream includes all lead shapes that can be recycled at GTS duratek. Shapes would include bricks, sheets, and any other large lead item. Lead shot, wool, and small pieces are being managed under the MLLW Macroencapsulation. All lead identified for recycle is being tracked under a seperate database and is under developement.

Barrier Comments: Facility/Equip. Limitation - Score 1.
A contract is currently in place with GTS Duratek to perform this work. Lead has been sent in the past and is ready for future shipment.

ER	2473	WAG 5 MLLW TSCA INCINERATION	INEL	TBD	2001	0.5	100 %	0.5	M3						
					2002	5	100 %	5	M3						

Stream Comments: WAG-5 6 M3. This waste stream is slated to go to the ATG TSD at Richland Washington. But there is no agreement to date.
Barrier Comments: Receiving off-site facility does not have a permit.

ER	31714	D&D WGS MLLW Disposal	INEL	TBD	2001	0.9	100 %	0.9	M3						
					2002	0.38	100 %	0.38	M3						
					2003	0.5	100 %	0.5	M3						
					2004	0.8	100 %	0.8	M3						
					2005	0.37	100 %	0.37	M3						
					2006	0.66	100 %	0.66	M3						

Idaho Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2007	0.46	100 %	0.46	M3						
					2008	0.5	100 %	0.5	M3						
					2009	0.65	100 %	0.65	M3						
					2010	0.39	100 %	0.39	M3						
Barrier Comments:		Disposition site is TBD.													
ER	31715	Deac6 WGS MLLW Disposal	INEL	TBD	2002	0.023	100 %	0.023	M3						
					2003	0.023	100 %	0.023	M3						
					2004	0.027	100 %	0.027	M3						
					2005	0.014	100 %	0.014	M3						
					2006	0.014	100 %	0.014	M3						
Barrier Comments:		Disposition site is TBD.													
ER	31716	Deac7 WGS MLLW Disposal	INEL	TBD	2007	0.015	100 %	0.015	M3						
					2010	0.058	100 %	0.058	M3						
Barrier Comments:		Disposition site is TBD.													
ER	2461	WAG 1 MLLW TBDO/ICDF	INEL	TBDO	2003	52	100 %	52	M3	~~2~~ **6**	250	Truck	LSA2	IP-2	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
Stream Comments:		WAG-1 52 M3.													
Barrier Comments:		Tank waste characteristics are not well known. Science and technology issues are expected. It is not known at this point whether new technologies will be used. No endpoints for acceptance by disposal facility. Waste may need to be stock piled until disposal facility opens. It is not yet known where this stream will be sent for treatment.													
ER	2488	WAG 1 MLLW TBD Treat/Disp	INEL	TBDO	2004	10.5	100 %	10.5	M3						
Transportation Comments:		There are no agreements for treatment and disposal of this waste stream. Transportation information is unknown.													
Stream Comments:		WAG-1 10.5 M3. PCB suspect waste.													
Barrier Comments:		Disposition of PCB contaminated waste is not identified.													
ER	4383	WAG 2 MLLW OFF INCINERATION	INEL	TBDO	2001	1.7	100 %	1.7	M3						
Stream Comments:		WAG-2 1.7 M3. This waste comes from the TX-4 Phenolic Waste.													
Barrier Comments:		Technology: No treatability study has been done. Work Scope: No approved path forward. Inter-site Dependency: No agreement.													
MLLW	4528	MLLW Specialty Dioxin Furan Treatment	INEL	TBDO	2003	10.68	50 %	5.34	M3		33	Truck	TBD	TBD	~~TBD (0 M3)~~
										1					**Drum - 55 gal.**
					2003	10.68	50 %	5.34	M3		~~12~~	Truck	TBD	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										1	**26**				**Drum - 55 gal.**

Idaho Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name

Transportation Comments: Profile #1 is for 55-gal metal drums (10). Profile #2 is for 71-gal metal drums(33).
As containers are prepared for shipment to offsite facilities for treatment and disposal the container will be examined to determine whether the present container is suitable for shipment or container needs to be repackaged or overpacked.

Stream Comments: For specific waste characteristic data, refer to Integrated Waste Tracking System (IWTS)at the INEEL. The individual profile numbers are located in the Stream Characteristics screen in IPABS. Also, individual container types are located in IWTS and a general level of containers will be listed in IPABS. This waste stream is specific to WERF Incinerator ash generated during low-level and mixed low-level burns. Dioxin/Furan characteristics are not shown on the Stream Characteristics screen. Further anlaytical is needed to fully characterize this stream. Waste under this stream, due to process knowledge, has some concentrations of various dioxin/Furans.

Barrier Comments: Work Scope/Score-3: Waste material quantities are known and characterization is being reviewed to identify data gaps. Any data gaps will be addressed and sampling performed if needed. Alternative treatment options are being addressed and reviewed. Currently technology needs group are reviewing those alternatives.

Intersite Dependency-1: This work does not affect another DOE facility. Waste is being sent to commercial offsite vendor for treatment and disposal.

Facility/Equip. Limitation-4: Commercial facilities options are being reviewed.

Technology-4: ID-3.1.41 WERF Fly Ash Stabilization, Two facilities have been identified for treatment but have not started to accept waste or the permit needs to be modified to accept this waste.

Idaho Incoming - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	1748	Aqueous Liquids (INEEL FY98 - 03)	LABL	INEL	2001	0.38	100 %	0.38	M3						
										1	**2**				**Drum - 55 gal.**

Stream Comments: INEEL WERF presumed to be operational from FY98 through FY03. FY97 inventory was 0.458 M3. Inventories to transfer to BB2 after FY02.

Barrier Comments: WORK SCOPE DEFINITION - COMPLIANCE ISSUES: There are proposed near-term changes (regulatory or other) that could make the treatment and disposition path not feasible. The proposed EPA MACT Rule may require CEMs and offgas treatment equipment that is not available. The MWFA has ongoing efforts to address and resolve this issue. Phase I will affect WERF. See the INEEL disposition map. A plausible and feasible path for treating and completing final disposition of this waste/material does not exist. This waste is expected to be processed at WERF (from present until 2003). Disposition of residuals has not yet been determined because this waste stream contains isotopes not normally acceptable by commercial disposal facilities. Envirocare is in the process of modifying their license to allow case-by-case acceptance of these types of materials, up to 500 piCi/gram, but it is unclear how effective this will be. Even if Envirocare's license amendment is approved, LBNL will still be required to pursue case-by-case acceptance of any containers that include certain isotopes (i.e. Cm-248 and isotopes of Cf and Bk). Some of these may even exceed the new license limits. Since LBNL must ship many MLLW and LLW streams to a variety of TSDFs using limited resources, it is likely that the site will not be able to achieve less-than-one-year storage limits for this waste stream unless other options are identified. In addition, LBNL does not have sufficient quantity for a full burn campaign at WERF, and a long-term burn-partnering solution has yet to be identified.

Idaho Incoming - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
		WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: It is not known if the waste/material meets the subsequent treatment/disposal facility waste acceptance criteria (WAC). LBNL does not have sufficient quantity for a full burn, and a long-term burn-partnering solution has yet to be defined. A plausible and feasible path for treating and completing final disposition of this waste/material does not exist. LBNL does not have sufficient quantity for a full burn campaign at WERF, and a long-term burn-partnering solution has yet to be identified. There are other science or technology needs or opportunities for improvement. Non thermal alternative oxidation technologies may be necessary if the decision is made to discontinue WERF operations early. The MWFA is supporting ongoing efforts to develop and demonstrate technologies that can address these types of needs, both present and future. The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc.). Waste can be characterized using existing capabilities. There are proposed near-term changes (regulatory or other) that could make the treatment and disposition path not feasible. DOE may decide to close WERF and not complete modifications to make the facility MACT-compliant. This decision is pending, but would impact LBNL. Characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. Waste can be characterized for shipping using existing capabilities. Waste/material retrieval is not applicable. Waste is in containerized storage. Retrieval is not required. WORK SCOPE DEFINITION: Shipping systems, including packaging (containers, canisters, TRUPACTs and casks as required) are available to transport the waste/material to the next facility. Waste can be packaged and shipped using existing capabilities.												
MLLW	1750	Lab-Packed Oxidizers, Debris, Vermiculite with Oil (INEEL)	LABL	INEL	2001	0.22	100 %	0.22	M3						
										1	**2**				**Drum - 55 gal.**
Stream Comments:		INEEL WERF presumed to be operational from FY98 through FY35. Inventories to transfer to BC2 after FY02.													
Barrier Comments:		WORK SCOPE DEFINITION - COMPLIANCE ISSUES: There are proposed near-term changes (regulatory or other) that could make the treatment and disposition path not feasible. The proposed EPA MACT Rule may require CEMs and offgas treatment equipment that is not available. The MWFA has ongoing efforts to address and resolve this issue. Phase I will affect WERF. See the INEEL disposition map. WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: Waste/material does meet the subsequent treatment/disposal facility waste acceptance criteria (WAC). Technically, this waste meets the WERF WAC; however, LBNL may not have enough volume for a full burn. They are attempting to identify long-term burn-partnering solutions. Characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. Waste can be characterized for shipping using existing capabilities. A plausible and feasible path for treating and completing final disposition of this waste/material does exist. This waste will be processed at WERF (from present until 2003). Treatment residuals will be shipped to a commercial facility (i.e. Envirocare) for disposal. LBNL does not have sufficient quantity for a full burn at this time. Long-term burn-partnering solutions are being pursued by LBNL. No problems are foreseen. There are proposed near-term changes (regulatory or other) that could make the treatment and disposition path not feasible. DOE may decide to close WERF and not complete modifications to make the facility MACT-compliant. This decision is pending, but would impact LBNL. There are other science or technology needs or opportunities for improvement. Non thermal alternative oxidation technologies may be necessary if the WERF operations are discontinued early. The MWFA is supporting ongoing efforts to develop and demonstrate technologies that can address these types of needs, both present and future. Waste/material retrieval is not applicable. Waste is in containerized storage. Retrieval is not required. The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc.). Waste can be characterized using existing capabilities. WORK SCOPE DEFINITION: Shipping systems, including packaging (containers, canisters, TRUPACTs and casks as required) are available to transport the waste/material to the next facility. Waste can be packaged and shipped using existing capabilities.												
MLLW	1752	Organic Liquids/Scint. Vials (INEEL)	LABL	INEL	2001	0.82	100 %	0.82	M3						
										1	**4**				**Drum - 55 gal.**

Idaho Incoming - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	1764	Basic Solids/Solutions w/Metals & Solvents, Debris, Scint. Vials, Lab Packed Oxidizers, Cement	LABL	INEL	2004	1.01	100 %	1.01	M3	1	5	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~
															Drum - 55 gal.
					2005	0.11	100 %	0.11	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~
															Drum - 55 gal.
					2006	0.11	100 %	0.11	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~
															Drum - 55 gal.
					2007	0.11	100 %	0.11	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~
															Drum - 55 gal.
					2008	0.11	100 %	0.11	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~
															Drum - 55 gal.
					2009	0.11	100 %	0.11	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~
															Drum - 55 gal.
					2010	0.11	100 %	0.11	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~
															Drum - 55 gal.

Barrier Comments: WORK SCOPE DEFINITION: Waste/material does meet the subsequent treatment/disposal facility waste acceptance criteria (WAC). The waste is expected to meet the AMWTP WAC. AMWTP will be specifically to process alpha-contaminated materials. No problems are foreseen. The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc.). Waste can be characterized using existing capabilities. It is not known if a plausible and feasible path for treating and completing final disposition of this waste/material exists. This waste contains RCRA characteristic and listed contaminants, as well as 10 to 100 nCi/gm of non-defense, non-transuranic alpha-contamination. The waste is expected to be treated at the INEEL AMWTP (2004 to 2035) when it is operational (planned for 2004). However, this facility is not currently existing, it is unclear if it ever will, and other alternatives do not exist. Waste/material retrieval is not applicable. This waste is in containerized storage. Retrieval is not required. There are other science or technology needs or opportunities for improvement. Non thermal alternative oxidation technologies may be necessary if the AMWTP is not constructed. The MWFA is supporting ongoing efforts to develop and demonstrate technologies that can address these types of needs, both present and future. Characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. Waste can be characterized for shipping using existing capabilities.

MLLW	1767	Acidic Aqueous Liquids (INEEL)	LABL	INEL	2004	0.064	100 %	0.064	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~
															Drum - 55 gal.
					2005	0.01	100 %	0.01	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~
															Drum - 55 gal.
					2006	0.01	100 %	0.01	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~
															Drum - 55 gal.
					2007	0.01	100 %	0.01	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~
															Drum - 55 gal.
					2008	0.01	100 %	0.01	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~
															Drum - 55 gal.
					2009	0.01	100 %	0.01	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~
															Drum - 55 gal.

Idaho Incoming - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2010	0.01	100 %	0.01	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**

Stream Comments: FY97 inventory was 0.0045 M3.

Barrier Comments: WORK SCOPE DEFINITION - COMPLIANCE ISSUES: It is not known if the facility can obtain the required permits, licenses, and/or NEPA documentation. Permitting an incinerator to destroy alpha-contaminated materials will be very challenging.

WORK SCOPE DEFINITION - LICENSE OR PERMIT ISSUES: There are major regulatory, licensing, permitting or NEPA issues hindering operations, such as a class 3 RCRA permit modification. Permitting an incinerator to destroy alpha-contaminated materials will be very challenging.

WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: It is not known if the waste/material meets the subsequent treatment/disposal facility waste acceptance criteria (WAC). It is assumed that this waste can be disposed at WIPP, but is unclear if this will be approved. There are major regulatory, licensing, permitting or NEPA issues hindering operations, such as a class 3 RCRA permit modification. It is not known if the facility can obtain the required permits, licenses, and/or NEPA documentation. Shipping systems, including packaging (containers, canisters, TRUPACTs and casks as required) are not available to transport the waste/material to the next facility. TRUPACT payload enhancement is necessary to support shipping TRU waste to WIPP. Hydrogen gas limitations and wattage restrictions must be addressed to reduce cost and time required to ship TRU waste. The National TRU Program and the MWFA are collaboratively addressing these issues. See the INEEL disposition map for related STCG needs. The facility is not currently operational. This facility does not exist and is not operational. It will provide a follow-on to WERF, after its useful live. Specific planning exists to construct this facility, but the DOE is considering not completing this project. The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc.). Waste can be characterized using existing capabilities. Characterization is sufficient to support designation under Department of Transportation or onsite transportation requirements. Waste can be characterized for shipping using existing capabilities. There are not any problems with receiving capabilities (example, container handling). AMWTP is a planned treatment facility that will be specifically designed to receive and manage alpha-contaminated waste. No problems are foreseen.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	2412	Aqueous Liquids (FY04-35)	LABL	INEL	2004	0.57	100 %	0.57	M3	1	3	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2005	0.19	100 %	0.19	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2006	0.19	100 %	0.19	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2007	0.19	100 %	0.19	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2008	0.19	100 %	0.19	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2009	0.19	100 %	0.19	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2010	0.19	100 %	0.19	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**

Stream Comments: INEEL AMWTP presumed to be operational from FY04 through FY35. Inventory placed instorage in FY02 & FY03 to be processed at AMWTP (even though WERF to be operational through FY03).

Idaho Incoming - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
Barrier Comments:		WORK SCOPE DEFINITION: Waste/material does meet the subsequent treatment/disposal facility waste acceptance criteria (WAC). No problems are foreseen. Characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. Waste can be characterized for shipping using existing capabilities. There are other science or technology needs or opportunities for improvement. Non thermal alternative oxidation technologies may be necessary if AMWTP is not constructed. The MWFA is supporting ongoing efforts to develop and demonstrate technologies that can address these types of needs, both present and future. Waste/material retrieval is not applicable. Waste is in containerized storage. Retrieval is not required. The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc.). Waste can be characterized using existing capabilities. A plausible and feasible path for treating and completing final disposition of this waste/material does exist. This waste will be processed at AMWTP (from 2004 until 2035). Treatment residuals will be shipped to a commercial disposal facility (i.e. Envirocare). If AMWTP is not constructed, other treatment options will most likely be available. No problems are foreseen.													
MLLW	2413	Lab-Packed Oxidizers, Debris, Vermiculite with Oil	LABL	INEL	2004	0.33	100 %	0.33	M3	1	2	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2005	0.11	100 %	0.11	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2006	0.11	100 %	0.11	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2007	0.11	100 %	0.11	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2008	0.11	100 %	0.11	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2009	0.11	100 %	0.11	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2010	0.11	100 %	0.11	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
Stream Comments:		INEEL AMWTP presumed to be operational from FY04 through FY35. Inventories placed storage in FY02 & FY03 to be processed at AMWTP (even though WERF to be operational through FY03).													
Barrier Comments:		WORK SCOPE DEFINITION: Waste/material does meet the subsequent treatment/disposal facility waste acceptance criteria (WAC). This waste stream is expected to meet the WAC of the AMWTP. No problems are foreseen. It is not known if a plausible and feasible path for treating and completing final disposition of this waste/material exists. This waste will be processed at AMWTP (from 2004 to 2035). Treatment residuals will be shipped to a commercial facility (i.e. Envirocare) for disposal. AMWTP is a planned facility. It is not existing. A decision to not construct this facility has been discussed by DOE. It is unclear whether or not it will actually be built. The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc.). Waste can be characterized using existing capabilities. Characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. Waste can be characterized for shipping using existing capabilities. Waste/material retrieval is not applicable. Waste is in containerized storage. Retrieval is not required. There are other science or technology needs or opportunities for improvement. Non thermal alternative oxidation technologies may be necessary if the AMWTP is not constructed. The MWFA is supporting ongoing efforts to develop and demonstrate technologies that can address these types of needs, both present and future.													
MLLW	2414	Organic Liquids / Scint. Vials	LABL	INEL	2004	1.23	100 %	1.23	M3	1	6	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**

Idaho Incoming - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2005	0.41	100 %	0.41	M3	1	2	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2006	0.41	100 %	0.41	M3	1	2	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2007	0.41	100 %	0.41	M3	1	2	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2008	0.41	100 %	0.41	M3	1	2	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2009	0.41	100 %	0.41	M3	1	2	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2010	0.41	100 %	0.41	M3	1	2	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**

Stream Comments: INEEL AMWTP presumed to be operational from FY04 through FY35. Inventories placed in storage in FY02 & FY03 to be processed at AMWTP (even though WERF to be operational through FY03).

Barrier Comments: WORK SCOPE DEFINITION: Waste/material does meet the subsequent treatment/disposal facility waste acceptance criteria (WAC). Waste is expected to meet the AMWTP WAC, when it is finalized. No problems are foreseen. It is not known if a plausible and feasible path for treating and completing final disposition of this waste/material exists. This waste will be processed at AMWTP (from 2004 until 2035). Treatment residuals will be shipped to a commercial facility (i.e. Envirocare) for disposal. However, AMWTP is a planned facility. It is not existing. A decision to not construct this facility has been discussed by DOE. It is unclear whether or not it will actually be built. Waste/material retrieval is not applicable. Waste is in containerized storage. Retrieval is not required. Characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. Waste can be characterized for shipping using existing capabilities. The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc.). Waste can be characterized using existing capabilities. There are other science or technology needs or opportunities for improvement. Non thermal alternative oxidation technologies may be necessary if the AMWTP is not constructed. The MWFA is supporting ongoing efforts to develop and demonstrate technologies that can address these types of needs, both present and future.

MLLW	2760	Inorganic Lab Trash	LLMS	INEL	2004	25	100 %	25	M3	~~2~~ **3**	~~114~~ **121**	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~ **Drum - 55 gal.**
					2005	15	100 %	15	M3	~~1~~ **2**	~~69~~ **73**	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~ **Drum - 55 gal.**
					2006	7	100 %	7	M3	1	~~32~~ **34**	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~ **Drum - 55 gal.**

Stream Comments: Inorganic Lab Trash will undergo thermal treatment at AMWTP prior to disposal.

Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: WAC acceptability has not been determined. No defined schedule to receive waste exists.

WORK SCOPE DEFINITION - DISPOSITION PATH MATURITY: Waste characteristics are broadly known.

MLLW	2768	Organic Liquids-DOE	LLMS	INEL	2004	10	100 %	10	M3	~~1~~ **2**	~~46~~ **49**	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~ **Drum - 55 gal.**
					2005	9	100 %	9	M3	~~1~~ **2**	~~41~~ **44**	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~ **Drum - 55 gal.**

Stream Comments: Organic Liquids will undergo thermal treatment at AMWTP prior to disposal.

Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: WAC acceptability has not been determined. No defined schedule to receive waste exists.

WORK SCOPE DEFINITION - DISPOSITION PATH MATURITY: Waste characteristics are broadly known.

Idaho Incoming - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	2775	High Organic Sludges-AMWTP	LLMS	INEL	2004	75	100 %	75	M3	~~6~~	~~341~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										9	**361**				**Drum - 55 gal.**
					2005	75	100 %	75	M3	~~6~~	~~341~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										9	**361**				**Drum - 55 gal.**
					2006	50	100 %	50	M3	~~4~~	~~228~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										6	**241**				**Drum - 55 gal.**
					2007	26	100 %	26	M3	~~2~~	~~119~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										3	**125**				**Drum - 55 gal.**
					2008	5	100 %	5	M3	1	~~23~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
											25				**Drum - 55 gal.**
					2009	5	100 %	5	M3	1	~~23~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
											25				**Drum - 55 gal.**
					2010	5	100 %	5	M3	1	~~23~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
											25				**Drum - 55 gal.**

Stream Comments: High Organic Sludges will undergo thermal treatment at AMWTP prior to disposal.
Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: WAC acceptability has not been determined. No defined schedule to receive waste exists.
WORK SCOPE DEFINITION - DISPOSITION PATH MATURITY: Waste characteristics are broadly known.

MLLW	2792	HEPA Filters	LLMS	INEL	2005	10	100 %	10	M3	~~1~~	~~46~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										2	**49**				**Drum - 55 gal.**

Stream Comments: HEPA Filter waste will undergo thermal treatment at AMWTP prior to disposal.
Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: WAC acceptability has not been determined. No defined schedule to receive waste exists.

WORK SCOPE DEFINITION - DISPOSITION PATH MATURITY: Waste characteristics are broadly known.

MLLW	441	MLLW Soft Solids - Incinerable	PGDP	INEL	2001	25	100 %	25	M3	~~2~~	118	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										3	**121**				**Drum - 55 gal.**

Stream Comments: Assuming that the INEEL WERF Incinerator will be operating and accepting out of state waste in FY 2001.

MLLW	484	Mixed Waste Mercury Materials	PORT	INEL	2002	34.33	100 %	34.33	M3						
										4	**166**				**Drum - 55 gal.**
					2003	48.74	100 %	48.74	M3						
										6	**235**				**Drum - 55 gal.**

Transportation Comments: Stream managed by subcontractor; transportation data not available before IPABS closure.
Barrier Comments: WORK SCOPE DEFINITION - INADEQUATE FUNDING: No capabilities (required methods and facilities) exist to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc). Available funding is inadequate to characterize this waste for acceptance at a treatment facility.

WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: No capabilities (required methods and facilities) exist to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc). It is not known if the waste/material meets the subsequent treatment/disposal facility waste acceptance criteria (WAC). Characterization is needed and the AMWTP waste acce

Idaho Incoming - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ER	2462	WAG 1 MLLW TREATED/ICDF	TBD	INEL	2004	68	100 %	68	M3	~~3~~ **8**	327	Truck	LSA2	IP-2	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**

Stream Comments: WAG-1 68 M3.
Barrier Comments: Tank waste characteristics are not well known.
Science and technology issues are expected.
It is not known at this point whether new technologies will be used.
No endpoints for acceptance by disposal facility.
Waste may need to be stock piled until disposal facility opens.
It is not yet known where this stream will be sent for treatment.

MLLW	3071	Heterogeneous Debris	WVDP	INEL	2001	60.445	100 %	60.445	M3
					2002	0.184	100 %	0.184	M3
					2003	0.092	100 %	0.092	M3
					2004	0.092	100 %	0.092	M3

Transportation Comments: Planning efforts to ship the identified volume have not occurred. Transportation information will be supplied when available.
Stream Comments: IPABS MLLW stream is aligned with Section 3.1.9 of the current Site Treatment Plan (October 2000). The preferred treatment for this waste was WERF, but because they plan to cease operations in 09/01, an alternative to WERF incineration is being developed. STP numbers WV-W057, W058.

Waste from IPABS 3077 was added to this section.

Barrier Comments: TECHNOLOGY - INADEQUATE CHARACTERIZATION CAPABILITIES: Additional analysis may be required to demonstrate compliance with specific WAC requirements prior to offsite shipment.

TECHNOLOGY - OVERALL PROJECT TECHNOLOGY CONCERNS: The preferred treatment option for these wastes is incineration followed by ash stabilization. Some of the Pb contaminated PPE may have Pb concentrations too high for acceptance for incineration at INEEL WERF. The DOE Broad Spectrum Treatment Contract may provide treatment alternatives.

Idaho Outgoing - Depleted Uranium (NM-DU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
DU	4596	LAB - Stream	INEL	GRD **TBD**	**TBD**		100 %		G						

Idaho Outgoing - Low Enriched Uranium (NM-LEU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name

Idaho Outgoing - Low Enriched Uranium (NM-LEU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
LEU	4598	GAE - Stream	INEL	NFS			100 %		G						
					TBD								**TYP B QTY**	**Type B**	**FL 10-1**
Stream Comments:		Projected path is for Reuse. Material could also go to USEC for Reuse>													
LEU	7268	GAD - Stream	INEL	NFS			100 %		G						
					TBD					**1**	**35**		**TYP B QTY**	**Type B**	**6M 110 gal**
Stream Comments:		Projected path is preparation for commercial fuel fabrication at NFS. Disolve & Dilute to < 5% enrichment.													

Idaho Incoming - Nonactinide Isotopes and Sealed Sources (NM-NISS)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
NISS	30370	Moderate Beta Gamma Sources	ANLW	INEL			100 %		NI						
					TBD										**S-100**
Stream Comments:		Qty: 3 items Total curies: 206 Ci NISS Management Group Inventory Code: (92-S) Radioisotopes: Cs-137, Ra-226, Co-60													
NISS	30875	ZAI - Stream	ANLW	INEL			100 %		NI						
					TBD										**S-100**
Stream Comments:		Projected path is AMWTF processing, packaging, and disposal at WIPP.													
NISS	30877	ZAK - Stream	ANLW	INEL			100 %		NI						
					TBD										**S-100**
Stream Comments:		Projected path at INEEL is packaging and shipment to NTS for LLW disposal.													

Idaho Outgoing - Spent Nuclear Fuel (SNF)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
SNF	2305	INTEC EBR II Metallic Sodium Bonded	INEL	ANLW	2004		100 %		MTHM			Truck	TYP B Qty	Type B	~~Cask (0.6 M3)~~
										10	**1**				**LWT**
					2005	0.49	50 %	0.245	MTHM	~~29~~	~~113~~	Truck	TYP B Qty	Type B	~~Cask (0.6 M3)~~
										18	**1**				**LWT**
					2005	0.49	50 %	0.245	MTHM	~~29~~		Truck	TYP B Qty	Type B	~~Cask (0.6 M3)~~
										6	**1**				**HFEF-6**
					2006	0.49	50 %	0.245	MTHM	~~29~~	~~113~~	Truck	TYP B Qty	Type B	~~Cask (0.6 M3)~~
										18	**1**				**LWT**

					2006	0.49	50 %	0.245	MTHM	~~29~~ **6**	**1**	Truck	TYP B Qty Type B	~~Cask (0.6 M3)~~ **HFEF-6**
					2007	0.49	50 %	0.245	MTHM	~~30~~ **18**	~~114~~ **1**	Truck	TYP B Qty Type B	~~Cask (0.6 M3)~~ **LWT**
					2007	0.49	50 %	0.245	MTHM	~~30~~ **6**	**1**	Truck	TYP B Qty Type B	~~Cask (0.6 M3)~~ **HFEF-6**
					2008	0.5	50 %	0.25	MTHM	~~30~~ **5**	**1**	Truck	TYP B Qty Type B	~~Cask (0.6 M3)~~ **HFEF-6**
					2008	0.5	50 %	0.25	MTHM	~~30~~ **18**	~~114~~ **1**	Truck	TYP B Qty Type B	~~Cask (0.6 M3)~~ **LWT**
					2010		100 %		MTHM	**1**	**1**	Truck	TYP B Qty Type B	~~Cask (0.6 M3)~~ **HFEF-6**

Transportation Comments: These shipments include both NRC license and non license cask. For the non license cask the public highway will be closed.
Stream Comments: Schedule for receipt and disposition has not yet been established.
Barrier Comments: INTERSITE TRANSFER ISSUES Need casks to move fuel to treatment facility.
WORK SCOPE - COMPLIANCE ISSUES Unformed policy. No regulation as waste until disposition. Repository acceptance criteria not available.

TECHNOLOGY SHIPPING SYSTEMS No licensed casks to move fuel from INTEC to ANL-W. Need secondary containment to transport TRU-containing material.
CHARACTERIZATION Need to determine oxidation of Na metal. Methods for fissile material content under development. ID-1.1.09,.12 , ID-1.2.06

SNF	4452	SNL Transferred to ANL-W	INEL	ANLW	2008	0.04	100 %	0.04	MTHM	1	1	Truck	TYP B Qty Type B	~~Cask (0.6 M3)~~ **LWT**

Barrier Comments: INTERSITE TRANSFER ISSUES Need casks to move fuel to treatment facility.

WORK SCOPE - COMPLIANCE ISSUES Unformed policy. No regulation as waste until disposition. Repository acceptance criteria not available.
TECHNOLOGY SHIPPING SYSTEMS No licensed casks to move fuel from INTEC to ANL-W. Need secondary containment to transport TRU-containing material.

CHARACTERIZATION Need to determine oxidation of Na metal. Methods for fissile material content under development.
Needs: ID-1.1.08, ID-1.1.09, ID-1.1.12, ID-1.1.13, ID-1.1.18, ID-1.2.06

SNF	736	Dried/Packaged Al Based SNF	INEL	SARS	2004	0.22	100 %	0.22	MTHM	~~1~~	1	Truck	TYP B Qty Type B	~~Cask (0.6 M3)~~ **LWT**
					2010	0.14	100 %	0.14	MTHM	~~6~~ **20**	~~108~~ **1**	Truck	TYP B Qty Type B	~~Cask (0.6 M3)~~ **LWT**

Barrier Comments: INTERSITE DEPENDENCY: INTERSITE AGREEMENT CONFLICTS - Determination if these fuels go to SRS as candidates for melt and dilute treatment not made.
WORK SCOPE DEFINITION: CERCLA OR NEPA ROD NOT ISSUED - Stream depends on SRS EIS ROD.
TECHNOLOGY: INADEQUATE PACKAGING CAPABILITIES (INCLUDING CONTAINERS) - Insoluble neutron poison needed for disposal in the repository to minimize criticality potential. INADEQUATE CHARACTERIZATION CAPABILITIES - Fuel integrity and burnup must be verified to ship to treatment facility. OVERALL TECHNOLOGY CONCERNS - Inadequate Treatment Capabilities: Melt and dilute not verified at operational scale, other treatment options unknown.
Needs: ID-1.1.02, ID-1.1.05, ID-1.1.06, ID-1.2.09, ID-1.1.12, ID-1.1.20, ID-S.1.06, ID-S.1-22

SNF	738	INTEC Dry Aluminum Based SNF	INEL	SARS	2010	0.01	100 %	0.01	MTHM	4	~~70~~ **1**	Truck	TYP B Qty Type B	~~Cask (0.6 M3)~~ **LWT**

Stream Comments: Spent Nuclear Fuel information used in this stream was taken from the National Spent Nuclear Database.

Barrier Comments: INTERSITE DEPENDENCY: OTHER INTERSITE DEPENDENCY ISSUES - Disposition dependent on SRS EIS choices.
WORK SCOPE DEFINITION: CERCLA OR NEPA ROD NOT ISSUED - SRS EIS and ROD to process aluminum fuels not completed. SRS acceptance criteria not established.

Further characterization may be required.
TECHNOLOGY: Transport canister requirements needed. Need fuel integrity information. Poison information needed. Burnup and fissile characterization needed. Needs: ID-1.2.09, ID-1.1.12, ID-1.1.13, ID-1.1.20, ID-1.2.06

SNF	3888	Treat Epoxy SNF	INEL	~~INEL~~ **TBD**	2010	0.03	100 %	0.03	MTHM	1	~~12~~ **1**	Truck	TYP B Qty Type B	~~Cask (0.6 M3)~~ **TBD - requires comment**

Transportation Comments: The remaining transfers are planned for FY2011-15.
Barrier Comments: WORK SCOPE DEFINITION - DISPOSITION Determination has not been made regarding final disposition of some of the debris. There may be alternate non repository disposal options.

TECHNOLOGY - CHARACTERIZATION: Physical and radiological characteristics not well established. ID-1.1.09,.12 Heat generation and stability of fuel effectively unknown.

TECHNOLOGY - Treatment: Epoxy treatment process needs to be scaled up for operation. ID-1.1.21 Passivation and immobilization methods needed. ID-1.1.19 Facility not identified. Process not finalized. Equipment not designed.

Intersite dependency: Repository requirements need to be established.

SNF	4451	Fermi Blanket	INEL	~~INEL~~ **TBD**	2005	5.7	100 %	5.7	MTHM	2	~~2~~ **1**	Truck	TYP B Qty Type B	~~Cask (0.6 M3)~~ **Peach Bottom**
					2006	5.7	100 %	5.7	MTHM	2	~~2~~ **1**	Truck	TYP B Qty Type B	~~Cask (0.6 M3)~~ **Peach Bottom**
					2007	5.7	100 %	5.7	MTHM	2	~~2~~ **1**	Truck	TYP B Qty Type B	~~Cask (0.6 M3)~~ **Peach Bottom**
					2008	5.7	100 %	5.7	MTHM	3	~~3~~ **1**	Truck	TYP B Qty Type B	~~Cask (0.6 M3)~~ **Peach Bottom**
					2009	5.7	100 %	5.7	MTHM	3	~~3~~ **1**	Truck	TYP B Qty Type B	~~Cask (0.6 M3)~~ **Peach Bottom**
					2010	5.7	100 %	5.7	MTHM	~~2~~ **3**	~~2~~ **1**	Truck	TYP B Qty Type B	~~Cask (0.6 M3)~~ **Peach Bottom**

Transportation Comments: The shipping container for this SNF has not been determined. Plans have the storage container as the shipping container.
Barrier Comments: WORK SCOPE - COMPLIANCE ISSUES Unformed policy. No regulation as waste until disposition. Repository acceptance criteria not available. Treatment process still TBD.

TECHNOLOGY: System for removing sodium from the pins has not been designed or engineered.

Idaho Incoming - Spent Nuclear Fuel (SNF)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
SNF	4461	ANL-W SNF	ANLW	INEL	2003	4.63	100 %	4.63	MTHM						**NAC-LWT**

Idaho Incoming - Spent Nuclear Fuel (SNF)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2004	0.01	100 %	0.01	MTHM						
															NAC-LWT
					2005	0.03	100 %	0.03	MTHM						
															NAC-LWT
					2006	0.07	100 %	0.07	MTHM						
															NAC-LWT
Transportation Comments:		MATERIAL TO BE SHIPPED VIA TRUCK													
SNF	4157	Domestic Research Reactor	DRR	INEL	2003		100 %		MTHM						
										1	**1**		**TYP B QTY**	**Type B**	**LWT**
					2004	0.5	100 %	0.5	MTHM						
										2	**1**		**TYP B QTY**	**Type B**	**LWT**
					2005	0.05	100 %	0.05	MTHM						
										3	**1**		**TYP B QTY**	**Type B**	**LWT**
					2006	0.03	100 %	0.03	MTHM						
										3	**1**		**TYP B QTY**	**Type B**	**LWT**
					2007	0.03	100 %	0.03	MTHM						
										2	**1**		**TYP B QTY**	**Type B**	**LWT**
					2008	0.17	100 %	0.17	MTHM						
										6	**1**		**TYP B QTY**	**Type B**	**LWT**
					2009	0.03	100 %	0.03	MTHM						
										2	**1**		**TYP B QTY**	**Type B**	**LWT**
					2010		100 %		MTHM						
										1	**1**		**TYP B QTY**	**Type B**	**LWT**
Barrier Comments:		Material characterization, inventory and integrity need verification prior to packaging.													
		Tools, handling fixtures, baskets and canisters need to be designed and fabricated. Interim storage package design needs to be completed and certified.													
		Facility needs to be identified/designed/built. Facility safety analysis for identified fuels required.													
		Needs: ID-1.1.07, ID-1.1.09, ID-1.1.11, ID-1.1.12,ID-1.1.15, ID-1.1.20, ID-1.1.23, ID-1.2.06,ID-S.1.20													
SNF	2299	Foreign Research Reactor	FRR	INEL	2001	0.02	100 %	0.02	MTHM						
													TYP B QTY	**Type B**	**LWT**
					2002	0.03	100 %	0.03	MTHM						
										1	**1**		**TYP B QTY**	**Type B**	**LWT**

Idaho Incoming - Spent Nuclear Fuel (SNF)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2003	0.05	100 %	0.05	MTHM						
										2	**1**		**TYP B QTY**	**Type B**	**LWT**
					2004	0.03	100 %	0.03	MTHM						
										4	**1**		**TYP B QTY**	**Type B**	**LWT**
					2005	0.05	100 %	0.05	MTHM						
										4	**1**		**TYP B QTY**	**Type B**	**LWT**
					2006	0.14	100 %	0.14	MTHM						
										4	**1**		**TYP B QTY**	**Type B**	**LWT**
					2007	0.02	100 %	0.02	MTHM						
										4	**1**		**TYP B QTY**	**Type B**	**LWT**
					2008	0.02	100 %	0.02	MTHM						
										4	**1**		**TYP B QTY**	**Type B**	**LWT**
					2009		100 %		MTHM						
										4	**1**		**TYP B QTY**	**Type B**	**LWT**

Stream Comments: SNF will be received beginning in FY 98 and will continue through FY34. Schedule of receipts is not yet complete. Includes both DRR and FRR.

Barrier Comments: Technology: Characterization and validation of fuel data required/not yet available. Dry Transfer Cell/Interim Storage not yet designed or constructed. Repository canister not specified. Needs: ID-1.1.07, ID-1.1.09, ID-1.1.11, ID-1.1.12, ID-1.1.15, ID-1.1.20, ID-1.1.22, ID-S.1.20
Work Scope: Numerous international cooperative actions to be executed. Decisions on extent and timing of action not determined.
Intersite: Cask and transport logistics to be established at time of transfer.

SNF	4265	Hot Cell Facility Irradiated Fuel Materials - High-Temperature Gas-Cooled Reactor	GEAT	INEL	~~2005~~	0.0001	100 %	0.0001	MTHM						
					2003					**1**					**T-2 or NAC-LWT**

Transportation Comments: Irradiated fuel material is currently dry stored on the General Atomics site. Materials are stored in a General Atomics owned, unlicensed shipping cask. Materials will remain in this configuration until FY03, which is the scheduled shipping date of the materials to INEL. At which time, materials will be transferred from the unlicensed shipping cask to a licensed shipping cask.

SNF	4266	Hot Cell Facility Irradiated Fuel Material - Reduced-Enrichment Research and Test Reactor	GEAT	INEL	~~2005~~	0.003	100 %	0.003	MTHM						
					2003										**T-2 or NAC-LWT**

Transportation Comments: Irradiated fuel materials are currently dry stored in a General Atomics owned and unlicensed shipping cask on site. Materials will remain in this configuration until FY03, which is the scheduled shipping date of the materials to INEL. At which time, matarials will be transferred from the unlicensed shipping cask to a licensed shipping cask.

Idaho Incoming - Spent Nuclear Fuel (SNF)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
SNF	264	Repackaged SS, Zir, Graph SNF in Facility 7827	ORTN	INEL	2002	0.221	100 %	0.221	MTHM	5	5	Truck	TYP B Qty	Type B	~~Cask (0.194 M3)~~ **TN-FSV**

Transportation Comments: Current plans are to use the TN-FSV cask. An inner container for the cask is being designed and licensed to carry up to 20 small Oak Ridge SNF canisters or up to 5 intact Peach Bottom fuel assemblies, or a combination, in specific loading arrangements.

Stream Comments: Effective in FY01, SNF is under PBS 331.

Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Concern about completion of settlement agreement milestones at INEEL; State of Idaho could delay shipments.

SNF	1081	SS/Zircalloy SNF to INEEL	SARS	INEL	2010	2.892	100 %	2.892	MTHM	22	39	Truck/Rail	TYP B Qty	Type B	~~Cask (0.07 M3)~~ **Drum - 55 gal.**

Transportation Comments: Exchange schedules and other details have not been finalized as of the FY99 PTC planning cycle. Material will be transferred to a SNF shipping cask prior to shipment.

Stream Comments: Non-Aluminum clad, currently at SRS awaiting transfer to INEEL beginning in 2010 Current inventory PBS is SR-SF03, planned deinventory PBS will be SR-SF02 prior to shipment to INEEL.

Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: It is not known if all of the waste/material meets the receiving facility material acceptance criteria. Not sure if it is sufficiently characterized to meet the receiving facility acceptance criteria, though most of the material came to SRS from Idaho. It is unknown if characterization is sufficient to support designation under Department of Transportation (DOE) or onsite transportation, storage, or treatment requirements. It is likely that identification /characterization will be needed for shipment. It is not known if the capabilities exist to complete the characterization required by the acceptance criteria of the receiving treatment/processing facilities (e.g., burn-up, source term, etc.).

SNF	30100	SNL SNF2, Sodium Bonded (PNL Mixed Matl's)	SNLN	INEL	2006	0.04	100 %	0.04	MTHM			Truck	TYP B Qty ~~TBD~~	**Type B**	~~TBD (0 M3)~~ **TBD - requires comment**

Barrier Comments: Technology: Auxiliary Hot Cell Facility duration
Work Scope: Characterization methods of material
Intersite: Need to identify casks to move fuel to treatment facility

SNF	273	Spent Nuclear Fuel	WVDP	INEL	~~2001~~ **TBD**	26.32	100 %	26.32	MTHM	~~0~~ **1**	~~0~~ **2**	Rail	~~TBD~~ **TYP B Qty**	Type B	~~Cask (0 M3)~~ **TN-REG / TN-BRP**

Transportation Comments: Plaaning efforts are currently in progress.

Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: The assemblies will be stored on a pad in dry storage using the shipping casks as the storage container. The project is baselined on the belief that the NRC will allow only shipment of a half-load fill of the casks. The first half-shipment will be sent and unloaded at TAN and stored in the Silo. Once the second shipment is made the stored elements will be moved from the Silo into the cask for interim storage with the second half-load.
WORK SCOPE DEFINITION - LICENSE OR PERMIT ISSUES: Concern exists that the State of Idaho may prevent the shipment of commercial fuel in to Idaho if milestones in the Settlement Agreement are not met by DOE. This shipment of WV fuel would represent the first non-Navy/ foreign-research-reactor fuel since

Idaho Outgoing - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	1952	CH TRU from INEEL	INEL	WIPP	2001	~~1159~~ **697**	100 %	~~1159~~ **697**	M3	~~170~~ **121**	~~510~~ **241**	Truck	LSA1	Type B	~~Cask (2.9 M3)~~ **TRUPACT-II**

Idaho Outgoing - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2002	1483	100 %	~~1483~~	M3	~~216~~	~~648~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
										381	**512**				**TRUPACT-II**
					2003	~~1082~~	100 %	~~1082~~	M3	~~177~~	~~531~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						790		**790**		**149**	**273**				**TRUPACT-II**
					2004	~~1817~~	100 %	~~1817~~	M3	~~386~~	~~1158~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						1530		**1530**		**274**	**528**				**TRUPACT-II**
					2005	~~2238~~	100 %	~~2238~~	M3	~~485~~	~~1455~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						1948		**1948**		**348**	**672**				**TRUPACT-II**
					2006	~~2210~~	100 %	~~2210~~	M3	~~478~~	~~1434~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						1920		**1920**		**343**	**663**				**TRUPACT-II**
					2007	~~2502~~	100 %	~~2502~~	M3	~~547~~	~~1641~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						2212		**2212**		**395**	**763**				**TRUPACT-II**
					2008	~~2984~~	100 %	~~2984~~	M3	~~662~~	~~1986~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						2694		**2694**		**482**	**929**				**TRUPACT-II**
					2009	~~2480~~	100 %	~~2480~~	M3	~~925~~	~~2775~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						2190		**2190**		**392**	**756**				**TRUPACT-II**
					2010	~~2723~~	100 %	~~2723~~	M3	~~984~~	~~2952~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						2433		**2433**		**435**	**839**				**TRUPACT-II**

Stream Comments: Total volumes to be disposed at WIPP and those to be shipped from INEEL are consistent. Disposition schedules vary because of the need to maintain total annual receipt schedule within the WIPP limit of 850 shipments per year. Shipment rates are modified for FY04, 05, and 06.

TRU	1953	RH TRU from INEEL	INEL	WIPP	2007	14.17	100 %	14.17	M3	~~34~~	~~34~~	Truck	LSA1	Type B	~~Cask (0.89 M3)~~
											23				**RH-72B**
					2008	14.17	100 %	14.17	M3	~~34~~	~~34~~	Truck	LSA1	Type B	~~Cask (0.89 M3)~~
											23				**RH-72B**
					2009	14.17	100 %	14.17	M3	~~34~~	~~34~~	Truck	LSA1	Type B	~~Cask (0.89 M3)~~
											23				**RH-72B**
					2010	14.17	100 %	14.17	M3	~~34~~	~~34~~	Truck	LSA1	Type B	~~Cask (0.89 M3)~~
											23				**RH-72B**

Stream Comments: Total volumes to be disposed at WIPP and those to be shipped from INEEL differ. Disposition schedules vary because of differing baseline assumptions. INEEL supports 85 m3 as a shipping volume.

Idaho Incoming - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	4270	TRU/Mixed Haz CH Volume Reduction	ANLW	INEL	2001	1.53	100 %	1.53	M3						
										1	**8**				**Drum - 55 gal.**
					2002	0.81	100 %	0.81	M3						
										1	**4**				**Drum - 55 gal.**

Idaho Incoming - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2003	0.81	100 %	0.81	M3						
										1	**4**				**Drum - 55 gal.**
					2004	0.81	100 %	0.81	M3						
										1	**4**				**Drum - 55 gal.**
					2005	0.81	100 %	0.81	M3						
										1	**4**				**Drum - 55 gal.**
					2006	0.81	100 %	0.81	M3						
										1	**4**				**Drum - 55 gal.**
					2007	0.81	100 %	0.81	M3						
										1	**4**				**Drum - 55 gal.**
					2008	0.81	100 %	0.81	M3						
										1	**4**				**Drum - 55 gal.**

Transportation Comments: MATERIAL TO BE SHIPPED VIA TRUCK

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	4273	TRU/Mixed Haz RH for INEEL Storage	ANLW	INEL	2001	0.4	100 %	0.4	M3						
										1	**1**				**RH-72B**
					2002	0.6	100 %	0.6	M3						
										1	**1**				**RH-72B**
					2003	0.6	100 %	0.6	M3						
										1	**1**				**RH-72B**
					2004	0.6	100 %	0.6	M3						
										1	**1**				**RH-72B**
					2005	0.6	100 %	0.6	M3						
										1	**1**				**RH-72B**
					2006	0.6	100 %	0.6	M3						
										1	**1**				**RH-72B**
					2007	0.6	100 %	0.6	M3						
										1	**1**				**RH-72B**
					2008	0.6	100 %	0.6	M3						
										1	**1**				**RH-72B**

Transportation Comments: MATERIAL TO BE SHIPPED VIA TRUCK

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	1768	CH MTRU Aqueous Liquids (Non-Defense)	LABL	INEL	2004	1.13	100 %	1.13	M3	1	~~3~~	Truck	TYP A Qty Type A/IP-3	~~Other (0.21 M3)~~	
											6				**Drum - 55 gal.**

Stream Comments: STP streams W101 & W111. Outer container volume.

Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: It is not known if all of the waste/material meets the subsequent treatment/disposal facility waste acceptance criteria (WAC). It is not known if capabilities (required methods and facilities) exist to complete the characterization required by the WAC of the receiving facility (physical sampling capability, onsite analytical capability, offsite contracts, etc.). (Expect to use mobile system(s) for treatment). It is not known if characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	127	Pu/PCB Oil (17%)	MEMP	INEL	2002	0.005	100 %	0.005	M3						
										1	**1**				**Drum - 55 gal.**

Idaho Incoming - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2004	0	100 %	0	M3	~~1~~ **0**	~~1~~ **0**	Truck	TBD	TBD	~~TBD (1 M3)~~ **RH-72B**

Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: Characterization sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements is not applicable. May use treatability study to get waste ready for WIPP Not all of the waste/material meets the subsequent treatment/disposal facility waste acceptance criteria (WAC). Waste contains 17% PCBs, may use treatability study to ready waste for WIPP No capabilities (required methods and facilities) exist to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc). Mound has no onsite capabilities to treat this PCB waste to meet the WIPP WAC. Mound may use the B&W Lynchburg Facility to do an

TRU	4000	Sorted TRU to INEEL Treatment	RFTS	INEL	2004	78.33	100 %	78.33	M3	12	373	Truck	TYP B Qty Type B		~~Drum 55 gal (0.208 M3)~~ **TRUPACT-II**
					2005	78.33	100 %	78.33	M3	12	373	Truck	TYP B Qty Type B		~~Drum 55 gal (0.208 M3)~~ **TRUPACT-II**
					2006	78.33	100 %	78.33	M3	12	373	Truck	TYP B Qty Type B		~~Drum 55 gal (0.208 M3)~~ **TRUPACT-II**

Barrier Comments: TECHNOLOGY - thermal treatment may be required; thermal treatment may not be part of scope of AMWTP
WORK SCOPE - planning to use the AMWTP, however do not know if it will be available inthe timeframe needed for closure, and unsure of tecnology efficacy. Transportation to INEEL undetermined.
INTERSITE DEPENDENCY - no agreement with INEEL has been reached

Attachment 2

IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LABORATORY TYPE B AND TYPE A-FISSILE PACKAGING BASELINE

10 May 2002

Idaho

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
2004	Argonne West	SNF	10	LWT	Yes / Yes	EBR-II Dry. IPABS doesn't show this stream in 2004 but this information was provided by Steve Wahnschaffe at the INEEL, 2/26/02. NAC-LWT is a licensed transportation cask for SNF, COC 9225. The INEEL has safety documentation for the use of this cask in the IFSF and has used the cask to bring in FRR SNF. Because it has been used all most yearly, the actual transportation costs for this cask are used in out planning for the INEEL SNF Program. SNF has not been approved for this licensed cask. The INEEL has over 250 SNF types and until a cask has been approved for each type it is unknown exactly which cask will be used. Per Steve Wahnschaffe 2/26/02.
2004	Savannah	SNF	1	LWT	Yes / Yes	Core Filter. NAC-LWT is a licensed transportation cask for SNF, COC 9225. The INEEL has safety documentation for the use of this cask in the IFSF and has used the cask to bring in FRR SNF. Because it has been used all most yearly, the actual transportation costs for this cask are used in out planning for the INEEL SNF Program. SNF has not been approved for this licensed cask. The INEEL has over 250 SNF types and until a cask has been approved for each type it is unknown exactly which cask will be used. Per Steve Wahnschaffe 2/26/02.

Idaho

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
2005	Argonne West	SNF	6	HFEF-6	**No** / Yes	EBR-II Wet. HFEF-6 cask is used for Out of Commerce shipments at the INEEL. This cask is planned to be used for inner site shipment on non-public roads. The only exception to this is that this cask has been identified to transfer EBR II cans with water in them to ANL-W. The cask would be transfer on US Highway 20 from INTEC to ANL-W. The highway would be closed during the transfers, Out of Commerce shipments.
2005	Argonne West	SNF	18	LWT	Yes / Yes	EBR-II Dry. NAC-LWT is a licensed transportation cask for SNF, COC 9225. The INEEL has safety documentation for the use of this cask in the IFSF and has used the cask to bring in FRR SNF. Because it has been used all most yearly, the actual transportation costs for this cask are used in out planning for the INEEL SNF Program. SNF has not been approved for this licensed cask. The INEEL has over 250 SNF types and until a cask has been approved for each type it is unknown exactly which cask will be used. Per Steve Wahnschaffe 2/26/02.
2005	**TBD**	SNF	2	Peach Bottom	**No** / **No**	Fermi Blanket. Treatment process needs to be determined for the epoxy and Fermi Blanket SNF. Funding is not always available.

Idaho

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
2006	Argonne West	SNF	6	HFEF-6	**No** / Yes	EBR-II Wet. HFEF-6 cask is used for Out of Commerce shipments at the INEEL. This cask is planned to be used for inner site shipment on non-public roads. The only exception to this is that this cask has been identified to transfer EBR II cans with water in them to ANL-W. The cask would be transfer on US Highway 20 from INTEC to ANL-W. The highway would be closed during the transfers, Out of Commerce shipments.
2006	Argonne West	SNF	18	LWT	Yes / Yes	EBR-II Dry. NAC-LWT is a licensed transportation cask for SNF, COC 9225. The INEEL has safety documentation for the use of this cask in the IFSF and has used the cask to bring in FRR SNF. Because it has been used all most yearly, the actual transportation costs for this cask are used in out planning for the INEEL SNF Program. SNF has not been approved for this licensed cask. The INEEL has over 250 SNF types and until a cask has been approved for each type it is unknown exactly which cask will be used. Per Steve Wahnschaffe 2/26/02.
2006	**TBD**	SNF	2	Peach Bottom	**No / No**	Fermi Blanket. Treatment process needs to be determined for the epoxy and Fermi Blanket SNF. Funding is not always available.

Idaho

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
2007	Argonne West	SNF	6	HFEF-6	**No** / Yes	EBR-II Wet. HFEF-6 cask is used for Out of Commerce shipments at the INEEL. This cask is planned to be used for inner site shipment on non-public roads. The only exception to this is that this cask has been identified to transfer EBR II cans with water in them to ANL-W. The cask would be transfer on US Highway 20 from INTEC to ANL-W. The highway would be closed during the transfers, Out of Commerce shipments.
2007	Argonne West	SNF	18	LWT	Yes / Yes	EBR-II Dry. NAC-LWT is a licensed transportation cask for SNF, COC 9225. The INEEL has safety documentation for the use of this cask in the IFSF and has used the cask to bring in FRR SNF. Because it has been used all most yearly, the actual transportation costs for this cask are used in out planning for the INEEL SNF Program. SNF has not been approved for this licensed cask. The INEEL has over 250 SNF types and until a cask has been approved for each type it is unknown exactly which cask will be used. Per Steve Wahnschaffe 2/26/02.
2007	**TBD**	SNF	2	Peach Bottom	**No / No**	Fermi Blanket. Treatment process needs to be determined for the epoxy and Fermi Blanket SNF. Funding is not always available.

Idaho

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
2008	Argonne West	SNF	5	HFEF-6	**No** / Yes	EBR-II Wet. HFEF-6 cask is used for Out of Commerce shipments at the INEEL. This cask is planned to be used for inner site shipment on non-public roads. The only exception to this is that this cask has been identified to transfer EBR II cans with water in them to ANL-W. The cask would be transfer on US Highway 20 from INTEC to ANL-W. The highway would be closed during the transfers, Out of Commerce shipments.
2008	Argonne West	SNF	1	LWT	Yes / Yes	This stream appears in IPABS, but it was not addressed by SNF program.
2008	Argonne West	SNF	18	LWT	Yes / Yes	EBR-II Dry. NAC-LWT is a licensed transportation cask for SNF, COC 9225. The INEEL has safety documentation for the use of this cask in the IFSF and has used the cask to bring in FRR SNF. Because it has been used all most yearly, the actual transportation costs for this cask are used in out planning for the INEEL SNF Program. SNF has not been approved for this licensed cask. The INEEL has over 250 SNF types and until a cask has been approved for each type it is unknown exactly which cask will be used. Per Steve Wahnschaffe 2/26/02.
2008	**TBD**	SNF	3	Peach Bottom	**No / No**	Fermi Blanket. Treatment process needs to be determined for the epoxy and Fermi Blanket SNF. Funding is not always available.

Idaho

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
2009	**TBD**	SNF	3	Peach Bottom	**No / No**	Fermi Blanket. Treatment process needs to be determined for the epoxy and Fermi Blanket SNF. Funding is not always available.
2010	Argonne West	SNF	1	HFEF-6	**No** / Yes	WAPD (Na bonded) & SPEC (ORME) NAC-LWT is a licensed transportation cask for SNF, COC 9225. The INEEL has safety documentation for the use of this cask in the IFSF and has used the cask to bring in FRR SNF. Because it has been used all most yearly, the actual transportation costs for this cask are used in out planning for the INEEL SNF Program. SNF has not been approved for this licensed cask. The INEEL has over 250 SNF types and until a cask has been approved for each type it is unknown exactly which cask will be used. Per Steve Wahnschaffe 2/26/02.
2010	Savannah	SNF	4	LWT	Yes / Yes	Aluminum Based. NAC-LWT is a licensed transportation cask for SNF, COC 9225. The INEEL has safety documentation for the use of this cask in the IFSF and has used the cask to bring in FRR SNF. Because it has been used all most yearly, the actual transportation costs for this cask are used in out planning for the INEEL SNF Program. SNF has not been approved for this licensed cask. The INEEL has over 250 SNF types and until a cask has been approved for each type it is unknown exactly which cask will be used. Per Steve Wahnschaffe 2/26/02.

Idaho

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
2010	Savannah	SNF	20	LWT	Yes / Yes	Aluminum Based. Cask selection will be finalized approx. FY06. SNF has not been approved for this licensed cask. The INEEL has over 250 SNF types and until a cask has been approved for each type it is unknown exactly which cask will be used. Per Steve Wahnschaffe 2/26/02.
2010	**TBD**	SNF	3	Peach Bottom	**No / No**	Fermi Blanket. Treatment process needs to be determined for the epoxy and Fermi Blanket SNF. Funding is not always available.
2010	**TBD**	SNF	1	**TBD**	**- / -**	MTR Canal Test Fuel.
TBD	Nuc. Fuel Svc.	NM-LEU		FL 10-1	Yes / Yes	To the best of my knowledge the unirradiated LEU, DU and NU located at BBWI will not require an SST. They can go via commercial truck. Therefore no SST are involved. Per Bryce Denning 3/5/02.
TBD	Nuc. Fuel Svc.	NM-LEU	1	6M 110 gal	Yes / Yes	To the best of my knowledge the unirradiated LEU, DU and NU located at BBWI will not require an SST. They can go via commercial truck. Therefore no SST are involved. Per Bryce Denning 3/5/02.

Money transfer for off-site shipment (disposal)
The INEEL LLW Program is generator certified for contact handled LLW disposal at Hanford and will be certified for contact handled LLW disposal at the Nevada Test Site (NTS) in the near future. Verbal notification of INEEL generator certification approval has been received from NTS and official certification documentation should be received shortly. With these certifications the INEEL will have three DOE LLW disposal facility options (INEEL RWMC, NTS, Hanford) for disposal of INEEL generated LLW. The on-site disposal option at the INEEL RWMC, as currently forecast and planned, will be volume filled by 2020. At this time 100% of INEEL LLW will require off-site disposal. To achieve the 2020 date, off-site contact handled LLW disposal will be ramped up over the next 18 years, while 100% remote-handled LLW disposal will continue at the INEEL to approximately 2016. At 2016 remote-handled off-site disposal will ramp-up to 100 % by 2020. Off-site disposal facilities require generators to provide a waste disposal forecast in May of each year for the current year on a monthly volume basis and for the following three years for annual volumes. This forecasting allows the receiving disposal facility to plan for necessary resources to receive and dispose of the LLW. The receiving facilities also require inter-office transfer of funding for the current year based on the monthly volume forecast. This funding has to be received before any waste stream shipments can be made. Any deviation from the forecast volume (increases or decreases) have to be communicated and funding adjusted appropriately. Any funding remaining at the receiving facility at the end of fiscal year will be returned to the generator or carried over to the next year if the generator desires. Improving forecasting of LLW off-site disposal will become more important for providing accurate funding transfer as the INEEL LLW disposal capacity is filled.

Cost Charge Back for disposal costs and shipping of RH- LLW for off-site disposal
The disposal rates have varied from year to year because the volume disposed at the off-site disposal facility varies. They base their cost per m3 based on how much waste they dispose. The more waste the less cost per m3. The less waste the more cost per m3. The cost per m3 has been going down over the last two years as both disposal facilities are seeing an increase waste volume. However, if they were to see a significant increase they might have to add resources and equipment that could increase costs. Carlan Mullen, INEEL

DOCUMENT PLANS FOR WASTE STREAMS FOR HLW

The HLW are beyond the scope of this report. There are no shipments scheduled prior to 2010.

Non-EM Shipment and Receipts
Type B and Type A-Fissile Packaging Report 2001-2010 Baseline for the INEEL

ATR Non-Naval Reactors Experiments (Fissile)

Program / Project Description	Receipt or Shipment	Origin or Destination	Planned Date of Receipt or Shipment	Packaging	Radionuclide(s)	Comments
Np-237 Array (Pu-238 production)	Shipment	to Oak Ridge	March 2002	GE-100 NRC-certified Type B fissile package	Np-237, Pu-238, actinides, fission products	Shipped as planned.
Subsequent Np-237 Target Experiments	Receipt	from Oak Ridge	Unknown, if at all [Given the interval between the previous experiments at about 18 months, the next experiment could be late CY 2003.]	DOT Specification 6M Type B fissile package	Np-237	There is a concern that potential regulatory changes may affect availability of Specification 6M's [Note 1].
Subsequent Np-237 Target Experiment(s)	Shipment(s)	to Oak Ridge	Unknown, if at all	GE-100 NRC-certified Type B fissile package	Np-237, Pu-238, actinides, fission products	There is a concern that potential regulatory changes may affect availability of GE-100 [Note 21].

ATR Non-Naval Reactors Experiments (Fissile)

Program / Project Description	Receipt or Shipment	Origin or Destination	Planned Date of Receipt or Shipment	Packaging	Radionuclide(s)	Comments
MOX (fuel experiment)	Shipment	to Oak Ridge	April 2002	GE-100 NRC-certified Type B fissile package	Actinides, fission products, neutron activation of non-fuel components	On schedule as planned.
MOX (fuel experiment)	Shipment	to Oak Ridge	October 2003	GE-100 NRC-certified Type B fissile package	Actinides, fission products, neutron activation of non-fuel components	This shipment is for the last three MOX fuel capsules of this experiment. There is a concern that potential regulatory changes may affect availability of GE-100 [2].
Accelerator Treated Waste (eight actinide burnup experiments)	Multiple receipts	from ANL-W	Preliminary schedule has the receipts planned for FY-2003	Unknown	Actinides	Packaging has not been identified yet. Specification 6M drums are too short for the experiments as they are currently configured.
Accelerator Treated Waste (eight actinide burnup experiments)	Multiple Shipments	to ANL-E	Preliminary schedule has shipments planned for FY's 2003 and 2004	GE-100 NRC-certified Type B fissile package	Actinides, fission products, neutron activation of non-fuel components	There is a concern that potential regulatory changes may affect availability of GE-100 [2].

ATR Non-Naval Reactors Experiments (Fissile)

Program / Project Description	Receipt or Shipment	Origin or Destination	Planned Date of Receipt or Shipment	Packaging	Radionuclide(s)	Comments
Pebble Bed Modular Reactor (fuel experiment)	Receipt	from Germany	Summer 2002	Unknown	Unirradiated Uranium-based fuel compound	Expect the packaging will be a German Type A (IAEA compliant)
Pebble Bed Modular Reactor (fuel experiment)	Shipment	to Oak Ridge	Unknown	GE-100 NRC-certified Type B fissile package	Actinides, fission products, neutron activation of non-fuel components	There is a concern that potential regulatory changes may affect availability of GE-100 [2].
(additional) RERTR fuel experiment(s)	Receipt(s)	from ANL-West	Unknown, if at all	DOT Specification 6M Type B fissile package	Unirradiated Uranium-based fuel compound	There is a concern that potential regulatory changes may affect availability of Specification 6M's [1].
(additional) RERTR fuel experiment(s)	Shipment(s)	to ANL-East (Argonne IL)	Unknown, if at all	GE-100 NRC-certified Type B fissile package	Actinides, fission products, neutron activation of non-fuel components	There is a concern that potential regulatory changes may affect availability of GE-100 [2].

ATR Non-Naval Reactors Experiments (non-Fissile)

Program / Project Description	Receipt or Shipment	Origin or Destination	Planned Date of Receipt or Shipment	Packaging	Radionuclide(s)	Comments
Magnox (materials test)	Shipment	to Test Sponsor (Gloucester England)	early 2003	Magnox-supplied DOT Specifica-tion 7A Type A packaging	neutron activation of test and components (graphite)	Because of 49CFR173.415(d), the Magnox-supplied Type A packaging (IAEA compliant) will have to be re-evaluated as a Spec 7A
JAPEIC (material experiment)	Shipment	to Test Sponsor (Tokyo Japan)	Unknown, if at all	JAPEIC-supplied DOT Specifica-tion 7A Type A packagings	neutron activation of stainless steel	Expect to use same JAPEIC-supplied Type A packges that were used for previous shipments.

NOTES:

1. DOT Specification 6M Type B fissile packages have historically been the principal package for receiving domestic shipments of fissile experiments at the ATR Canal and the TRA Hotcells. A long history of use means that the procedures for handling them are well understood. However, Specification 6M drums are to be phased out – there is already a moratorium on some types of usage within the DOE complex. More robust (thus expensive) packagings have been cited as replacements.

   Nominally this is an issue for the shipper, not the receiver (other than preparing procedures to handle and unload – not a major effort). Thus, there is little, if any, concern for receipt activities at the ATR Canal or the TRA Hotcells. But, there is another matter relative to storage after receipt. Once received, fissile experiments may require interim storage pending final assembly or reactor insertion. Approved storage is limited at TRA for fissile materials (subcriticality control and Safeguards issues). The ATR is best suited to handle significant quantities of fissile material in interim storage (in the ATR Canal), provided all the Technical Safety Requirements are met. But, ATR is only well suited if the experiment arrives in its final in-reactor configuration or can easily be assembled at receipt into its final in-reactor configuration. ATR is not well suited for

performing more complicated experiment assembly (i.e. assembly involving welding). The proposed incorporation of an assembly area into the TRA Hotcells is intended to provide this capability.

However, the TRA Hotcells cannot store nearly as much fissile material as ATR. The TRA Hotcells safety requirements could theoretically pose limitations that preclude receiving some experiments for final assembly (e.g. the first four proposed ANL-W ATW experiments contain in aggregate more fissile material than the old Hotcells SAR would permit into the facility). But, safety requirements do state that if fissile material is stored in DOT approved Type B packages that are used in accordance with their certification, then that fissile material does not count against the inventory or stored fissile material. The use of Specification 6M Type B fissile packages in the new assembly area in the TRA Hotcells was expressly envisioned for this purpose. The Specification 6M's were ideal because they tend to be light enough to be easily handled and manipulated in storage. Given they are to be removed from service, an alternative is needed.

AT ISSUE THEN IS THAT INTERIM STORAGE OF FISSILE MATERIAL IN THE PROPOSED NEW ASSEMBLY AREA OF THE TRA HOTCELLS MAY BECOME PROBLEMATIC GIVEN THAT THE REPLACEMENT OF SPECIFICATION 6M's MOST LIKELY WILL BE MORE ROBUST (HEAVIER) AND HARDER TO HANDLE. THE CONSEQUENCES WOULD BE A MORE LIMITED STORAGE CAPABILITY FOR THE GIVEN SPACE, AS WELL AS THE POTENTIAL OF REQUIRING THE USE OF MATERIAL HANDLING EQUIPMENT THAT OTHERWISE WOULD NOT HAVE BEEN NEEDED FOR THE 6M's.

2. The GE-100 Type B shipping cask has historically been the principal package for making domestic shipments of experiments from the ATR Canal. It has a long history of use at ATR, hence the ATR procedures for handling it are well developed. However, change is being considered to the packaging and transportation regulations, which if implemented as proposed, would most likely remove this cask from service. Basically, the overall change is to make the U. S. packaging and transporation regulations compatible with the international packaging and transportation regulations. The specific change being considered that would affect the GE-100 is the elimination of the 'grandfathering' of all previous designs of radioactive materials packagings. The proposed change would only 'grandfather' the two previous generations of design/fabrication/use/et.al. requirements. Once in effect, the change would stipulate that the older designs either be brought up to current requirements or removed from service.

   Given that the GE-100 is a commercially-owned cask, if the change as indicated above were to become effective, the response of the owner can only be speculated upon . Given the vintage of the GE-100 design (late 1960's), the suspicion is strong that the GE-100 cannot be brought into compliance. GE's response regarding a replacement would again only be speculative. Assuming there is no response, an alternate packaging would be required.

The principal factors that affect the selection of alternates for use at ATR are weight and height. The ATR Technical Safety Requirements limit weight to no more than 40,000 pounds; the ATR Canal water depth limits heights to a practical limit of no taller than approximately eight feet. Noting these factors for ATR, the same must be taken into account for the receiving facility. The only other casks used at ATR in the recent past have both been GE-owned casks – their models 1500 and 2000. The GE-1500 is in the same predicament as the GE-100 regarding vintage, but the GE-2000 is not. However, the GE-2000, being the largest, is not suitable for handling at some of the receiving facilities (e.g. ANL-E).

The 'fleet' of casks from which to select other candidates is small. Other candidate casks of the appropriate size for use at ATR include the BMI-1 and the CNS 1-13-series. All of these are the same vintage as the GE-100.

AT ISSUE THEN IS THE POTENTIAL THAT IN THE NOT-TOO-DISTANT FUTURE, THERE MIGHT BE ONLY A SINGLE CASK AVAILABLE FOR SHIPPING EXPERIMENTS FROM ATR, OR IF SO LIMITED BY THE RECEIVING FACILITY, NONE AT ALL.

Attachment 3

IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LABORATORY TRANSPORTATION BASELINE SUMMARY

10 May 2002

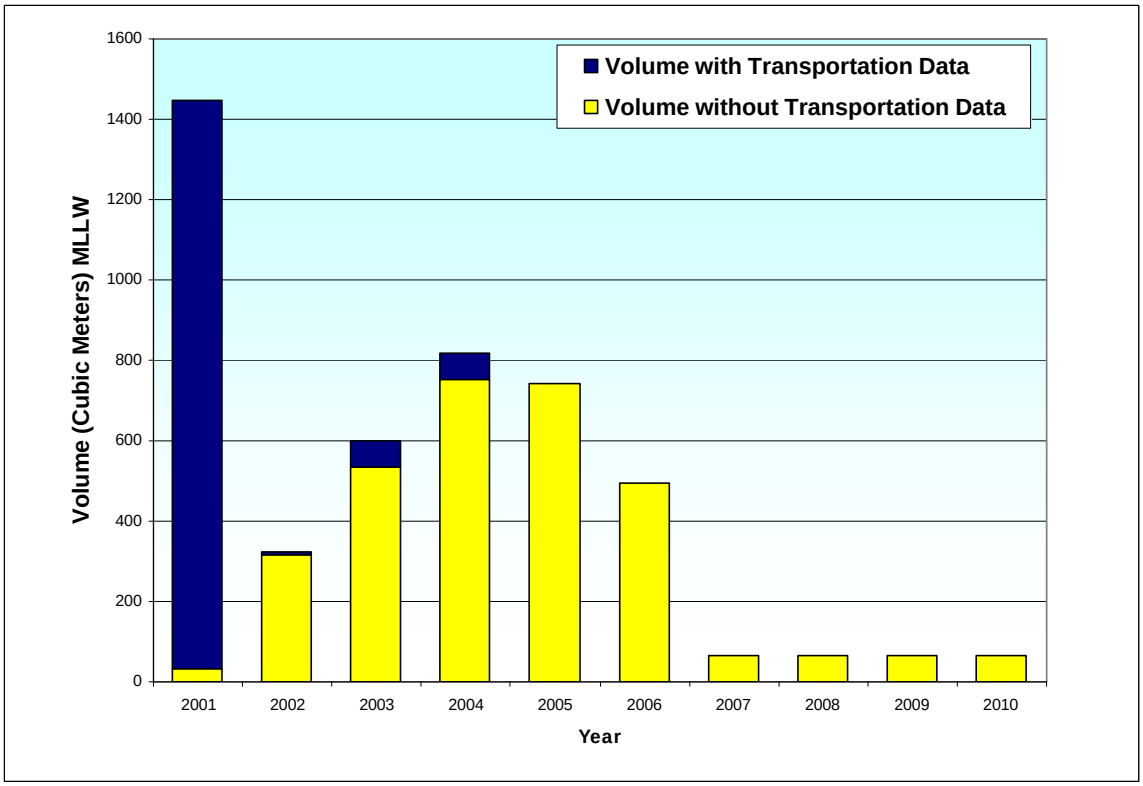


Figure 1. Quantity of MLLW to be shipped by year through 2010

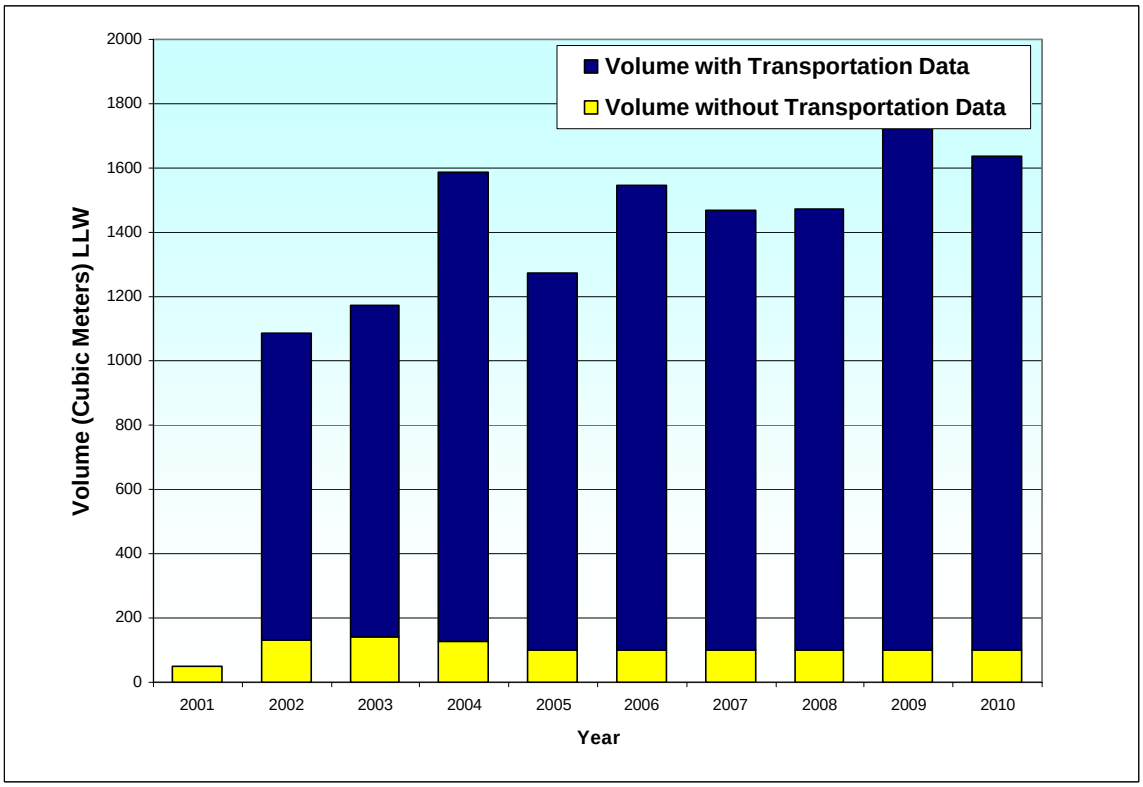


Figure 2. Quantity of LLW to be shipped by year through 2010

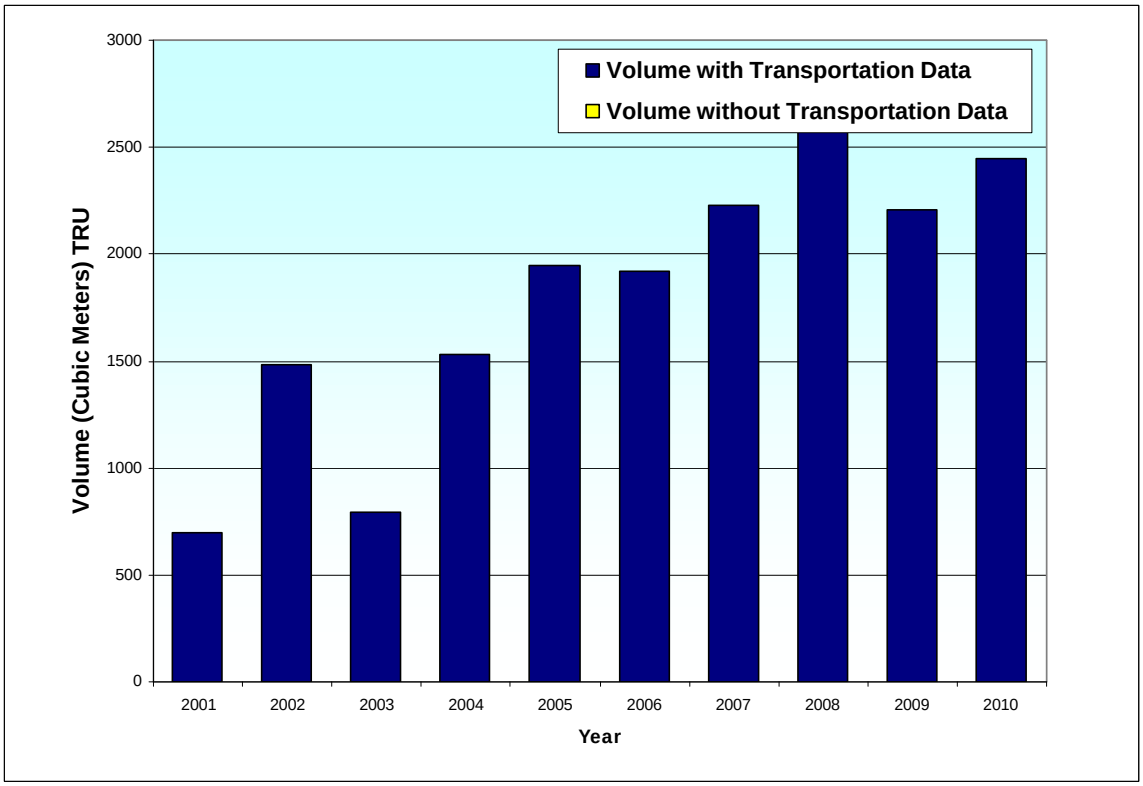


Figure 3. Quantity of TRU to be shipped by year through 2010

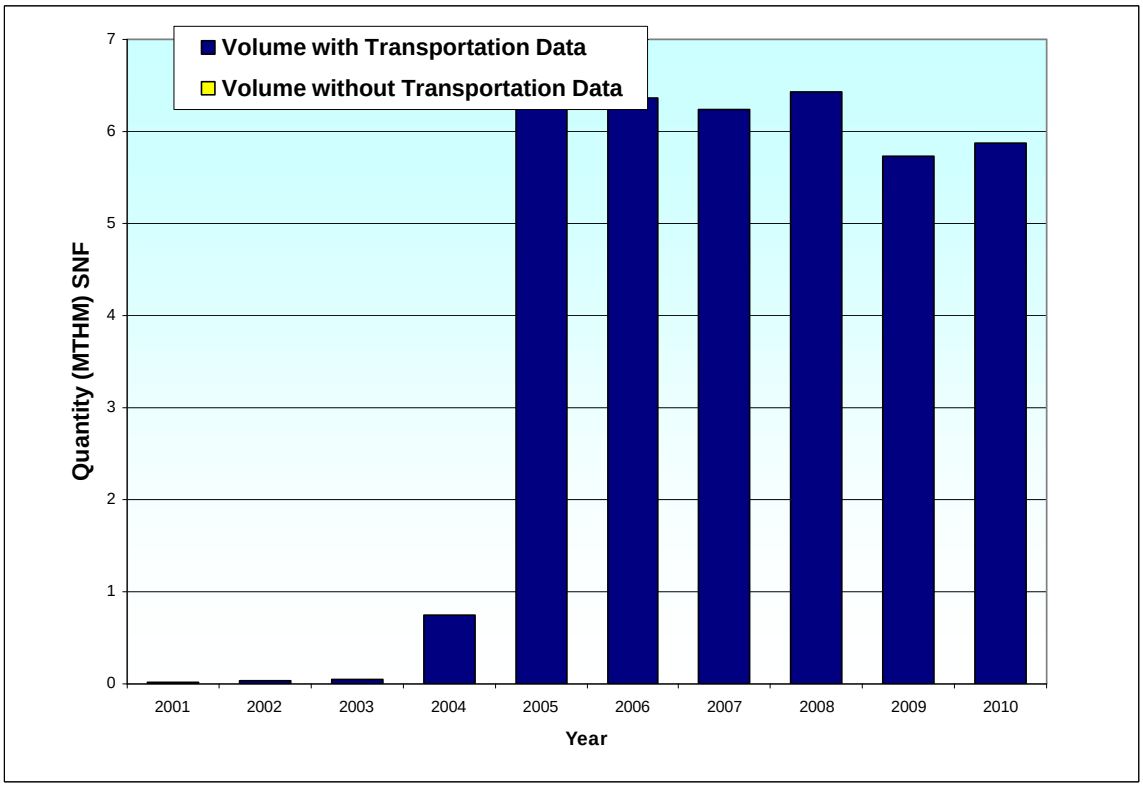
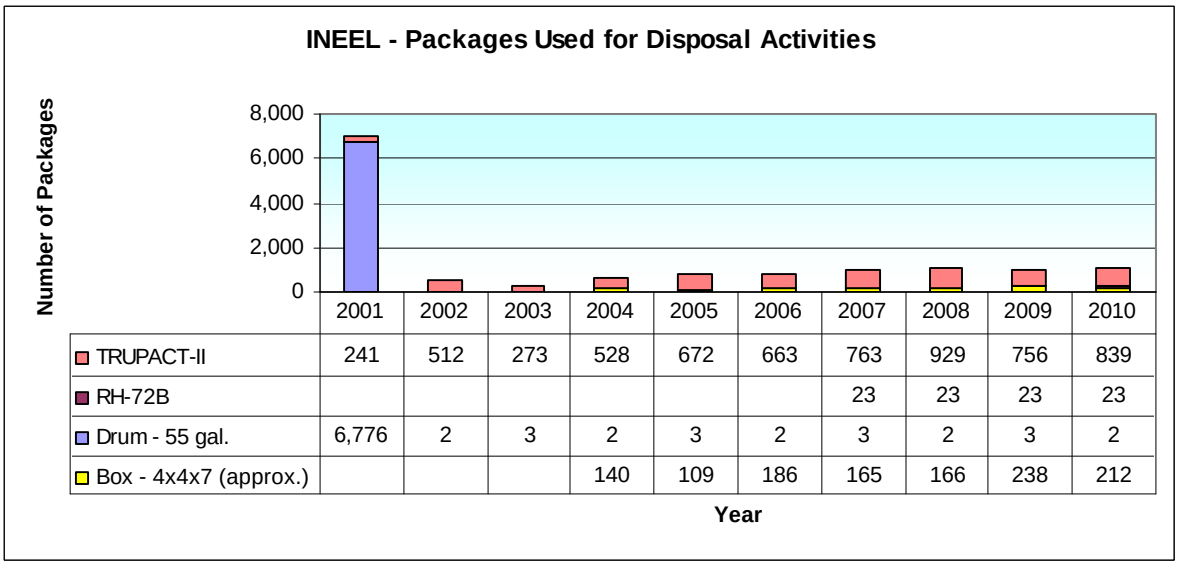
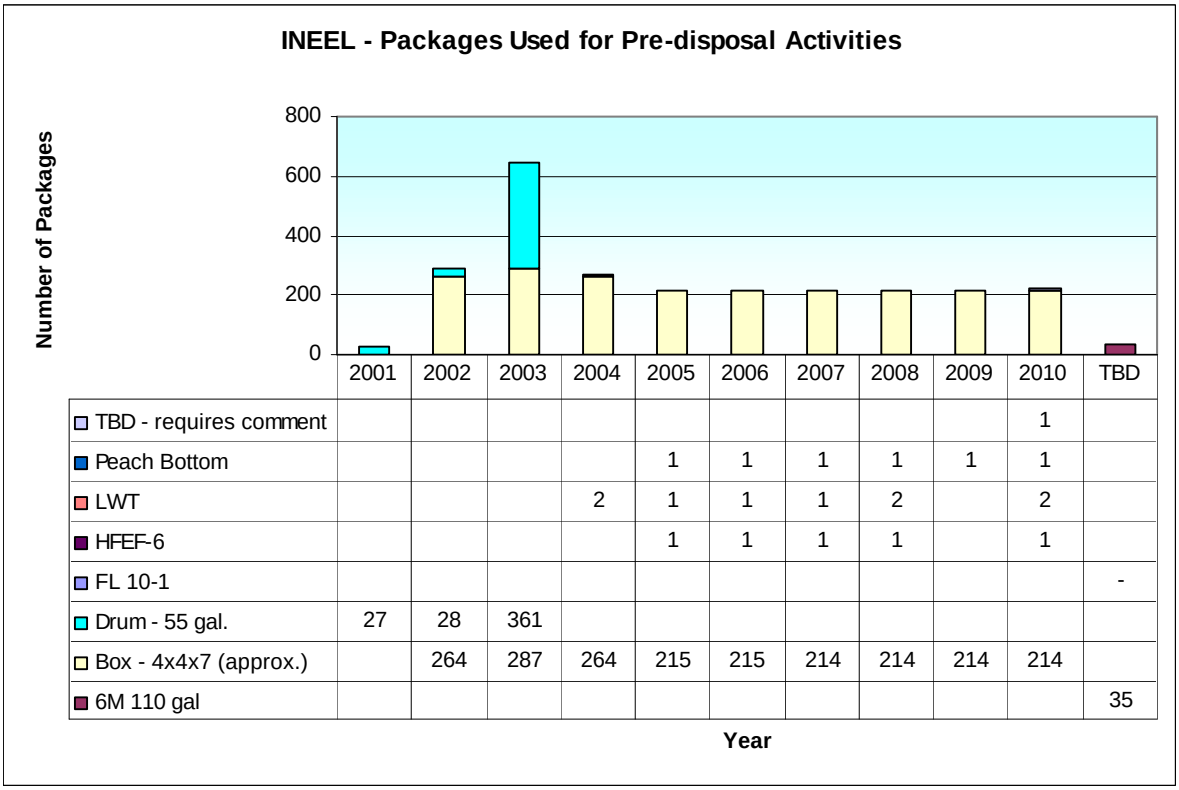


Figure 4. Quantity of SNF to be shipped by year through 2010



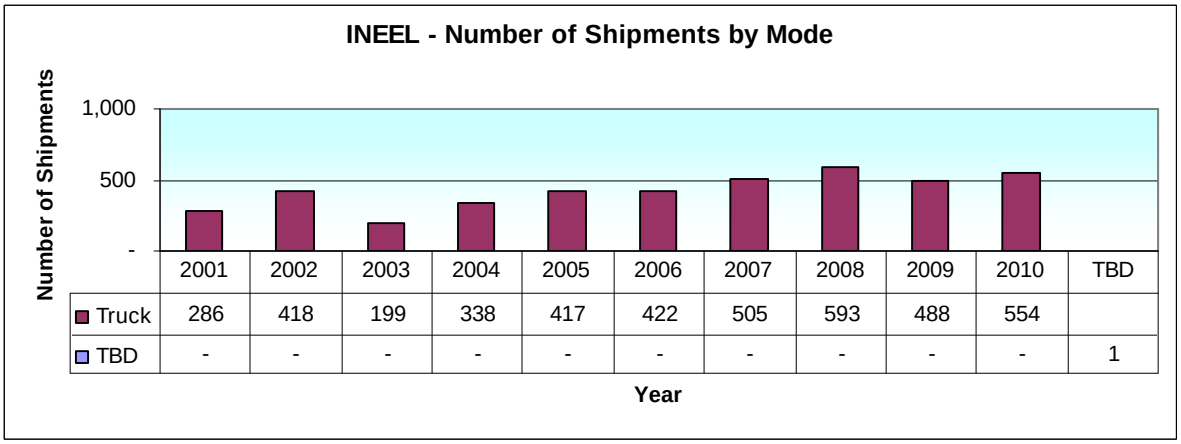
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TRUPACT-II	241	512	273	528	672	663	763	929	756	839
RH-72B							23	23	23	23
Drum - 55 gal.	6,776	2	3	2	3	2	3	2	3	2
Box - 4x4x7 (approx.)				140	109	186	165	166	238	212

Figure 5. Number of packages to be shipped to disposal



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TBD
TBD - requires comment										1	
Peach Bottom					1	1	1	1	1	1	
LWT				2	1	1	1	2		2	
HFEF-6					1	1	1	1		1	
FL 10-1											-
Drum - 55 gal.	27	28	361								
Box - 4x4x7 (approx.)		264	287	264	215	215	214	214	214	214	
6M 110 gal											35

Figure 6. Number of packages to be used for pre-disposal activities.



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TBD
Truck	286	418	199	338	417	422	505	593	488	554	
TBD	-	-	-	-	-	-	-	-	-	-	1

Figure 7. Number of shipments by mode

Los Alamos National Laboratory
ENHANCED BASELINE TRANSPORTATION DATA

This section presents and discusses the updated and enhanced basic data sets obtained through the data gathering activities.

Los Alamos National Laboratory Enhanced Baseline

Los Alamos National Laboratory Enhanced Baseline data is presented in **Attachment 1**. (Note that data from the original IPABS database is printed in black while additional and corrected data is printed in red.) This information was compiled based on the 2001 IPABS database and was updated and enhanced with data from the Type B and Type A-Fissile Packaging Report and limited input from the reporting site.

Comparison of the 2001 IPABS data with the Enhanced Baseline yields the following observations:

(1) IPABS data does not necessarily represent the site's baseline shipping plans, and
(2) Additional data calls were effective in collecting transportation data for empty data fields.

The discrepancies confirm the need for an improved methodology for collecting and reporting transportation data.

Los Alamos National Laboratory Type B and Type A-Fissile Packaging Baseline

The Los Alamos National Laboratory Type B and Type A-Fissile Packaging Baseline (**Attachment 2**) updates and fills gaps in the Los Alamos National Laboratory data from the October 9, 2001 "NTP Type B and Type A Fissile Packaging Report". Discussion and comments follow the table in Attachment 2.

Planned vs. Actual FY 2001 Shipments

Actual volumes and numbers of containers shipped, and numbers of shipments were not available at the time this Forecast was prepared.

ENHANCED BASELINE ANALYSIS

The data products presented above have been processed and analyzed in ways intended to facilitate long-range planning and evaluate the feasibility of planned shipping activities. Analysis is based on assessment of the validity of appropriate Transportation Baseline Attributes. These attributes are listed at the beginning of this EM Transportation Forecast. The following sections present the results of the data analyses.

Transportation Baseline Summary

The Los Alamos National Laboratory Transportation Baseline Summary (**Attachment 3**) depicts MLLW, LLW, and TRU volumes involved in transportation events. The data is displayed by waste type. **Figures 1-3 (Attachment 3)** depict, for each waste or material stream, a summary of the annual volume of all Los Alamos incoming and outgoing shipments. In these figures, the quantity of waste that does not have completed transportation data is shown in yellow. This is waste that has a reported volume but has no associated package type, number of shipments, transportation mode, etc.

Figures 4 and 5, show packagings required for treatment and for disposal activities, illustrating the dual role transportation may play in the disposition of waste and material. Some waste/material streams must be transported to an off-site facility for treatment, returned to the site for packaging, and finally shipped to a permanent disposal facility. **Figure 6** provides an annual depiction of shipments to be made by rail, truck, or intermodaly.

Figures 1 and 2, below, summarize outgoing and incoming waste and material shipments planned for Los Alamos National Laboratory over the next 10 years as reported in the enhanced data set. The map depicts the destination of a set of shipments and indicates the number of shipments expected to be completed. It should be noted that in the absence of complete transportation activity profiles the number of shipments have been estimated.

Los Alamos National Laboratory
Stream Disposition
2001 - 2010 Outgoing Estimated Shipments

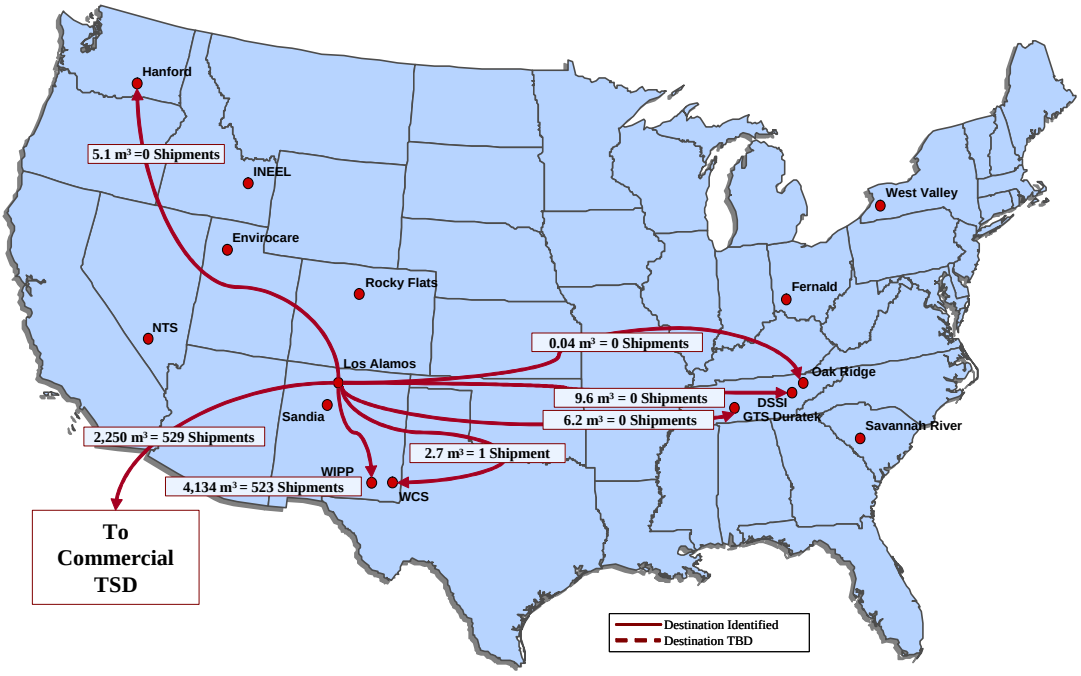


Figure 1. **Los Alamos National Laboratory Outgoing Shipments**

Los Alamos National Laboratory
Stream Disposition
2001 - 2010 Incoming Enhanced Shipments

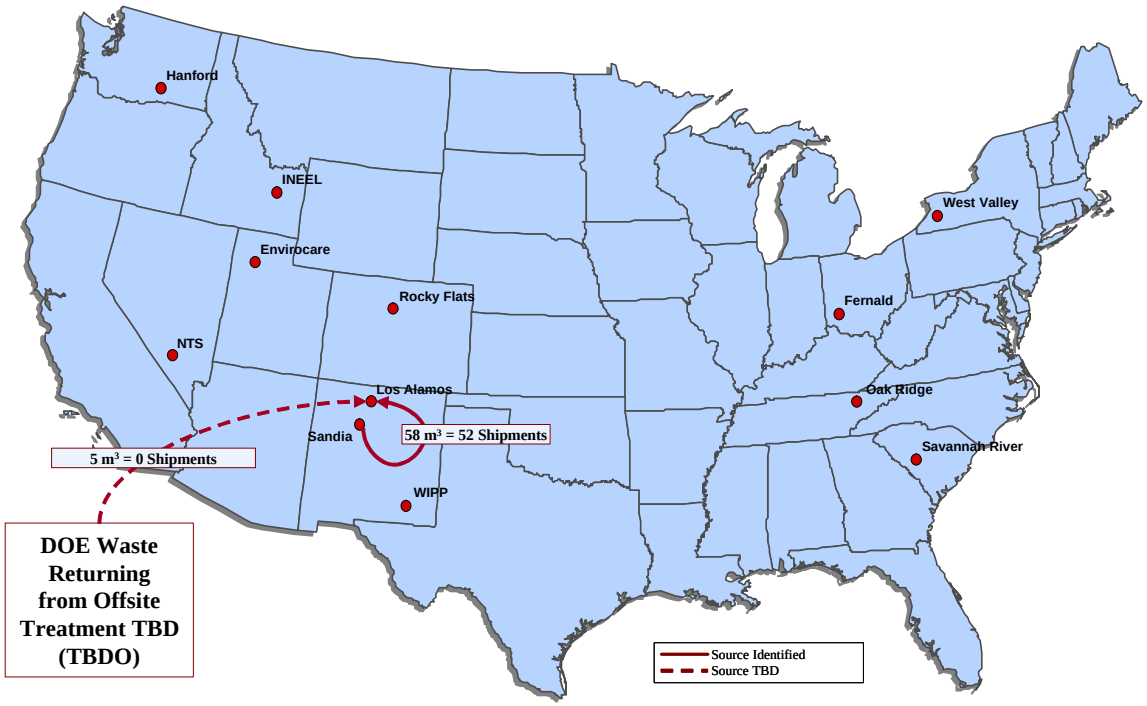


Figure 2. Los Alamos National Laboratory Incoming Shipments

Los Alamos National Laboratory Baseline Transportation Barriers

In addition to the summary barriers reported at the beginning of this EM Transportation Forecast, barriers, as found in IPABS or the Type B and Type A-Fissile Packaging Report, are found listed below in **Table 1**. **The barriers listed have not been assigned a priority order.**

Origin Site	Barrier(s) Impacting this Site *(see attached table)*	Number of Waste Streams Reporting Barrier	Number of Shipments Potentially Affected by Barrier *(NR=not reported or estimated)*
LANL	**8** - Hydrogen gas generation impacts packaging suitability for certain materials	3	544 +
	15 - Packaging for unique waste and material types does not exist	1	NR
	17 - Waste not characterized	10	1069 +
	20 - Treatment option not available	3	520 +
	22 - Disposition site TBD	9	NR
	23 - Stakeholder buy-in not achieved	2	2
	25 - No agreements with receiving, shipping, treatment facility	5	NR
	27 - Regulatory change concerns	3	2 +
	TOTAL Waste Streams (with one or more barriers) = 20	**TOTAL Shipments (w/one or more barriers) =1069 +**	

Table 1. Barriers from IPABS and Type B and Type A-Fissile Packaging Report

Transportation Activity Maps

Transportation Activity Maps were developed for **Los Alamos National Laboratory**, but are not included due to the large volume of data. For the inquisitive reader, Transportation Activity Maps are included for the Hanford Site.

Type B and Type A-Fissile Packaging Needs Assessment

Analysis of the Transportation Activity Maps in comparison with the Packaging Baseline produced this summary which details the identity and numbers of Type B and Type A-Fissile packagings that will be required to carry out planned shipping activities. **Table 2** provides a list, by year, of the Type B packages needed by **Los Alamos National Laboratory** to execute the EM Transportation Baseline along with a short description of the current status of the package. Additional identification and discussion of the packaging issues is presented following the table. Further analysis of packaging status is included in the Transportation Baseline Barriers Analysis section as appropriate.

Table 2. Los Alamos National Laboratory Site Type B Packaging Needs

Year	Package	Need	Available	Status
2002	TRUPACT-II	76*	70	Certified / Availability TBD
2003	TRUPACT-II	98*	70	Certified / Availability TBD
2004	TRUPACT-II	180*	70	Certified / Availability TBD
2005	TRUPACT-II	184*	70	Certified / Availability TBD
2006	TRUPACT-II	187*	70	Certified / Availability TBD
2007	TRUPACT-II	203*	70	Certified / Availability TBD
2008	TRUPACT-II	187*	70	Certified / Availability TBD
2009	TRUPACT-II	152*	70	Certified / Availability TBD
2010	TRUPACT-II	138*	70	Certified / Availability TBD
TBD	S-100	TBD	?	Not certified / Available
TBD	5320	TBD	?	Not certified or Available

* The number of TRUCPACT-IIs reported in the table is the number of package trips. The actual number needed to make the number of trips must be calculated based on the number of drums carried in each TRUPACT-II and the turn-around time for the package to be available again for loading.

The following packaging issues are associated with these needs:

- At the time of this report, the packaging has been identified. However, for some of the nuclear material, the data did not specify when they were needed or how many would be required.

Type B Package Certification Schedule

The Type B Package Certification Schedule (**Table 3**) was developed to assist in the coordination of packages being certified. By being cognizant of what revisions are needed, EM can better work with the certifying agencies' schedules and coordinate the submittals to allow time for the reviews and certification to be obtained to meet key clean-up and closure milestones.

The table below was developed from transportation information extracted from IPABS and the Type B and Type A-Fissile Packaging Report. From this information, an early and late need date was extrapolated for meeting the Enhanced Baseline.

Table 3. Type B Package Certification Schedule

Package Name	Certification Status	Early – Late Need Dates	Certification Expiration	Comments
S-100	NRC - Not Yet Certified	TBD	N/A	A new SARP (Rev. 21) is expected in Summer of 2002. Only good for contents up to – 28 curies in activity.
TRUPACT II	NRC certification is current.	2002 - 2010	06/30/2004	N/A
5320	DOE certification has expired.	TBD	02/28/2002	Certification has expired.

SUMMARY AND CONCLUSIONS

The data set presented and analyzed in this Forecast is a compilation of the data from the following sources: 1) The 2001 Integrated Planning, Accountability, and Budgeting System (IPBAS) database, 2) The National TRU Program databases, and 3) The Type B and Type A-Fissile Packaging Report. It encompasses offsite transportation activities planned for the next ten years as a part of the EM mission. Data for transportation activities beyond the ten years was limited to reporting quantities only and was not analyzed.

The waste and material streams analyzed are: low-level radioactive waste (LLW), mixed low-level radioactive waste (MLLW), Transuranic waste (TRU), and nuclear material (NM). The analyses produced the following products:

1) Transportation Baseline – This is the baseline of the schedule and quantities of all planned shipments through 2010;
2) Type B and Type A-Fissile Packaging Baseline – This baseline consists of a certification schedule and identifies the packaging required to meet the transportation baseline through 2010;

3) Enhanced Data – This is an improvement to the transportation data from IPABS. The existing data was modified to reflect the site baseline shipping plans and missing data was provided to fill many of the gaps up through 2010; and
4) Barriers Analysis – This is the documentation of the barriers to execution of the transportation baseline.

During the data gathering process, it became apparent that comprehensive information does not reside with any single organization at the sites. In order to build an accurate and comprehensive data set, it is necessary to confer with personnel from various site organizations who both have access to, and a thorough knowledge of their specific data subsets. By working with the sites, significant data improvements can be made by updating existing data and filling in missing data.

The key aspect of the data analysis was carried out with the objective of determining if transportation activities can be executed as planned and the nature and magnitude of any barriers to planned execution. At this point of the analysis, it appears that planned transportation activities can be executed if funding and packagings are made available, and if the barriers identified are resolved as planned. However, it should be noted that although contact has been made with the major eleven sites to update transportation plans and data; the quality of data and understanding to perform the necessary analyses does not compare with conducting site visits.

Attachment 1

LOS ALAMOS NATIONAL LABORATORY
ENHANCED BASELINE

10 May 2002

Note: Data from the original IPABS database is printed in black, while additional and corrected data is printed in red.

Los Alamos Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
LLW	3909	LLW - Storage & Disposal	TBDO	LANL	2001	0.5	100 %	0.5	M3						
					2002	0.5	100 %	0.5	M3						
					2003	0.5	100 %	0.5	M3						
					2004	0.5	100 %	0.5	M3						
					2005	0.5	100 %	0.5	M3						
					2006	0.5	100 %	0.5	M3						
					2007	0.5	100 %	0.5	M3						
					2008	0.5	100 %	0.5	M3						
					2009	0.5	100 %	0.5	M3						
					2010	0.5	100 %	0.5	M3						

Transportation Comments: Transportation Details TBD

Stream Comments: The upper limit reported is the PA-based limit for the site and not necessarily the limit for individual containers. Individual containers exceeding this limit will be compared against the existing inventory to determine if they are acceptable for disposal.

Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Availability of storage space at TA-54, Area G

Los Alamos Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ER	99	MLLW	LANL	COMM	2001	5	100 %	5	M3	12	12	Truck	EX/SF	STC/IP-1	~~Other (4 M3)~~ **Box - 4x4x7 (approx.)**
					2002	15	100 %	15	M3	20	20	Truck	EX/SF	STC/IP-1	~~Other (4 M3)~~ **Box - 4x4x7 (approx.)**
					2003	187	100 %	187	M3	~~5~~ **7**	~~5~~ **52**	Truck	EX/SF	STC/IP-1	~~Other (4 M3)~~ **Box - 4x4x7 (approx.)**
					2004	72	100 %	72	M3	18	~~18~~ **20**	Truck	EX/SF	STC/IP-1	~~Other (4 M3)~~ **Box - 4x4x7 (approx.)**
					2005	189	100 %	189	M3	47	~~47~~ **53**	Truck	EX/SF	STC/IP-1	~~Other (4 M3)~~ **Box - 4x4x7 (approx.)**
					2006	625	100 %	625	M3	157	~~157~~ **173**	Truck	EX/SF	STC/IP-1	~~Other (4 M3)~~ **Box - 4x4x7 (approx.)**
					2007	739	100 %	739	M3	184	~~184~~ **205**	Truck	EX/SF	STC/IP-1	~~Other (4 M3)~~ **Box - 4x4x7 (approx.)**
					2008	165	100 %	165	M3	42	~~42~~ **46**	Truck	EX/SF	STC/IP-1	~~Other (4 M3)~~ **Box - 4x4x7 (approx.)**
					2009	51	100 %	51	M3	13	~~13~~ **15**	Truck	EX/SF	STC/IP-1	~~Other (4 M3)~~ **Box - 4x4x7 (approx.)**

Los Alamos Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2010	67	100 %	67	M3	17	~~17~~	Truck	EX/SF	STC/IP-1	~~Other (4 M3)~~
											19				**Box - 4x4x7 (approx.)**

Transportation Comments: Transportation details TBD.
Stream Comments: Offsite treatment capacilty is not currently defined. Wastes are still in-situ and not sufficiently characterized to identify TSD requirements.
Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: There are technology gaps associated with this waste/material stream. PCBs and radionuclides It is not known if the waste material meets the processing/disposal facility waste acceptance criteria (WAC). It is unknown if a packaging and/or shipping facility is currently operational. It is not known if the capabilities exist to complete the characterization of the waste required for shipping by the WAC of the receiving facility (physical sampling capability, onsite analytical capability, offsite contracts, etc.).

TECHNOLOGY - OTHER SCIENCE OR TECHNOLOGY ISSUES: There are technology gaps associated with this waste/material stream. PCBs and radionuclides

MLLW	2383	Organic Combustible Solids Legacy	LANL	COMM	2002	30.25	100 %	30.25	M3	~~0~~	~~0~~	Truck	TBD	TBD	TBD (0.208 M3)
										4	**146**				**Drum - 55 gal.**

Transportation Comments: Transportation details to be determined when waste is fully characterized.

MLLW	2385	RAD PCB, NON-STP	LANL	COMM	2001	0	100 %	0	M3	~~2~~	0	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Other (0.208 M3)~~
										0					**Drum - 55 gal.**
					2002	1	100 %	1	M3	~~0~~	~~0~~	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Other (0.208 M3)~~
										1	**5**				**Drum - 55 gal.**

Transportation Comments: Transportation details to be determined when waste is fully characterized.
Stream Comments: This waste group consists of legacy waste that is not RCRA regulated (and does not have an STP treatability group), but is managed at the same level of environmental protection as MLLW and is included in the funding for MLLW. It is destined for OR/TSCA.
Barrier Comments: This waste stream can be effectively treated in the TSCAI. However, low levels of radioactivity in this waste stream are causing delays in obtaining approval to ship the waste. This is being worked between LANL, TSCAI, and State of Tennessee EPA. There are proposed near-term changes (regulatory or other) that could make the treatment and disposition path not feasible. The Governor of Tennessee has recently issued an injunction on offsite shipments of waste to the Oak Ridge Reservation for treatment in TSCAI. Proposed regulatory changes (EPA MACT and CAM rules) may require offgas monitoring and treatment equipment that is not currently installed or available.

MLLW	2386	PCB RCRA Legacy	LANL	COMM	2003	3.94	100 %	3.94	M3						
										1	**19**				**Drum - 55 gal.**

Transportation Comments: Transportation details to be determined when waste if fully characterized.
Stream Comments: No disposal path forward currently exists for this waste.
Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES:

WORK SCOPE DEFINITION - DISPOSITION PATH MATURITY: Currently, TSCAI holds all necessary permits and licenses required to operate. However, pending regulatory changes (i.e. EPA MACT and CAM rules) could require offgas continuous emissions monitoring and treatment/filtering that are not currently available. However, these regulations have not been promulgated yet and the overall impacts and effective date are not clear. See the Oak Ridge disposition map and associated STCG needs. The Governor of Tennessee has recently issued an injunction on offsite shipments of waste to the Oak Ridge Reservation for treatment in TSCAI. This is a direct result of Oak Ridge's inability to get approval to ship LLW to NTS for disposal. This issue must

MLLW	2390	Water Reactives and Oxidizers Legacy	LANL	COMM	2001	0.267	100 %	0.267	M3						
										1	**2**				**Drum - 55 gal.**

Los Alamos Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2002	1.37	100 %	1.37	M3						
										1	**7**				**Drum - 55 gal.**
					2003	2.123	100 %	2.123	M3						
										1	**11**				**Drum - 55 gal.**

Transportation Comments: Transportation details to be determined when waste is fully characterized.

Stream Comments: This waste group is legacy MLLW, not including that generated in FY95, FY96, FY97, and FY98, destined for off-site commercial treatment and is part of the STP. It consists of treatabilty groups LA-W916, 23.

Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc.). Waste can be characterized with current capabilities. Waste/material retrieval is not applicable. Waste is in containerized storage. Retrieval is not required. Characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. Characterization capabilities are sufficient to support DOT requirements. Waste/material does meet the subsequent treatment/disposal facility waste acceptance criteria (WAC). WCS is the most promising treatment option

MLLW	2391	Gas Cylinders Legacy	LANL	COMM	2001	0.19	100 %	0.19	M3						
					2003	2.03	100 %	2.03	M3						

Transportation Comments: Transportation details to be determined. No containers currently exist for this waste stream.

Stream Comments: This waste group is legacy MLLW, not including that generated in FY95, FY96, FY97, and FY98, destined for off-site commercial treatment and is part of the STP. It consists of treatabilty groups LA-W917-18, 26.

Barrier Comments: WORK SCOPE DEFINITION - DISPOSITION PATH MATURITY: Shipping systems, including packaging (containers, canisters, TRUPACTs and casks as required) are not available to transport the waste/material to the next facility. Some of the cylinders do not meet DOT requirements and cannot be shipped to a treatment facility without being repackaged or over packed. LANL does not currently have this capability.

WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES:
Waste can be characterized using existing capabilities. A plausible and feasible path for treating and completing final disposition of this waste/material does not exist. Waste is planned to be treated commercially.

MLLW	2392	Mercury Legacy	LANL	COMM	2001	2.88	100 %	2.88	M3						
										1	**14**				**Drum - 55 gal.**
					2002	5.17	100 %	5.17	M3						
										1	**25**				**Drum - 55 gal.**
					2003	1.41	100 %	1.41	M3						
										1	**7**				**Drum - 55 gal.**

Transportation Comments: Transportation details to be determined when waste is fully characterized.

Stream Comments: This waste group is legacy MLLW, not including that generated in FY95, FY96, FY97, and FY98, destined for off-site commercial treatment and is part of the STP. It consists of treatabilty groups LA-W920, 25. 1.41m3 is no disposal path waste.

Barrier Comments: WORK SCOPE DEFINITION: Characterization is sufficient to support DOT requirements. The MWFA is currently conducting testing, in participation with EPA, to develop data for using stabilization techniques for waste matrices with greater than 260 ppm mercury. This would eliminate the need to retort and amalgamate these waste streams, offering

MLLW	2393	Noncombustible Solids Legacy	LANL	COMM	2002	23.559	100 %	23.559	M3						

Transportation Comments: Transportation details to be determined.

Stream Comments: This waste group is legacy MLLW, not including that generated in FY95, FY96, FY97, and FY98, destined for off-site commercial treatment and is part of the STP. It consists of treatabilty groups LA-W904, 22.

MLLW	2397	Lab Packs Legacy	LANL	COMM	2003	0.79	100 %	0.79	M3						

Los Alamos Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name

Transportation Comments: Transportation details to be determined.

Stream Comments: This waste group is legacy MLLW, not including that generated in FY95, FY96, FY97, and FY98, destined for off-site commercial treatment and is part of the STP. It consists of treatabilty group LA-W933.

Barrier Comments: WORK SCOPE DEFINITION: There are proposed near-term changes (regulatory or other) that could make the treatment and disposition path not feasible. If the WERF incinerator is used, proposed regulatory changes (EPA MACT and CAM rules) may require continuous emission monitors and offgas treatment components that are not currently installed or available. Impacts of these rules are yet to be determined. DSSI is permitted, under RCRA, as a boiler rather than an incinerator. Consequently, Phase 1 of the proposed EPA MACT and CAM rules will not impact DSSI. Phase 2, which will affect DSSI, will not be effective for 5 to 8 years. A plausible and feasible path for treating and completing final disposition of this waste/material does not exist.

MLLW	2398	Stored LLW Legacy (managed as MLLW)	LANL	COMM	2001	40	100 %	40	M3						
					2002	6	100 %	6	M3						

Transportation Comments: Transportation details to be determined.

Stream Comments: This waste group consists of legacy waste that is not RCRA regulated (and does not have an STP treatability group), but is managed at the same level of environmental protection as MLLW and is included in the funding for MLLW.

Barrier Comments: WORK SCOPE DEFINITION - COMPLIANCE ISSUES: There are not any proposed near-term changes (regulatory or other) that could make the treatment and disposition path not feasible. DSSI is permitted, under RCRA, as a boiler rather than an incinerator. Consequently, Phase 1 of the proposed EPA MACT and CAM rules will not impact DSSI. Phase 2, which will affect DSSI, will not be effective for 5 to 8 years.

WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: Characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. Waste can be characterized in accordance with DOT requirements using existing capabilities. A plausible and feasible path for treating and completing final disposition of this waste/material does exist. This waste stream is actually LLW, but is being managed as MLLW due to disposition problems. It consists primarily of scintillation cocktails, oils, and lab packs that have a flash point above 140 degrees F, but can not be poured into a sanitary waste drain. DSSI, an existing commercial facility, is expected to treat this waste. DSSI manages the treatment residuals because waste streams are blended to achieve the appropriate BTU value for the feed.

Consequently, it is impossible to differentiate the treatment residuals due to waste streams from multiple sources. DSSI manages all of the residuals. Some may be shipped to Envirocare for Subtitle C disposal, if required. Waste/material retrieval is not applicable. Waste is in containerized storage. Retrieval is not required. The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc.). Waste stream can be characterized with existing capabilities. Waste/material does meet the subsequent treatment/disposal facility waste acceptance criteria (WAC). Waste must meet the minimum BTU values. No problems are foreseen due to the capability to blend process streams.

MLLW	4409	Organic Combustibles solids newly generated	LANL	COMM	2001	2	100 %	2	M3						
					2002	2	100 %	2	M3						
					2003	2	100 %	2	M3						
					2004	2	100 %	2	M3						
					2005	2	100 %	2	M3						
					2006	2	100 %	2	M3						
					2007	2	100 %	2	M3						

Transportation Comments: Transportation details to be determined.

MLLW	2388	Combustible Liquids Legacy	LANL	DSSI	2002	7.15	100 %	7.15	M3						
					2003	2.46	100 %	2.46	M3						

Los Alamos Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
Transportation Comments: Transportation details to be determined when waste is fully characterized.															
Stream Comments: This waste group is legacy MLLW, not including that generated in FY95, FY96, FY97, and FY98, destined for off-site commercial treatment and is part of the STP. It consists of treatabilty groups LA-W906-09.															
MLLW	31728	High Activity Waste	LANL	HASI	2004	5.1	100 %	5.1	M3						
Transportation Comments: TBD.															
Stream Comments: This waste currently has no disposal path.															
Barrier Comments: This waste currently has no disposal path due to high activity.															
MLLW	2394	Lead Legacy	LANL	SEG	2001	6.2	100 %	6.2	M3						
Transportation Comments: Transportation details to be determined. DOT approved containers do not exist for shipping some of this waste to off-site commercial facilities.															
Stream Comments: This waste group is legacy MLLW, not including that generated in FY95, FY96, FY97, and FY98, destined for off-site commercial treatment and is part of the STP. It consists of treatabilty groups LA-W921, 24.															
Barrier Comments: A plausible and feasible path for treating and completing final disposition of this waste/material does exist. However, containers that meet DOE transportation requirements do not exist to ship some of this waste.															
MLLW	2389	Aqueous Waste with Heavy Metals Legacy	LANL	WCS	2001	2.68	100 %	2.68	M3						
										1	**13**				**Drum - 55 gal.**
Transportation Comments: Transportation details to be determined when waste is fully characterized.															
Stream Comments: This waste group is legacy MLLW, not including that generated in FY95, FY96, FY97, and FY98, destined for off-site commercial treatment and is part of the STP. It consists of treatabilty groups LA-W913-15.															

Los Alamos Incoming - Americium-241 (NM-Am-241)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
HASI-Am241	7225	DPP - Stream	HASI	LANL			100 %		G						
					2002-2004					**1**	**4**				**S-100**

Los Alamos Outgoing - Americium-243 and Curium (NM-AmCm)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
AmCm	31272	BAQ - Stream	LANL	ORTN			100 %		G						
					TBD										**5320**
Stream Comments: Projected path is programmatic use.															

Los Alamos Incoming - Americium-243 and Curium (NM-AmCm)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
HASI-AmCm	7226	DKL - Stream	HASI	LANL			100 %		G						
					2002-2004										S-100

Los Alamos Incoming - Berkelium-249 and Californium-252 (NM-BkCf)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
HASI-BkCf	7261	GGG - Stream	HASI	LANL			100 %		G						
					2002-2004					1	4			S-100	

Los Alamos Outgoing - Nonactinide Isotopes and Sealed Sources (NM-NISS)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
NISS	31361	BBC - Stream	LANL	COMM			100 %		NI						
					TBD										S-100

Stream Comments: Contains material from generation stream AS-1. Projected path is commercial use at an undetermined location.
Barrier Comments: The technical approach has not been identified for critical or significant portions of the project.

Disposition activitiy TBD. Final disposition location for waste/material has not been identified. No concurrence has been reached between sites.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
NISS	31371	BBP - Stream	LANL	COMM			100 %		NI						
					TBD										S-100

Stream Comments: Projected path is commercial use at an undetermined location.
Barrier Comments: The technical approach has not been identified for critical or significant portions of the project.

Disposition activitiy TBD. Final disposition location for waste/material has not been identified. No concurrence has been reached between sites.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
NISS	31384	BBT - Stream	LANL	COMM			100 %		NI						
					TBD										S-100

Stream Comments: Contains material from generation stream SS-1. Projected path is commercial use at an undetermined location.
Barrier Comments: The technical approach has not been identified for critical or significant portions of the project.

Disposition activitiy TBD. Final disposition location for waste/material has not been identified. No concurrence has been reached between sites.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
NISS	31362	BBE - Stream	LANL	ORTN			100 %		NI						
					TBD										S-100

Stream Comments: Contains material from generation stream AS-2. Projected path is isotope program source recovery at ORNL.

Los Alamos Outgoing - Nonactinide Isotopes and Sealed Sources (NM-NISS)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
NISS	31388	BCB - Stream	LANL	ORTN			100 %		NI						
					TBD										**S-100**

Stream Comments: Contains material from generation stream SS-5. Projected path is isotope program source recovery at ORNL.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
NISS	31372	Neutron Sources	LANL	TBDO			100 %		NI						
					TBD										**S-100**

Stream Comments: Qty: 19 items
Total curies: 61 Ci
NISS Management Group Inventory Code: (95-S)
Radioisotopes: Ra-226/Be, Cf-252, Pu-239/Be
Projected path is programmatic use at an undetermined location.

Barrier Comments: Reference technology needs: AL-09-01-17-NM, AL-09-01-43-NM, AL-09-01-44-NM, AL-09-01-45-NM

Final disposition location for waste/material has not been identified. No concurrence has been reached between sites.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
NISS	31373	Neutron Sources	LANL	TBDO			100 %		NI						
					TBD										**S-100**

Stream Comments: Qty: 105 items
Total curies: 410 Ci
NISS Management Group Inventory Code: (95-S)
Radioisotopes: Am-241/Be, Am-241/Li, Pu-238/Be, Pu-238/Li
Projected path is programmatic use at an undetermined location.

Barrier Comments: Reference technology needs: AL-09-01-17-NM, AL-09-01-43-NM, AL-09-01-44-NM, AL-09-01-45-NM

Final disposition location for waste/material has not been identified. No concurrence has been reached between sites.

Los Alamos Incoming - Nonactinide Isotopes and Sealed Sources (NM-NISS)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
PNNL-NISS	7246	VAE - Stream	HASI	LANL			100 %		NI						
					TBD										**S-100**
PNNL-NISS	31217	BBB - Stream	HASI	LANL			100 %		NI						
					2002-2004					**1**	**2**				**S-100**

Stream Comments: Contains Pu-238 and Pu-239 from primary streams 31216 and 31214, respectively.

Los Alamos Outgoing - Neptunium-237 (NM-Np-237)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
Np237	31338	BCG - Stream	LANL	TBDO			100 %		G						
					TBD										**S-100**

Stream Comments: Projected path is programmatic use at an undetermined location.

Los Alamos Incoming - Neptunium-237 (NM-Np-237)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
HASI-Np237	7224	DNN - Stream	HASI	LANL			100 %		G						
					2002-2004					**1**	**5**				**S-100**

Los Alamos Outgoing - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	1956	CH TRU from LANL	LANL	WIPP	2001	~~159.9~~	100 %	~~159.9~~	M3	28	~~84~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						73.6		**73.6**			**26**				**TRUPACT-II**
					2002	~~385~~	100 %	~~385~~	M3	~~65~~	~~195~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						219.6		**219.6**		**23**	**76**				**TRUPACT-II**
					2003	~~521.9~~	100 %	~~521.9~~	M3	~~76~~	~~228~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						282		**282**		**32**	**98**				**TRUPACT-II**
					2004	~~773~~	100 %	~~773~~	M3	~~160~~	~~480~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						520.5		**520.5**		**65**	**180**				**TRUPACT-II**
					2005	~~1035.7~~	100 %	~~1035.7~~	M3	~~167~~	~~501~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						532		**532**		**66**	**184**				**TRUPACT-II**
					2006	~~1368.4~~	100 %	~~1368.4~~	M3	~~228~~	~~684~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						541		**541**		**67**	**187**				**TRUPACT-II**
					2007	~~1504.8~~	100 %	~~1504.8~~	M3	~~166~~	~~498~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						586		**586**		**73**	**203**				**TRUPACT-II**
					2008	~~1424.9~~	100 %	~~1424.9~~	M3	~~153~~	~~459~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						542		**542**		**67**	**187**				**TRUPACT-II**
					2009	~~1379.5~~	100 %	~~1379.5~~	M3	~~120~~	~~360~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						439		**439**		**54**	**152**				**TRUPACT-II**
					2010	~~1412.5~~	100 %	~~1412.5~~	M3	~~118~~	~~354~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						398		**398**		**48**	**138**				**TRUPACT-II**

Stream Comments: Disposition volumes are consistent based on 5/12/99 site call. The schedule is adjusted to satisfy the WIPP receipt limit of 850 shipments per year. the affected years are FY 04, 06, and 07.

Los Alamos Incoming - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	622	CH Organic Debris	SNLN	LANL	2004	26.2	100 %	26.2	M3	13	1 **10**	Truck	TYP B Qty	Type B	~~Cask (26.2 M3)~~ **TRUPACT-II**
					2009	4.5	100 %	4.5	M3	2	1 **2**	Truck	TYP B Qty	Type B	~~Cask (4.5 M3)~~ **TRUPACT-II**

Stream Comments: FY98 EM-funded; FY99-70 DP-funded. TRU waste will be shipped to LANL for consolidation and subsequent disposal at WIPP.
Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc.). ER program does the characterization.

TRU	3620	RH Organic Debris - Sorted	SNLN	LANL	2004	1.9	100 %	1.9	M3	1 **4**	1 **4**	Truck	TYP B Qty	Type B	Cask (1.9 M3) **RH-72B**
					2009	0.5	100 %	0.5	M3	1	1	Truck	TYP B Qty	Type B	~~Cask (0.5 M3)~~ **RH-72B**

Stream Comments: FY98 EM-funded; FY99-70 DP-funded.
Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: It is not known if all of the waste/material meets the subsequent treatment/disposal facility waste acceptance criteria (WAC). There are proposed near-term changes (regulatory or other) that could make the treatment and disposition path not feasible.

TRU	3622	RH (Inorganic Debris) - Sorted	SNLN	LANL	2004	17	100 %	17	M3	8 **28**	1 **28**	Truck	TYP B Qty	Type B	Cask (17 M3) **RH-72B**

Stream Comments: FY98 EM-funded; FY99-70 DP-funded.
Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: It is not known if all of the waste/material meets the subsequent treatment/disposal facility waste acceptance criteria (WAC). There are proposed near-term changes (regulatory or other) that could make the treatment and disposition path not feasible.

TRU	4103	ITRI Waste	SNLN	LANL	2001	5.5	100 %	5.5	M3	2	28	Truck	TYP B Qty	Type B	~~Cask (5.5 M3)~~ **6M 55 gal.**
					2004	1.2	100 %	1.2	M3	1	1 **6**	Truck	TYP B Qty	Type B	~~Cask (1.2 M3)~~ **6M 55 gal.**
					2009	1	100 %	1	M3	1	1 **5**	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~ **6M 55 gal.**

Stream Comments: FY98 EM-funded; FY99-70 DP-funded. TRU Waste to be shipped to LANL for consolidation and subsequent disposal at WIPP.

TRU	3900	TRU - Defense	TBDO	LANL			100 %		M3						

Barrier Comments: Technical approach, stakeholder acceptance, Waste Acceptance Criteria and funding issues remain.

Attachment 2

LOS ALAMOS NATIONAL LABORATORY TYPE B AND TYPE A-FISSILE PACKAGING BASELINE

10 May 2002

Los Alamos

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
TBD	Commercial - TBD	NM-NISS		S-100	No / Yes	
TBD	Commercial - TBD	NM-NISS		S-100	No / Yes	
TBD	Commercial - TBD	NM-NISS		S-100	No / Yes	
TBD	Oak Ridge	NM-AmCm		5320	No / No	
TBD	Oak Ridge	NM-NISS		S-100	No / Yes	
TBD	Oak Ridge	NM-NISS		S-100	No / Yes	
TBD	TBD	NM-NISS		S-100	No / Yes	
TBD	TBD	NM-NISS		S-100	No / Yes	
TBD	TBD	NM-Np-237		S-100	No / Yes	

The 15 streams on the attached data sheets appear to be part of the nuclear materials data that was seeded into IPABS for the first time this year, based on the "Material Type" entries. These are all nuclear material, as opposed to waste designations. Because you stated that you need an answer today, I would recommend answering "No" for the question "Has a Package been selected?" for each of these 15 streams. Packaging and transportation needs for nuclear material are being worked, with a focus on the near-term needs due to resource limitations. Most of these streams represent out-year activities, which will be worked in the near future. The Nuclear Materials Stewardship Program [NMSP] worked closely with the IPABS team to seed the information that was available. NMSP is working with the sites, which own the data, to update their IPABS entries. Several sites were visited and assisted this Fiscal Year, and this activity will continue in FY-2002, subject to available funding at NMSP and the sites.Michael Gates, DOE-AL / NMSPO

NTP comment: The 15 streams include streams from Los Alamos, Sandia. All Pantex shipments previously reported are being documented by NNSA.

Attachment 3

LOS ALAMOS NATIONAL LABORATORY TRANSPORTATION BASELINE SUMMARY

10 May 2002

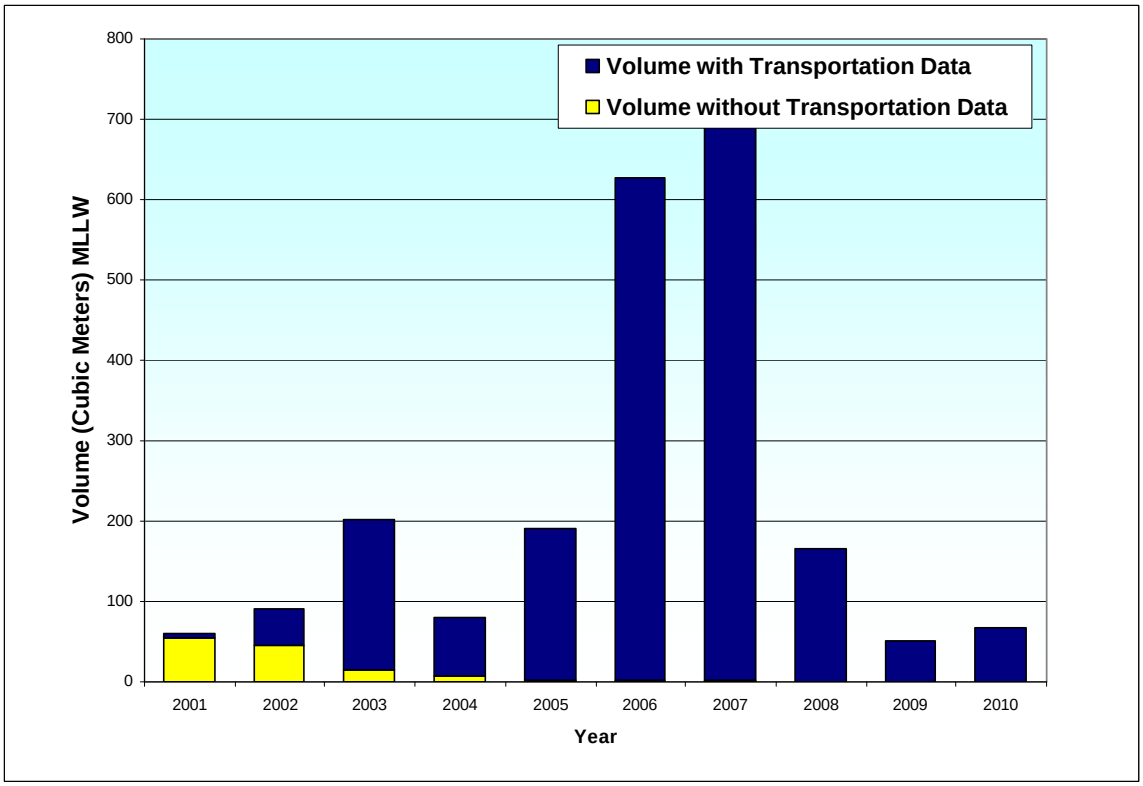


Figure 1. Quantity of MLLW to be shipped by year through 2010

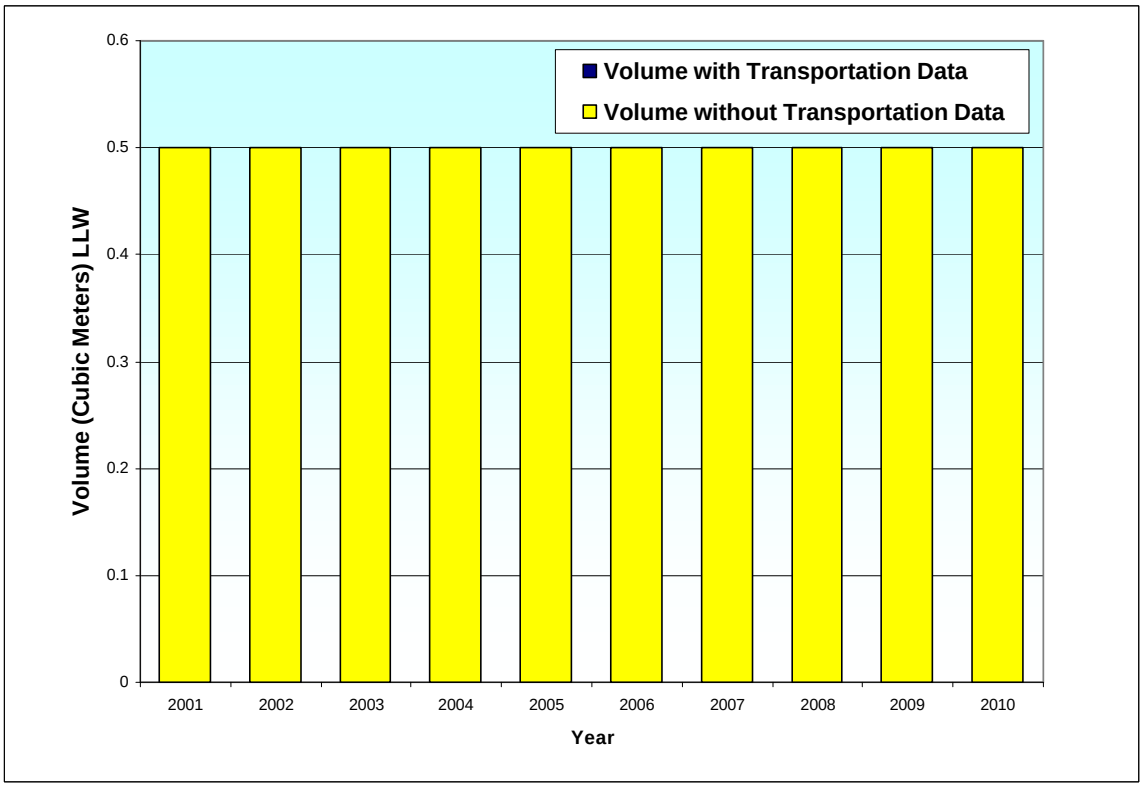


Figure 2. Quantity of LLW to be shipped by year through 2010

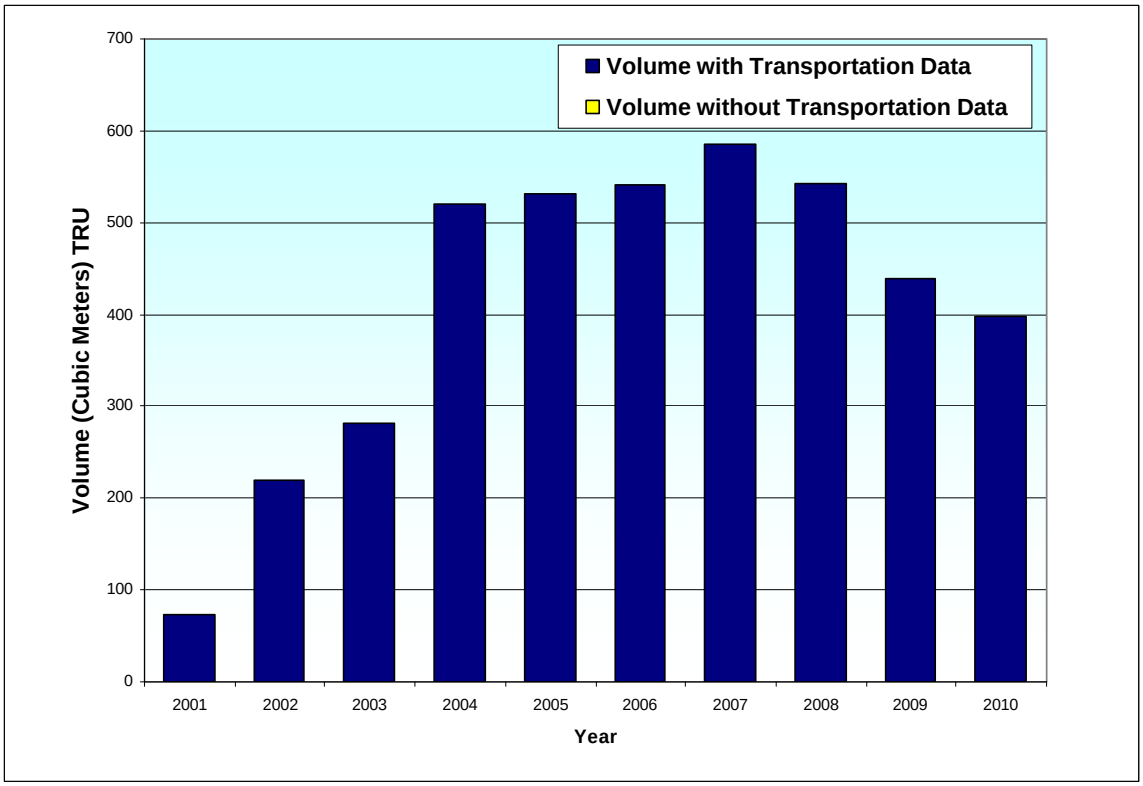
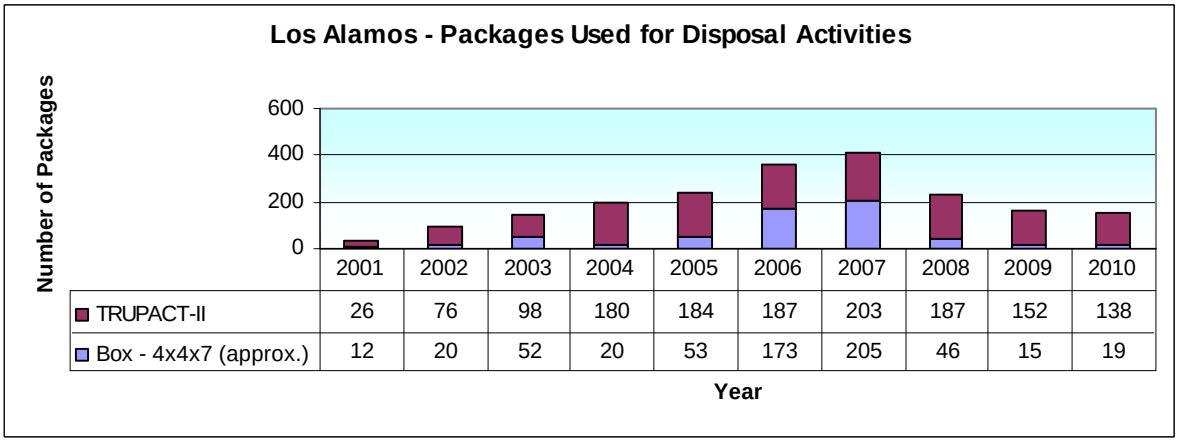


Figure 3. Quantity of TRU to be shipped by year through 2010



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TRUPACT-II	26	76	98	180	184	187	203	187	152	138
Box - 4x4x7 (approx.)	12	20	52	20	53	173	205	46	15	19

Figure 4. Number of packages to be shipped to disposal.

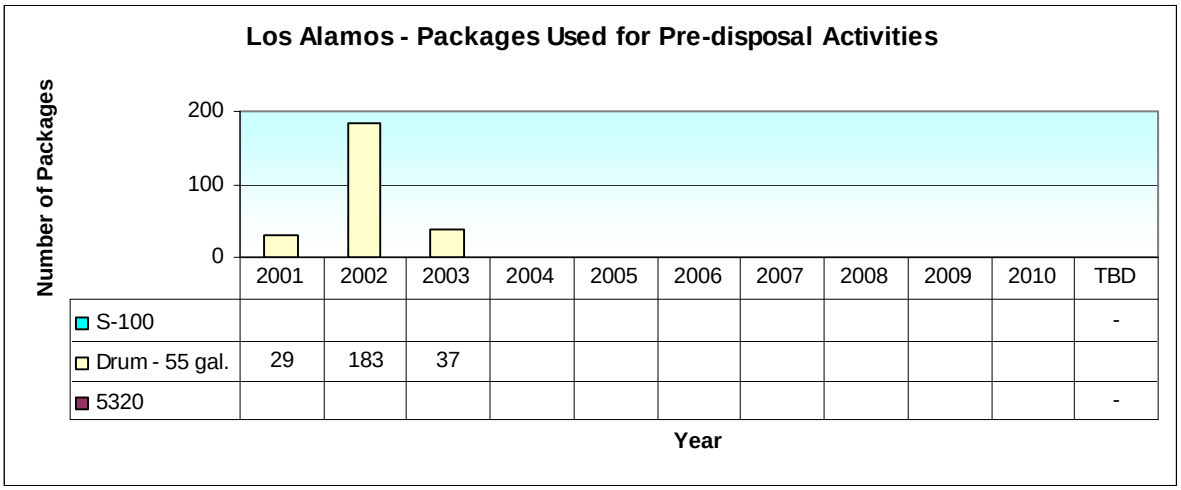


Figure 5. Number of packages to be used for pre-disposal activities.

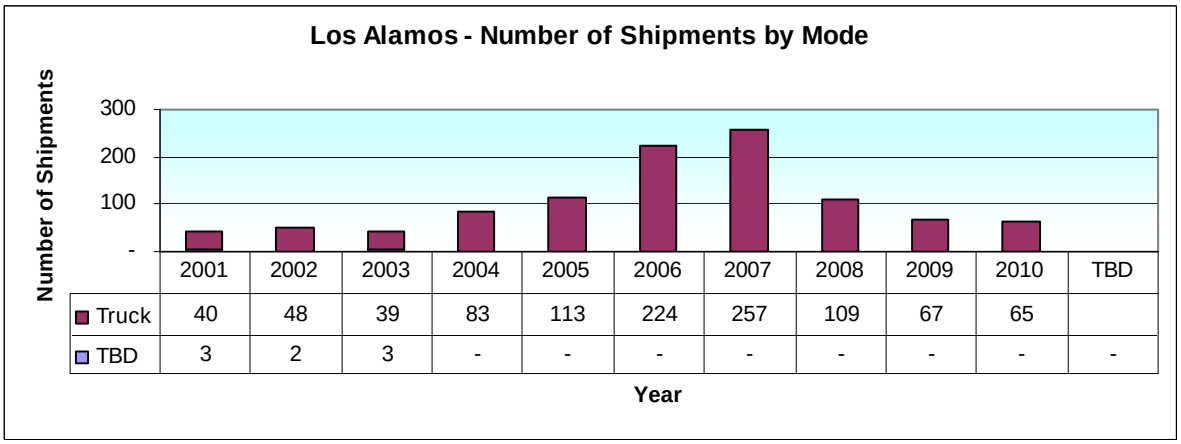


Figure 6. Number of shipments by mode.

Nevada Test Site
ENHANCED BASELINE TRANSPORTATION DATA

This section presents and discusses the updated and enhanced basic data sets obtained through the data gathering activities.

Nevada Test Site Enhanced Baseline

Nevada Test Site Enhanced Baseline data is presented in **Attachment 1**. (Note that data from the original IPABS database is printed in black while additional and corrected data is printed in red.) This information was compiled based on the 2001 IPABS database and was updated and enhanced with data from the Type B and Type A-Fissile Packaging Report and limited input from the reporting site.

Comparison of the 2001 IPABS data with the Enhanced Baseline yields the following observations:

(1) IPABS data does not necessarily represent the site's baseline shipping plans, and
(2) Additional data calls were effective in collecting transportation data for empty data fields.

The discrepancies confirm the need for an improved methodology for collecting and reporting transportation data.

Nevada Test Site Type B and Type A-Fissile Packaging Baseline

The Nevada Test Site Type B and Type A-Fissile Packaging Baseline (**Attachment 2**) updates and fills gaps in the Nevada Test Site data from the October 9, 2001 "NTP Type B and Type A Fissile Packaging Report". Discussion and comments follow the table in Attachment 2.

Planned vs. Actual FY 2001 Shipments

Actual volumes and numbers of containers shipped, and numbers of shipments were not available at the time this Forecast was prepared.

ENHANCED BASELINE ANALYSIS

The data products presented above have been processed and analyzed in ways intended to facilitate long-range planning and evaluate the feasibility of planned shipping activities. Analysis is based on assessment of the validity of appropriate Transportation Baseline Attributes. These attributes are listed at the beginning of this EM Transportation Forecast. The following sections present the results of the data analyses.

Transportation Baseline Summary

The Nevada Test Site Transportation Baseline Summary (**Attachment 3**) depicts MLLW, LLW, and TRU volumes involved in transportation events. The data is displayed by waste type. **Figures 1-3 (Attachment 3)** depict, for each waste or material stream, a summary of the annual volume of all Nevada Test Site incoming and outgoing shipments. In these figures, the quantity of waste that does not have completed transportation data is shown in yellow. This is waste that has a reported volume but has no associated package type, number of shipments, transportation mode, etc.

Figures 4 and 5, show packagings required for treatment and for disposal activities, illustrating the dual role transportation may play in the disposition of waste and material. Some waste/material streams must be transported to an off-site facility for treatment, returned to the site for packaging, and finally shipped to a permanent disposal facility. **Figure 6** provides an annual depiction of shipments to be made by rail, truck, or intermodaly.

Figures 1 and 2, below, summarize outgoing and incoming waste and material shipments planned for Nevada Test Site over the next 10 years as reported in the enhanced data set. The map depicts the destination of a set of shipments and indicates the number of shipments expected to be completed. It should be noted that in the absence of complete transportation activity profiles the number of shipments have been estimated.

Nevada Test Site
Stream Disposition
2001 - 2010 Outgoing Enhanced Shipments

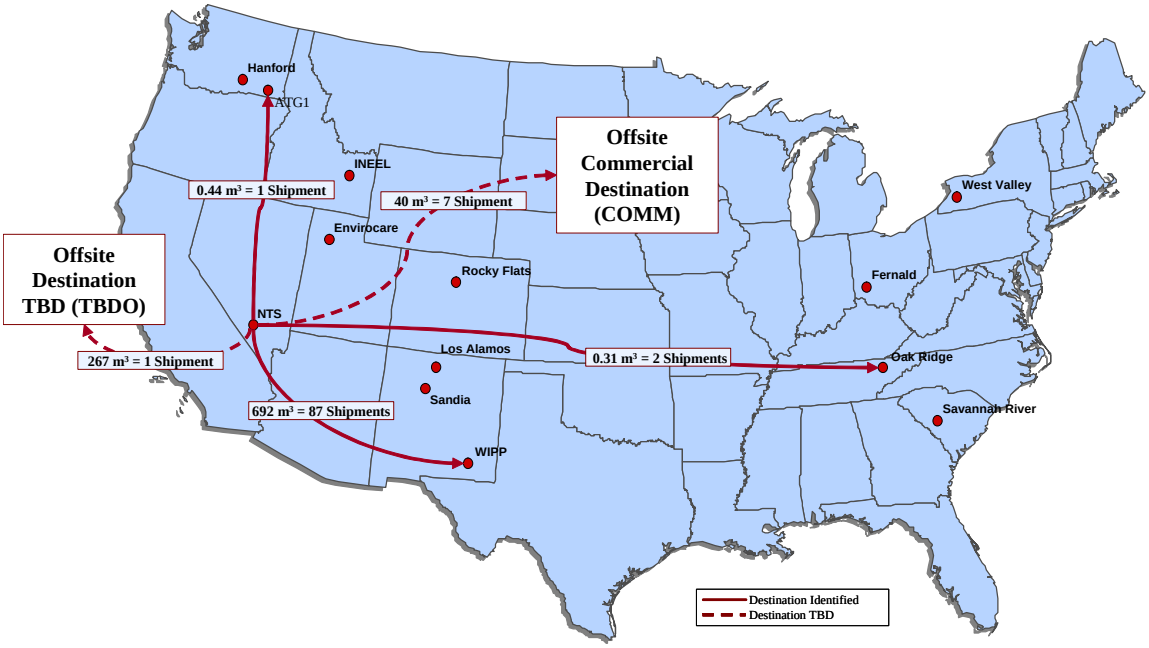


Figure 1. **Nevada Test Site Outgoing Shipments**

Nevada Test Site
Stream Disposition
2001 - 2010 Incoming Enhanced Shipments

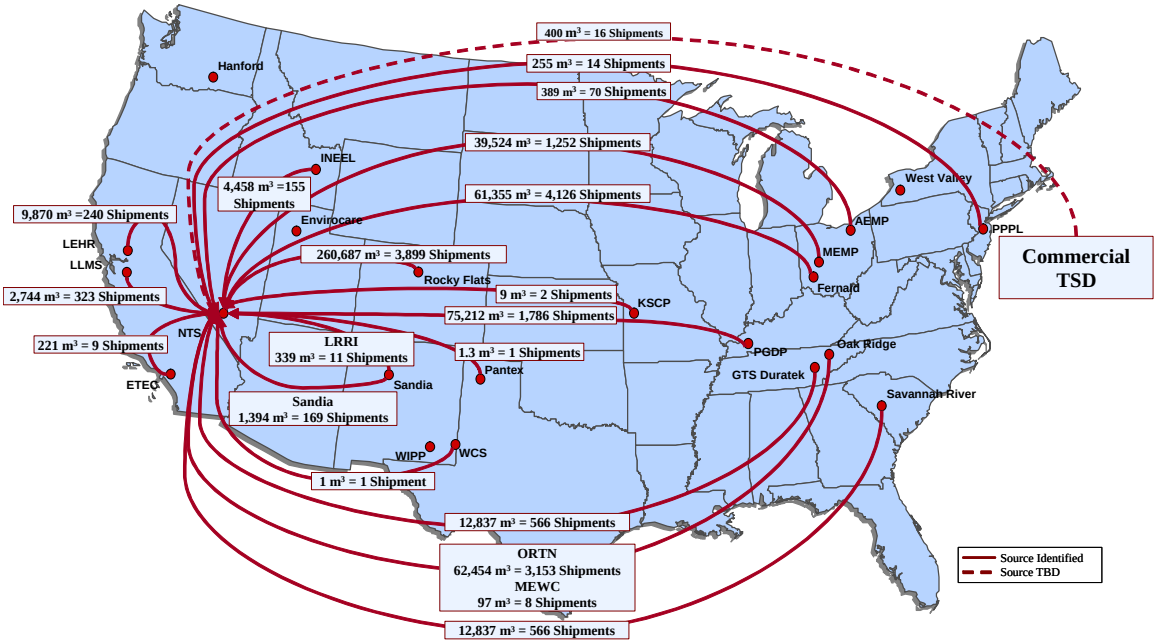


Figure 2. Nevada Test Site Incoming Shipments

Nevada Test Site Baseline Transportation Barriers

In addition to the summary barriers reported at the beginning of this EM Transportation Forecast, barriers, as found in IPABS or the Type B and Type A-Fissile Packaging Report, are found listed below in **Table 1**. **The barriers listed have not been assigned a priority order.**

Origin Site	Barrier(s) Impacting this Site *(see attached table)*	Number of Waste Streams Reporting Barrier	Number of Shipments Potentially Affected by Barrier *(NR=not reported or estimated)*
NVTS	**17** - Waste not characterized	4	66 +
	22 - Disposition site TBD	2	NR
	TOTAL Waste Streams (with one or more barriers) = 6	**TOTAL Shipments (w/one or more barriers) = 66 +**	

Table 1. Barriers from IPABS and Type B and Type A-Fissile Packaging Report

Transportation Activity Maps

Transportation Activity Maps were developed for **Nevada Test Site**, but are not included due to the large volume of data. For the inquisitive reader, Transportation Activity Maps are included for the Hanford Site.

Type B and Type A-Fissile Packaging Needs Assessment

Analysis of the Transportation Activity Maps in comparison with the Packaging Baseline produced this summary which details the identity and numbers of Type B and Type A-Fissile packagings that will be required to carry out planned shipping activities. **Table 2** provides a list, by year, of the Type B packages needed by **Nevada Test Site** to execute the EM Transportation Baseline along with a short description of the current status of the package. Additional identification and discussion of the packaging issues is presented following the table. Further analysis of packaging status is included in the Transportation Baseline Barriers Analysis section as appropriate.

Table 2. Nevada Test Site Site Type B Packaging Needs

Year	Package	Need	Available	Status
2002	TRUPACT-II	75*	70	Availability TBD
2005	TRUPACT-II	147*	70	Availability TBD
TBD	S-100	TBD	?	Not Certified / Available

* The number of TRUCPACT-IIs reported in the table is the number of package trips. The actual number needed to make the number of trips must be calculated based on the number of drums carried in each TRUPACT-II and the turn-around time for the package to be available again for loading.

The following packaging issues are associated with these needs:

- At the time of this report, the packaging has been identified. However, for some of the nuclear material, the data did not specify when they were needed or how many would be required.

Type B Package Certification Schedule

The Type B Package Certification Schedule (**Table 3**) was developed to assist in the coordination of packages being certified. By being cognizant of what revisions are needed, EM can better work with the certifying agencies' schedules and coordinate the submittals to allow time for the reviews and certification to be obtained to meet key clean-up and closure milestones.

The table below was developed from transportation information extracted from the enhanced baseline data set and the Type B and Type A-Fissile Packaging Report. From this information, an early and late need date was extrapolated for meeting the Enhanced Baseline.

Table 3. Type B Package Certification Schedule

Package Name	Certification Status	Early – Late Need Dates	Certification Expiration	Comments
S-100	NRC - Not Yet Certified	TBD	N/A	A new SARP (Rev. 21) is expected in Summer of 2002. Only good for contents up to – 28 curies in activity.
TRUPACT II	NRC Certification is current.	2002 - 2009	06/30/2004	N/A

SUMMARY AND CONCLUSIONS

The data set presented and analyzed in this Forecast is a compilation of the data from the following sources: 1) The 2001 Integrated Planning, Accountability, and Budgeting System (IPBAS) database, 2) The National TRU Program databases, and 3) The Type B and Type A-Fissile Packaging Report. It encompasses offsite transportation activities planned for the next ten years as a part of the EM mission. Data for transportation activities beyond the ten years was limited to reporting quantities only and was not analyzed.

The waste and material streams analyzed are: low-level radioactive waste (LLW), mixed low-level radioactive waste (MLLW), Transuranic waste (TRU), and nuclear material (NM). The analyses produced the following products:

1) Transportation Baseline – This is the baseline of the schedule and quantities of all planned shipments through 2010;
2) Type B and Type A-Fissile Packaging Baseline – This baseline consists of a certification schedule and identifies the packaging required to meet the transportation baseline through 2010;
3) Enhanced Data – This is an improvement to the transportation data from IPABS. The existing data was modified to reflect the site baseline shipping plans and missing data was provided to fill many of the gaps up through 2010; and
4) Barriers Analysis – This is the documentation of the barriers to execution of the transportation baseline.

During the data gathering process, it became apparent that comprehensive information does not reside with any single organization at the sites. In order to build an accurate and comprehensive data set, it is necessary to confer with personnel from various site organizations who both have access to, and a thorough knowledge of their specific data subsets. By working with the sites, significant data improvements can be made by updating existing data and filling in missing data.

The key aspect of the data analysis was carried out with the objective of determining if transportation activities can be executed as planned and the nature and magnitude of any barriers to planned execution. At this point of the analysis, it appears that planned transportation activities can be executed if funding and packagings are made available, and if the barriers identified are resolved as planned. However, it should be noted that although contact has been made with the major eleven sites to update transportation plans and data; the quality of data and understanding to perform the necessary analyses does not compare with conducting site visits.

Attachment 1

NEVADA TEST SITE ENHANCED BASELINE

10 May 2002

Note: Data from the original IPABS database is printed in black, while additional and corrected data is printed in red.

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ER	3085	Rubble/Debris-Oversize, etc.(NTS)	AEMP	NVTS	2001	130	100 %	130	M3	19	18	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Other (13.7 M3)~~
															Bulk (dump truck, railcar, etc) - requires comment
					2002	130	100 %	130	M3	38	38	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Other (13.7 M3)~~
															Bulk (dump truck, railcar, etc) - requires comment
					2003	100	100 %	100	M3	~~8~~	~~8~~	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Other (13.7 M3)~~
										10	**10**				**Bulk (dump truck, railcar, etc) - requires comment**
					2005	29	100 %	29	M3	3	3	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Other (13.7 M3)~~
															Bulk (dump truck, railcar, etc) - requires comment
ER	1669	LLW-Defense D&D Waste (from ER)	ETEC	NVTS	2001	50	100 %	50	M3						
										2	**2**				**Sealand - 8x8x20 (approx.)**
					2002	50	100 %	50	M3						
										2	**2**				**Sealand - 8x8x20 (approx.)**
					2003	50	100 %	50	M3						
										2	**2**				**Sealand - 8x8x20 (approx.)**
					2004	40	100 %	40	M3						
										2	**2**				**Sealand - 8x8x20 (approx.)**

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2005	31	100 %	31	M3						
										1	1				Sealand - 8x8x20 (approx.)
Stream Comments:		Disposition of waste is TSD disposal.													
Barrier Comments:		WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: The waste material does meet the processing/disposal facility waste acceptance criteria (WAC). Waste will go to Envirocare or NTS													
ER	4288	LLW Sludge/Residues	FEMP	NVTS	2010	160	50 %	80	M3	3	3	Truck	LSA1	Bulk	~~Bulk (28 M3)~~ Sealand - 8x8x20 (approx.)
					2010	160	50 %	80	M3	5	32	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ Box - 4x4x7 (approx.)
ER	4289	LLW Debris	FEMP	NVTS	2010	190	50 %	95	M3	4	4	Truck	LSA1	Bulk	~~Bulk (28 M3)~~ Sealand - 8x8x20 (approx.)
					2010	190	50 %	95	M3	4 5	38	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ Box - 4x4x7 (approx.)
ER	4293	LLW Asbestos	FEMP	NVTS	2010	150	100 %	150	M3	6	6	Truck	LSA1	STC/IP-1	~~Box - Other (28 M3)~~ Sealand - 8x8x20 (approx.)
ER	4295	LLW Trash	FEMP	NVTS	2010	50	100 %	50	M3	3	20	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ Box - 4x4x7 (approx.)
ER	4298	Treated RCRA Uranium Waste	FEMP	NVTS	2002	2	100 %	2	M3	1	1	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ Box - 4x4x7 (approx.)
					2003	10	100 %	10	M3	1	4	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ Box - 4x4x7 (approx.)
ER	4301	LLW Trash Off Site	FEMP	NVTS	2001	273	100 %	273	M3	~~5~~ 13	110	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ Box - 4x4x7 (approx.)
					2002	274	100 %	274	M3	~~5~~ 13	110	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ Box - 4x4x7 (approx.)
					2003	274	100 %	274	M3	~~5~~ 13	110	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ Box - 4x4x7 (approx.)
					2004	275	100 %	275	M3	~~5~~ 13	110	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ Box - 4x4x7 (approx.)
					2005	273	100 %	273	M3	~~5~~ 13	110	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ Box - 4x4x7 (approx.)
					2006	273	100 %	273	M3	13	101				Box - 4x4x7 (approx.)

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ER	4306	LLW Asbestos Off Site	FEMP	NVTS	2001	240	100 %	240	M3	9	9	Truck	LSA1	STC/IP-1	~~Box - Other (28 M3)~~ **Sealand - 8x8x20 (approx.)**
ER	4308	LLW Residues	FEMP	NVTS	2001	156	100 %	156	M3	9	63	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2002	1912	100 %	1912	M3	~~9~~ **88**	765	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	29965	LLW Thorium Residues	FEMP	NVTS	2002	0.2	100 %	0.2	M3	1	1	Truck	LSA2	Type A/IP-3	~~Box - Other (2.1 M3)~~ **Box - 4x4x7 (approx.)**
ER	29968	LLW Asbestos	FEMP	NVTS	2002	4	100 %	4	M3	1	2	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	29983	Treated Thorium Residues	FEMP	NVTS	2001	2	100 %	2	M3	1	1	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	29989	LLW Debris	FEMP	NVTS	2001	160	100 %	160	M3						
										8	**59**				**Box - 4x4x7 (approx.)**
					2003	780	100 %	780	M3	~~23~~ **36**	~~156~~ **287**	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	1170	20 %	234	M3	9	9	Truck	LSA1	STC/IP-1	~~Sealand (30 M3)~~ **Sealand - 8x8x20 (approx.)**
					2004	1170	80 %	936	M3	54	375	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2006	210	100 %	210	M3	**10**	**78**				**Box - 4x4x7 (approx.)**
ER	29991	LLW Sludge	FEMP	NVTS	2001	11	100 %	11	M3	1	5	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	20	100 %	20	M3	2	8	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	3	100 %	3	M3	1	2	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	29992	LLW Residues	FEMP	NVTS	2001	2	100 %	2	M3	1	1	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	20	100 %	20	M3	2	8	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	3	100 %	3	M3	1	2	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	29993	LLW Asbestos	FEMP	NVTS	2001	8	100 %	8	M3	1	1	Truck	LSA1	STC/IP-1	~~Sealand (30 M3)~~ **Sealand - 8x8x20 (approx.)**

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2003	200	100 %	200	M3	8	8	Truck	LSA1	STC/IP-1	~~Sealand (30 M3)~~ **Sealand - 8x8x20 (approx.)**
					2005	18	100 %	18	M3	1	1	Truck	LSA1	STC/IP-1	~~Sealand (30 M3)~~ **Sealand - 8x8x20 (approx.)**
					2006	10	100 %	10	M3	1	4	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	29995	LLW Trash	FEMP	NVTS	2001	430	100 %	430	M3	16	16	Truck	LSA1	STC/IP-1	~~Sealand (30 M3)~~ **Sealand - 8x8x20 (approx.)**
					2002	20	100 %	20	M3	1	1	Truck	LSA1	STC/IP-1	~~Sealand (30 M3)~~ **Sealand - 8x8x20 (approx.)**
					2003	180	100 %	180	M3	7	7	Truck	LSA1	STC/IP-1	~~Sealand (30 M3)~~ **Sealand - 8x8x20 (approx.)**
					2004	40	100 %	40	M3	2	2	Truck	LSA1	STC/IP-1	~~Sealand (30 M3)~~ **Sealand - 8x8x20 (approx.)**
					2005	21	100 %	21	M3	1	1	Truck	LSA1	STC/IP-1	~~Sealand (30 M3)~~ **Sealand - 8x8x20 (approx.)**
ER	30019	LLW Filtercake	FEMP	NVTS	2005	317	100 %	317	M3	18	127	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2006	316	100 %	316	M3	18	127	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2007	316	100 %	316	M3	18	127	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2009	316	100 %	316	M3	18	127	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
ER	30028	LLW Asbestos	FEMP	NVTS	2002	70	50 %	35	M3	4	~~75~~ **169**	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2002	70	50 %	35	M3	2	14	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	70	50 %	35	M3	2	14	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	70	50 %	35	M3	4	~~75~~ **169**	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2004	70	50 %	35	M3	4	~~75~~ **169**	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2004	70	50 %	35	M3	2	14	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	70	50 %	35	M3	2	14	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	70	50 %	35	M3	4	~~75~~ **169**	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
Stream Comments: Significant uncertainty exists as to the volume and timing of non-typical pit waste generation. Volumes used represent a worst case scenario.															
ER	30029	LLW Debris	FEMP	NVTS	2002	20	100 %	20	M3	1	1	Truck	LSA1	STC/IP-1	~~Sealand (30 M3)~~ **Sealand - 8x8x20 (approx.)**
					2003	20	100 %	20	M3	2	8	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	20	100 %	20	M3	1	1	Truck	LSA1	STC/IP-1	~~Sealand (30 M3)~~ **Sealand - 8x8x20 (approx.)**
					2005	20	100 %	20	M3	2	8	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments: Significant uncertainty exists as to the volume and timing of non-typical pit waste generation. Volumes used represent a worst case scenario.															
ER	30030	Thorium Metal	FEMP	NVTS	2002	175	50 %	87.5	M3	88	440	Truck	LSA1	STC/IP-1	~~Box - Other (0.2 M3)~~ **Drum - 55 gal.**
					2002	175	50 %	87.5	M3	88	4400	Truck	LSA1	STC/IP-1	~~Drum - Other (0.02 M3)~~ **Drum - 30 gal.**
					2003	175	50 %	87.5	M3	88	440	Truck	LSA1	STC/IP-1	~~Box - Other (0.2 M3)~~ **Drum - 55 gal.**
					2003	175	50 %	87.5	M3	88	4400	Truck	LSA1	STC/IP-1	~~Drum - Other (0.02 M3)~~ **Drum - 30 gal.**
					2004	175	50 %	87.5	M3	88	440	Truck	LSA1	STC/IP-1	~~Box - Other (0.2 M3)~~ **Drum - 55 gal.**
					2004	175	50 %	87.5	M3	88	4400	Truck	LSA1	STC/IP-1	~~Drum - Other (0.02 M3)~~ **Drum - 30 gal.**
					2005	175	50 %	87.5	M3	88	440	Truck	LSA1	STC/IP-1	~~Box - Other (0.2 M3)~~ **Drum - 55 gal.**
					2005	175	50 %	87.5	M3	88	4400	Truck	LSA1	STC/IP-1	~~Drum - Other (0.02 M3)~~ **Drum - 30 gal.**
Transportation Comments: Assumes 50 drums or five boxes per shipment due to does rate concerns.															
Stream Comments: Significant uncertainity exists as to the volume and timing of non-typical pit waste generation. Volumes used represent a worst case scenario.															
ER	30031	Uranium Metal	FEMP	NVTS	2002	120	50 %	60	M3	60	300	Truck	LSA1	STC/IP-1	~~Box - Other (0.2 M3)~~ **Drum - 55 gal.**
					2002	120	50 %	60	M3	60	3000	Truck	LSA1	STC/IP-1	~~Drum - Other (0.02 M3)~~ **Drum - 30 gal.**
					2003	120	50 %	60	M3	60	3000	Truck	LSA1	STC/IP-1	~~Drum - Other (0.02 M3)~~ **Drum - 30 gal.**

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2003	120	50 %	60	M3	60	300	Truck	LSA1	STC/IP-1	~~Box - Other (0.2 M3)~~
															Drum - 55 gal.
					2004	120	50 %	60	M3	60	300	Truck	LSA1	STC/IP-1	~~Box - Other (0.2 M3)~~
															Drum - 55 gal.
					2004	120	50 %	60	M3	60	3000	Truck	LSA1	STC/IP-1	~~Drum - Other (0.02 M3)~~
															Drum - 30 gal.
					2005	120	50 %	60	M3	60	300	Truck	LSA1	STC/IP-1	~~Box - Other (0.2 M3)~~
															Drum - 55 gal.
					2005	120	50 %	60	M3	60	3000	Truck	LSA1	STC/IP-1	~~Drum - Other (0.02 M3)~~
															Drum - 30 gal.
Stream Comments: Significant uncertainty exists as to the volumes and timing of non-typical pit waste generation. Volumes used represent a worst case scenario.															
ER	30053	Prohibited Items	FEMP	NVTS	2001	83	100 %	83	M3						
										4	**31**				**Box - 4x4x7 (approx.)**
					2002	83	100 %	83	M3	~~1~~	~~1~~	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										4	**31**				**Box - 4x4x7 (approx.)**
					2003	83	100 %	83	M3	4	~~24~~	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
											31				**Box - 4x4x7 (approx.)**
					2004	9721	100 %	9721	M3	~~4~~	~~24~~	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										448	**3577**				**Box - 4x4x7 (approx.)**
ER	30064	Treated Silos 1 & 2 Residues	FEMP	NVTS	2006	7920	100 %	7920	M3	453	3168	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
															Box - 4x4x7 (approx.)
					2007	11520	100 %	11520	M3	659	4608	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
															Box - 4x4x7 (approx.)
					2008	15275	100 %	15275	M3	~~665~~	~~4651~~	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										703	**5620**				**Box - 4x4x7 (approx.)**
Transportation Comments: At least 40% of the material is packaged in shippable containers.															
ER	30066	Treated Silo 3 Residues	FEMP	NVTS	2002	2580	100 %	2580	M3	148	1032	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
															Box - 4x4x7 (approx.)
ER	30090	Treated Thorium	FEMP	NVTS	2001	211	100 %	211	M3	17	84	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
															Box - 4x4x7 (approx.)
					2002	270	100 %	270	M3	22	108	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
															Box - 4x4x7 (approx.)
LLW	785	INEEL smc (ssdp-legacy)	INEL	NVTS	2001	50.01	100 %	50.01	M3						
					2002	7.7	100 %	7.7	M3						
					2003	7.08	100 %	7.08	M3						
					2004	2.5	100 %	2.5	M3						

Transportation Comments: Transport smc legacy to NTS.

Stream Comments: WNPD is addressed in DOE order 435.1. The existing inventory for WNPD (AAT, formerly SSDP) was provided by Report INEEL/EXT-98-00825, Sept. 1998, "Inventory and Management of INEEL Waste With No Identified Path to Disposal". WNPD future generation volume is not projected in this report; however, WNPD can result from waste characterization changes, TS&D acceptance requirements changes, environmental regulation changes.

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
Barrier Comments:		A path for completing final disposition of this waste/material now exists. INEEL (formerly SSDP) waste currently can be accepted at NTS without significant treatment. Treatment will only involve size reduction, if applicable, to fit shipping containers.													
LLW	789	CH DD LLW	INEL	NVTS	2004	504.51	100 %	504.51	M3	~~8~~ **18**	~~75~~ **140**	Truck	LSA2	STC/IP-1	~~Other (3.62 M3)~~ **Box - 4x4x7 (approx.)**
					2005	393.9	100 %	393.9	M3	~~5~~ **14**	~~43~~ **109**	Truck	LSA2	STC/IP-1	~~Other (3.62 M3)~~ **Box - 4x4x7 (approx.)**
					2006	671.69	100 %	671.69	M3	~~7~~ **24**	~~68~~ **186**	Truck	LSA2	STC/IP-1	~~Other (3.62 M3)~~ **Box - 4x4x7 (approx.)**
					2007	597.04	100 %	597.04	M3	~~5~~ **21**	~~46~~ **165**	Truck	LSA2	STC/IP-1	~~Other (3.62 M3)~~ **Box - 4x4x7 (approx.)**
					2008	599.15	100 %	599.15	M3	~~5~~ **21**	~~48~~ **166**	Truck	LSA2	STC/IP-1	~~Other (3.62 M3)~~ **Box - 4x4x7 (approx.)**
					2009	858.32	100 %	858.32	M3	~~10~~ **30**	~~98~~ **238**	Truck	LSA2	STC/IP-1	~~Other (3.62 M3)~~ **Box - 4x4x7 (approx.)**
					2010	766.01	100 %	766.01	M3	~~8~~ **27**	~~72~~ **212**	Truck	LSA2	STC/IP-1	~~Other (3.62 M3)~~ **Box - 4x4x7 (approx.)**
Transportation Comments:		All packaging assumed to be Strong Tight Packaging/Excepted Packaging (rad), Low Specific Activity Type II. Shipment by truck to Offsite CH LLW, DOE approved disposal Facility.													
Stream Comments:		AAX, Record #789 is the waste stream representing Offsite CH LLW disposal as defined in PEIS ROD (2/25/2000), Hanford Site in Washington and the Nevada Test Site (NTS) will be available to DOE sites for LLW disposal after 2006.													
Barrier Comments:		It is not known if shipping systems, packaging (containers, canisters, TRUPACTs and casks as required, etc. are available to transport the waste/material to the next facility. Offsite CH LLW disposal as defined in PEIS ROD (2/25/2000), Hanford Site in Washington and the Nevada Test Site (NTS) for LLW disposal.													
		WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: After 2003, work scope issues (capacity, capabilities, transport, receiving, etc.) dependent on Offsite CH LLW disposal facility (as defined in PEIS ROD (2/25/2000), the Nevada Test Site (NTS)).													
NU	7308	KXK - Stream	INEL	NVTS			100 %		M3						
NU	7309	HAB - Stream	INEL	NVTS			100 %		M3						
NU	7310	HAA - Stream	INEL	NVTS			100 %		M3						
DU	7311	LAA - Stream	INEL	NVTS			100 %		M3						
LEU	7312	GAB - Stream	INEL	NVTS			100 %		M3						
LEU	7313	GAC - Stream	INEL	NVTS			100 %		M3						
LLW	4442	Low Level Waste	KSCP	NVTS	2006	4.6	80 %	3.68	M3	1	6	Truck	EX/SF	STC/IP-1	~~Box - Other (3.2 M3)~~ **Box - 4x4x7 (approx.)**
					2006	4.6	20 %	0.92	M3	1	23	Truck	EX/SF	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
LLW	2755	Soil/debris disposal	LEHR	NVTS	2001	1898	100 %	1898	M3	92	92	Truck	LSA1	Bulk	~~Bulk (20.64 M3)~~ **Sealand - 8x8x20 (approx.)**

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2001	1898	0 %	0	M3	0	0	Truck	LSA1	Type A/IP-3	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2002	507	0 %	0	M3	0	0	Truck	LSA1	Type A/IP-3	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2002	507	100 %	507	M3	25	25	Truck	LSA1	Bulk	~~Bulk (20.64 M3)~~ **Sealand - 8x8x20 (approx.)**
					2003	2530	100 %	2530	M3	123	123	Truck	LSA1	Bulk	~~Bulk (20.64 M3)~~ **Sealand - 8x8x20 (approx.)**
					2003	2530	0 %	0	M3	0	0	Truck	LSA1	Type A/IP-3	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
MLLW	2789	Treated Reactives	LLMS	NVTS	2001	1	100 %	1	M3	1	5	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~ **Drum - 55 gal.**
					2003	5	100 %	5	M3	1	~~23~~ **25**	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~ **Drum - 55 gal.**
					2004	5	100 %	5	M3	1	~~23~~ **25**	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~ **Drum - 55 gal.**
					2005	10	100 %	10	M3	~~1~~ **2**	~~46~~ **49**	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~ **Drum - 55 gal.**
Stream Comments:		Treatment will allow disposal of Reactives waste at NTS.													
LLW	2808	Treated Empty LLW Containers	LLMS	NVTS	2001	77	100 %	77	M3	~~3~~ **9**	~~350~~ **371**	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~ **Drum - 55 gal.**
					2002	77	100 %	77	M3	~~3~~ **9**	~~350~~ **371**	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~ **Drum - 55 gal.**
					2003	77	100 %	77	M3	~~3~~ **9**	~~350~~ **371**	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~ **Drum - 55 gal.**
					2004	77	100 %	77	M3	~~3~~ **9**	~~350~~ **371**	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~ **Drum - 55 gal.**
					2005	77	100 %	77	M3	~~3~~ **9**	~~350~~ **371**	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~ **Drum - 55 gal.**
					2006	77	100 %	77	M3	~~3~~ **9**	~~350~~ **371**	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~ **Drum - 55 gal.**
					2007	77	100 %	77	M3	~~3~~ **9**	~~350~~ **371**	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~ **Drum - 55 gal.**
					2008	77	100 %	77	M3	~~3~~ **9**	~~350~~ **371**	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~ **Drum - 55 gal.**
					2009	77	100 %	77	M3	~~3~~ **9**	~~350~~ **371**	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~ **Drum - 55 gal.**

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2010	77	100 %	77	M3	~~3~~	~~350~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										9	**371**				**Drum - 55 gal.**
Stream Comments:		Treated rinsate is released to sewer system.													
LLW	2819	Certified Solids	LLMS	NVTS	2001	87	100 %	87	M3	~~3~~	~~396~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										10	**419**				**Drum - 55 gal.**
					2002	87	100 %	87	M3	~~3~~	~~396~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										10	**419**				**Drum - 55 gal.**
					2003	87	100 %	87	M3	~~3~~	~~396~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										10	**419**				**Drum - 55 gal.**
					2004	87	100 %	87	M3	~~3~~	~~396~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										10	**419**				**Drum - 55 gal.**
					2005	87	100 %	87	M3	~~3~~	~~396~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										10	**419**				**Drum - 55 gal.**
					2006	87	100 %	87	M3	~~3~~	~~396~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										10	**419**				**Drum - 55 gal.**
					2007	87	100 %	87	M3	~~3~~	~~396~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										10	**419**				**Drum - 55 gal.**
					2008	87	100 %	87	M3	~~3~~	~~396~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										10	**419**				**Drum - 55 gal.**
					2009	87	100 %	87	M3	~~3~~	~~396~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										10	**419**				**Drum - 55 gal.**
					2010	87	100 %	87	M3	~~3~~	~~396~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										10	**419**				**Drum - 55 gal.**
LLW	2833	Treated Legacy Solids	LLMS	NVTS	2001	200	100 %	200	M3	~~7~~	~~910~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										23	**962**				**Drum - 55 gal.**
					2002	200	100 %	200	M3	~~7~~	~~910~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										23	**962**				**Drum - 55 gal.**
					2003	200	100 %	200	M3	~~7~~	~~910~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										23	**962**				**Drum - 55 gal.**
					2004	200	100 %	200	M3	~~7~~	~~910~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										23	**962**				**Drum - 55 gal.**
					2005	53	100 %	53	M3	~~2~~	~~241~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										6	**255**				**Drum - 55 gal.**
LLW	2857	Treated Empty Contaminated Containers	LLMS	NVTS	2001	23	100 %	23	M3	~~1~~	~~105~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										3	**111**				**Drum - 55 gal.**
					2002	23	100 %	23	M3	~~1~~	~~105~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										3	**111**				**Drum - 55 gal.**
					2003	23	100 %	23	M3	~~1~~	~~105~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										3	**111**				**Drum - 55 gal.**
					2004	23	100 %	23	M3	~~1~~	~~105~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										3	**111**				**Drum - 55 gal.**

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2005	23	100 %	23	M3	~~1~~	~~105~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										3	**111**				**Drum - 55 gal.**
					2006	23	100 %	23	M3	~~1~~	~~105~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										3	**111**				**Drum - 55 gal.**
					2007	23	100 %	23	M3	~~1~~	~~105~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										3	**111**				**Drum - 55 gal.**
					2008	23	100 %	23	M3	~~1~~	~~105~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										3	**111**				**Drum - 55 gal.**
					2009	23	100 %	23	M3	~~1~~	~~105~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										3	**111**				**Drum - 55 gal.**
					2010	23	100 %	23	M3	~~1~~	~~105~~	Truck	LSA2	STC/IP-1	~~Other (0.22 M3)~~
										3	**111**				**Drum - 55 gal.**
Stream Comments:		Treated rinsate is released to sewer system.													
LLW	1287	LLW - Compacted/Solidified/Neutralized	LRRI	NVTS	2001	60	100 %	60	M3	~~1~~	~~1~~	Truck	LSA1	STC/IP-1	~~Other (31 M3)~~
										2	**2**				**Sealand - 8x8x20 (approx.)**
					2002	31	100 %	31	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (31 M3)~~
															Sealand - 8x8x20 (approx.)
					2003	31	100 %	31	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (31 M3)~~
															Sealand - 8x8x20 (approx.)
					2004	31	100 %	31	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (31 M3)~~
															Sealand - 8x8x20 (approx.)
					2005	31	100 %	31	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (31 M3)~~
															Sealand - 8x8x20 (approx.)
					2006	31	100 %	31	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (31 M3)~~
															Sealand - 8x8x20 (approx.)
					2007	31	100 %	31	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (31 M3)~~
															Sealand - 8x8x20 (approx.)
					2008	31	100 %	31	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (31 M3)~~
															Sealand - 8x8x20 (approx.)
					2009	31	100 %	31	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (31 M3)~~
															Sealand - 8x8x20 (approx.)

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2010	31	100 %	31	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (31 M3)~~ **Sealand - 8x8x20 (approx.)**
Stream Comments:		FY98 disposal reflect disposal and volume reduction. The amounts probably won't agree with the NTS shipments received.													
Barrier Comments:		WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: There are not any problems with receiving capabilities (staging, storage, off loading, etc.). NTS routinely receives and manages this type of material. Shipping systems, including packaging (containers, canisters, TRUPACTs and casks as required) are available to transport the waste/material to the next facility. Waste can be packaged and shipped using existing capabilities.													
ER	4122	Mound Moderate Debris	MEMP	NVTS	2001	1843	100 %	1843	M3	~~8~~ **64**	~~109~~ **510**	Truck	LSA1	Type A/IP-3	~~Box - Other (2.83 M3)~~ **Box - 4x4x7 (approx.)**
					2002	11890	100 %	11890	M3	~~8~~ **411**	~~109~~ **3285**	Truck	LSA1	Type A/IP-3	~~Box - Other (2.83 M3)~~ **Box - 4x4x7 (approx.)**
					2003	9433	100 %	9433	M3	~~8~~ **326**	~~109~~ **2606**	Truck	LSA1	Type A/IP-3	~~Box - Other (2.83 M3)~~ **Box - 4x4x7 (approx.)**
					2004	7060	100 %	7060	M3	~~8~~ **244**	~~109~~ **1951**	Truck	LSA1	Type A/IP-3	~~Box - Other (2.83 M3)~~ **Box - 4x4x7 (approx.)**
					2005	5854	100 %	5854	M3	**88**	**88**				**Sealand - 8x8x20 (approx.)**
					2006	3444	100 %	3444	M3	**119**	**952**				**Box - 4x4x7 (approx.)**
LLW	4480	Non-Reg Chem/Lab Packs - 4	MEWC	NVTS	2003	22	100 %	22	M3	2	9	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2009	42	100 %	42	M3	3	~~15~~ **16**	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2010	33	100 %	33	M3	3	~~12~~ **13**	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Barrier Comments:		Intersite Dependency - Intersite Issues: Off-site program and waste profile not yet approved.													
LLW	1582	Sludges & Treatment Residues - 1	ORTN	NVTS	2003	579	100 %	579	M3	~~16~~ **27**	~~213~~ **214**	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	658	100 %	658	M3	~~18~~ **31**	~~242~~ **243**	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Transportation Comments:		Transportation Calculation based on 2.72 cubic meters per 4'x4'x6' box and 14 boxes per truckload to CubeOut before WeighingOut.													
Barrier Comments:		INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.													
LLW	1584	MVST Monoliths	ORTN	NVTS	2003	936	100 %	936	M3	~~48~~ **188**	~~48~~ **188**	Truck	TYP A Qty	Type A/IP-3	~~Other (5.1 M3)~~ **Bulk (dump truck, railcar, etc) - requires comment**

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
LLW	1586	Volume Reduction Residues - 1	ORTN	NVTS	2003	1519	100 %	1519	M3	~~40~~	559	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										70					**Box - 4x4x7 (approx.)**
					2004	899	100 %	899	M3	~~24~~	331	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										42					**Box - 4x4x7 (approx.)**
					2005	898	100 %	898	M3	~~24~~	331	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										42					**Box - 4x4x7 (approx.)**
Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.															
LLW	1587	Radioactive Scrap Metal	ORTN	NVTS	2003	107	40 %	42.8	M3	2	16	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
															Box - 4x4x7 (approx.)
					2003	107	0 %	0	M3			Truck	LTD Qty	STC/IP-1	~~Box - Other (38 M3)~~
															Sealand - 8x8x20 (approx.)
					2003	107	60 %	64.2	M3	2	24	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										3					**Box - 4x4x7 (approx.)**
					2003	107	0 %	0	M3			Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Box - Other (38 M3)~~
															Sealand - 8x8x20 (approx.)
Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.															
LLW	1588	Construction Debris	ORTN	NVTS	2003	174	100 %	174	M3	~~5~~	~~64~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										9	**65**				**Box - 4x4x7 (approx.)**
					2004	418	100 %	418	M3	~~11~~	154	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										20					**Box - 4x4x7 (approx.)**
					2005	418	100 %	418	M3	~~11~~	154	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										20					**Box - 4x4x7 (approx.)**
					2006	418	100 %	418	M3	~~11~~	154	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										20					**Box - 4x4x7 (approx.)**
					2007	418	100 %	418	M3	~~11~~	154	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										20					**Box - 4x4x7 (approx.)**
					2008	418	100 %	418	M3	~~11~~	154	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										20					**Box - 4x4x7 (approx.)**
					2009	418	100 %	418	M3	~~11~~	154	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										20					**Box - 4x4x7 (approx.)**
					2010	419	100 %	419	M3	~~11~~	~~154~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										20	**155**				**Box - 4x4x7 (approx.)**
Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.															

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
LLW	1590	Non-Reg Chem/Lab Packs	ORTN	NVTS	2003	178	100 %	178	M3	~~3~~ **9**	~~29~~ **66**	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	200	100 %	200	M3	~~6~~ **10**	74	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	200	100 %	200	M3	~~6~~ **10**	74	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2006	200	100 %	200	M3	~~6~~ **10**	74	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2007	200	100 %	200	M3	~~6~~ **10**	74	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2008	200	100 %	200	M3	~~6~~ **10**	74	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2009	158	100 %	158	M3	~~5~~ **8**	~~58~~ **59**	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2010	174	100 %	174	M3	~~5~~ **9**	~~64~~ **65**	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Barrier Comments:		INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.													
LLW	1591	Resins/Trapping Material - 1	ORTN	NVTS	2003	89	100 %	89	M3	~~6~~ **10**	~~424~~ **428**	Truck	TYP A Qty	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2004	123	100 %	123	M3	~~8~~ **14**	~~586~~ **592**	Truck	TYP A Qty	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
Stream Comments:		Includes HFIR resins beginning in FY1999.													
Barrier Comments:		INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.													
LLW	1592	Fissile - 1	ORTN	NVTS	2004	73.9	100 %	73.9	M3	~~5~~ **9**	~~352~~ **356**	Truck	TYP A Qty	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
Barrier Comments:		INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.													
LLW	1594	Classified LLW	ORTN	NVTS	2003	4.1	100 %	4.1	M3	2	2	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	22.8	100 %	22.8	M3	9	9	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	21.3	100 %	21.3	M3	8	8	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Stored legacy waste will be returned to generator for declassification prior to disposal.													
Barrier Comments:		IINTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.													
TRU	2619	CH TWTP Output - Alpha Cont.	ORTN	NVTS	2004	59.7	100 %	59.7	M3	~~5~~ **7**	288	Truck	LSA2	IP-2	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2005	166.2	100 %	166.2	M3	~~14~~ **19**	800	Truck	LSA2	IP-2	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
Stream Comments:		Shipping container may be Type A 55-gal drum rather than "Strong Tight Container"													
Barrier Comments:		INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Approval of certification program required.													

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	2624	RH TWTP Output - LLW	ORTN	NVTS	2004	4.55	100 %	4.55	M3	1	22	Truck	LSA2	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2005	10.91	100 %	10.91	M3	~~1~~ **2**	~~52~~ **53**	Truck	LSA2	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2006	9.84	100 %	9.84	M3	~~1~~ **2**	~~47~~ **48**	Truck	LSA2	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2007	8.53	100 %	8.53	M3	1	~~41~~ **42**	Truck	LSA2	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2008	4.81	100 %	4.81	M3	1	~~23~~ **24**	Truck	LSA2	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**

Stream Comments: Annual data are based upon receiving casks only from the retrievable storage in SWSA-5N under the ER CERCLA . Shipping containers may be Type A 55-gal drums rather than "Strong Tight Containers."

Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Approval of certification program required.

TRU	2626	Treated Solidified LLLW Supernate	ORTN	NVTS	2003	102.9	100 %	102.9	M3	19	19	Truck	TYP B Qty	Type B	~~Cask (5.7 M3)~~ **Other - requires comment**
					2004	319.73	100 %	319.73	M3	57	57	Truck	TYP B Qty	Type B	~~Cask (5.7 M3)~~ **Other - requires comment**
					2005	316.79	100 %	316.79	M3	56	56	Truck	TYP B Qty	Type B	~~Cask (5.7 M3)~~ **Other - requires comment**

Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Approval of certification program required.

TRU	3012	TWTP-CH Secondary Waste	ORTN	NVTS	2004	47.8	100 %	47.8	M3	~~4~~ **6**	~~228~~ **230**	Truck	SCO2	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2005	132.95	100 %	132.95	M3	~~11~~ **15**	~~634~~ **640**	Truck	SCO2	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**

Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Approval of certification program required.

TRU	3038	TWTP-RH Treatment Secondary Waste	ORTN	NVTS	2004	161.93	100 %	161.93	M3	17	~~50~~ **52**	Truck	SCO2	STC/IP-1	~~Other (3.25 M3)~~ **Box - 4x4x7 (approx.)**
					2005	388.64	100 %	388.64	M3	40	~~120~~ **123**	Truck	SCO2	STC/IP-1	~~Other (3.25 M3)~~ **Box - 4x4x7 (approx.)**
					2006	350.63	100 %	350.63	M3	36	~~108~~ **111**	Truck	SCO2	STC/IP-1	~~Other (3.25 M3)~~ **Box - 4x4x7 (approx.)**
					2007	303.84	100 %	303.84	M3	32	~~94~~ **96**	Truck	SCO2	STC/IP-1	~~Other (3.25 M3)~~ **Box - 4x4x7 (approx.)**
					2008	181.15	100 %	181.15	M3	19	~~56~~ **58**	Truck	SCO2	STC/IP-1	~~Other (3.25 M3)~~ **Box - 4x4x7 (approx.)**

Stream Comments: Annual data are based upon receiving casks only from the retrievable storage in SWSA-5N under the ER CERCLA .

Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Approval of certification program required.

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	3039	TWTP Sludge/Supernate TRT Secondary Waste	ORTN	NVTS	2003	48.86	100 %	48.86	M3	4	235	Truck	LSA2	STC/IP-1	~~Other (0.208 M3)~~
										6					**Drum - 55 gal.**
					2004	112.21	100 %	112.21	M3	~~9~~	540	Truck	LSA2	STC/IP-1	~~Other (0.208 M3)~~
										13					**Drum - 55 gal.**
					2005	71.03	100 %	71.03	M3	~~6~~	342	Truck	LSA2	STC/IP-1	~~Other (0.208 M3)~~
										8					**Drum - 55 gal.**
Stream Comments:		An industrial packaging (per 49 CFR 173.411) rather than Strong Tight Container required for LSA > A2													
Barrier Comments:		INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Approval of certification program required.													
TRU	3043	LLW (from TWRF D&D)	ORTN	NVTS	2009	135	50 %	67.5	M3	7	28	Truck	LSA2	STC/IP-1	~~Box - Other (2.4 M3)~~
															Box - 4x4x7 (approx.)
					2009	135	50 %	67.5	M3	7	29	Truck	SCO2	STC/IP-1	~~Box - Other (2.4 M3)~~
															Box - 4x4x7 (approx.)
Stream Comments:		Industrial Packagings (per 49 CFR 173.411) rather than Strong Tight Containers required for LSA > A2													
Barrier Comments:		INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Approval of certification program required.													
LLW	4315	Packaged RH LLW - 2	ORTN	NVTS			100 %		M3						
Barrier Comments:		INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.													
LLW	4328	Solidified Fissile - 2	ORTN	NVTS	2004	11.2	100 %	11.2	M3	~~1~~	~~53~~	Truck	TYP A Qty	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										2	**54**				**Drum - 55 gal.**
Barrier Comments:		INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.													
LLW	4340	RH LLW-4 (Beryllium Reflectors)	ORTN	NVTS	2006	10.8	100 %	10.8	M3	4	4	Truck	TYP B Qty	Type B	~~Cask (3.4 M3)~~
															Other - requires comment
Barrier Comments:		INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: TBD site needs to be resolved to achieve treatment for removal of tritium from the reflectors to meet subsequent disposal criteria.													
LLW	4366	Overpacked CH LLW (alpha)	ORTN	NVTS	2003	13.5	100 %	13.5	M3	~~1~~	~~64~~	Truck	LSA1	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										2	**65**				**Drum - 55 gal.**
Barrier Comments:		INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.													
ER	4407	BNFL - K29/31/33 Classified	ORTN	NVTS	2001	5510.5	100 %	5510.5	M3						
					2002	9514.5	100 %	9514.5	M3						
					2003	7079.2	100 %	7079.2	M3						
Transportation Comments:		Stream managed by subcontractor; transportation data not available at IPABS closing.													
LLW	4485	Newly Generated LLW Solids to NTS	ORTN	NVTS	2001	1282	60 %	769.2	M3	~~21~~	~~282~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										36	**284**				**Box - 4x4x7 (approx.)**
					2001	1282	40 %	512.8	M3	~~14~~	~~186~~	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										24	**189**				**Box - 4x4x7 (approx.)**

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2002	227	40 %	90.8	M3	~~3~~	~~34~~	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
					2002	227	60 %	136.2	M3	**5** ~~4~~	~~50~~	Truck	LTD Qty	STC/IP-1	**Box - 4x4x7 (approx.)** ~~Box 4x4x6 (2.718 M3)~~
					2003	227	60 %	136.2	M3	**7** ~~4~~	**51** ~~50~~	Truck	LTD Qty	STC/IP-1	**Box - 4x4x7 (approx.)** ~~Box 4x4x6 (2.718 M3)~~
					2003	227	40 %	90.8	M3	**7** ~~3~~	**51** 34	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	**Box - 4x4x7 (approx.)** ~~Box 4x4x6 (2.718 M3)~~
					2004	227	40 %	90.8	M3	**5** ~~3~~	34	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	**Box - 4x4x7 (approx.)** ~~Box 4x4x6 (2.718 M3)~~
					2004	227	60 %	136.2	M3	**5** 4	~~50~~	Truck	LTD Qty	STC/IP-1	**Box - 4x4x7 (approx.)** ~~Box 4x4x6 (2.718 M3)~~
					2005	227	40 %	90.8	M3	**7** ~~3~~	**51** 34	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	**Box - 4x4x7 (approx.)** ~~Box 4x4x6 (2.718 M3)~~
					2005	227	60 %	136.2	M3	**5** 4	~~50~~	Truck	LTD Qty	STC/IP-1	**Box - 4x4x7 (approx.)** ~~Box 4x4x6 (2.718 M3)~~
					2006	227	40 %	90.8	M3	**7** ~~3~~	**51** ~~34~~	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	**Box - 4x4x7 (approx.)** ~~Box 4x4x6 (2.718 M3)~~
					2006	227	60 %	136.2	M3	**5** ~~4~~	~~50~~	Truck	LTD Qty	STC/IP-1	**Box - 4x4x7 (approx.)** ~~Box 4x4x6 (2.718 M3)~~
					2007	227	40 %	90.8	M3	**7** ~~3~~	**51** 34	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	**Box - 4x4x7 (approx.)** ~~Box 4x4x6 (2.718 M3)~~
					2007	227	60 %	136.2	M3	**5** ~~4~~	~~50~~	Truck	LTD Qty	STC/IP-1	**Box - 4x4x7 (approx.)** ~~Box 4x4x6 (2.718 M3)~~
					2008	227	60 %	136.2	M3	**7** 4	**51** ~~50~~	Truck	LTD Qty	STC/IP-1	**Box - 4x4x7 (approx.)** ~~Box 4x4x6 (2.718 M3)~~
					2008	227	40 %	90.8	M3	**7** ~~3~~	**51** 34	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	**Box - 4x4x7 (approx.)** ~~Box 4x4x6 (2.718 M3)~~
										5					**Box - 4x4x7 (approx.)**

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2009	227	40 %	90.8	M3	~~3~~	34	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										5					**Box - 4x4x7 (approx.)**
					2009	227	60 %	136.2	M3	4	~~50~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										7	**51**				**Box - 4x4x7 (approx.)**
					2010	227	40 %	90.8	M3	~~3~~	~~34~~	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										5					**Box - 4x4x7 (approx.)**
					2010	227	60 %	136.2	M3	4	~~50~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										7	**51**				**Box - 4x4x7 (approx.)**

Stream Comments: L-020, L-030, L-055, and L-090 profiles
Barrier Comments: Intersite Dependency - Intersite Issues: Off-site program and waste profile not yet approved.

LLW	4504	ORNL PWTC Residual - 2	ORTN	NVTS	2001	277	100 %	277	M3						
										9	**9**				**Sealand - 8x8x20 (approx.)**
					2002	277	100 %	277	M3						
										9	**9**				**Sealand - 8x8x20 (approx.)**
					2003	277	100 %	277	M3						
										9	**9**				**Sealand - 8x8x20 (approx.)**
					2004	277	100 %	277	M3						
										9	**9**				**Sealand - 8x8x20 (approx.)**
					2005	277	100 %	277	M3						
										9	**9**				**Sealand - 8x8x20 (approx.)**
					2006	277	100 %	277	M3						
										9	**9**				**Sealand - 8x8x20 (approx.)**
					2007	277	100 %	277	M3						
										9	**9**				**Sealand - 8x8x20 (approx.)**
					2008	277	100 %	277	M3						
										9	**9**				**Sealand - 8x8x20 (approx.)**
					2009	277	100 %	277	M3						
										9	**9**				**Sealand - 8x8x20 (approx.)**

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2010	277	100 %	277	M3						
										9	**9**				**Sealand - 8x8x20 (approx.)**
Transportation Comments:		Stream managed by subcontractor; transportation data not available at IPABS closing.													
LLW	4523	Treated LLW Solids to NTS	ORTN	NVTS	2001	132	30 %	39.6	M3	~~3~~	~~189~~	Truck	LSA1	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										5	**191**				**Drum - 55 gal.**
					2001	132	70 %	92.4	M3	~~86~~	~~86~~	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~
										92	**92**				**Drum - 55 gal.**
					2002	123	30 %	36.9	M3	~~3~~	~~176~~	Truck	LSA1	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										5	**178**				**Drum - 55 gal.**
					2002	123	70 %	86.1	M3	86	86	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~
															Drum - 55 gal.
LLW	4523	Treated LLW Solids to NTS	ORTN	NVTS	2003	123	30 %	36.9	M3	~~3~~	~~176~~	Truck	LSA1	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										5	**178**				**Drum - 55 gal.**
					2003	123	70 %	86.1	M3	86	86	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~
															Drum - 55 gal.
					2004	123	30 %	36.9	M3	~~3~~	~~176~~	Truck	LSA1	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										5	**178**				**Drum - 55 gal.**
					2004	123	70 %	86.1	M3	86	86	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~
															Drum - 55 gal.
					2005	123	70 %	86.1	M3	86	86	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~
															Drum - 55 gal.
					2005	123	30 %	36.9	M3	~~3~~	~~176~~	Truck	LSA1	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										5	**178**				**Drum - 55 gal.**
					2006	123	30 %	36.9	M3	~~3~~	~~176~~	Truck	LSA1	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										5	**178**				**Drum - 55 gal.**
					2006	123	70 %	86.1	M3	~~86~~	~~86~~	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~
															Drum - 55 gal.
					2007	123	30 %	36.9	M3	~~3~~	~~176~~	Truck	LSA1	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										5	**178**				**Drum - 55 gal.**
					2007	123	70 %	86.1	M3	86	86	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~
															Drum - 55 gal.
					2008	123	30 %	36.9	M3	~~3~~	~~176~~	Truck	LSA1	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										5	**178**				**Drum - 55 gal.**
					2008	123	70 %	86.1	M3	86	86	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~
															Drum - 55 gal.
					2009	123	30 %	36.9	M3	~~3~~	~~176~~	Truck	LSA1	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										5	**178**				**Drum - 55 gal.**
					2009	123	70 %	86.1	M3	86	86	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~
															Drum - 55 gal.
					2010	123	30 %	36.9	M3	~~3~~	~~176~~	Truck	LSA1	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										5	**178**				**Drum - 55 gal.**

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2010	123	70 %	86.1	M3	~~430~~	~~430~~	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~ **Drum - 55 gal.**
Barrier Comments: Intersite Dependency - Intersite Issues: Off-site program and waste profile not yet approved.															
ETTP-NU	4568	HAB - Stream	ORTN	NVTS			100 %		M3						
Barrier Comments: Work Scope score reflects need for interface with site waste management project.															
ETTP-DU	4569	FAA - Stream	ORTN	NVTS			100 %		M3						
Barrier Comments: Work Scope score reflects need for interface with site waste management project.															
ETTP-DU	4570	FAC - Stream	ORTN	NVTS			100 %		M3						
Barrier Comments: Work Scope score reflects need for interface with site waste management project.															
ETTP-HEU	4575	GAC - Stream	ORTN	NVTS			100 %		M3						
Barrier Comments: Work Scope score reflects need for interface with site waste management project.															
ETTP-LEU	4577	FBB - Stream	ORTN	NVTS			100 %		M3						
Barrier Comments: Work Scope score reflects need for interface with site waste management project.															
ETTP-LEU	4579	FBE - Stream	ORTN	NVTS			100 %		M3						
Barrier Comments: Work Scope score reflects need for interface with site waste management project.															
ORNL-DU	4582	FAB - Stream	ORTN	NVTS			100 %		M3						
Barrier Comments: Work Scope score reflects need for interface with site waste management project.															
ER	7058	LLW/Debris/Other Solids	ORTN	NVTS	2004	10159.	100 %	10159.	M3	**308**	~~0~~ **308**	Truck	TBD	TBD	~~TBD (0 M3)~~ **Sealand - 8x8x20 (approx.)**
					2005	2383.1	100 %	2383.1	M3	**73**	~~0~~ **73**	Truck	TBD	TBD	~~TBD (0 M3)~~ **Sealand - 8x8x20 (approx.)**
ER	7059	LLW/Debris/Other Solids	ORTN	NVTS	2008	0.651	0 %	0	M3			TBD	TBD	TBD	~~TBD (0 M3)~~ **TBD - requires comment**
					2008	0.651	100 %	0.651	M3	**1**	~~0~~ **4**	Truck	LSA2	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2009	5.862	0 %	0	M3			TBD	TBD	TBD	~~TBD (0 M3)~~ **TBD - requires comment**

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2009	5.862	100 %	5.862	M3		~~0~~	Truck	LSA2	STC/IP-1	~~Other (0.208 M3)~~
										1	**29**				**Drum - 55 gal.**
					2010	5.862	0 %	0	M3			TBD	TBD	TBD	~~TBD (0 M3)~~
															TBD - requires comment
					2010	5.862	100 %	5.862	M3		~~0~~	Truck	LSA2	STC/IP-1	~~Other (0.208 M3)~~
										1	**29**				**Drum - 55 gal.**
ER	7060	LLW/Debris/Other Solids	ORTN	NVTS	2002	6.8697	100 %	6.8697	M3		3	Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~
										1					**Box - 4x4x7 (approx.)**
					2003	13.739	100 %	13.739	M3		6	Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~
										1					**Box - 4x4x7 (approx.)**
					2004	27.478	100 %	27.478	M3		11	Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~
										2					**Box - 4x4x7 (approx.)**
					2005	48.087	100 %	48.087	M3		18	Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~
										3					**Box - 4x4x7 (approx.)**
					2006	68.696	100 %	68.696	M3		26	Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~
										4					**Box - 4x4x7 (approx.)**
					2007	89.305	100 %	89.305	M3		33	Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~
										5					**Box - 4x4x7 (approx.)**
					2008	61.827	100 %	61.827	M3		23	Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~
										3					**Box - 4x4x7 (approx.)**
					2009	27.478	100 %	27.478	M3		11	Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~
										2					**Box - 4x4x7 (approx.)**
ER	7079	LLW/Soil/Sludge/Sediment	ORTN	NVTS	2001	107.60	100 %	107.60	M3		518	Rail	TBD	STC/IP-1	~~Other (0.208 M3)~~
										5					**Drum - 55 gal.**
					2004	497.16	100 %	497.16	M3		~~0~~	TBD	TBD	TBD	~~TBD (0 M3)~~
										56	**2391**				**Drum - 55 gal.**
					2005	965.08	100 %	965.08	M3		~~0~~	TBD	TBD	TBD	~~TBD (0 M3)~~
										108	**4640**				**Drum - 55 gal.**
LLW	4519	LLW Rubble/Debris - 1	PGDP	NVTS	2001	200	100 %	200	M3	~~8~~	~~310~~	Truck	LTD Qty	STC/IP-1	~~Drum 85 gal (0.322 M3)~~
										21	**622**				**Drum - 85 gal.**
					2002	150	100 %	150	M3	~~12~~	~~465~~	Truck	LTD Qty	STC/IP-1	~~Drum 85 gal (0.322 M3)~~
										16	**466**				**Drum - 85 gal.**
					2003	150	100 %	150	M3	~~12~~	~~465~~	Truck	LTD Qty	STC/IP-1	~~Drum 85 gal (0.322 M3)~~
										16	**466**				**Drum - 85 gal.**
					2004	150	100 %	150	M3	~~12~~	~~465~~	Truck	LTD Qty	STC/IP-1	~~Drum 85 gal (0.322 M3)~~
										16	**466**				**Drum - 85 gal.**
					2009	302	100 %	302	M3	~~26~~	1046	Truck	LTD Qty	STC/IP-1	~~Drum 85 gal (0.322 M3)~~
										32					**Drum - 85 gal.**
LLW	4520	LLW Other Solids - 1	PGDP	NVTS	2001	200	100 %	200	M3	~~12~~	~~483~~	Truck	LSA1	STC/IP-1	~~Drum 85 gal (0.322 M3)~~
										21	**622**				**Drum - 85 gal.**

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2002	150	100 %	150	M3	~~12~~	~~464~~	Truck	LSA1	STC/IP-1	~~Drum 85 gal (0.322 M3)~~
										16	**466**				**Drum - 85 gal.**
					2003	220	100 %	220	M3	~~17~~	~~681~~	Truck	LSA1	STC/IP-1	~~Drum 85 gal (0.322 M3)~~
										23	**684**				**Drum - 85 gal.**
					2004	840	100 %	840	M3	~~73~~	2910	Truck	LSA1	STC/IP-1	~~Drum 85 gal (0.322 M3)~~
										87					**Drum - 85 gal.**
					2005	645	100 %	645	M3	~~12~~	~~464~~	Truck	LSA1	STC/IP-1	~~Drum 85 gal (0.322 M3)~~
										67	**2004**				**Drum - 85 gal.**
					2009	1864	100 %	1864	M3	~~113~~	~~4499~~	Truck	LSA1	STC/IP-1	~~Drum 85 gal (0.322 M3)~~
										193	**5789**				**Drum - 85 gal.**
					2010	2250	100 %	2250	M3	~~158~~	~~6325~~	Truck	LSA1	STC/IP-1	~~Drum 85 gal (0.322 M3)~~
										233	**6988**				**Drum - 85 gal.**
ER	7124	LLW/Debris/Other Solids	PGDP	NVTS	2001	5230.4	86.838 %	4542.0	M3		~~1670~~	Rail	LTD Qty	STC/IP-1	~~Other (2.72 M3)~~
										84	**1672**				**Box - 4x4x7 (approx.)**
					2001	5230.4	13.162 %	688.43	M3		254	Truck/Rail	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										32					**Box - 4x4x7 (approx.)**
					2002	11149.	18.523 9 %	2065.2	M3		760	Truck/Rail	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										95					**Box - 4x4x7 (approx.)**
					2002	11149.	81.476 1 %	9084.0	M3		~~3340~~	Rail	LTD Qty	STC/IP-1	~~Other (2.72 M3)~~
										168	**3343**				**Box - 4x4x7 (approx.)**
					2003	7092.7	0.1197 %	8.4900	M3		4	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										1					**Box - 4x4x7 (approx.)**
					2003	7092.7	64.037 5 %	4542.0	M3		~~1670~~	Rail	LTD Qty	STC/IP-1	~~Other (2.72 M3)~~
										84	**1672**				**Box - 4x4x7 (approx.)**
					2003	7092.7	35.842 8 %	2542.2	M3		936	Truck/Rail	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										117					**Box - 4x4x7 (approx.)**
					2004	2542.2	100 %	2542.2	M3		936	Truck/Rail	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										117					**Box - 4x4x7 (approx.)**
					2005	795.12	100 %	795.12	M3		293	Truck/Rail	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										37					**Box - 4x4x7 (approx.)**
					2006	2569.6	88.358 7 %	2270.5	M3		836	Truck/Rail	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										105					**Box - 4x4x7 (approx.)**

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2006	2569.6	11.6413 %	299.13	M3		111	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										14					**Box - 4x4x7 (approx.)**
					2007	1797.3	94.4229 %	1697.1	M3		625	Truck/Rail	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										79					**Box - 4x4x7 (approx.)**
					2007	1797.3	5.5771 %	100.24	M3		37	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										5					**Box - 4x4x7 (approx.)**
					2008	275.66	100 %	275.66	M3		102	Truck/Rail	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										13					**Box - 4x4x7 (approx.)**
ER	7125	LLW/Debris/Other Solids	PGDP	NVTS	2002	0.9344	100 %	0.9344	M3		1	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										1					**Box - 4x4x7 (approx.)**
					2003	0.9344	100 %	0.9344	M3		1	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										1					**Box - 4x4x7 (approx.)**
					2004	0.9346	100 %	0.9346	M3		1	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										1					**Box - 4x4x7 (approx.)**
ER	7130	LLW/Soil/Sludge/Sediment	PGDP	NVTS	2002	76.999	82.6788 %	63.662	M3		24	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										3					**Box - 4x4x7 (approx.)**
					2002	76.999	17.3212 %	13.337	M3		5	TBD	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										1					**Box - 4x4x7 (approx.)**
					2003	122.55	10.8824 %	13.337	M3		5	TBD	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										1					**Box - 4x4x7 (approx.)**
					2003	122.55	89.1176 %	109.22	M3		41	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										6					**Box - 4x4x7 (approx.)**
					2004	6.0233	100 %	6.0233	M3		3	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										1					**Box - 4x4x7 (approx.)**
					2005	626.93	100 %	626.93	M3		~~231~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										29					**Box - 4x4x7 (approx.)**
ER	7132	LLW/Soil/Sludge/Sediment	PGDP	NVTS	2001	2.095	100 %	2.095	M3		1	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										1					**Box - 4x4x7 (approx.)**
					2002	2.095	100 %	2.095	M3		1	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										1					**Box - 4x4x7 (approx.)**
					2003	2.095	100 %	2.095	M3		1	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										1					**Box - 4x4x7 (approx.)**
					2004	2.095	100 %	2.095	M3		1	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										1					**Box - 4x4x7 (approx.)**

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2005	2.095	100 %	2.095	M3		1	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										1					**Box - 4x4x7 (approx.)**
					2006	2.095	100 %	2.095	M3		1	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										1					**Box - 4x4x7 (approx.)**
					2007	2.095	100 %	2.095	M3		1	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										1					**Box - 4x4x7 (approx.)**
					2008	2.095	100 %	2.095	M3		1	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										1					**Box - 4x4x7 (approx.)**
					2009	2.095	100 %	2.095	M3		1	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										1					**Box - 4x4x7 (approx.)**
					2010	2.095	100 %	2.095	M3		1	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										1					**Box - 4x4x7 (approx.)**
LLW	3677	Krytox Oil/Scintillation Fluids	PPPL	NVTS	2002	0.35	100 %	0.35	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**

Stream Comments: This waste stream was destined for treatment at DSSI, ATG, Permafix or other thermal treatment because it did not meet Waste Acceptance Criteria for dispoisal at Hanford. PPPL is now a certified NTS shipper and plans to dispose of the stream at NTS. If there is a problem with meeting the NTS WAC, then the stream will be sent to one of the above commercial vendors for thrmal treatment.

LLW	7298	LLW	PPPL	NVTS	2002	135	100 %	135	M3						
										5	**5**				**Sealand - 8x8x20 (approx.)**
					2003	15	100 %	15	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2004	15	100 %	15	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2005	15	100 %	15	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2006	15	100 %	15	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2007	15	100 %	15	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2008	15	100 %	15	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2009	15	100 %	15	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2010	15	100 %	15	M3	**1**	**1**				**Sealand - 8x8x20 (approx.)**
Transportation Comments: MATERIAL TO BE SHIPPED VIA TRUCK															
LLW	3958	LLW to NTS	RFTS	NVTS	2001	13500	100 %	13500	M3	**202**	**202**				**Sealand - 8x8x20 (approx.)**
					2002	22500	100 %	22500	M3	**336**	**336**				**Sealand - 8x8x20 (approx.)**
					2003	42500	100 %	42500	M3	**635**	**635**				**Sealand - 8x8x20 (approx.)**
					2004	52465	100 %	52465	M3	**784**	**784**				**Sealand - 8x8x20 (approx.)**
					2005	70000	100 %	70000	M3	**1045**	**1045**				**Sealand - 8x8x20 (approx.)**
					2006	47963	100 %	47963	M3	**716**	**716**				**Sealand - 8x8x20 (approx.)**
					2007	11724	100 %	11724	M3	**175**	**175**				**Sealand - 8x8x20 (approx.)**
Transportation Comments: could include SCO, LSA, Type A															
LLW	30115	GTCC LLW	RFTS	NVTS	2004	10	100 %	10	M3	~~2~~	~~48~~ **49**	Truck	TYP A Qty TBD		~~TBD (0.21 M3)~~ **Drum - 55 gal.**
Barrier Comments: WORK SCOPE - Greater than Class C waste is currently acceptable for disposal at NTS on a case-by-case basis. RFETS waste is not yet approved for disposal because we have not yet generated a profile. INTERSITE DEPENDENCY - same as work scope															
LLW	30116	Classified LLW to NTS	RFTS	NVTS	2004	25	100 %	25	M3	4	~~119~~ **121**	Truck	TBD	TBD	~~TBD (0.21 M3)~~ **Drum - 55 gal.**
Th	30454	Thorium Samples to NTS for Disposal	RFTS	NVTS			100 %		M3						
Stream Comments: Projected path is LLW disposal at NTS.															
LEU	30457	LUE to NTS	RFTS	NVTS			100 %		M3						
Stream Comments: Projected path is LLW disposal at NTS.															

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
NISS	30542	Packaged NISS Orphans to NTS	RFTS	NVTS			100 %		M3						
Stream Comments:		Contains material from generation stream BG-6.													
ER	2202	LLW Sludge (2nd waste from AI)	SARS	NVTS	2001	356.8	100 %	356.8	M3						
										40	**1716**				**Drum - 55 gal.**
					2002	356.8	100 %	356.8	M3						
										40	**1716**				**Drum - 55 gal.**
					2003	356.8	100 %	356.8	M3						
										40	**1716**				**Drum - 55 gal.**
					2004	356.8	100 %	356.8	M3						
										40	**1716**				**Drum - 55 gal.**
					2005	356.8	100 %	356.8	M3						
										40	**1716**				**Drum - 55 gal.**
					2006	356.8	100 %	356.8	M3						
										40	**1716**				**Drum - 55 gal.**
					2007	356.8	100 %	356.8	M3						
										40	**1716**				**Drum - 55 gal.**
					2008	356.8	100 %	356.8	M3						
										40	**1716**				**Drum - 55 gal.**
					2009	356.8	100 %	356.8	M3						
										40	**1716**				**Drum - 55 gal.**
					2010	356.8	100 %	356.8	M3						
										40	**1716**				**Drum - 55 gal.**
DU	31720	DUO3 to NTS	SARS	NVTS			100 %		M3						
DU	31721	Inactive Tech Mat to NTS	SARS	NVTS			100 %		M3						
LLW	31782	LLW for Offsite Disposal	SARS	NVTS	2001	1437	100 %	1437	M3	~~7~~	~~13~~	Truck	LSA2	TBD	~~TBD (0 M3)~~
										91	**904**				**Box - smaller than 2x4x6**
					2002	1073	20 %	214.6	M3	~~4~~	~~8~~	Truck	LSA2	TBD	~~TBD (0 M3)~~
										14	**135**				**Box - smaller than 2x4x6**
					2002	1073	80 %	858.4	M3	~~25~~	675	Truck	LSA2	STC/IP-1	~~Box - Other (1.27 M3)~~
										54					**Box - 2x4x7 (approx.)**
					2003	859	100 %	859	M3	~~25~~	675	Truck	LSA2	STC/IP-1	~~Box - Other (1.27 M3)~~
										55					**Box - 2x4x7 (approx.)**
					2004	859	100 %	859	M3	~~25~~	675	Truck	LSA2	STC/IP-1	~~Box - Other (1.27 M3)~~
										55					**Box - 2x4x7 (approx.)**
					2005	859	100 %	859	M3	~~25~~	675	Truck	LSA2	STC/IP-1	~~Box - Other (1.27 M3)~~
										55					**Box - 2x4x7 (approx.)**

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2006	859	100 %	859	M3	~~25~~ 55	675	Truck	LSA2	STC/IP-1	~~Box - Other (1.27 M3)~~ **Box - 2x4x7 (approx.)**
					2007	864.1	100 %	864.1	M3	~~30~~ 55	680	Truck	LSA2	STC/IP-1	~~Box - Other (1.27 M3)~~ **Box - 2x4x7 (approx.)**
					2008	613.1	100 %	613.1	M3	~~20~~ 39	482	Truck	LSA2	STC/IP-1	~~Box - Other (1.27 M3)~~ **Box - 2x4x7 (approx.)**
					2009	81	100 %	81	M3	~~3~~ 6	64	Truck	LSA2	STC/IP-1	~~Box - Other (1.27 M3)~~ **Box - 2x4x7 (approx.)**
					2010	40.5	100 %	40.5	M3	~~2~~ 3	32	Truck	LSA2	STC/IP-1	~~Box - Other (1.27 M3)~~ **Box - 2x4x7 (approx.)**

Transportation Comments: Profile 1 covers sealand containers that are 36 m3 in volume and are classified as strongtignt.
Barrier Comments: SRS is an approved generator to the NTS. Some waste may need to be packaged to address high moisture content and will be addressed during the preparation of the waste profile. The transportation EA and ROD has been approved.

LLW	4347	Treated Dry Active Waste - 1	SEG	NVTS	2003	782	100 %	782	M3	~~21~~ 36	288	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	806	100 %	806	M3	~~22~~ 38	~~296~~ 297	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	714	100 %	714	M3	~~19~~ 33	~~263~~	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2006	714	100 %	714	M3	~~19~~ 33	263	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2007	714	100 %	714	M3	~~19~~ 33	263	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2008	714	100 %	714	M3	~~19~~ 33	263	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2009	714	100 %	714	M3	~~19~~ 33	263	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2010	713	100 %	713	M3	~~19~~ 33	263	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**

Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.

LLW	4477	Rad Scrap Metal - 6	SEG	NVTS	2003	50	100 %	50	M3	~~2~~	2	Truck	LTD Qty	STC/IP-1	~~Box - Other (38 M3)~~ **Sealand - 8x8x20 (approx.)**
					2004	301	100 %	301	M3	~~8~~ 10	~~8~~ 10	Truck	LTD Qty	STC/IP-1	~~Box - Other (38 M3)~~ **Sealand - 8x8x20 (approx.)**
					2005	301	100 %	301	M3	~~8~~ 10	~~8~~ 10	Truck	LTD Qty	STC/IP-1	~~Box - Other (38 M3)~~ **Sealand - 8x8x20 (approx.)**
					2006	301	100 %	301	M3	~~8~~ 10	~~8~~ 10	Truck	LTD Qty	STC/IP-1	~~Box - Other (38 M3)~~ **Sealand - 8x8x20 (approx.)**

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2007	300	100 %	300	M3	~~8~~ **10**	~~8~~ **10**	Truck	LTD Qty	STC/IP-1	~~Box - Other (38 M3)~~ **Sealand - 8x8x20 (approx.)**
					2008	301	100 %	301	M3	~~8~~ **10**	~~8~~ **10**	Truck	LTD Qty	STC/IP-1	~~Box - Other (38 M3)~~ **Sealand - 8x8x20 (approx.)**
					2009	301	100 %	301	M3	~~8~~ **10**	~~8~~ **10**	Truck	LTD Qty	STC/IP-1	~~Box - Other (38 M3)~~ **Sealand - 8x8x20 (approx.)**
					2010	301	100 %	301	M3	~~8~~ **10**	~~8~~ **10**	Truck	LTD Qty	STC/IP-1	~~Box - Other (38 M3)~~ **Sealand - 8x8x20 (approx.)**
Barrier Comments: Intersite Dependency - Intersite Issues: Off-site program and waste profile not yet approved.															
LLW	4484	Volume Reduced LLW Solids to NTS	SEG	NVTS	2001	508	100 %	508	M3	~~14~~ **24**	187	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2002	478	100 %	478	M3	~~13~~ **22**	176	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	478	100 %	478	M3	~~13~~ **22**	176	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	478	100 %	478	M3	~~13~~ **22**	176	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	478	100 %	478	M3	~~13~~ **22**	176	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2006	478	100 %	478	M3	~~13~~ **22**	176	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2007	478	100 %	478	M3	~~13~~ **22**	176	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2008	478	100 %	478	M3	~~13~~ **22**	176	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2009	478	100 %	478	M3	~~13~~ **22**	176	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2010	478	100 %	478	M3	~~13~~ **22**	176	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Barrier Comments: Intersite Dependency - Intersite Issues: Off-site program and waste profile not yet approved.															
ER	235	LLW Soils & Debris	SNLN	NVTS	2001	375.6	100 %	375.6	M3	~~40~~	1955	Truck	LSA2	TBD	~~TBD (0 M3)~~ **Sealand - 8x8x20 (approx.)**
					2002	0	100 %	0	M3	~~1~~ **0**	~~25~~ **0**	Truck	LSA2	TBD	~~TBD (0 M3)~~ **TBD - requires comment**

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2003	4	100 %	4	M3	~~20~~	975	Truck	LSA2	TBD	~~TBD (0 M3)~~ **Sealand - 8x8x20 (approx.)**
					2004	1	100 %	1	M3	~~1~~	20	Truck	LSA2	TBD	~~TBD (0 M3)~~ **Sealand - 8x8x20 (approx.)**
					2005	10	100 %	10	M3	~~1~~	20	Truck	LSA2	TBD	~~TBD (0 M3)~~ **Sealand - 8x8x20 (approx.)**
					2006	183	100 %	183	M3	~~1~~ **6**	10	Truck	LSA2	TBD	~~TBD (0 M3)~~ **Sealand - 8x8x20 (approx.)**

Transportation Comments: Containers used to ship rad waste are Box-ST/EP, Drum-ST/EP, Box-TypeA, and Soft Bag/Wrap, ranging in capacity from .19 M3 to 12 M3 per container.

Stream Comments: 559.2 M3 of this waste was collected and dispositioned prior to the end of FY97 (439 M3 in FY97 and 120.2 M3 in FY96). The vast majority of depleted uranium that is removed during ER activities result from destructive testing of various test components. The DU debris that is gathered takes the form of shrapnel and similar sized chunks. Concentration is not meaningful in this context in that the chunks are typically pure DU mixed with soil to the extent it can be reasonably separated.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
LLW	593	Lab Trash	SNLN	NVTS	2001	3	100 %	3	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
					2002	3	100 %	3	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
					2003	3	100 %	3	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
					2004	3	100 %	3	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
					2005	3	100 %	3	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
					2006	3	100 %	3	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
					2007	3	100 %	3	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
					2008	3	100 %	3	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
					2009	3	100 %	3	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
					2010	3	100 %	3	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**

Stream Comments: FY98 EM-funded; FY99-70 DP-funded.

Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc.). Waste can be characterized using existing capabilities. Waste/material retrieval is not applicable. Waste is in containerized storage. Retrieval is not required. Characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. Waste can be characterized for shipping using existing capabilities. A plausible and feasible path for treating and completing final disposition of this waste/material does exist. Waste will be directly disposed at NTS.

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
LLW	595	Reactor Materials	SNLN	NVTS	2001	1.5	100 %	1.5	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (1.5 M3)~~ **Box - 2x4x7 (approx.)**
					2002	1.5	100 %	1.5	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (1.5 M3)~~ **Box - 2x4x7 (approx.)**
					2003	1.5	100 %	1.5	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (1.5 M3)~~ **Box - 2x4x7 (approx.)**
					2004	1.5	100 %	1.5	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (1.5 M3)~~ **Box - 2x4x7 (approx.)**
					2005	1.5	100 %	1.5	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (1.5 M3)~~ **Box - 2x4x7 (approx.)**
					2006	1.5	100 %	1.5	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (1.5 M3)~~ **Box - 2x4x7 (approx.)**
					2007	1.5	100 %	1.5	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (1.5 M3)~~ **Box - 2x4x7 (approx.)**
					2008	1.5	100 %	1.5	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (1.5 M3)~~ **Box - 2x4x7 (approx.)**
					2009	1.5	100 %	1.5	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (1.5 M3)~~ **Box - 2x4x7 (approx.)**
					2010	1.5	100 %	1.5	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (1.5 M3)~~ **Box - 2x4x7 (approx.)**

Stream Comments: FY98 EM-funded; FY99-70 DP-funded.

Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc.). Waste can be characterized using existing capabilities. Characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. Waste can be characterized for shipping using existing capabilities. Waste/material retrieval is not applicable. Waste is in containerized storage. Retrieval is not required. A plausible and feasible path for treating and completing final disposition of this waste/material does exist. Waste will be directly disposed at NTS.

LLW	596	Neutron Generators #1	SNLN	NVTS	2001	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ **Other - requires comment**
					2002	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ **Other - requires comment**
					2003	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ **Other - requires comment**
					2004	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ **Other - requires comment**
					2005	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ **Other - requires comment**

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2006	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ **Other - requires comment**
					2007	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ **Other - requires comment**
					2008	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ **Other - requires comment**
					2009	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ **Other - requires comment**
					2010	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ **Other - requires comment**

Stream Comments: FY98 EM-funded; FY99-70 DP-funded.

Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc.). Waste can be characterized using existing capabilities. Characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. Waste can be characterized for shipping using existing capabilities. Waste/material can be retrieved. The existing inventory is in containerized storage. Retrieval is not required. Future volumes will require retrieval. No problems are foreseen. A plausible and feasible path for treating and completing final disposition of

LLW	598	D&D - DOE #1	SNLN	NVTS	2001	4.4	100 %	4.4	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (4.4 M3)~~ **Box - 4x4x7 (approx.)**
					2002	4.4	100 %	4.4	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (4.4 M3)~~ **Box - 4x4x7 (approx.)**
					2003	4.4	100 %	4.4	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (4.4 M3)~~ **Box - 4x4x7 (approx.)**
					2004	4.4	100 %	4.4	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (4.4 M3)~~ **Box - 4x4x7 (approx.)**
					2005	4.4	100 %	4.4	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (4.4 M3)~~ **Box - 4x4x7 (approx.)**
					2006	4.4	100 %	4.4	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (4.4 M3)~~ **Box - 4x4x7 (approx.)**
					2007	4.4	100 %	4.4	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (4.4 M3)~~ **Box - 4x4x7 (approx.)**
					2008	4.4	100 %	4.4	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (4.4 M3)~~ **Box - 4x4x7 (approx.)**
					2009	4.4	100 %	4.4	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (4.4 M3)~~ **Box - 4x4x7 (approx.)**
					2010	4.4	100 %	4.4	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (4.4 M3)~~ **Box - 4x4x7 (approx.)**

Stream Comments: FY98 EM-funded; FY99-70 DP-funded.

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
Barrier Comments:		WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: Characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. Waste can be characterized for shipping using existing capabilities. A plausible and feasible path for treating and completing final disposition of this waste/material does exist. Some waste will be directly disposed at Envirocare under an existing contract. No problems are foreseen. This is the only distinction between D&D #1 and D&D #2, and the decision to dispose one at NTS and the other at Envirocare does not have any specific technical, regulatory, programmatic, or other reason. Waste/material can be retrieved. The existing inventory is in containerized storage. Retrieval is not required.													
LLW	604	Asbestos	SNLN	NVTS	2001	4	100 %	4	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (4 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		FY98 EM-funded; FY99-70 DP-funded.													
Barrier Comments:		WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: Waste/material retrieval is not applicable. Waste is in containerized storage. Retrieval is not required. Characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. Waste can be characterized for shipping using existing capabilities. A plausible and feasible path for treating and completing final disposition of this waste/material does exist. Waste will be directly disposed at NTS. No problems are foreseen. The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc.). Waste can be characterized usi													
LLW	605	D&D #2	SNLN	NVTS	2001	12.7	100 %	12.7	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (12.7 M3)~~ **Sealand - 8x8x20 (approx.)**
					2002	12.7	100 %	12.7	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (12.7 M3)~~ **Sealand - 8x8x20 (approx.)**
					2003	12.7	100 %	12.7	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (12.7 M3)~~ **Sealand - 8x8x20 (approx.)**
					2004	12.7	100 %	12.7	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (12.7 M3)~~ **Sealand - 8x8x20 (approx.)**
					2005	12.7	100 %	12.7	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (12.7 M3)~~ **Sealand - 8x8x20 (approx.)**
					2006	12.7	100 %	12.7	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (12.7 M3)~~ **Sealand - 8x8x20 (approx.)**
					2007	12.7	100 %	12.7	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (12.7 M3)~~ **Sealand - 8x8x20 (approx.)**
					2008	12.7	100 %	12.7	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (12.7 M3)~~ **Sealand - 8x8x20 (approx.)**
					2009	12.7	100 %	12.7	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (12.7 M3)~~ **Sealand - 8x8x20 (approx.)**

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2010	12.7	100 %	12.7	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (12.7 M3)~~ **Sealand - 8x8x20 (approx.)**
Stream Comments:		FY98 EM-funded; FY99-70 DP-funded.													
Barrier Comments:		WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: A plausible and feasible path for treating and completing final disposition of this waste/material does exist. Waste will be directly disposed at NTS. No problems are foreseen. The only distinction between D&D #1 and D&D #2 is that one is disposed at NTS and the other at Envirocare. This decision is apparently not based on any specific technical, regulatory, programmatic, or other reason. Characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. Waste can be characterized for shipping using existing capabilities. The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility													
LLW	1428	Treated H3 Oil	SNLN	NVTS	2001	1	100 %	1	M3	1	~~1~~ **5**	Truck	LSA1	STC/IP-1	~~Other (1 M3)~~ **Drum - 55 gal.**
LLW	1431	Encapsulated Reactor Materials RH	SNLN	NVTS	2001	1.4	100 %	1.4	M3	**1**	**7**				**Drum - 55 gal.**
					2002	1.4	100 %	1.4	M3	**1**	**7**				**Drum - 55 gal.**
					2003	1.4	100 %	1.4	M3	**1**	**7**				**Drum - 55 gal.**
Stream Comments:		FY98 EM-funded; FY99-70 DP-funded. Long term assumptions may change based on D&D of Sandia Engineering Reactor and Sandia Pulsed Reactor.													
LLW	1434	Dewatered Resins	SNLN	NVTS	2001	1	100 %	1	M3	1	~~1~~ **5**	Rail	LSA1	STC/IP-1	~~Other (1 M3)~~ **Drum - 55 gal.**
					2002	1	100 %	1	M3	**1**	**5**				**Drum - 55 gal.**
					2003	1	100 %	1	M3	**1**	**5**				**Drum - 55 gal.**
					2004	1	100 %	1	M3	**1**	**5**				**Drum - 55 gal.**
					2005	1	100 %	1	M3	**1**	**5**				**Drum - 55 gal.**
					2006	1	100 %	1	M3	**1**	**5**				**Drum - 55 gal.**
					2007	1	100 %	1	M3	**1**	**5**				**Drum - 55 gal.**
					2008	1	100 %	1	M3	**1**	**5**				**Drum - 55 gal.**
					2009	1	100 %	1	M3	**1**	**5**				**Drum - 55 gal.**
					2010	1	100 %	1	M3	**1**	**5**				**Drum - 55 gal.**

Nevada Test Site Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
Stream Comments:		FY98 EM-funded; FY99-70 DP-funded.													
Barrier Comments:		Dewatered resins have been shipped to NTS in the past. Sandia now solidifies these wastes with polyacrylamide super-absorbent and plans to ship these solidified resins also to NTS.													
LLW	3609	UNSP Line Backlog	SNLN	NVTS	2001	109.4	100 %	109.4	M3	7	~~1~~ **4**	Truck	LSA1	STC/IP-1	~~Other (109.4 M3)~~ **Box - larger than 8x8x20**
					2002	104.4	100 %	104.4	M3	7	~~1~~ **4**	Truck	LSA1	STC/IP-1	~~Other (104.4 M3)~~ **Box - larger than 8x8x20**
					2003	105.4	100 %	105.4	M3	7	~~1~~ **4**	Truck	LSA1	STC/IP-1	~~Other (104.4 M3)~~ **Box - larger than 8x8x20**
					2004	106.6	100 %	106.6	M3	7	~~1~~ **4**	Truck	LSA1	STC/IP-1	~~Other (106.6 M3)~~ **Box - larger than 8x8x20**
					2005	62.6	100 %	62.6	M3	~~5~~ **7**	~~313~~	Truck	LSA1	STC/IP-1	~~Other (0.2 M3)~~ **Drum - 55 gal.**
					2006	10.9	100 %	10.9	M3	1	2	Truck	LSA1	STC/IP-1	~~Other (10 M3)~~ **Sealand - 8x8x20 (approx.)**
Stream Comments:		FY98 EM-funded; FY99-70 DP-funded.													
LLW	3870	WCS Treatment Residue (Solidified liquids)	WCS	NVTS	2001	1.25	100 %	1.25	M3	**1**	**1**				**Sealand - 8x8x20 (approx.)**
Stream Comments:		MLLW material (record #3630) was generated and shipped to WCS for stabilization and returned to Pantex as LLW													

Nevada Test Site Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	4563	A-25 Picatinny Ash/Metal Debris	NVTS	ATG1	2001	0.44	100 %	0.44	M3	**1**	**3**				**Drum - 55 gal.**
ER	1018	MLLW Contaminated Soil (Industrial Sites Project)	NVTS	COMM	2002	32	100 %	32	M3	**4**	**154**				**Drum - 55 gal.**
					2004	1	100 %	1	M3	**1**	**5**				**Drum - 55 gal.**

Nevada Test Site Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2005	2	100 %	2	M3						
										1	**10**				**Drum - 55 gal.**
					2007	5	100 %	5	M3						
										1	**25**				**Drum - 55 gal.**

Transportation Comments: Number of shipments and containers not determined at this time.

Stream Comments: Contaminant Profiles are dependant upon the type and extent of contamination found at the Corrective Action Site(s) that comprise the source(s) of waste for this waste stream. Treated soil may return to the NTS for disposal as LLW depending on the treatment technology used.

Barrier Comments: Technology: Characterization of estimated MLLW contaminated soil is not complete. Technology needs are not defined; however, the soil is not expected to be significantly different from previous MLLW that has been treated and disposed at the NTS.

Work Scope Definition: Scope defined in ER Baseline are outyear estimates based on preliminary data.

Intersite Dependency: Use of existing treatment technology is expected to be available as provided in the past.

Radionuclide information is not known since characterization is incomplete

MLLW	1200	PCB Soils	NVTS	ORTN	2001	0.1	100 %	0.1	M3	1	1	Truck	TBD	TBD	~~TBD (0.1 M3)~~ **Drum - 55 gal.**

Stream Comments: STP Waste to be treated and disposed at TSCA.

Barrier Comments: INTERSITE DEPENDENCY - OTHER INTERSITE DEPENDENCY ISSUES: Assumes that NTS will be included on the TSCA Incinerator Burn Plan

MLLW	2919	EMAD Rags	NVTS	ORTN	2001	0.21	100 %	0.21	M3	1	~~1~~ **2**	Truck	TBD	TBD	~~TBD (0.21 M3)~~ **Drum - 55 gal.**

Stream Comments: MCA waste. Waste to be treated and disposed at TSCA.

Barrier Comments: INTERSITE DEPENDENCY - OTHER INTERSITE DEPENDENCY ISSUES: Assumes that NTS is included on TSCA Incinerator Burn Plan.

Nevada Test Site Incoming - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	7280	Treated Waste to be Disposed at Nevada Test Site	COMM	NVTS	2003	100	100 %	100	M3						
										4	**4**				**Sealand - 8x8x20 (approx.)**
					2004	100	100 %	100	M3						
										4	**4**				**Sealand - 8x8x20 (approx.)**
					2005	100	100 %	100	M3						
										4	**4**				**Sealand - 8x8x20 (approx.)**

Nevada Test Site Incoming - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2006	100	100 %	100	M3						
										4	**4**				**Sealand - 8x8x20 (approx.)**

Transportation Comments: Currently there have not been specific containers identified for shipment to Nevada Test Site. Once specific containers are identified container specifics will be entered into the database.

Stream Comments: This stream includes all waste that has been treated that will be disposed at Nevada Test Site.

Barrier Comments: Work Scope/Score-1: Waste material quantities have been estimated.

Intersite Dependency-1: Other DOE facilities have been identified and estimated. Commercial facility exists as well.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	4521	Residuals from Treatment	PGDP	NVTS	2001	100	100 %	100	M3						
										4	**4**				**Sealand - 8x8x20 (approx.)**
					2002	195	100 %	195	M3						
										6	**6**				**Sealand - 8x8x20 (approx.)**
					2003	160	100 %	160	M3						
										5	**5**				**Sealand - 8x8x20 (approx.)**
					2004	110	100 %	110	M3						
										4	**4**				**Sealand - 8x8x20 (approx.)**
					2005	85	100 %	85	M3						
										3	**3**				**Sealand - 8x8x20 (approx.)**

Transportation Comments: Transportation data not available before IPABS closure.

Stream Comments: Residuals returned from Broad Spectrum Vendors.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	1908	Meets treatment standard	SARS	NVTS	2008	44.27	50 %	22.135	M3	1	18	Truck	TYP B Qty Type B		~~Cask (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2008	44.27	50 %	22.135	M3	1	18	Truck	TYP A Qty Type A/IP-3		~~Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**

Barrier Comments: INTERSITE DEPENDENCY ISSUES: Location not agreed upon but approval expected. Completion of Part B permit revision needed for disposal at NTS. NEPA/ROD approval pending but is expected.

WORK SCOPE DEFINITION/TECHNOLOGY ISSUES: Characterization may not be sufficient on some of the old containers of all ready treated waste. Activity and dose may restrict the ability to obtain new samples and analysis. Disposal location is identified and is expected to be approved.

Nevada Test Site Outgoing - Nonactinide Isotopes and Sealed Sources (NM-NISS)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
NISS	31496	BAI - Stream	NVTS	COMM			100 %		NI						
					TBD										**S-100**

Stream Comments: Projected path is commercial use at an undetermined location..
Barrier Comments: Score is default.

NISS	31495	BAO - Stream	NVTS	ORTN			100 %		NI						
					TBD										**S-100**

Stream Comments: Contains material from generation stream NS-3. Projected path is isotope program source recovery.

Nevada Test Site Outgoing - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	1056	Legacy MTRU Boxes	NVTS	TBDO	~~2003~~	267	100 %	267	M3	1	58	Truck	~~TBD~~	Type B	~~Cask (4.6 M3)~~
					TBD								**TYP B Qty**		**Other - requires comment**

Stream Comments: Reporting the isotopic characterization as "SA-High" is due to the anticapated data that will be provided by the CAO certified mobile vendor characterization process. No specific istopic data is reported as characterization is being completed at this time.

Barrier Comments: Work Scope Definition: The existing TRU waste WMPEIS ROD is assumed to be amended to allow TRU waste shipments from NTS to an offsite DOE Facility. Characterization required for shipping off-site will consist of radioassay and container venting. It is also assumed that the existing hazardous material information (RCRA codes) is sufficient for shipping.

Intersite Dependency: Funding has been identified in an approved PBS.

TRU	1961	CH TRU from NTS	NVTS	WIPP	2002	215	100 %	215	M3	33	~~99~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
											75				**TRUPACT-II**
					2005	~~451~~	100 %	~~451~~	M3	~~30~~	~~90~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						424		**424**		**46**	**147**				**TRUPACT-II**
					2009	~~54~~	100 %	~~54~~	M3						
						53.4		**53.4**		**8**	**19**				**TRUPACT-II**

Stream Comments: Total volumes to be disposed, and total volumes scheduled to be disposed at WIPP are consistent between shipping and receiving sites.

Attachment 2

NEVADA TEST SITE
TYPE B AND TYPE A-FISSILE
PACKAGING BASELINE

10 May 2002

Nevada Test Site

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
TBD	Commercial - TBD	NM-NISS		S-100	No / Yes	
TBD	Oak Ridge	NM-NISS		S-100	No / Yes	
TBD	TBD	TRU		TBD	- / -	Fifty-eight (58) oversize TRU waste boxes cannot be characterized or shipped in a TRUPACT II, TRUPACT III or Super Tiger. Without proper characterization or packaging the waste cannot be shipped to WIPP for disposal. CNS 10-160B container was suggested by NTP-AL, but only measures (5' 8" x 6' 5") without the SS liner. The boxes range in length up to 13' 7", in width up to 6' 4" and height up to 6' 9". OTMX cannot be used for lack of a railroad line into the site.
TBD	WIPP	TRU		TBD	- / -	NTS has 248 drums of classified TRU. NTS does not have sanitization (declassification) capabilities. Classified material cannot be disposed at WIPP because it is not waste.
TBD	TBD	NM-NISS		IP	Yes / Yes	

Per my conversation with Tony Bufis, currently Nevada doesn't have any scheduled requirements for the packagings mentioned in the survey.
Thanks,
Lee J. Stevens
Nevada Operations Office

Attachment 3

NEVADA TEST SITE TRANSPORTATION BASELINE SUMMARY

10 May 2002

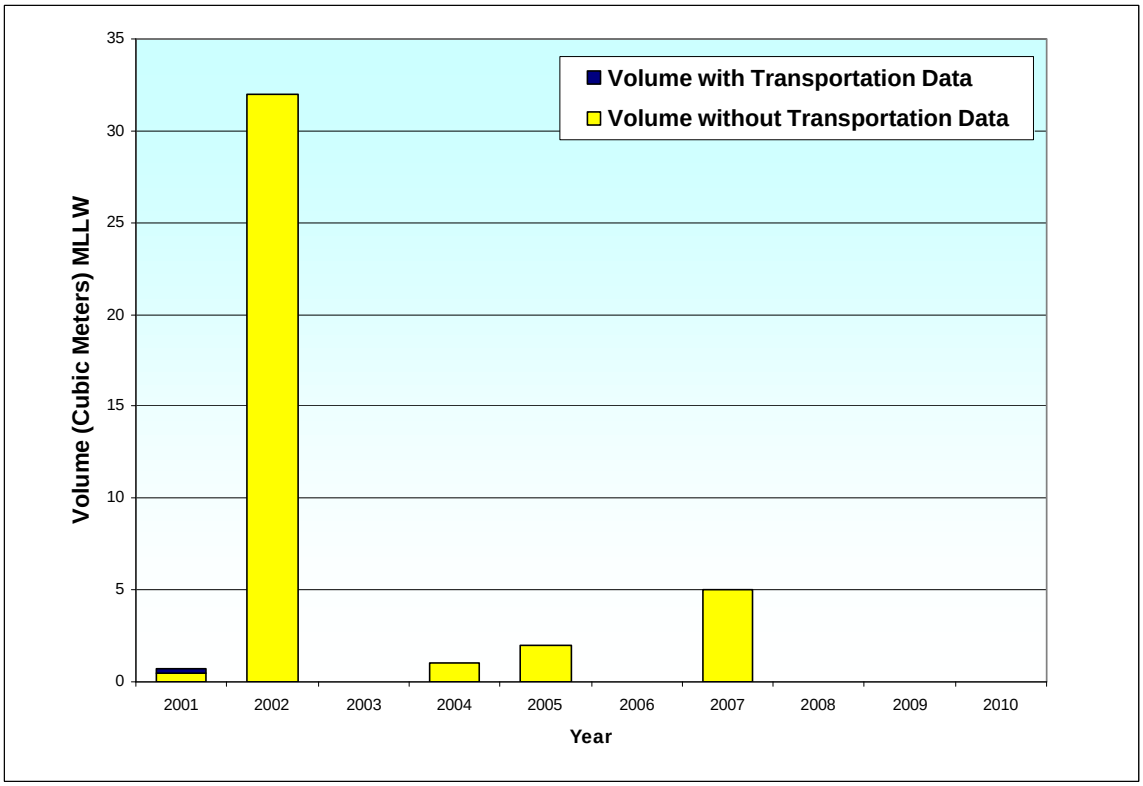


Figure 1. Quantity of MLLW to be shipped by year through 2010

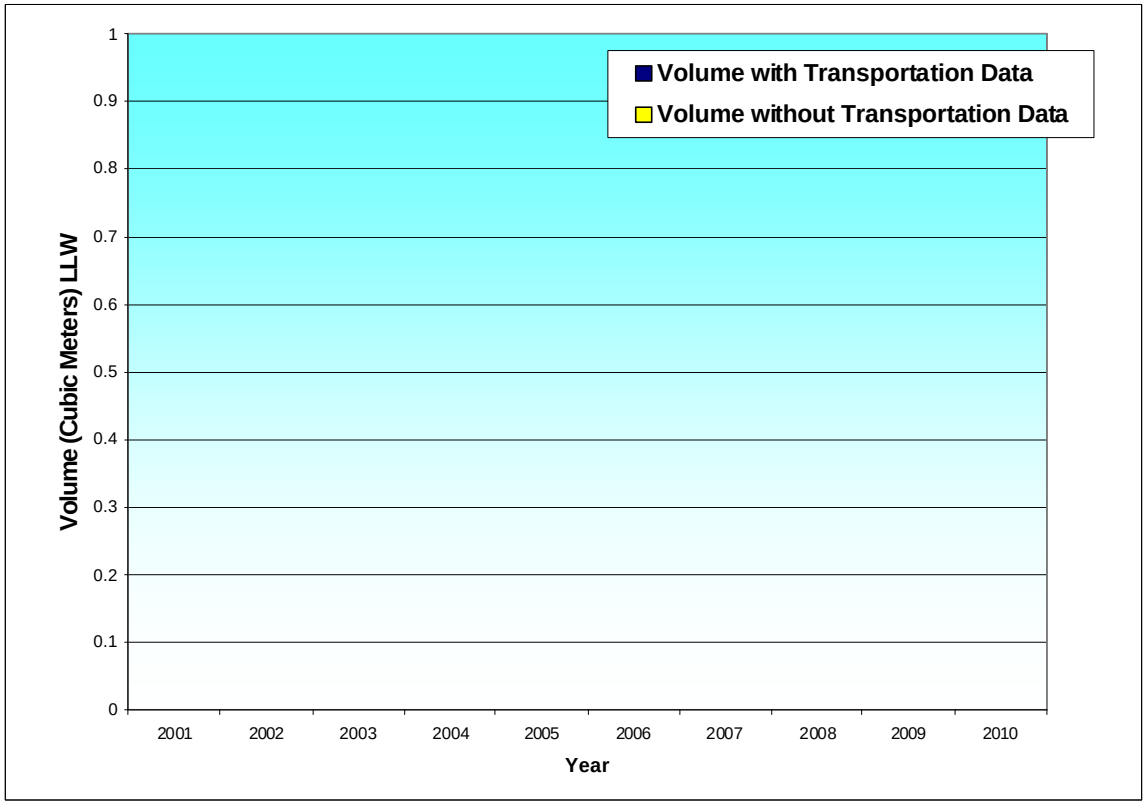


Figure 2. Quantity of LLW to be shipped by year through 2010 (empty)

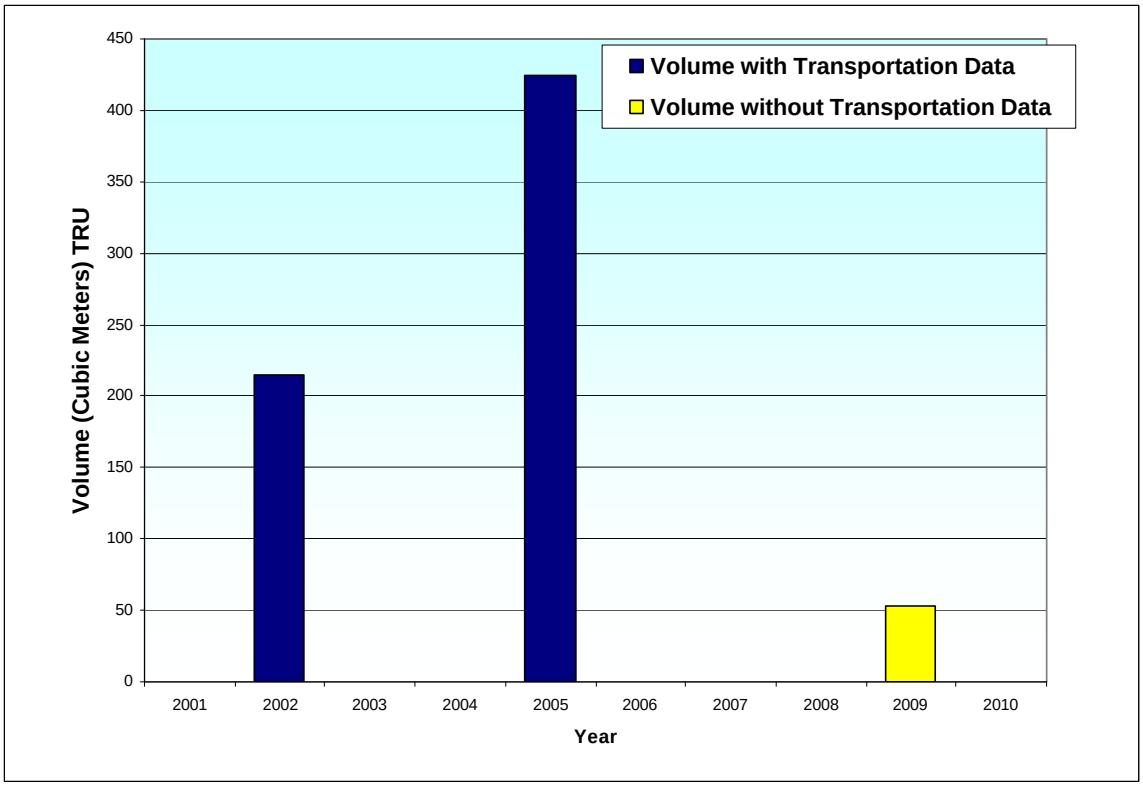


Figure 3. Quantity of TRU to be shipped by year through 2010

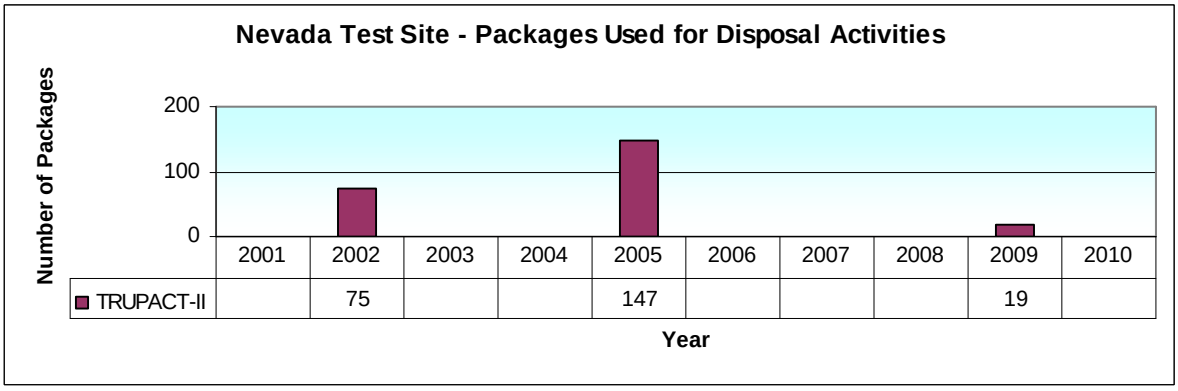


Figure 4. Number of packages to be shipped to disposal.

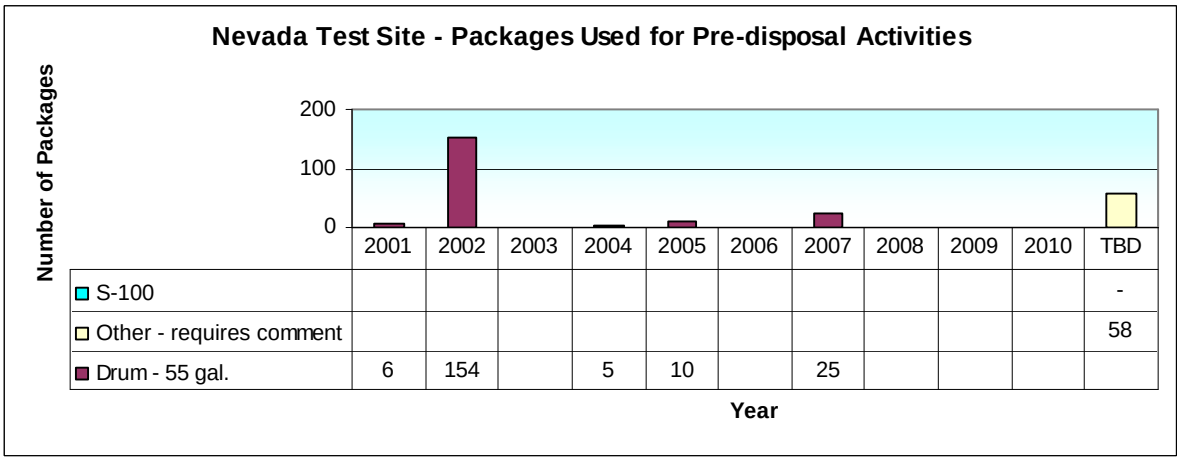


Figure 5. Number of packages to be used for pre-disposal activities

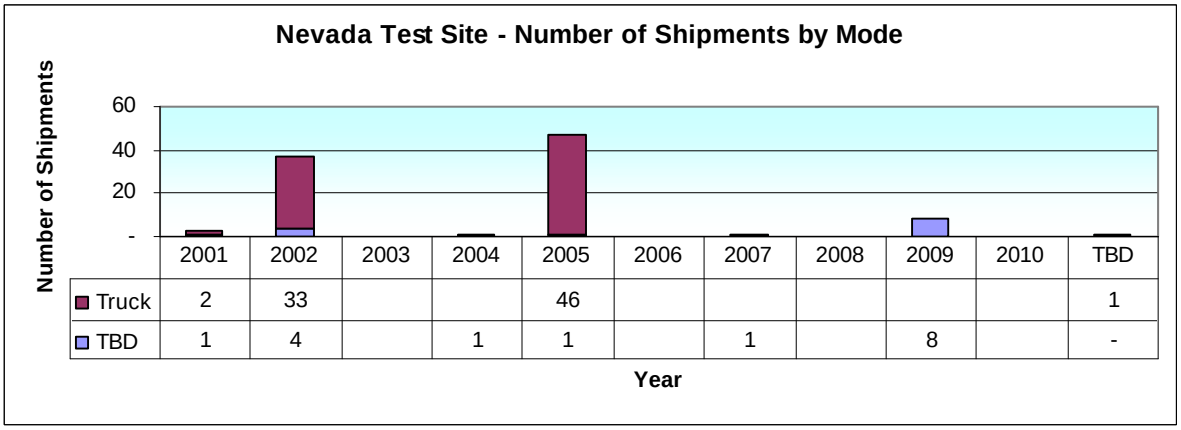


Figure 6. Number of shipments by mode

Oak Ridge National Laboratory
ENHANCED BASELINE TRANSPORTATION DATA

This section presents and discusses the updated and enhanced basic data sets obtained through the data gathering activities.

Oak Ridge National Laboratory Enhanced Baseline

Oak Ridge National Laboratory Enhanced Baseline data is presented in **Attachment 1**. (Note that data from the original IPABS database is printed in black while additional and corrected data is printed in red.) This information was compiled based on the 2001 IPABS database and was updated and enhanced with data from the Type B and Type A-Fissile Packaging Report and limited input from the reporting site.

Comparison of the 2001 IPABS data with the Enhanced Baseline yields the following observations:

(1) IPABS data does not necessarily represent the site's baseline shipping plans, and
(2) Additional data calls were effective in collecting transportation data for empty data fields.

The discrepancies confirm the need for an improved methodology for collecting and reporting transportation data.

Oak Ridge National Laboratory Type B and Type A-Fissile Packaging Baseline

The Oak Ridge National Laboratory Type B and Type A-Fissile Packaging Baseline (**Attachment 2**) updates and fills gaps in the Oak Ridge National Laboratory data from the October 9, 2001 "NTP Type B and Type A Fissile Packaging Report". Discussion and comments follow the table in Attachment 2.

Planned vs. Actual FY 2001 Shipments

Actual volumes and numbers of containers shipped, and numbers of shipments were not available at the time this Forecast was prepared.

ENHANCED BASELINE ANALYSIS

The data products presented above have been processed and analyzed in ways intended to facilitate long-range planning and evaluate the feasibility of planned shipping activities. Analysis is based on assessment of the validity of appropriate Transportation Baseline Attributes. These attributes are listed at the beginning of this EM Transportation Forecast. The following sections present the results of the data analyses.

Transportation Baseline Summary

The Oak Ridge National Laboratory Transportation Baseline Summary (**Attachment 3**) depicts MLLW, LLW, TRU, and SNF volumes involved in transportation events. The data is displayed by waste type. **Figures 1-4 (Attachment 3)** depict, for each waste or material stream, a summary of the annual volume of all Oak Ridge National Laboratory incoming and outgoing shipments. In these figures, the quantity of waste that does not have completed transportation data is shown in yellow. This is waste that has a reported volume but has no associated package type, number of shipments, transportation mode, etc.

Figures 5 and 6, show packagings required for treatment and for disposal activities, illustrating the dual role transportation may play in the disposition of waste and material. Some waste/material streams must be transported to an off-site facility for treatment, returned to the site for packaging, and finally shipped to a permanent disposal facility. **Figure 7** provides an annual depiction of shipments to be made by rail, truck, or intermodaly.

Figures 1 and 2, below, summarize outgoing and incoming waste and material shipments planned for Oak Ridge National Laboratory over the next 10 years as reported in the enhanced data set. The map depicts the destination of a set of shipments and indicates the number of shipments expected to be completed. It should be noted that in the absence of complete transportation activity profiles the number of shipments have been estimated.

Oak Ridge National Laboratory
Stream Disposition
2001 - 2010 Outgoing Enhanced Shipments

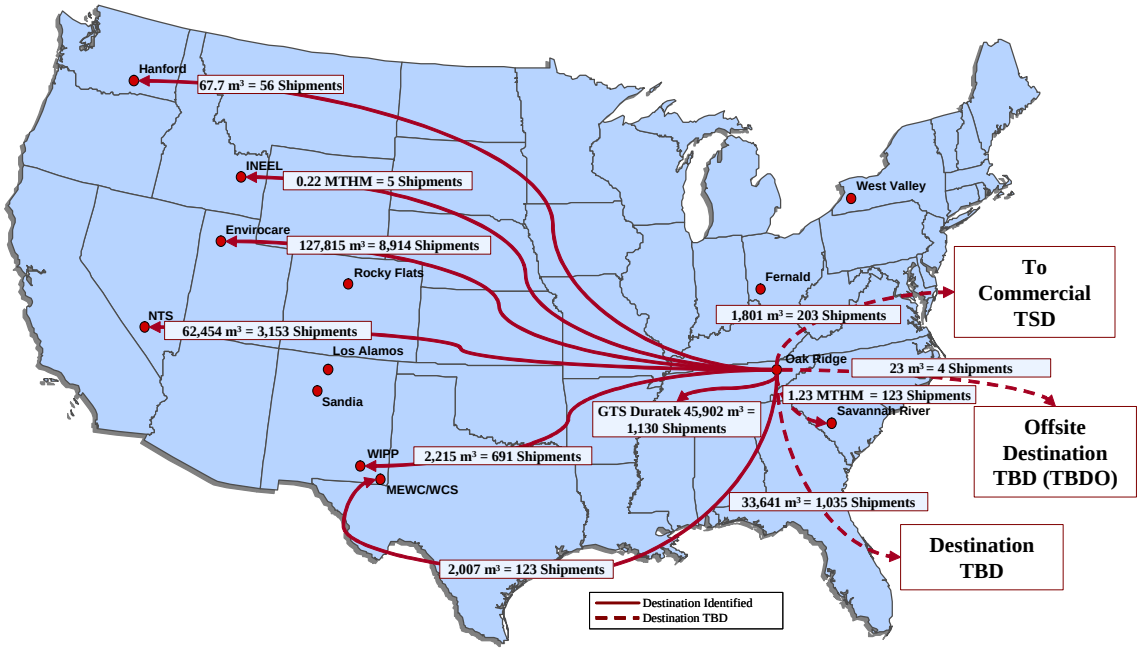


Figure 1. **Oak Ridge National Laboratory Outgoing Shipments**

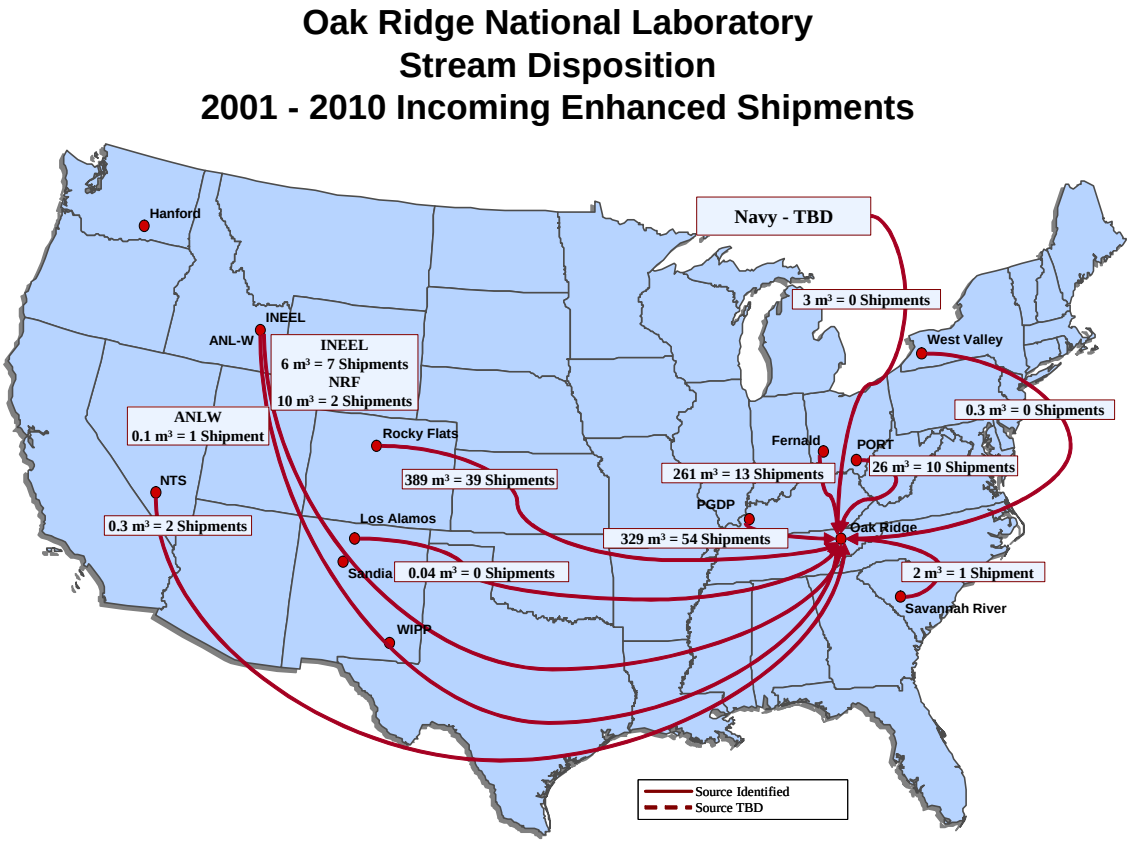


Figure 2. Oak Ridge National Laboratory Incoming Shipments

Oak Ridge National Laboratory Baseline Transportation Barriers

In addition to the summary barriers reported at the beginning of this EM Transportation Forecast, barriers, as found in IPABS or the Type B and Type A-Fissile Packaging Report, are found listed below in **Table 1**. **The barriers listed have not been assigned a priority order.**

Origin Site	Barrier(s) Impacting this Site *(see attached table)*	Number of Waste Streams Reporting Barrier	Number of Shipments Potentially Affected by Barrier *(NR=not reported or estimated)*
ORTN	**1** - There are excessive delays in processing Type B and fissile packaging certifications	6	595
	2a - Waste cannot be shipped to WIPP in time to meet legal commitments	8	734
	10 - Some SNF packagings do not exist	1	5
	13 - No RH TRU packagings exist	7	694
	16 - Does not meet disposal facility Waste Acceptance Criteria	2	420
	17 - Waste not characterized	16	851 +
	20 - Treatment option not available	1	58
	22 - Disposition site TBD	40	1229 +
	23 - Stakeholder buy-in not achieved	1	5
	25 - No agreements with receiving, shipping, treatment facility	39	2423 +
	27 - Regulatory change concerns	3	425
	TOTAL Waste Streams (with one or more barriers) = 75	**TOTAL Shipments (w/one or more barriers) =4391 +**	

Table 1. Barriers from IPABS and Type B and Type A-Fissile Packaging Report

Transportation Activity Maps

Transportation Activity Maps were developed for **Oak Ridge National Laboratory**, but are not included due to the large volume of data. For the inquisitive reader, Transportation Activity Maps are included for the Hanford Site.

Type B and Type A-Fissile Packaging Needs Assessment

Analysis of the Transportation Activity Maps in comparison with the Packaging Baseline produced this summary which details the identity and numbers of Type B and Type A-Fissile packagings that will be required to carry out planned shipping activities. **Table 2** provides a list, by year, of the Type B packages needed by **Oak Ridge National Laboratory** to execute the EM Transportation Baseline along with a short description of the current status of the package. Additional identification and discussion of the packaging issues is presented following the table. Further analysis of packaging status is included in the Transportation Baseline Barriers Analysis section as appropriate.

Table 2. Oak Ridge National Laboratory Site Type B Packaging Needs

Year	Package	Need	Available	Status
TBD	6M 30 gal.	?	~126	Certified / Available
2002	GE-2000	13	?	Certified / Available
2003	GE-2000	13	?	Certified / Available
2004	GE-2000	13	?	Certified / Available
2005	GE-2000	13	?	Certified / Available
2006	GE-2000	13	?	Certified / Available

Year	Package	Need	Available	Status
2007	GE-2000	13	?	Certified / Available
2008	GE-2000	13	?	Certified / Available
2009	GE-2000	13	?	Certified / Available
2010	GE-2000	13	?	Certified / Available
TBD	S-100	TBD	?	Not certified / Available
2003	RH-72B	102	?	Certified / Availability TBD
2004	RH-72B	192	?	Certified / Availability TBD
2005	RH-72B	60	?	Certified / Availability TBD
2006	RH-72B	60	?	Certified / Availability TBD
2007	RH-72B	60	?	Certified / Availability TBD
2008	RH-72B	46	?	Certified / Availability TBD
2009	RH-72B	20	?	Certified / Availability TBD
2010	RH-72B	25	?	Certified / Availability TBD
2002	TN-FSV	5	2	Not Certified or Available
2004	TRUPACT-II	273*	70	Certified / Availability TBD
2005	TRUPACT-II	295*	70	Certified / Availability TBD
2006	TRUPACT-II	12*	70	Certified / Availability TBD
2007	TRUPACT-II	37*	70	Certified / Availability TBD
2008	TRUPACT-II	11*	70	Certified / Availability TBD
2009	TRUPACT-II	10*	70	Certified / Availability TBD
2010	TRUPACT-II	10*	70	Certified / Availability TBD

* The number of TRUCPACT-IIs reported in the table is the number of package trips. The actual number needed to make the number of trips must be calculated based on the number of drums carried in each TRUPACT-II and the turn-around time for the package to be available again for loading.

The following packaging issues are associated with these needs:

- At the time of this report, the packaging has been identified. However, for some of the nuclear material, the data did not specify when they were needed or how many would be required.

Type B Package Certification Schedule

The Type B Package Certification Schedule (**Table 3**) was developed to assist in the coordination of packages being certified. By being cognizant of what revisions are needed, EM can better work with the certifying agencies' schedules and coordinate the submittals to allow time for the reviews and certification to be obtained to meet key clean-up and closure milestones.

The table below was developed from transportation information extracted from THE ENHANCED BASELINE DATA SET and the Type B and Type A-Fissile Packaging Report. From this information, an early and late need date was extrapolated for meeting the Enhanced Baseline.

Table 3. Type B Package Certification Schedule

Package Name	Certification Status	Early – Late Need Dates	Certification Expiration	Comments
GE – 2000	NRC Certification is current.	2002 - 2010	03/31/2006	TN-FSV will be used in place of the GE-2000.
TN-FSV	NRC certification is current.	2002 - 2010	05/31/2004	Is intended to replace the GE-2000.
5320	DOE certification has expired.	TBD	02/28/2002	Certification has expired.
S-100	NRC – Not yet certified.	TBD	N/A	Not yet certified.
6M 30-gal	DOT certification is current.	2002 - 2006	No Oxides after 2003 No Metals after 2005	DOT Specification 6M Type B fissile packagings are to be phased out within the next couple of years.
TRUPACT II	NRC certification is current.	2004 - 2010	06/30/2004	N/A
RH -TRU-72B	NRC certification is current.	2003 - 2010	02/28/2005	N/A

SUMMARY AND CONCLUSIONS

The data set presented and analyzed in this Forecast is a compilation of the data from the following sources: 1) The 2001 Integrated Planning, Accountability, and Budgeting System (IPBAS) database, 2) The National TRU Program databases, and 3) The Type B and Type A-Fissile Packaging Report. It encompasses offsite transportation activities planned for the next ten years as a part of the EM mission. Data for transportation activities beyond the ten years was limited to reporting quantities only and was not analyzed.

The waste and material streams analyzed are: low-level radioactive waste (LLW), mixed low-level radioactive waste (MLLW), Transuranic waste (TRU), nuclear material (NM), high-level waste (HLW) and spent nuclear fuel (SNF). The analyses produced the following products:

1) Transportation Baseline – This is the baseline of the schedule and quantities of all planned shipments through 2010;

2) Type B and Type A-Fissile Packaging Baseline – This baseline consists of a certification schedule and identifies the packaging required to meet the transportation baseline through 2010;
3) Enhanced Data – This is an improvement to the transportation data from IPABS. The existing data was modified to reflect the site baseline shipping plans and missing data was provided to fill many of the gaps up through 2010; and
4) Barriers Analysis – This is the documentation of the barriers to execution of the transportation baseline.

During the data gathering process, it became apparent that comprehensive information does not reside with any single organization at the sites. In order to build an accurate and comprehensive data set, it is necessary to confer with personnel from various site organizations who both have access to, and a thorough knowledge of their specific data subsets. By working with the sites, significant data improvements can be made by updating existing data and filling in missing data.

The key aspect of the data analysis was carried out with the objective of determining if transportation activities can be executed as planned and the nature and magnitude of any barriers to planned execution. At this point of the analysis, it appears that planned transportation activities can be executed if funding and packagings are made available, and if the barriers identified are resolved as planned. However, it should be noted that although contact has been made with the major eleven sites to update transportation plans and data; the quality of data and understanding to perform the necessary analyses does not compare with conducting site visits.

Attachment 1

OAK RIDGE NATIONAL LABORATORY
ENHANCED BASELINE

10 May 2002

Note: Data from the original IPABS database is printed in black, while additional and corrected data is printed in red.

Oak Ridge Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	4360	TCGR Processed Gas Cylinders	ORTN	COMM	2001	32.6	100 %	32.6	M3						
					2002	16.3	100 %	16.3	M3						
Transportation Comments:		Disposal outlet not determined; transportation data not available.													
MLLW	4498	CNF Residuals - 4	ORTN	COMM	2004	2	100 %	2	M3						
					2005	2	100 %	2	M3						
					2006	2	100 %	2	M3						
					2007	2	100 %	2	M3						
					2008	2	100 %	2	M3						
					2009	2	100 %	2	M3						
					2010	2	100 %	2	M3						
Transportation Comments:		Disposal outlet not determined; transportation data not available.													
MLLW	4499	TCGR Solids (Sludge)	ORTN	COMM	2001	0.04	100 %	0.04	M3						
										1	**1**				**Drum - 55 gal.**
					2002	0.02	100 %	0.02	M3						
										1	**1**				**Drum - 55 gal.**
Transportation Comments:		Disposal outlet not determined; transportation data not available.													
LLW	1589	Soils	ORTN	ENVR	2003	107.5	100 %	107.5	M3	~~7~~	~~515~~	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										13	**517**				**Drum - 55 gal.**
					2004	885.5	100 %	885.5	M3	~~53~~	~~4219~~	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										100	**4258**				**Drum - 55 gal.**
					2005	155	100 %	155	M3	~~10~~	~~738~~	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										18	**746**				**Drum - 55 gal.**
LLW	1597	ORNL NG PWTC filtercake & residues	ORTN	ENVR	2001	86	100 %	86	M3	24	141	Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~
															Box - 4x4x7 (approx.)
					2002	86	100 %	86	M3	24	141	Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~
															Box - 4x4x7 (approx.)
					2003	86	100 %	86	M3	24	141	Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~
															Box - 4x4x7 (approx.)
					2004	86	100 %	86	M3	24	141	Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~
															Box - 4x4x7 (approx.)
					2005	86	100 %	86	M3	24	141	Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~
															Box - 4x4x7 (approx.)
					2006	86	100 %	86	M3	24	141	Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~
															Box - 4x4x7 (approx.)
					2007	86	100 %	86	M3	24	141	Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~
															Box - 4x4x7 (approx.)

Oak Ridge Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2008	86	100 %	86	M3	24	141	Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2009	86	100 %	86	M3	24	141	Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2010	86	100 %	86	M3	24	141	Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
MLLW	2827	Y-12 WW Treatment Process Residues	ORTN	ENVR	2001	72.3	100 %	72.3	M3	20	136	Truck	LTD Qty	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2002	76.8	100 %	76.8	M3	20	136	Truck	LTD Qty	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2003	91.1	100 %	91.1	M3	20	136	Truck	LTD Qty	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2004	91.1	100 %	91.1	M3	20	136	Truck	LTD Qty	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2005	91.1	100 %	91.1	M3	20	136	Truck	LTD Qty	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2006	91.1	100 %	91.1	M3	20	136	Truck	LTD Qty	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2007	91.1	100 %	91.1	M3	20	136	Truck	LTD Qty	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2008	91.1	100 %	91.1	M3	20	136	Truck	LTD Qty	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2009	91.1	100 %	91.1	M3	20	136	Truck	LTD Qty	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2010	91.1	100 %	91.1	M3	20	136	Truck	LTD Qty	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		LLW sludges and secondary wastes from CPCF (36 m3/yr) and WETF (333 m3/yr) combined.													
LLW	3727	Residues from Gaseous Waste Ops	ORTN	ENVR	2001	11	100 %	11	M3	1	5	Truck	LTD Qty	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2002	11	100 %	11	M3	1	5	Truck	LTD Qty	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2003	11	100 %	11	M3	1	5	Truck	LTD Qty	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2004	11	100 %	11	M3	1	5	Truck	LTD Qty	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2005	11	100 %	11	M3	1	5	Truck	LTD Qty	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2006	11	100 %	11	M3	1	5	Truck	LTD Qty	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**

Oak Ridge Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2007	11	100 %	11	M3	1	5	Truck	LTD Qty	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2008	11	100 %	11	M3	1	5	Truck	LTD Qty	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2009	11	100 %	11	M3	1	5	Truck	LTD Qty	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2010	11	100 %	11	M3	1	5	Truck	LTD Qty	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
ER	4406	BNFL - K29/31/33 Debris + Other Solids	ORTN	ENVR	2001	31011.	100 %	31011.	M3	~~1939~~ **2281**	27204	Truck	LSA2	STC/IP-1	~~Other (1.14 M3)~~ **Box - smaller than 2x4x6**
					2002	27807.	100 %	27807.	M3	~~1738~~ **2045**	24393	Truck	LSA2	STC/IP-1	~~Other (1.14 M3)~~ **Box - smaller than 2x4x6**
					2003	23962.	100 %	23962.	M3	~~1498~~ **1762**	21020	Truck	LSA2	STC/IP-1	~~Other (1.14 M3)~~ **Box - smaller than 2x4x6**
					2004	19865.	100 %	19865.	M3	~~1242~~ **1461**	17427	Truck	LSA2	STC/IP-1	~~Other (1.14 M3)~~ **Box - smaller than 2x4x6**
					2005	302.4	100 %	302.4	M3	~~19~~ **23**	266	Truck	LSA2	STC/IP-1	~~Other (1.14 M3)~~ **Box - smaller than 2x4x6**
LLW	4486	Newly Generated LLW Solids to Envirocare	ORTN	ENVR	2001	58	100 %	58	M3	~~4~~ **7**	~~276~~ **279**	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2002	54	100 %	54	M3	4 ~~258~~ **7 260**		Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2003	54	100 %	54	M3	4 ~~258~~ **7 260**		Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2004	54	100 %	54	M3	~~4~~ **7**	~~258~~ **260**	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2005	54	100 %	54	M3	4 ~~258~~ **7 260**		Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2006	54	100 %	54	M3	4 ~~258~~ **7 260**		Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2007	54	100 %	54	M3	4 ~~258~~ **7 260**		Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2008	54	100 %	54	M3	~~4~~ **7**	~~258~~ **260**	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**

Oak Ridge Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2009	54	100 %	54	M3	~~4~~	~~258~~	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										7	**260**				**Drum - 55 gal.**
					2010	54	100 %	54	M3	~~4~~	~~258~~	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										7	**260**				**Drum - 55 gal.**

Stream Comments: L-040 profile

Barrier Comments: Intersite Dependency - Intersite Issues: Off-site program and waste profile not yet approved.

LLW	4500	ORNL LLLW Residuals - 1	ORTN	ENVR	2001	20	100 %	20	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2002	20	100 %	20	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2003	20	100 %	20	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2004	20	100 %	20	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2005	20	100 %	20	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2006	20	100 %	20	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2007	20	100 %	20	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2008	20	100 %	20	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2009	20	100 %	20	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2010	20	100 %	20	M3						
										1	**1**				**Sealand - 8x8x20 (approx.)**

Transportation Comments: Stream managed by subcontractor; transportation data not available at IPABS closing.

ETTP-NU	4567	HAA - Stream	ORTN	ENVR			100 %		M3						

Barrier Comments: Work Scope score reflects need for interface with site waste management project.

Oak Ridge Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ETTP-DU	4571	FAD - Stream	ORTN	ENVR			100 %		M3						
Barrier Comments:		Work Scope score reflects need for interface with site waste management project.													
ETTP-HEU	4573	GAA - Stream	ORTN	ENVR			100 %		M3						
Barrier Comments:		Work Scope score reflects need for interface with site waste management project.													
ETTP-LEU	4578	FBD - Stream	ORTN	ENVR			100 %		M3						
Barrier Comments:		Work Scope score reflects need for interface with site waste management project.													
ORNL-DU	4581	FAA - Stream	ORTN	ENVR			100 %		M3						
Barrier Comments:		WM interface needed													
ER	5026	LLW/Debris/Other Solids	ORTN	ENVR	2001	1963.8	1 %	19.638	M3			Truck	LSA2	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										3	**95**				**Drum - 55 gal.**
					2001	1963.8	1 %	19.638	M3		~~4~~	Truck	SCO1	STC/IP-1	~~Other (2.72 M3)~~
										1	**8**				**Box - 4x4x7 (approx.)**
					2001	1963.8	0 %	0	M3		1	Truck/Rail	TBD	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
					2001	1963.8	53 %	1040.8	M3		387	Truck/Rail	TBD	STC/IP-1	**Box - 4x4x7 (approx.)** ~~Other (2.72 M3)~~
										48					**Box - 4x4x7 (approx.)**
					2001	1963.8	44 %	864.10	M3		0	Truck	LSA2	STC/IP-1	~~Other (3.25 M3)~~
										35	**273**				**Box - 4x4x7 (approx.)**
					2001	1963.8	1 %	19.638	M3		~~0~~	Rail	LTD Qty	TBD	~~TBD (0 M3)~~
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2002	255.32	97 %	247.66	M3		~~0~~	Truck	LSA2	STC/IP-1	~~Other (3.25 M3)~~
										10	**79**				**Box - 4x4x7 (approx.)**
					2002	255.32	3 %	7.6597	M3		4	Truck	SCO1	STC/IP-1	~~Other (2.72 M3)~~
										1					**Box - 4x4x7 (approx.)**
					2003	544.33	99 %	538.88	M3		~~0~~	Truck	LSA2	STC/IP-1	~~Other (3.25 M3)~~
										22	**170**				**Box - 4x4x7 (approx.)**
					2003	544.33	1 %	5.4433	M3		~~2~~	Truck	SCO1	STC/IP-1	~~Other (2.72 M3)~~
										1	**3**				**Box - 4x4x7 (approx.)**
					2004	227.88	100 %	227.88	M3		~~0~~	Truck	LSA2	STC/IP-1	~~Other (3.25 M3)~~
										9	**72**				**Box - 4x4x7 (approx.)**
					2005	204.77	100 %	204.77	M3		~~0~~	Truck	LSA2	STC/IP-1	~~Other (3.25 M3)~~
										9	**65**				**Box - 4x4x7 (approx.)**
					2006	457.18	100 %	457.18	M3		~~0~~	Truck	LSA2	STC/IP-1	~~Other (3.25 M3)~~
										19	**145**				**Box - 4x4x7 (approx.)**
					2007	741.63	100 %	741.63	M3		~~0~~	Truck	LSA2	STC/IP-1	~~Other (3.25 M3)~~
										30	**234**				**Box - 4x4x7 (approx.)**

Oak Ridge Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2008	832.46	100 %	832.46	M3	33	~~0~~ 263	Truck	LSA2	STC/IP-1	~~Other (3.25 M3)~~ **Box - 4x4x7 (approx.)**
					2009	122.29	100 %	122.29	M3	5	~~0~~ 39	Truck	LSA2	STC/IP-1	~~Other (3.25 M3)~~ **Box - 4x4x7 (approx.)**
					2010	14.04	100 %	14.04	M3	1	~~0~~ 5	Truck	LSA2	STC/IP-1	~~Other (3.25 M3)~~ **Box - 4x4x7 (approx.)**
ER	5037	LLW/Soil/Sludge/Sediment	ORTN	ENVR	2006	30.270	100 %	30.270	M3	4	~~0~~ 146	TBD	TBD	TBD	~~TBD (0 M3)~~ **Drum - 55 gal.**
					2007	36.705	100 %	36.705	M3	5	~~0~~ 177	TBD	TBD	TBD	~~TBD (0 M3)~~ **Drum - 55 gal.**
					2008	77.071	100 %	77.071	M3	9	~~0~~ 371	TBD	TBD	TBD	~~TBD (0 M3)~~ **Drum - 55 gal.**
LLW	1612	RH Post-Treatment	ORTN	HASI	2004	18.51	100 %	18.51	M3	24	24	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~ **Other - requires comment**
					2005	13.8	0 %	0	M3			Truck	TYP B Qty	Type B	~~Cask (0.007 M3)~~ **6M 30 gal.**
					2005	13.8	100 %	13.8	M3	18	18	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~ **Other - requires comment**
					2006	10.8	100 %	10.8	M3	14	14	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~ **Other - requires comment**
					2006	10.8	0 %	0	M3			Truck	TYP B Qty	Type B	~~Cask (0.007 M3)~~ **6M 30 gal.**

Transportation Comments: HN200 Cask
Stream Comments: Some portion of this stream will likely be Special PA-Restricted waste requiring deep geologic disposal.
Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.

LLW	4314	Remote Handled LLW - 3	ORTN	HASI			100 %		M3						

Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.

LLW	4479	Non-Reg Chem/Lab Packs - 3	ORTN	MEWC	2003	22	100 %	22	M3	2	9	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2009	42	100 %	42	M3	3	~~15~~ 16	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2010	33	100 %	33	M3	3	~~12~~ 13	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
LLW	1582	Sludges & Treatment Residues - 1	ORTN	NVTS	2003	579	100 %	579	M3	~~16~~ 27	~~213~~ 214	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**

Oak Ridge Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2004	658	100 %	658	M3	~~18~~ **31**	~~242~~ **243**	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Transportation Comments: Transportation Calculation based on 2.72 cubic meters per 4'x4'x6' box and 14 boxes per truckload to CubeOut before WeighingOut.															
Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.															
LLW	1584	MVST Monoliths	ORTN	NVTS	2003	936	100 %	936	M3	~~48~~ **188**	~~48~~ **188**	Truck	TYP A Qty	Type A/IP-3	~~Other (5.1 M3)~~ **Bulk (dump truck, railcar, etc) - requires comment**
LLW	1586	Volume Reduction Residues - 1	ORTN	NVTS	2003	1519	100 %	1519	M3	~~40~~ **70**	559	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	899	100 %	899	M3	~~24~~ **42**	331	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	898	100 %	898	M3	~~24~~ **42**	331	Truck	LSA2	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.															
LLW	1587	Radioactive Scrap Metal	ORTN	NVTS	2003	107	0 %	0	M3			Truck	LTD Qty	STC/IP-1	~~Box - Other (38 M3)~~ **Sealand - 8x8x20 (approx.)**
					2003	107	40 %	42.8	M3	2	16	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	107	0 %	0	M3			Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Box - Other (38 M3)~~ **Sealand - 8x8x20 (approx.)**
					2003	107	60 %	64.2	M3	~~2~~ **3**	24	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.															
LLW	1588	Construction Debris	ORTN	NVTS	2003	174	100 %	174	M3	~~5~~ **9**	~~64~~ **65**	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	418	100 %	418	M3	~~11~~ **20**	154	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	418	100 %	418	M3	~~11~~ **20**	154	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2006	418	100 %	418	M3	~~11~~ **20**	154	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2007	418	100 %	418	M3	~~11~~ **20**	154	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**

Oak Ridge Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2008	418	100 %	418	M3	~~11~~ **20**	154	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2009	418	100 %	418	M3	~~11~~ **20**	154	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2010	419	100 %	419	M3	~~11~~ **20**	~~154~~ **155**	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Barrier Comments:		INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.													
LLW	1590	Non-Reg Chem/Lab Packs	ORTN	NVTS	2003	178	100 %	178	M3	~~3~~ **9**	~~29~~ **66**	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	200	100 %	200	M3	~~6~~ **10**	74	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	200	100 %	200	M3	~~6~~ **10**	74	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2006	200	100 %	200	M3	~~6~~ **10**	74	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2007	200	100 %	200	M3	~~6~~ **10**	74	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2008	200	100 %	200	M3	~~6~~ **10**	74	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2009	158	100 %	158	M3	~~5~~ **8**	~~58~~ **59**	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2010	174	100 %	174	M3	5 **9**	64 **65**	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Barrier Comments:		INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.													
LLW	1591	Resins/Trapping Material - 1	ORTN	NVTS	2003	89	100 %	89	M3	~~6~~ **10**	~~424~~ **428**	Truck	TYP A Qty	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2004	123	100 %	123	M3	~~8~~ **14**	~~586~~ **592**	Truck	TYP A Qty	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
Stream Comments:		Includes HFIR resins beginning in FY1999.													
Barrier Comments:		INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.													
LLW	1592	Fissile - 1	ORTN	NVTS	2004	73.9	100 %	73.9	M3	~~5~~ **9**	~~352~~ **356**	Truck	TYP A Qty	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
Barrier Comments:		INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.													
LLW	1594	Classified LLW	ORTN	NVTS	2003	4.1	100 %	4.1	M3	2	2	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	22.8	100 %	22.8	M3	9	9	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	21.3	100 %	21.3	M3	8	8	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments:		Stored legacy waste will be returned to generator for declassification prior to disposal.													
Barrier Comments:		IINTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.													

Oak Ridge Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	2619	CH TWTP Output - Alpha Cont.	ORTN	NVTS	2004	59.7	100 %	59.7	M3	~~5~~ **7**	288	Truck	LSA2	IP-2	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2005	166.2	100 %	166.2	M3	~~14~~ **19**	800	Truck	LSA2	IP-2	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
Stream Comments:		Shipping container may be Type A 55-gal drum rather than "Strong Tight Container"													
TRU	2624	RH TWTP Output - LLW	ORTN	NVTS	2004	4.55	100 %	4.55	M3	1	22	Truck	LSA2	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2005	10.91	100 %	10.91	M3	~~1~~ **2**	~~52~~ **53**	Truck	LSA2	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2006	9.84	100 %	9.84	M3	~~1~~ **2**	~~47~~ **48**	Truck	LSA2	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2007	8.53	100 %	8.53	M3	1	~~41~~ **42**	Truck	LSA2	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2008	4.81	100 %	4.81	M3	1	~~23~~ **24**	Truck	LSA2	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
Stream Comments:		Annual data are based upon receiving casks only from the retrievable storage in SWSA-5N under the ER CERCLA . Shipping containers may be Type A 55-gal drums rather than "Strong Tight Containers."													
Barrier Comments:		INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Approval of certification program required.													
TRU	2626	Treated Solidified LLLW Supernate	ORTN	NVTS	2003	102.9	100 %	102.9	M3	19	19	Truck	TYP B Qty Type B		~~Cask (5.7 M3)~~ **Other - requires comment**
					2004	319.73	100 %	319.73	M3	57	57	Truck	TYP B Qty Type B		~~Cask (5.7 M3)~~ **Other - requires comment**
					2005	316.79	100 %	316.79	M3	56	56	Truck	TYP B Qty Type B		~~Cask (5.7 M3)~~ **Other - requires comment**
Barrier Comments:		INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Approval of certification program required.													
TRU	3012	TWTP-CH Secondary Waste	ORTN	NVTS	2004	47.8	100 %	47.8	M3	4 **6**	~~228~~ **230**	Truck	SCO2	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2005	132.95	100 %	132.95	M3	~~11~~ **15**	~~634~~ **640**	Truck	SCO2	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
Barrier Comments:		INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Approval of certification program required.													
TRU	3038	TWTP-RH Treatment Secondary Waste	ORTN	NVTS	2004	161.93	100 %	161.93	M3	17	~~50~~ **52**	Truck	SCO2	STC/IP-1	~~Other (3.25 M3)~~ **Box - 4x4x7 (approx.)**
					2005	388.64	100 %	388.64	M3	40	~~120~~ **123**	Truck	SCO2	STC/IP-1	~~Other (3.25 M3)~~ **Box - 4x4x7 (approx.)**
					2006	350.63	100 %	350.63	M3	36	~~108~~ **111**	Truck	SCO2	STC/IP-1	~~Other (3.25 M3)~~ **Box - 4x4x7 (approx.)**

Oak Ridge Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2007	303.84	100 %	303.84	M3	32	~~94~~ **96**	Truck	SCO2	STC/IP-1	~~Other (3.25 M3)~~ **Box - 4x4x7 (approx.)**
					2008	181.15	100 %	181.15	M3	19	~~56~~ **58**	Truck	SCO2	STC/IP-1	~~Other (3.25 M3)~~ **Box - 4x4x7 (approx.)**

Stream Comments: Annual data are based upon receiving casks only from the retrievable storage in SWSA-5N under the ER CERCLA .
Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Approval of certification program required.

TRU	3039	TWTP Sludge/Supernate TRT Secondary Waste	ORTN	NVTS	2003	48.86	100 %	48.86	M3	~~4~~ **6**	235	Truck	LSA2	STC/IP-1	Other (0.208 M3) **Drum - 55 gal.**
					2004	112.21	100 %	112.21	M3	~~9~~ **13**	540	Truck	LSA2	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2005	71.03	100 %	71.03	M3	~~6~~ **8**	342	Truck	LSA2	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**

Stream Comments: An industrial packaging (per 49 CFR 173.411) rather than Strong Tight Container required for LSA > A2
Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Approval of certification program required.

TRU	3043	LLW (from TWRF D&D)	ORTN	NVTS	2009	135	50 %	67.5	M3	7	28	Truck	LSA2	STC/IP-1	~~Box - Other (2.4 M3)~~ **Box - 4x4x7 (approx.)**
					2009	135	50 %	67.5	M3	7	29	Truck	SCO2	STC/IP-1	~~Box - Other (2.4 M3)~~ **Box - 4x4x7 (approx.)**

Stream Comments: Industrial Packagings (per 49 CFR 173.411) rather than Strong Tight Containers required for LSA > A2
Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Approval of certification program required.

LLW	4315	Packaged RH LLW - 2	ORTN	NVTS			100 %		M3						

Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.

LLW	4328	Solidified Fissile - 2	ORTN	NVTS	2004	11.2	100 %	11.2	M3	~~1~~ **2**	~~53~~ **54**	Truck	TYP A Qty	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**

Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.

LLW	4340	RH LLW-4 (Beryllium Reflectors)	ORTN	NVTS	2006	10.8	100 %	10.8	M3	4	4	Truck	TYP B Qty	Type B	~~Cask (3.4 M3)~~ **Other - requires comment**

Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: TBD site needs to be resolved to achieve treatment for removal of tritium from the reflectors to meet subsequent disposal criteria.

LLW	4366	Overpacked CH LLW (alpha)	ORTN	NVTS	2003	13.5	100 %	13.5	M3	~~1~~ **2**	~~64~~ **65**	Truck	LSA1	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**

Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Off-site program and waste profile not yet approved.

ER	4407	BNFL - K29/31/33 Classified	ORTN	NVTS	2001	5510.5	100 %	5510.5	M3						
					2002	9514.5	100 %	9514.5	M3						
					2003	7079.2	100 %	7079.2	M3						

Transportation Comments: Stream managed by subcontractor; transportation data not available at IPABS closing.

Oak Ridge Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
LLW	4485	Newly Generated LLW Solids to NTS	ORTN	NVTS	2001	1282	40 %	512.8	M3	~~14~~	~~186~~	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										24	**189**				**Box - 4x4x7 (approx.)**
					2001	1282	60 %	769.2	M3	~~21~~	~~282~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										36	**284**				**Box - 4x4x7 (approx.)**
					2002	227	40 %	90.8	M3	~~3~~	34	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										5					**Box - 4x4x7 (approx.)**
					2002	227	60 %	136.2	M3	~~4~~	~~50~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										7	**51**				**Box - 4x4x7 (approx.)**
					2003	227	60 %	136.2	M3	~~4~~	~~50~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										7	**51**				**Box - 4x4x7 (approx.)**
					2003	227	40 %	90.8	M3	~~3~~	34	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										5					**Box - 4x4x7 (approx.)**
					2004	227	40 %	90.8	M3	~~3~~	34	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										5					**Box - 4x4x7 (approx.)**
					2004	227	60 %	136.2	M3	~~4~~	~~50~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										7	**51**				**Box - 4x4x7 (approx.)**
					2005	227	40 %	90.8	M3	~~3~~	34	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										5					**Box - 4x4x7 (approx.)**
					2005	227	60 %	136.2	M3	~~4~~	~~50~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										7	**51**				**Box - 4x4x7 (approx.)**
					2006	227	40 %	90.8	M3	~~3~~	34	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										5					**Box - 4x4x7 (approx.)**
					2006	227	60 %	136.2	M3	~~4~~	~~50~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										7	**51**				**Box - 4x4x7 (approx.)**
					2007	227	40 %	90.8	M3	~~3~~	34	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										5					**Box - 4x4x7 (approx.)**
					2007	227	60 %	136.2	M3	~~4~~	~~50~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										7	**51**				**Box - 4x4x7 (approx.)**

Oak Ridge Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2008	227	40 %	90.8	M3	~~3~~	34	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										5					**Box - 4x4x7 (approx.)**
					2008	227	60 %	136.2	M3	4	~~50~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										7	**51**				**Box - 4x4x7 (approx.)**
					2009	227	40 %	90.8	M3	~~3~~	34	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										5					**Box - 4x4x7 (approx.)**
					2009	227	60 %	136.2	M3	~~4~~	~~50~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										7	**51**				**Box - 4x4x7 (approx.)**
					2010	227	60 %	136.2	M3	4	~~50~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										7	**51**				**Box - 4x4x7 (approx.)**
					2010	227	40 %	90.8	M3	~~3~~	34	Truck	Non-DOT Rad/Non-HAZ	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										5					**Box - 4x4x7 (approx.)**

Stream Comments: L-020, L-030, L-055, and L-090 profiles
Barrier Comments: Intersite Dependency - Intersite Issues: Off-site program and waste profile not yet approved.

LLW	4504	ORNL PWTC Residual - 2	ORTN	NVTS	2001	277	100 %	277	M3						
										9	**9**				**Sealand - 8x8x20 (approx.)**
					2002	277	100 %	277	M3						
										9	**9**				**Sealand - 8x8x20 (approx.)**
					2003	277	100 %	277	M3						
										9	**9**				**Sealand - 8x8x20 (approx.)**
					2004	277	100 %	277	M3						
										9	**9**				**Sealand - 8x8x20 (approx.)**
					2005	277	100 %	277	M3						
										9	**9**				**Sealand - 8x8x20 (approx.)**
					2006	277	100 %	277	M3						
										9	**9**				**Sealand - 8x8x20 (approx.)**
					2007	277	100 %	277	M3						
										9	**9**				**Sealand - 8x8x20 (approx.)**

Oak Ridge Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2008	277	100 %	277	M3						
										9	**9**				**Sealand - 8x8x20 (approx.)**
					2009	277	100 %	277	M3						
										9	**9**				**Sealand - 8x8x20 (approx.)**
					2010	277	100 %	277	M3						
										9	**9**				**Sealand - 8x8x20 (approx.)**
Transportation Comments:		Stream managed by subcontractor; transportation data not available at IPABS closing.													
LLW	4523	Treated LLW Solids to NTS	ORTN	NVTS	2001	132	30 %	39.6	M3	~~3~~	~~189~~	Truck	LSA1	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										5	**191**				**Drum - 55 gal.**
					2001	132	70 %	92.4	M3	~~86~~	~~86~~	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~
										92	**92**				**Drum - 55 gal.**
					2002	123	70 %	86.1	M3	86	86	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~
															Drum - 55 gal.
					2002	123	30 %	36.9	M3	~~3~~	~~176~~	Truck	LSA1	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										5	**178**				**Drum - 55 gal.**
					2003	123	70 %	86.1	M3	86	86	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~
															Drum - 55 gal.
					2003	123	30 %	36.9	M3	~~3~~	~~176~~	Truck	LSA1	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										5	**178**				**Drum - 55 gal.**
					2004	123	70 %	86.1	M3	86	86	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~
															Drum - 55 gal.
					2004	123	30 %	36.9	M3	~~3~~	~~176~~	Truck	LSA1	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										5	**178**				**Drum - 55 gal.**
					2005	123	70 %	86.1	M3	86	86	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~
															Drum - 55 gal.
					2005	123	30 %	36.9	M3	~~3~~	~~176~~	Truck	LSA1	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										5	**178**				**Drum - 55 gal.**
					2006	123	70 %	86.1	M3	86	86	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~
															Drum - 55 gal.
					2006	123	30 %	36.9	M3	~~3~~	~~176~~	Truck	LSA1	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										5	**178**				**Drum - 55 gal.**
					2007	123	30 %	36.9	M3	~~3~~	~~176~~	Truck	LSA1	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										5	**178**				**Drum - 55 gal.**
					2007	123	70 %	86.1	M3	86	86	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~
															Drum - 55 gal.
					2008	123	30 %	36.9	M3	~~3~~	~~176~~	Truck	LSA1	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~
										5	**178**				**Drum - 55 gal.**
					2008	123	70 %	86.1	M3	86	86	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~
															Drum - 55 gal.

Oak Ridge Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2009	123	30 %	36.9	M3	~~3~~ **5**	~~176~~ **178**	Truck	LSA1	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2009	123	70 %	86.1	M3	86	86	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~ **Drum - 55 gal.**
					2010	123	70 %	86.1	M3	430	430	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~ **Drum - 55 gal.**
					2010	123	30 %	36.9	M3	~~3~~ **5**	~~176~~ **178**	Truck	LSA1	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
Barrier Comments: Intersite Dependency - Intersite Issues: Off-site program and waste profile not yet approved.															
ETTP-NU	4568	HAB - Stream	ORTN	NVTS			100 %		M3						
Barrier Comments: Work Scope score reflects need for interface with site waste management project.															
ETTP-DU	4569	FAA - Stream	ORTN	NVTS			100 %		M3						
Barrier Comments: Work Scope score reflects need for interface with site waste management project.															
ETTP-DU	4570	FAC - Stream	ORTN	NVTS			100 %		M3						
Barrier Comments: Work Scope score reflects need for interface with site waste management project.															
ETTP-HEU	4575	GAC - Stream	ORTN	NVTS			100 %		M3						
Barrier Comments: Work Scope score reflects need for interface with site waste management project.															
ETTP-LEU	4577	FBB - Stream	ORTN	NVTS			100 %		M3						
Barrier Comments: Work Scope score reflects need for interface with site waste management project.															
ETTP-LEU	4579	FBE - Stream	ORTN	NVTS			100 %		M3						
Barrier Comments: Work Scope score reflects need for interface with site waste management project.															
ORNL-DU	4582	FAB - Stream	ORTN	NVTS			100 %		M3						
Barrier Comments: Work Scope score reflects need for interface with site waste management project.															
ER	7058	LLW/Debris/Other Solids	ORTN	NVTS	2004	10159.	100 %	10159.	M3	**308**	~~0~~ **308**	Truck	TBD	TBD	~~TBD (0 M3)~~ **Sealand - 8x8x20 (approx.)**
					2005	2383.1	100 %	2383.1	M3	**73**	~~0~~ **73**	Truck	TBD	TBD	~~TBD (0 M3)~~ **Sealand - 8x8x20 (approx.)**
ER	7059	LLW/Debris/Other Solids	ORTN	NVTS	2008	0.651	100 %	0.651	M3	**1**	~~0~~ **4**	Truck	LSA2	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**

Oak Ridge Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2008	0.651	0 %	0	M3			TBD	TBD	TBD	~~TBD (0 M3)~~ **TBD - requires comment**
					2009	5.862	100 %	5.862	M3	~~0~~ **1**	**29**	Truck	LSA2	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2009	5.862	0 %	0	M3			TBD	TBD	TBD	~~TBD (0 M3)~~ **TBD - requires comment**
					2010	5.862	100 %	5.862	M3	~~0~~ **1**	**29**	Truck	LSA2	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2010	5.862	0 %	0	M3			TBD	TBD	TBD	~~TBD (0 M3)~~ **TBD - requires comment**
ER	7060	LLW/Debris/Other Solids	ORTN	NVTS	2002	6.8697	100 %	6.8697	M3	3 **1**		Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2003	13.739	100 %	13.739	M3	6 **1**		Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2004	27.478	100 %	27.478	M3	11 **2**		Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2005	48.087	100 %	48.087	M3	18 **3**		Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2006	68.696	100 %	68.696	M3	26 **4**		Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2007	89.305	100 %	89.305	M3	33 **5**		Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2008	61.827	100 %	61.827	M3	23 **3**		Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
					2009	27.478	100 %	27.478	M3	11 **2**		Truck	LSA1	STC/IP-1	~~Other (2.72 M3)~~ **Box - 4x4x7 (approx.)**
ER	7079	LLW/Soil/Sludge/Sediment	ORTN	NVTS	2001	107.60	100 %	107.60	M3	518 **5**		Rail	TBD	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2004	497.16	100 %	497.16	M3	~~0~~ **56**	**2391**	TBD	TBD	TBD	~~TBD (0 M3)~~ **Drum - 55 gal.**
					2005	965.08	100 %	965.08	M3	~~0~~ **108**	**4640**	TBD	TBD	TBD	~~TBD (0 M3)~~ **Drum - 55 gal.**
LLW	1585	Dry Active Waste	ORTN	SEG	2003	1422	40 %	568.8	M3	~~15~~ **27**	~~209~~ **210**	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2003	1422	60 %	853.2	M3	~~23~~ **40**	314	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2004	1466	40 %	586.4	M3	~~16~~ **27**	216	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**

Oak Ridge Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2004	1466	60 %	879.6	M3	~~24~~ **41**	324	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	1299	40 %	519.6	M3	~~14~~ **24**	~~191~~ **192**	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2005	1299	60 %	779.4	M3	~~21~~ **36**	287	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
`					2006	1299	60 %	779.4	M3	~~21~~ **36**	287	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2006	1299	40 %	519.6	M3	~~14~~ **24**	~~191~~ **192**	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2007	1299	60 %	779.4	M3	~~21~~ **36**	287	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2007	1299	40 %	519.6	M3	~~14~~ **24**	~~191~~ **192**	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2008	1299	40 %	519.6	M3	~~14~~ **24**	~~191~~ **192**	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2008	1299	60 %	779.4	M3	~~21~~ **36**	287	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2009	1299	60 %	779.4	M3	~~21~~ **36**	287	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2009	1299	40 %	519.6	M3	~~14~~ **24**	~~191~~ **192**	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2010	1296	60 %	777.6	M3	~~21~~ **36**	~~286~~ **287**	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
					2010	1296	40 %	518.4	M3	~~14~~ **24**	191	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
LLW	2641	Organic Liquids post-TSCAI	ORTN	SEG	2003	39	100 %	39	M3	2	2	Truck	LSA1	Bulk	~~Bulk (20 M3)~~ **Sealand - 8x8x20 (approx.)**
					2004	36	100 %	36	M3	2	2	Truck	LSA1	Bulk	~~Bulk (20 M3)~~ **Sealand - 8x8x20 (approx.)**
LLW	4476	Rad Scrap Metal - 5	ORTN	SEG	2003	167	100 %	167	M3	~~5~~ **6**	~~5~~ **6**	Truck	LTD Qty	STC/IP-1	~~Box - Other (38 M3)~~ **Sealand - 8x8x20 (approx.)**
					2004	1002	100 %	1002	M3	~~27~~ **31**	~~27~~ **31**	Truck	LTD Qty	STC/IP-1	~~Box - Other (38 M3)~~ **Sealand - 8x8x20 (approx.)**
					2005	1002	100 %	1002	M3	~~27~~ **31**	~~27~~ **31**	Truck	LTD Qty	STC/IP-1	~~Box - Other (38 M3)~~ **Sealand - 8x8x20 (approx.)**

Oak Ridge Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2006	1002	100 %	1002	M3	~~27~~	~~27~~	Truck	LTD Qty	STC/IP-1	~~Box - Other (38 M3)~~
										31	**31**				**Sealand - 8x8x20 (approx.)**
					2007	1002	100 %	1002	M3	~~27~~	~~27~~	Truck	LTD Qty	STC/IP-1	~~Box - Other (38 M3)~~
										31	**31**				**Sealand - 8x8x20 (approx.)**
					2008	1002	100 %	1002	M3	~~27~~	~~27~~	Truck	LTD Qty	STC/IP-1	~~Box - Other (38 M3)~~
										31	**31**				**Sealand - 8x8x20 (approx.)**
					2009	1002	100 %	1002	M3	~~27~~	~~27~~	Truck	LTD Qty	STC/IP-1	~~Box - Other (38 M3)~~
										31	**31**				**Sealand - 8x8x20 (approx.)**
					2010	1002	100 %	1002	M3	~~27~~	~~27~~	Truck	LTD Qty	STC/IP-1	~~Box - Other (38 M3)~~
										31	**31**				**Sealand - 8x8x20 (approx.)**
LLW	4483	Newly Generated LLW Solids to GTS Duratek	ORTN	SEG	2001	911	60 %	546.6	M3	~~15~~	~~201~~	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										26	**202**				**Box - 4x4x7 (approx.)**
					2001	911	40 %	364.4	M3	~~10~~	~~134~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										17	**135**				**Box - 4x4x7 (approx.)**
					2002	859	40 %	343.6	M3	~~10~~	~~126~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										16	**127**				**Box - 4x4x7 (approx.)**
					2002	859	60 %	515.4	M3	~~14~~	190	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										24					**Box - 4x4x7 (approx.)**
					2003	859	60 %	515.4	M3	~~14~~	190	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										24					**Box - 4x4x7 (approx.)**
					2003	859	40 %	343.6	M3	~~10~~	~~126~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										16	**127**				**Box - 4x4x7 (approx.)**
					2004	859	60 %	515.4	M3	~~14~~	190	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										24					**Box - 4x4x7 (approx.)**
					2004	859	40 %	343.6	M3	~~10~~	~~126~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										16	**127**				**Box - 4x4x7 (approx.)**
					2005	859	40 %	343.6	M3	~~10~~	~~126~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										16	**127**				**Box - 4x4x7 (approx.)**
					2005	859	60 %	515.4	M3	14	190	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										24					**Box - 4x4x7 (approx.)**
					2006	859	40 %	343.6	M3	~~10~~	~~126~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										16	**127**				**Box - 4x4x7 (approx.)**
					2006	859	60 %	515.4	M3	~~14~~	190	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										24					**Box - 4x4x7 (approx.)**
					2007	859	60 %	515.4	M3	~~14~~	190	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										24					**Box - 4x4x7 (approx.)**

Oak Ridge Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2007	859	40 %	343.6	M3	~~10~~	~~126~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										16	**127**				**Box - 4x4x7 (approx.)**
					2008	859	60 %	515.4	M3	~~14~~	190	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										24					**Box - 4x4x7 (approx.)**
					2008	859	40 %	343.6	M3	~~10~~	~~126~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										16	**127**				**Box - 4x4x7 (approx.)**
					2009	859	60 %	515.4	M3	~~14~~	190	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										24					**Box - 4x4x7 (approx.)**
					2009	859	40 %	343.6	M3	~~10~~	~~126~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										16	**127**				**Box - 4x4x7 (approx.)**
					2010	859	40 %	343.6	M3	~~10~~	~~126~~	Truck	LTD Qty	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										16	**127**				**Box - 4x4x7 (approx.)**
					2010	859	60 %	515.4	M3	~~14~~	190	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~
										24					**Box - 4x4x7 (approx.)**
Stream Comments: L-010, L-015, and L-050 profiles															
ER	5025	LLW/Debris/Other Solids	ORTN	SEG	2001	0.595	100 %	0.595	M3		~~0~~	Truck	LSA1	TBD	~~TBD (0 M3)~~
										1	**1**				**Box - smaller than 2x4x6**
					2003	0.467	100 %	0.467	M3		3	Truck	SCO1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										1					**Drum - 55 gal.**
					2004	1.906	100 %	1.906	M3		10	Truck	SCO1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										1					**Drum - 55 gal.**
					2005	0.726	100 %	0.726	M3		4	Truck	SCO1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										1					**Drum - 55 gal.**
					2006	0.016	100 %	0.016	M3		1	Truck	SCO1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										1					**Drum - 55 gal.**
SNF	265	Packaged Low-level Waste from SNF Activities	ORTN	TBD	2003	18.5	100 %	18.5	M3						
Transportation Comments: Transportation data will be provided after disposal method is finalized.															
Barrier Comments: Disposition options are still under development.															
ER	5027	LLW/Debris/Other Solids	ORTN	TBD	2001	210.18	94.6 %	198.94	M3		~~0~~	TBD	TBD	TBD	~~TBD (0 M3)~~
										10	**74**				**Box - smaller than 2x4x6**
					2001	210.18	4.6 %	9.7183	M3		~~0~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										1	**4**				**Box - smaller than 2x4x6**
					2001	210.18	0.7 %	1.5291	M3		1	Truck	SCO1	STC/IP-1	~~Other (2.72 M3)~~
										1					**Box - 4x4x7 (approx.)**
					2002	201.93	0.8 %	1.5292	M3		1	Truck	SCO1	STC/IP-1	~~Other (2.72 M3)~~
										1					**Box - 4x4x7 (approx.)**

Oak Ridge Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2002	201.93	29.3 %	59.193	M3		~~0~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										3	**22**				**Box - smaller than 2x4x6**
					2002	201.93	69.9 %	141.21	M3		~~0~~	TBD	TBD	TBD	~~TBD (0 M3)~~
										7	**52**				**Box - smaller than 2x4x6**
					2003	120.91	83.3 %	100.71	M3		~~0~~	TBD	TBD	TBD	~~TBD (0 M3)~~
										5	**38**				**Box - smaller than 2x4x6**
					2003	120.91	16.1 %	19.436	M3		~~0~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										1	**8**				**Box - smaller than 2x4x6**
					2003	120.91	0.6 %	0.7645	M3		1	Truck	SCO1	STC/IP-1	~~Other (2.72 M3)~~
										1					**Box - 4x4x7 (approx.)**
					2006	62.925	100 %	62.925	M3		~~0~~	TBD	TBD	TBD	~~TBD (0 M3)~~
										3	**24**				**Box - smaller than 2x4x6**
					2007	370.70	100 %	370.70	M3		~~0~~	TBD	TBD	TBD	~~TBD (0 M3)~~
										18	**137**				**Box - smaller than 2x4x6**
					2008	189.08	100 %	189.08	M3		~~0~~	TBD	TBD	TBD	~~TBD (0 M3)~~
										9	**70**				**Box - smaller than 2x4x6**
					2009	1.8661	100 %	1.8661	M3		~~0~~	TBD	TBD	TBD	~~TBD (0 M3)~~
										1	**1**				**Box - smaller than 2x4x6**
Barrier Comments:		Intersite Dependency score reflects disposition site of TBD.													
ER	5031	LLW/Metal to Recycle	ORTN	TBD	2006	14159.	100 %	14159.	M3		0	TBD	TBD	TBD	~~TBD (0 M3)~~
															TBD - requires comment
Barrier Comments:		Intersite Dependency score reflects disposition site of TBD.													
ER	5038	LLW/Soil/Sludge/Sediment	ORTN	TBD	2001	744.52	99.6 %	741.90	M3		~~0~~	Rail	LSA1	TBD	~~TBD (0 M3)~~
										32	**3567**				**Drum - 55 gal.**
					2001	744.52	0.3 %	2.2298	M3		~~0~~	TBD	TBD	TBD	~~TBD (0 M3)~~
										1	**11**				**Drum - 55 gal.**
					2001	744.52	0.1 %	0.3908	M3		~~0~~	Truck	LSA1	TBD	~~TBD (0 M3)~~
										1	**2**				**Drum - 55 gal.**
					2002	14.773	84.9 %	12.543	M3		~~0~~	Truck	LSA1	TBD	~~TBD (0 M3)~~
										2	**61**				**Drum - 55 gal.**

Oak Ridge Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2002	14.773	15.1 %	2.2299	M3		~~0~~	TBD	TBD	TBD	~~TBD (0 M3)~~
										1	**11**				**Drum - 55 gal.**
					2003	8.0864	81.7 %	6.6040	M3		~~0~~	Truck	LSA1	TBD	~~TBD (0 M3)~~
										1	**32**				**Drum - 55 gal.**
					2003	8.0864	2.9 %	0.2336	M3		2	Truck	Non-DOT Rad/HAZ	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										1					**Drum - 55 gal.**
					2003	8.0864	15.4 %	1.2487	M3		~~0~~	TBD	TBD	TBD	~~TBD (0 M3)~~
										1	**7**				**Drum - 55 gal.**
					2004	0.9531	100 %	0.9531	M3		5	Truck	Non-DOT Rad/HAZ	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										1					**Drum - 55 gal.**
					2005	0.3629	100 %	0.3629	M3		2	Truck	Non-DOT Rad/HAZ	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										1					**Drum - 55 gal.**
					2006	0.0078	100 %	0.0078	M3		1	Truck	Non-DOT Rad/HAZ	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										1					**Drum - 55 gal.**
					2008	15.517	100 %	15.517	M3		~~0~~	TBD	TBD	TBD	~~TBD (0 M3)~~
										2	**75**				**Drum - 55 gal.**
					2009	15.517	100 %	15.517	M3		~~0~~	TBD	TBD	TBD	~~TBD (0 M3)~~
										2	**75**				**Drum - 55 gal.**
Barrier Comments:		Intersite Dependency score reflects disposition site of TBD.													
ER	7053	LLW/Debris/Other Solids	ORTN	TBD	2001	24.579	100 %	24.579	M3		~~0~~	Truck	LTD Qty	TBD	~~TBD (0 M3)~~
										1	**1**				**Sealand - 8x8x20 (approx.)**
					2002	73.737	100 %	73.737	M3		~~0~~	Truck	LTD Qty	TBD	~~TBD (0 M3)~~
										3	**3**				**Sealand - 8x8x20 (approx.)**
Barrier Comments:		Intersite Dependency score reflects disposition site of TBD.													
ER	7054	LLW/Debris/Other Solids	ORTN	TBD	2003	222.10	100 %	222.10	M3		12	Truck	TBD	Bulk	~~Bulk (20 M3)~~
										7					**Sealand - 8x8x20 (approx.)**
					2004	95.187	100 %	95.187	M3		5	Truck	TBD	Bulk	~~Bulk (20 M3)~~
										3					**Sealand - 8x8x20 (approx.)**
Barrier Comments:		Work Scope score reflects disposition activity of TBD; Intersite Dependency score reflects disposition site of TBD.													
ER	7075	LLW/Soil/Sludge/Sediment	ORTN	TBD	2001	1395.3	100 %	1395.3	M3		6709	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										157					**Drum - 55 gal.**

Oak Ridge Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2002	4186.0	100 %	4186.0	M3	~~469~~	20126	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
Barrier Comments: Intersite Dependency score reflects disposition site of TBD.															
ER	7084	LLW/Special Case Waste	ORTN	TBD	2002	18.519	100 %	18.519	M3	~~0~~ **3**	**90**	TBD	TBD	TBD	~~TBD (0 M3)~~ **Drum - 55 gal.**
Barrier Comments: Work Scope score reflects disposition activity of TBD; Intersite Dependency score reflects disposition site of TBD.															

Oak Ridge Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	1645	Y-12 Wastewater Treatment Facilities MLLW Process Residues	ORTN	COMM	2001	20	100 %	20	M3	~~2~~ **3**	432	Truck	Non-DOT Rad/HAZ	POP	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2002	20	100 %	20	M3	~~2~~ **3**	316	Truck	Non-DOT Rad/HAZ	POP	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2003	20	100 %	20	M3	~~2~~ **3**	316	Truck	Non-DOT Rad/HAZ	POP	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2004	21	50 %	10.5	M3	2 **3**	621	Truck	Non-DOT Rad/HAZ	POP	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2004	21	50 %	10.5	M3	3	114	Truck	LSA2	STC/IP-1	~~Other (1.14 M3)~~ **Drum - 55 gal.**
					2005	21	50 %	10.5	M3	2	563	Truck	Non-DOT Rad/HAZ	POP	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2005	21	50 %	10.5	M3	3	103	Truck	LSA2	STC/IP-1	~~Other (1.14 M3)~~ **Drum - 55 gal.**
					2006	21	50 %	10.5	M3	3	103	Truck	LSA2	STC/IP-1	~~Other (1.14 M3)~~ **Drum - 55 gal.**
					2006	21	50 %	10.5	M3	2	563	Truck	Non-DOT Rad/HAZ	POP	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2007	21	50 %	10.5	M3	3	103	Truck	LSA2	STC/IP-1	~~Other (1.14 M3)~~ **Drum - 55 gal.**

Oak Ridge Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2007	21	50 %	10.5	M3	2	563	Truck	Non-DOT Rad/HAZ	POP	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2008	21	50 %	10.5	M3	2	563	Truck	Non-DOT Rad/HAZ	POP	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2008	21	50 %	10.5	M3	3	103	Truck	LSA2	STC/IP-1	~~Other (1.14 M3)~~ **Drum - 55 gal.**
					2009	21	50 %	10.5	M3	3	103	Truck	LSA2	STC/IP-1	~~Other (1.14 M3)~~ **Drum - 55 gal.**
					2009	21	50 %	10.5	M3	2	563	Truck	Non-DOT Rad/HAZ	POP	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2010	21	50 %	10.5	M3	3	103	Truck	LSA2	STC/IP-1	~~Other (1.14 M3)~~ **Drum - 55 gal.**
					2010	21	50 %	10.5	M3	2	563	Truck	Non-DOT Rad/HAZ	POP	~~Other (0.208 M3)~~ **Drum - 55 gal.**

Stream Comments: This stream's Actuals for FY00 are included in stream #4354. In addition, the FY02 IPABS Update will combine this stream with #4354.

MLLW	2882	Incinerable Liquids to LDR Treatment & Disposal	ORTN	COMM			100 %		M3						

Barrier Comments: INTERSITE DEPENDENCY - OTHER INTERSITE DEPENDENCY ISSUES: Unknown disposition facilities. All waste has not been charaterized.

MLLW	4263	Solid MLLW Treatment Category E	ORTN	COMM	2003	217	100 %	217	M3	~~12~~ **25**	~~969~~ **1044**	TBD	TBD	TBD	~~TBD (0.21 M3)~~ **Drum - 55 gal.**
					2004	358	100 %	358	M3	~~25~~ **41**	1995	TBD	TBD	TBD	~~TBD (0.21 M3)~~ **Drum - 55 gal.**

Barrier Comments: INTERSITE DEPENDENCY - OTHER INTERSITE DEPENDENCY ISSUES: Unknown disposition facilities. All waste has not been characterized.

MLLW	4264	Other MLLW Liquids	ORTN	COMM	2001	56	100 %	56	M3	4 **7**	~~267~~ **270**	TBD	TBD	TBD	~~TBD (0.21 M3)~~ **Drum - 55 gal.**
					2002	154	100 %	154	M3	~~10~~ **18**	~~733~~ **741**	TBD	TBD	TBD	~~TBD (0.21 M3)~~ **Drum - 55 gal.**
MLLW	4488	Newly Generated MLLW Liquids to Commercial Treatment/Disposal	ORTN	COMM	2002	3.6	80 %	2.88	M3	1	1	Truck	Non-DOT Rad/HAZ	POP	~~Other (18.925 M3)~~ **Sealand - 8x8x20 (approx.)**
					2002	3.6	20 %	0.72	M3	1	1	Truck	LSA2	STC/IP-1	~~Other (18.925 M3)~~ **Sealand - 8x8x20 (approx.)**

Oak Ridge Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2003	2.4	20 %	0.48	M3	1	1	Truck	LSA2	STC/IP-1	~~Other (18.925 M3)~~ **Sealand - 8x8x20 (approx.)**
					2003	2.4	80 %	1.92	M3	1	1	Truck	Non-DOT Rad/HAZ	POP	~~Other (18.925 M3)~~ **Sealand - 8x8x20 (approx.)**
					2004	20.9	20 %	4.18	M3	1	1	Truck	LSA2	STC/IP-1	~~Other (18.925 M3)~~ **Sealand - 8x8x20 (approx.)**
					2004	20.9	80 %	16.72	M3	2	2	Truck	Non-DOT Rad/HAZ	POP	~~Other (18.925 M3)~~ **Sealand - 8x8x20 (approx.)**
					2005	20.9	20 %	4.18	M3	1	1	Truck	LSA2	STC/IP-1	~~Other (18.925 M3)~~ **Sealand - 8x8x20 (approx.)**
					2005	20.9	80 %	16.72	M3	2	2	Truck	Non-DOT Rad/HAZ	POP	~~Other (18.925 M3)~~ **Sealand - 8x8x20 (approx.)**
					2006	20.9	20 %	4.18	M3	1	1	Truck	LSA2	STC/IP-1	~~Other (18.925 M3)~~ **Sealand - 8x8x20 (approx.)**
					2006	20.9	80 %	16.72	M3	2	2	Truck	Non-DOT Rad/HAZ	POP	~~Other (18.925 M3)~~ **Sealand - 8x8x20 (approx.)**
					2007	20.9	80 %	16.72	M3	2	2	Truck	Non-DOT Rad/HAZ	POP	~~Other (18.925 M3)~~ **Sealand - 8x8x20 (approx.)**
					2007	20.9	20 %	4.18	M3	1	1	Truck	LSA2	STC/IP-1	~~Other (18.925 M3)~~ **Sealand - 8x8x20 (approx.)**
					2008	20.9	20 %	4.18	M3	1	1	Truck	LSA2	STC/IP-1	~~Other (18.925 M3)~~ **Sealand - 8x8x20 (approx.)**

Oak Ridge Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2008	20.9	80 %	16.72	M3	2	2	Truck	Non-DOT Rad/HAZ	POP	~~Other (18.925 M3)~~
															Sealand - 8x8x20 (approx.)
					2009	20.9	20 %	4.18	M3	1	1	Truck	LSA2	STC/IP-1	~~Other (18.925 M3)~~
															Sealand - 8x8x20 (approx.)
					2009	20.9	80 %	16.72	M3	2	2	Truck	Non-DOT Rad/HAZ	POP	~~Other (18.925 M3)~~
															Sealand - 8x8x20 (approx.)
					2010	20.9	80 %	16.72	M3	2	2	Truck	Non-DOT Rad/HAZ	POP	~~Other (18.925 M3)~~
															Sealand - 8x8x20 (approx.)
					2010	20.9	20 %	4.18	M3	1	1	Truck	LSA2	STC/IP-1	~~Other (18.925 M3)~~
															Sealand - 8x8x20 (approx.)
MLLW	4491	Newly Generated MLLW Solids to Commercial Treatment/Disposal	ORTN	COMM	2002	102.4	100 %	102.4	M3	~~7~~	~~490~~	Truck	Non-DOT Rad/HAZ	STC/IP-1	~~Other (0.21 M3)~~
										12	**493**				**Drum - 55 gal.**
					2003	6.7	100 %	6.7	M3	1	~~32~~	Truck	Non-DOT Rad/HAZ	STC/IP-1	~~Other (0.21 M3)~~
											33				**Drum - 55 gal.**
					2004	13.4	100 %	13.4	M3	~~1~~	~~64~~	Truck	Non-DOT Rad/HAZ	STC/IP-1	~~Other (0.21 M3)~~
										2	**65**				**Drum - 55 gal.**
					2005	13.4	100 %	13.4	M3	~~1~~	~~64~~	Truck	Non-DOT Rad/HAZ	STC/IP-1	~~Other (0.21 M3)~~
										2	**65**				**Drum - 55 gal.**
					2006	13.4	100 %	13.4	M3	~~1~~	~~64~~	Truck	Non-DOT Rad/HAZ	STC/IP-1	~~Other (0.21 M3)~~
										2	**65**				**Drum - 55 gal.**
					2007	13.4	100 %	13.4	M3	~~1~~	~~64~~	Truck	Non-DOT Rad/HAZ	STC/IP-1	~~Other (0.21 M3)~~
										2	**65**				**Drum - 55 gal.**
					2008	13.4	100 %	13.4	M3	~~1~~	~~64~~	Truck	Non-DOT Rad/HAZ	STC/IP-1	~~Other (0.21 M3)~~
										2	**65**				**Drum - 55 gal.**

Oak Ridge Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2009	13.4	100 %	13.4	M3	~~1~~	~~64~~	Truck	Non-DOT Rad/HAZ	STC/IP-1	~~Other (0.21 M3)~~
										2	**65**				**Drum - 55 gal.**
					2010	13.4	100 %	13.4	M3	~~1~~	~~64~~	Truck	Non-DOT Rad/HAZ	STC/IP-1	~~Other (0.21 M3)~~
										2	**65**				**Drum - 55 gal.**
MLLW	4496	CNF Residuals - 2	ORTN	COMM	2004	7	100 %	7	M3						
					2005	7	100 %	7	M3						
					2006	7	100 %	7	M3						
					2007	7	100 %	7	M3						
					2008	7	100 %	7	M3						
					2009	7	100 %	7	M3						
					2010	7	100 %	7	M3						
Transportation Comments:		Disposal outlet not determined; transportation data not available.													
ER	5044	MLLW/Debris/Other Solids	ORTN	COMM	2001	18.780	100 %	18.780	M3		~~0~~	TBD	TBD	TBD	~~TBD (0 M3)~~
										3	**91**				**Drum - 55 gal.**
					2002	11.364	100 %	11.364	M3		~~0~~	TBD	TBD	TBD	~~TBD (0 M3)~~
										2	**55**				**Drum - 55 gal.**
					2003	7.3652	100 %	7.3652	M3		~~0~~	TBD	TBD	TBD	~~TBD (0 M3)~~
										1	**36**				**Drum - 55 gal.**
					2004	1.8604	100 %	1.8604	M3		~~0~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										1	**9**				**Drum - 55 gal.**
					2005	1.8604	100 %	1.8604	M3		~~0~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										1	**9**				**Drum - 55 gal.**
					2006	0.4134	100 %	0.4134	M3		~~0~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										1	**2**				**Drum - 55 gal.**
ER	7074	LLW/PCB/Solvents/Oils	ORTN	COMM	2004	0.0303	100 %	0.0303	M3		~~0~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										1	**1**				**Drum - 55 gal.**
					2005	0.0606	100 %	0.0606	M3		~~0~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										1	**1**				**Drum - 55 gal.**
					2006	0.1098	44.8 %	0.0492	M3		~~0~~	TBD	TBD	TBD	~~TBD (0 M3)~~
										1	**1**				**Drum - 55 gal.**
					2006	0.1098	55.2 %	0.0605	M3		~~0~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										1	**1**				**Drum - 55 gal.**
					2007	0.4429	100 %	0.4429	M3		~~0~~	TBD	TBD	TBD	~~TBD (0 M3)~~
										1	**3**				**Drum - 55 gal.**
MLLW	1633	TSCAI Residuals to LDR Treatment & Disposal	ORTN	ENVR	2001	117	100 %	117	M3	~~13~~	1008	Truck	Non-DOT Rad/HAZ	POP	~~Other (0.208 M3)~~
										14					**Drum - 55 gal.**

Oak Ridge Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2002	117	100 %	117	M3	16	1210	Truck	Non-DOT Rad/HAZ	POP	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2003	69	100 %	69	M3	13	1008	Truck	Non-DOT Rad/HAZ	POP	~~Other (0.208 M3)~~ **Drum - 55 gal.**
					2004	48	100 %	48	M3	**6**	**231**				**Drum - 55 gal.**
ER	3558	PWMP_UnStab-MLLW-Sludge	ORTN	ENVR	2001	1625	100 %	1625	M3	124	1221	Truck/Rail	LSA2	STC/IP-1	~~Other (1.33 M3)~~ **Box - 2x4x7 (approx.)**
Stream Comments:		Unstabilized Pond Waste													
MLLW	4354	WETF Tank Sludge	ORTN	ENVR	2001	1090	100 %	1090	M3	~~57~~ **81**	~~790~~ **802**	Truck	LSA2	STC/IP-1	~~Other (1.14 M3)~~ **Box - smaller than 2x4x6**
					2002	1090	100 %	1090	M3	~~57~~ **81**	~~790~~ **802**	Truck	LSA2	STC/IP-1	~~Other (1.14 M3)~~ **Box - smaller than 2x4x6**
					2003	361	100 %	361	M3	57	790	Truck	LSA2	STC/IP-1	~~Other (1.14 M3)~~ **Box - smaller than 2x4x6**
MLLW	4432	CNF Process Residues	ORTN	ENVR	2001	29	100 %	29	M3	~~2~~ **4**	200	Truck	TBD	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2002	29	100 %	29	M3	~~2~~ **4**	200	Truck	TBD	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2003	29	100 %	29	M3	~~2~~ **4**	200	Truck	TBD	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2004	29	100 %	29	M3	~~2~~ **4**	200	Truck	TBD	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2005	29	100 %	29	M3	~~2~~ **4**	200	Truck	TBD	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2006	29	100 %	29	M3	~~2~~ **4**	200	Truck	TBD	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2007	29	100 %	29	M3	~~2~~ **4**	200	Truck	TBD	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2008	29	100 %	29	M3	~~2~~ **4**	200	Truck	TBD	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2009	29	100 %	29	M3	~~2~~ **4**	200	Truck	TBD	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2010	29	100 %	29	M3	~~2~~ **4**	200	Truck	TBD	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**

Oak Ridge Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	4509	Y-12 Waste Ops Residuals - 1	ORTN	ENVR	2001	0.4	100 %	0.4	M3						
					2002	0.4	100 %	0.4	M3						
					2003	0.4	100 %	0.4	M3						
					2004	22.4	100 %	22.4	M3						
					2005	22.4	100 %	22.4	M3						
					2006	22.4	100 %	22.4	M3						
					2007	22.4	100 %	22.4	M3						
					2008	22.4	100 %	22.4	M3						
					2009	22.4	100 %	22.4	M3						
					2010	22.4	100 %	22.4	M3						
Transportation Comments: Stream managed by subcontractor; transportation data not available at IPABS closing.															
ER	7088	MLLW/Debris/Other Solids	ORTN	ENVR	2001	10.364	100 %	10.364	M3		~~0~~	Truck	LSA2	STC/IP-1	~~Other (2.72 M3)~~
										1	**4**				**Box - 4x4x7 (approx.)**
					2001	10.364	0 %	0	M3			TBD	TBD	TBD	~~TBD (0 M3)~~ **TBD - requires comment**
					2002	0.198	100 %	0.198	M3		~~0~~	Truck	LSA2	STC/IP-1	~~Other (2.72 M3)~~
										1	**1**				**Box - 4x4x7 (approx.)**
					2002	0.198	0 %	0	M3			TBD	TBD	TBD	~~TBD (0 M3)~~ **TBD - requires comment**
					2003	6.371	100 %	6.371	M3		~~0~~	Truck	LSA2	STC/IP-1	~~Other (2.72 M3)~~
										1	**3**				**Box - 4x4x7 (approx.)**
					2003	6.371	0 %	0	M3			TBD	TBD	TBD	~~TBD (0 M3)~~ **TBD - requires comment**
ER	5050	MLLW/Soil/Sludge/Sediment	ORTN	TBD	2003	2.3361	100 %	2.3361	M3		12	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~
										1					**Drum - 55 gal.**
					2004	9.5315	100 %	9.5315	M3		46	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~
										2					**Drum - 55 gal.**
					2005	3.6288	100 %	3.6288	M3		18	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~
										1					**Drum - 55 gal.**
					2006	0.0779	100 %	0.0779	M3		1	Truck	LSA1	STC/IP-1	~~Other (0.208 M3)~~
										1					**Drum - 55 gal.**
Barrier Comments: Intersite Dependency score reflects disposition site of TBD.															
ER	7072	LLW/PCB/Debris/Other Solids	ORTN	TBD	2002	3.1318	100 %	3.1318	M3		2	Truck	SCO1	STC/IP-1	~~Other (2.72 M3)~~
										1					**Box - 4x4x7 (approx.)**

Oak Ridge Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2003	6.2637	100 %	6.2637	M3		3	Truck	SCO1	STC/IP-1	~~Other (2.72 M3)~~
										1					**Box - 4x4x7 (approx.)**
					2004	12.527	100 %	12.527	M3		5	Truck	SCO1	STC/IP-1	~~Other (2.72 M3)~~
										1					**Box - 4x4x7 (approx.)**
					2005	21.922	100 %	21.922	M3		9	Truck	SCO1	STC/IP-1	~~Other (2.72 M3)~~
										2					**Box - 4x4x7 (approx.)**
					2006	31.318	100 %	31.318	M3		12	Truck	SCO1	STC/IP-1	~~Other (2.72 M3)~~
										2					**Box - 4x4x7 (approx.)**
					2007	40.714	100 %	40.714	M3		15	Truck	SCO1	STC/IP-1	~~Other (2.72 M3)~~
										2					**Box - 4x4x7 (approx.)**
					2008	28.186	100 %	28.186	M3		11	Truck	SCO1	STC/IP-1	~~Other (2.72 M3)~~
										2					**Box - 4x4x7 (approx.)**
					2009	12.527	100 %	12.527	M3		5	Truck	SCO1	STC/IP-1	~~Other (2.72 M3)~~
										1					**Box - 4x4x7 (approx.)**
Barrier Comments:		Intersite Dependency score reflects disposition site of TBD.													
ER	7085	MLLW/Debris/Other Solids	ORTN	TBD	2002	0.2832	100 %	0.2832	M3		~~0~~	TBD	TBD	TBD	~~TBD (0 M3)~~
										1	**2**				**Drum - 55 gal.**
					2003	1337.9	100 %	1337.9	M3		67	Truck	TBD	Bulk	~~Bulk (20 M3)~~
										41					**Sealand - 8x8x20 (approx.)**
					2004	573.41	100 %	573.41	M3		29	Truck	TBD	Bulk	~~Bulk (20 M3)~~
										18					**Sealand - 8x8x20 (approx.)**
Barrier Comments:		Work Scope score reflects disposition activity of TBD; Intersite Dependency score reflects disposition site of TBD.													
ER	7096	MLLW/Soil/Sludge/Sediment	ORTN	TBD	2003	4773.8	100 %	4773.8	M3		239	Truck	TBD	Bulk	~~Bulk (20 M3)~~
										145					**Sealand - 8x8x20 (approx.)**
					2004	2045.9	100 %	2045.9	M3		103	Truck	TBD	Bulk	~~Bulk (20 M3)~~
										62					**Sealand - 8x8x20 (approx.)**
Barrier Comments:		Work Scope score reflects disposition activity of TBD; Intersite Dependency score reflects disposition site of TBD.													
ER	7073	LLW/PCB/Solvents/Oils	ORTN	TBDO	2006	4.5501	100 %	4.5501	M3						
										1	**22**				**Drum - 55 gal.**
					2007	2.2599	100 %	2.2599	M3						
										1	**11**				**Drum - 55 gal.**
					2008	8.22	100 %	8.22	M3						
										1	**40**				**Drum - 55 gal.**
					2009	8.22	100 %	8.22	M3						
										1	**40**				**Drum - 55 gal.**
Transportation Comments:		Disposal outlet not determined; transportation data not available.													

Oak Ridge Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	1627	Solid MLLW Treatment Categories A-D	ORTN	WCS	2001	1002	100 %	1002	M3	60	4771	TBD	TBD	TBD	~~TBD (0 M3)~~ **TBD - requires comment**
					2002	961	100 %	961	M3	58	4576	TBD	TBD	TBD	~~TBD (0 M3)~~ **TBD - requires comment**

Stream Comments: This stream has been reported with actual waste Disposition=TBD in years prior to FY 2000. Multiple facilities received waste in those year; however historical data cannot be modified. Therefore, the facility that received this waste in FY 2000 and expected to receive the waste in subsequent years (Waste Control Specialists) is shown as the receiving facility. Receiving facilities in prior years are shown below:

FY 1998- Waste Control Specialists=6m3; Envirocare=94m3; Allied Technology Group=1.3m3
FY 1999- WCS=4m3; Envc=17m3

Barrier Comments: INTERSITE DEPENDENCY - OTHER INTERSITE DEPENDENCY ISSUES: Unknown disposition facilities. All waste has not been charaterized.

MLLW	4303	Lab Packs	ORTN	WCS	2001	44	100 %	44	M3	~~4~~ **5**	~~209~~ **212**	Truck	Non-DOT Rad/HAZ	STC/IP-1	~~Other (0.208 M3)~~ **Drum - 55 gal.**

Oak Ridge Incoming - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	4462	PCB Mixed Waste	ANLW	ORTN	2002	0.1	100 %	0.1	M3	**1**	**1**				**Drum - 55 gal.**

Transportation Comments: MATERIAL TO BE SHIPPED VIA TRUCK
Stream Comments: This minor waste stream is under discussion with INEEL for combining with INEEL liquid PCB streams for shipment to the DOE TSCA incinerator. If the DOE TSCA incinerator is not available for treatment, then a commercial vendor, such as ATG, will be utilized. This waste stream will meet the ATG license and permit conditions.

ER	29970	Organic Liquids	FEMP	ORTN	2001	53	100 %	53	M3	2	~~1~~ **2**	Truck	LSA1	Bulk	~~Bulk (38 M3)~~ **Sealand - 8x8x20 (approx.)**

Transportation Comments: Assumes use of 10,000 gallon tanks for bulk conveyance to TSCA incinerator.

ER	29999	Organic Liquids	FEMP	ORTN	2001	77	100 %	77	M3	~~1~~ **2**	~~1~~ **2**	Truck	LSA1	Bulk	~~Bulk (740 M3)~~ **Bulk (dump truck, railcar, etc) - requires comment**

Stream Comments: TSCA incinerator will close in FY03.
Barrier Comments: Stakeholder concerns with receipt of waste inconsistent with TSCA Burn Plan.

Oak Ridge Incoming - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ER	30013	Organic Liquids	FEMP	ORTN	2001	1	100 %	1	M3	1	1	Truck	LSA1	Bulk	~~Bulk (740 M3)~~ **Bulk (dump truck, railcar, etc) - requires comment**
ER	30085	Organic Liquids	FEMP	ORTN	2001	130	100 %	130	M3	8	52	Truck	LSA1	STC/IP-1	~~Box 4x4x6 (2.718 M3)~~ **Box - 4x4x7 (approx.)**
MLLW	31688	MLLW TSCA/PCB Waste	INEL	ORTN	2001	1.249	100 %	1.249	M3	5	~~5~~ **7**	Truck	TBD	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2003	2.355	50 %	1.1775	M3	**1**	8	Truck	TBD	Type A/IP-3	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2003	2.355	50 %	1.1775	M3	**1**	25	Truck	TBD	TBD	~~TBD (0 M3)~~ **Drum - 55 gal.**

Transportation Comments: Containers under Profile # 2 of this waste stream are as follow: 5 gal. drum - 14, 8 gal. drum - 2, 20 gal. drum - 7, 30 gal. drum - 2. Total of 25 containers. 5 55-gal. drums were sent to oakridge during 2001 fiscal year.

Stream Comments: For specific waste characteristic data, refer to Integrated Waste Tracking System (IWTS)at the INEEL. The individual profile numbers are located in the Stream Characteristics screen in IPABS. Waste profiles that compose greater than 1% of the total stream will have radiological and hazardous characteristics listed in IPABS. All others will not be listed unless requested. Also, individual container types are located in IWTS and a general level of contianers will be listed in IPABS. Currently the containers will not be listed as shippable until the container has had a final verification and is being shipped offsite for treatment or disposal. Each waste stream has been tied to some type of technology need and has an accurate risk based score in the four identified categories.

Barrier Comments: Work Scope/Score-3: Waste material quantities are known and characterization is being reviewed to identify data gaps. Any data gaps will be addressed and sampling performed if

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	3841	Incinerable Liquids from Naval Reactors Program	NAVY	ORTN	2001	2.95	100 %	2.95	M3						

Barrier Comments: Off-site receipt pending approval by State of TN.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	4093	Incinerable Solids from Naval Reactor Program	NAVY	ORTN	2001	0.01	100 %	0.01	M3						

Barrier Comments: Off-site receipt pending approval by State of TN.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	4464	NRF PCB CONTAMINATED WASTE (TSCA/PCB)	NRF	ORTN	2002	5.112	100 %	5.112	M3	**1**	**25**				**Drum - 55 gal.**
					2003	5.112	100 %	5.112	M3	**1**	**25**				**Drum - 55 gal.**

Transportation Comments: All containers are currently used for storage. If containers meet DOT requirements they will be used as such, if not they will be repackaged or overpacked. Profile #1 - 55- gal. drum, profile #2-5 gal. drum, profile #3-30 gal. drum, profile #4-16 gal. drum, profile #5-85 gal.drum.

Oak Ridge Incoming - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
Barrier Comments:	Work Scope/Score-3: Waste material quantities are known and characterization is being reviewed to identify data gaps. Any data gaps will be addressed and sampling performed if needed. Current disposition is identified as TSCA/PCB thermal treatment. Intersite Dependency-1: This work does not affect another DOE facility. Waste is being sent to commercial offsite vendor for treatment and disposal. Facility/Equip. Limitation-2: Commercial facilities exists, but contracts are not in place. Technology-2: ID-3.1.54 NDE/NDA for Mixed and LLW Containerized Wastes Verification as a need.														
MLLW	1200	PCB Soils	NVTS	ORTN	2001	0.1	100 %	0.1	M3	~~1~~	1	Truck	TBD	TBD	~~TBD (0.1 M3)~~ **Drum - 55 gal.**
Stream Comments:	STP Waste to be treated and disposed at TSCA.														
Barrier Comments:	INTERSITE DEPENDENCY - OTHER INTERSITE DEPENDENCY ISSUES: Assumes that NTS will be included on the TSCA Incinerator Burn Plan														
MLLW	2919	EMAD Rags	NVTS	ORTN	2001	0.21	100 %	0.21	M3	1	~~1~~ **2**	Truck	TBD	TBD	~~TBD (0.21 M3)~~ **Drum - 55 gal.**
Stream Comments:	MCA waste. Waste to be treated and disposed at TSCA.														
Barrier Comments:	INTERSITE DEPENDENCY - OTHER INTERSITE DEPENDENCY ISSUES: Assumes that NTS is included on TSCA Incinerator Burn Plan.														
MLLW	434	RPCB Liquid	PGDP	ORTN	2001	20	100 %	20	M3	~~2~~ **3**	~~2~~ **97**	Truck	LTD Qty	Bulk	~~Bulk (18.9 M3)~~ **Drum - 55 gal.**
					2002	20	100 %	20	M3	~~2~~ **3**	~~2~~ **97**	Truck	LTD Qty	Bulk	~~Bulk (18.9 M3)~~ **Drum - 55 gal.**
					2003	20	100 %	20	M3	~~2~~ **3**	~~2~~ **97**	Truck	LTD Qty	Bulk	~~Bulk (18.9 M3)~~ **Drum - 55 gal.**
Barrier Comments:	WORK SCOPE DEFINITION - SCHEDULE CONFLICTS: There are proposed near-term changes (regulatory or other) that could make the treatment and disposition path not feasible. The Oak Ridge TSCA Incineration facility may be shut down in the year 2000. WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: There are proposed near-term changes (regulatory or other) that could make the treatment and disposition path not feasible. The Oak Ridge TSCA Incineration facility may be shut down in the year 2000. The state of TN will not allow Paducah to send waste to TSCAI.														
MLLW	445	RPCB Soft Solids	PGDP	ORTN	2001	66	100 %	66	M3	~~5~~ **8**	385	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2002	80	100 %	80	M3	~~5~~ **9**	385	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2003	82	100 %	82	M3	~~5~~ **10**	395	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
Stream Comments:	Assumption: TSCA Incinerator will shut down after FY 2003														
Barrier Comments:	WORK SCOPE DEFINITION - SCHEDULE CONFLICTS: There are proposed near-term changes (regulatory or other) that could make the treatment and disposition path not feasible. The Oak Ridge TSCA Incineration facility may be shut down in the year 2000. WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: There are proposed near-term changes (regulatory or other) that could make the treatment and disposition path not feasible. The Oak Ridge TSCA Incineration facility may be shut down in the year 2000. WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: The state of Tennessee will not allow to date treatment of out of state combustible solids.														

Oak Ridge Incoming - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	447	MLLW Soft Solids - Incinerable	PGDP	ORTN	2001	19	100 %	19	M3	~~3~~	144	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
															Drum - 55 gal.

Barrier Comments: WORK SCOPE DEFINITION - SCHEDULE CONFLICTS: There are proposed near-term changes (regulatory or other) that could make the treatment and disposition path not feasible. The Oak Ridge TSCA Incineration facility may be shut down in the year 2000.

WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: There are proposed near-term changes (regulatory or other) that could make the treatment and disposition path not feasible. The Oak Ridge TSCA Incineration facility may be shut down in the year 2000.

WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUE: The state of Tennessee has not yet allow the treatment of out of state combustible solids.

MLLW	448	MLLW Liquids - Incinerable (to TSCA)	PGDP	ORTN	2001	10	100 %	10	M3	~~1~~	1	Truck	LSA1	Bulk	~~Bulk (18.9 M3)~~
															Sealand - 8x8x20 (approx.)

Barrier Comments: WORK SCOPE DEFINITION - SCHEDULE CONFLICTS: There are proposed near-term changes (regulatory or other) that could make the treatment and disposition path not feasible. The Oak Ridge TSCA Incineration facility may be shut down in the year 2000.

WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: There are proposed near-term changes (regulatory or other) that could make the treatment and disposition path not feasible. The Oak Ridge TSCA Incineration facility may be shut down in the year 2000. The state of TN will not allow Paducah to send waste to TSCAI.

ER	7137	MLLW/Ground/Surface Water/Other Aqueous	PGDP	ORTN	2001	0.0757	100 %	0.0757	M3		1	Truck	LTD Qty	Bulk	~~Bulk (20 M3)~~
										1					**Drum - 55 gal.**
					2002	0.0757	100 %	0.0757	M3		1	Truck	LTD Qty	Bulk	~~Bulk (20 M3)~~
										1					**Drum - 55 gal.**
					2003	0.0757	100 %	0.0757	M3		1	Truck	LTD Qty	Bulk	~~Bulk (20 M3)~~
										1					**Drum - 55 gal.**
					2004	0.0757	100 %	0.0757	M3		1	Truck	LTD Qty	Bulk	~~Bulk (20 M3)~~
										1					**Drum - 55 gal.**
					2005	0.0756	100 %	0.0756	M3		1	Truck	LTD Qty	Bulk	~~Bulk (20 M3)~~
										1					**Drum - 55 gal.**
ER	7145	MLLW/Solvents/Oils	PGDP	ORTN	2001	0.0189	100 %	0.0189	M3		1	Truck	LTD Qty	Bulk	~~Bulk (20 M3)~~
										1					**Drum - 30 gal.**
					2002	0.0189	100 %	0.0189	M3		1	Truck	LTD Qty	Bulk	~~Bulk (20 M3)~~
										1					**Drum - 30 gal.**
					2003	0.0189	100 %	0.0189	M3		1	Truck	LTD Qty	Bulk	~~Bulk (20 M3)~~
										1					**Drum - 30 gal.**
					2004	0.0189	100 %	0.0189	M3		1	Truck	LTD Qty	Bulk	~~Bulk (20 M3)~~
										1					**Drum - 30 gal.**
					2005	0.0189	100 %	0.0189	M3		1	Truck	LTD Qty	Bulk	~~Bulk (20 M3)~~
										1					**Drum - 30 gal.**

Oak Ridge Incoming - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2006	0.0189	100 %	0.0189	M3		1	Truck	LTD Qty	Bulk	~~Bulk (20 M3)~~
										1					**Drum - 30 gal.**
					2007	0.0189	100 %	0.0189	M3		1	Truck	LTD Qty	Bulk	~~Bulk (20 M3)~~
										1					**Drum - 30 gal.**
MLLW	4085	Mixed Incinerable Liquids (to TSCAI)	PORT	ORTN	2001	6.7	100 %	6.7	M3	1	34	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
															Drum - 55 gal.
MLLW	4086	Incinerable Solids (to TSCAI)	PORT	ORTN	2001	19.3	100 %	19.3	M3	9	686	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
															Drum - 55 gal.
MLLW	4057	GAC to Oak Ridge	RFTS	ORTN	2001	22.17	100 %	22.17	M3						
					2002	23.52	100 %	23.52	M3						

Transportation Comments: XXX
Stream Comments: Performance Measure 9-30-01 will be missed. Sampling submitted to Oak Ridge for incineration. 8/21/01

MLLW	4062	Disposal Sort to TSCA Incinerator	RFTS	ORTN			100 %		M3						

Stream Comments: Superceded by MLLW Organic Liquids/Solids.

MLLW	30125	MLLW Organic Liquids/Solids	RFTS	ORTN	2001	60	100 %	60	M3						
										7	**289**				**Drum - 55 gal.**
					2002	283.52	100 %	283.52	M3						
										32	**1364**				**Drum - 55 gal.**

Barrier Comments: WORK SCOPE - this stream includes both liquids and solids. While liquids is well defined, solids is a new initiative. Characterization still required.
INTERSITE DEPENDENCY - very high risk. State of Tennessee has rejected latest version of burn plan for political reasons. Continued ability to ship liquids is in jeopardy. Ability to initiate shipment of solids is also in jeopardy.

Does not match current approved burn plan however, updates will be included when possible.

MLLW	1905	Incinerable rad PCBs	SARS	ORTN	2001	2	100 %	2	M3	1	~~5~~	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
											10				**Drum - 55 gal.**

Stream Comments: SRS assumes no receipt of treatment residuals.
Barrier Comments: INTERSITE DEPENDENCY - INTERSITE AGREEMENT CONFLICTS: The governor of Tennessee has discontinued receipt of offsite shipments of radioactive TSCA waste for treatment at the TSCA incinerator. Recent proposals to renew offsite shipments were rejected by the Governor's office. Resolution of this issue is not expected in the near term.
WORK SCOPE DEFINITION - EQUITY CONCERNS: It is not known if a plausible and feasible path for treating and completing final disposition of this waste/material exists. The governor of Tennessee has discontinued receipt of offsite shipments of radioactive TSCA waste for treatment at the TSCA incinerator. Recent proposals to renew offsite shipments were rejected by the Governor's office. Resolution of this issue is not expected in the near term.
The facili

Oak Ridge Outgoing - Americium-241 (NM-Am-241)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ORNL-Am241	31765	BJC//Am-241 Oxide-Tower Shielding Facility-4 items	ORTN	COMM			100 %		G						
					TBD										**5320**

Stream Comments: QTY: 4.0 g (4 items) "as of 9-30-00"
Material at Tower Shielding Facility.
Projected path is to ship to BioNeutrics pending receipt of NRC license
[NOTE: If license not granted then, package and ship to SRS]

Barrier Comments: Work Scope score reflects disposition activity of TBD.

Oak Ridge Incoming - Americium-241 (NM-Am-241)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
HASI-Am241	31390	BAA - Stream	HASI	ORTN			100 %		G						
					2002-2004					**1**	**4**				**S-100**

Oak Ridge Incoming - Americium-243 and Curium (NM-AmCm)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
PNNL-AmCm	7240	TAA - Stream	HASI	ORTN			100 %		G						
					2002-2004					**1**	**2**				**S-100**
PNNL-Am241	7242	TAK - Stream	HASI	ORTN			100 %		G						
					2002-2004					**1**	**2**				**S-100**
HASI-AmCm	31397	BAH - Stream	HASI	ORTN			100 %		G						
					2002-2004					**1**	**2**				**S-100**
AmCm	31272	BAQ - Stream	LANL	ORTN			100 %		G						
					TBD										**5320**

Stream Comments: Projected path is programmatic use.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
AmCm	30792	BAU - Stream	SARS	ORTN			100 %		G						
					2007+										**TBD - requires comment**

Stream Comments: Contains material from generation stream 72.
Barrier Comments: Technology: See SRS needs 00-5030, 01-5049, 01-5050.

Oak Ridge Incoming - Berkelium-249 and Californium-252 (NM-BkCf)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
HASI-BkCf	31400	BAH - Stream	HASI	ORTN			100 %		G						
					2002-2004					**1**	**4**				**S-100**

Oak Ridge Outgoing - Depleted Uranium (NM-DU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ORNL-DU	31766	BJC//DU Reactor Fuel-Tower Shielding Facility-4 items	ORTN	COMM			100 %		G						
					TBD										**IP**

Stream Comments: QTY: 28.275 kg (4 items) "as of 9-30-00"
Material at Tower Shielding Facility.
Projected path is to ship to BioNeutrics pending receipt of NRC license
[NOTE: If license not granted then, package and ship to SRS]

Barrier Comments: Work Scope score reflects disposition activity of TBD.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ETTP-DU	30696	ETTP DUF6 Compound (4,748 items) 36,697.389 MT	ORTN	PGDP			100 %		G						
					TBD										**IP**

Stream Comments: Projected path is Convert to Oxide at Paducah UF6 Conversion Facility then Programmatic Use. Qty: 36,697.389 MT (4,748 items) "as of 9-30-00"

Oak Ridge Incoming - Depleted Uranium (NM-DU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
DU	31065	BAA - Stream	PAPL	ORTN			100 %		G						

Stream Comments: Projected path is preparation for LWR fuel fabrication.

Oak Ridge Outgoing - Nonactinide Isotopes and Sealed Sources (NM-NISS)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name

Oak Ridge Outgoing - Nonactinide Isotopes and Sealed Sources (NM-NISS)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ORNL-NISS	31768	BJC// Pu-239 Source at TSF (1 Item)	ORTN	COMM			100 %		NI						
					TBD										**S-100**
Stream Comments:		QTY: 6.0 g (1 item) "as of 9-30-00" Material at Tower Shielding Facility. Projected path is to transfer to BioNeutrics pending receipt of NRC license [NOTE: If license not granted then, package and ship to SRS]													
Barrier Comments:		Work Scope score reflects disposition activity of TBD.													
ORNL-NISS	30972	BBT -Stream	ORTN	TBDO			100 %		NI						
					TBD										**TBD - requires comment**
Stream Comments:		Contains material from primary streams 30965 and 30966.													

Oak Ridge Incoming - Nonactinide Isotopes and Sealed Sources (NM-NISS)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
PNNL-NISS	7250	VEH - Stream	HASI	ORTN			100 %		NI						
					TBD										**S-100**
PNNL-NISS	31208	BAT - Stream	HASI	ORTN			100 %		NI						
					2002-2004					**1**	**1**				**S-100**
Stream Comments:		Contains Californium and Curium 246.													
HASI-NISS	31424	BAY - Stream	HASI	ORTN			100 %		NI						
					2002-2004					**1**	**20**				**S-100**
Stream Comments:		Projected path is isotope program source recovery.													
NISS	30504	BAQ - Stream	LABL	ORTN			100 %		NI						
					TBD										**S-100**
Stream Comments:		Material from stream NS-2													
NISS	31362	BBE - Stream	LANL	ORTN			100 %		NI						
					TBD										**S-100**
Stream Comments:		Contains material from generation stream AS-2. Projected path is isotope program source recovery at ORNL.													

Oak Ridge Incoming - Nonactinide Isotopes and Sealed Sources (NM-NISS)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
NISS	31388	BCB - Stream	LANL	ORTN	**TBD**		100 %		NI						**S-100**
Stream Comments: Contains material from generation stream SS-5. Projected path is isotope program source recovery at ORNL.															
NISS	30525	BBD - Stream	LLMS	ORTN	**TBD**		100 %		NI						**S-100**
Stream Comments: Material from generation stream NS-2															
NISS	31495	BAO - Stream	NVTS	ORTN	**TBD**		100 %		NI						**S-100**
Stream Comments: Contains material from generation stream NS-3. Projected path is isotope program source recovery.															
NISS	30549	NS-1/NS-2 to ORNL	RFTS	ORTN	**2002**		100 %		NI						**TBD - requires comment**
Stream Comments: Contains material from generation stream NS-1 (Cf252) and NS-2 (Pu-239/Be).															
NISS	30550	Packaged NS-3 to ORNL Prog. Use	RFTS	ORTN	**TBD**		100 %		NI						**TBD - requires comment**
Stream Comments: Contains material from generation stream NS-3.															
NISS	30560	Packaged SS-4 to ORNL	RFTS	ORTN	**TBD**		100 %		NI						**IP**
Stream Comments: Contains material from generation stream SS-4.															
NISS	30681	BEJ - Stream	SARS	ORTN	**TBD**		100 %		NI	**1**					**Type 7A (or 6M while available)**
Stream Comments: Contains material from generation stream AS-6.															
NISS	31517	ZAS - Stream	SARS	ORTN	**TBD**		100 %		NI		**10**				**Type 7A**
Stream Comments: Contains material from generation stream NS-4.															
NISS	31518	ZAR - Stream	SARS	ORTN	**TBD**		100 %		NI						**Type 7A (or LLW pkg)**
Stream Comments: Contains material from generation stream SS-4 and SS-5.															
NISS	31053	BBA - Stream	SNLN	ORTN	**TBD**		100 %		NI						**IP**
Stream Comments: Contains material from generation stream NS-1. Projected path is isotope program sourge recovery.															

Oak Ridge Incoming - Neptunium-237 (NM-Np-237)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
HASI-Np237	7223	DMM - Stream	HASI	ORTN			100 %		G						
					2002-2004					**1**	**5**				**S-100**
Stream Comments:		Projected path is to send to ORNL on the Oak Ridge Reservation.													
Np237	31722	Np-237 Oxide for Pu-238 Production	SARS	ORTN			100 %		G						
					2005-2007										**6M or ES-2100**

Oak Ridge Outgoing - Natural Uranium (NM-NU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ETTP-NU	31747	ETTP-NU-UF6 Compound (Cylinders) (213 items)	ORTN	PGDP			100 %		G						
					TBD										**IP**
Stream Comments:		QTY: 12.679 MT (213) items) "as of 7-12-01" Projected path is to ship to Paducah or Portsmouth to stable chemical/physical form for long term storage.													
Barrier Comments:		Work Scope score reflects disposition activity of TBD.													

Oak Ridge Incoming - Uranium-233 (NM-U-233)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
U233	30206	BBS-Stream	LLMS	ORTN			100 %		G						
					TBD										**DC-1**

Oak Ridge Outgoing - Spent Nuclear Fuel (SNF)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
SNF	264	Repackaged SS, Zir, Graph SNF in Facility 7827	ORTN	INEL	2002	0.221	100 %	0.221	MTHM	5	5	Truck	TYP B Qty	Type B	~~Cask (0.194 M3)~~
															TN-FSV
Transportation Comments:		Current plans are to use the TN-FSV cask. An inner container for the cask is being designed and licensed to carry up to 20 small Oak Ridge SNF canisters or up to 5 intact Peach Bottom fuel assemblies, or a combination, in specific loading arrangements.													
Stream Comments:		Effective in FY01, SNF is under PBS 331.													
Barrier Comments:		INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: Concern about completion of settlement agreement milestones at INEEL; State of Idaho could delay shipments.													

Oak Ridge Outgoing - Spent Nuclear Fuel (SNF)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
SNF	4448	HFIR SNF	ORTN	SARS	2001	0.06	100 %	0.06	MTHM	6	6	Truck	TYP B Qty	Type B	~~Cask (0.47 M3)~~ **GE-2000 Cask**
					2002	0.13	100 %	0.13	MTHM	13	13	Truck	TYP B Qty	Type B	~~Cask (0.47 M3)~~ **GE-2000 Cask**
					2003	0.13	100 %	0.13	MTHM	13	13	Truck	TYP B Qty	Type B	~~Cask (0.47 M3)~~ **GE-2000 Cask**
					2004	0.13	100 %	0.13	MTHM	13	13	Truck	TYP B Qty	Type B	~~Cask (0.47 M3)~~ **GE-2000 Cask**
					2005	0.13	100 %	0.13	MTHM	13	13	Truck	TYP B Qty	Type B	~~Cask (0.47 M3)~~ **GE-2000 Cask**
					2006	0.13	100 %	0.13	MTHM	13	13	Truck	TYP B Qty	Type B	~~Cask (0.47 M3)~~ **GE-2000 Cask**
					2007	0.13	100 %	0.13	MTHM	13	13	Truck	TYP B Qty	Type B	~~Cask (0.47 M3)~~ **GE-2000 Cask**
					2008	0.13	100 %	0.13	MTHM	13	13	Truck	TYP B Qty	Type B	~~Cask (0.47 M3)~~ **GE-2000 Cask**
					2009	0.13	100 %	0.13	MTHM	13	13	Truck	TYP B Qty	Type B	~~Cask (0.47 M3)~~ **GE-2000 Cask**
					2010	0.13	100 %	0.13	MTHM	13	13	Truck	TYP B Qty	Type B	~~Cask (0.47 M3)~~ **GE-2000 Cask**

Oak Ridge Outgoing - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	1962	CH TRU from ORNL	ORTN	WIPP	2004	~~241~~ **789.7**	100 %	~~241~~ **789.7**	M3	~~56~~ **74**	~~168~~ **273**	Truck	LSA1	Type B	~~Cask (2.9 M3)~~ **TRUPACT-II**
					2005	~~134~~ **855**	100 %	~~134~~ **855**	M3	~~32~~ **40**	~~96~~ **295**	Truck	LSA1	Type B	~~Cask (2.9 M3)~~ **TRUPACT-II**
					2006	~~12~~ **33.2**	100 %	~~12~~ **33.2**	M3	~~3~~ **8**	~~9~~ **12**	Truck	LSA1	Type B	~~Cask (2.9 M3)~~ **TRUPACT-II**
					2007	~~12~~ **104.8**	100 %	~~12~~ **104.8**	M3	~~3~~ **12**	~~9~~ **37**	Truck	LSA1	Type B	~~Cask (2.9 M3)~~ **TRUPACT-II**
					2008	~~9~~ **30**	100 %	~~9~~ **30**	M3	~~2~~ **7**	~~6~~ **11**	Truck	LSA1	Type B	~~Cask (2.9 M3)~~ **TRUPACT-II**
					2009	~~5~~ **27**	100 %	~~5~~ **27**	M3	~~1~~ **6**	~~3~~ **10**	Truck	LSA1	Type B	~~Cask (2.9 M3)~~ **TRUPACT-II**
					2010	~~5~~ **27**	100 %	~~5~~ **27**	M3	~~1~~ **6**	~~3~~ **10**	Truck	LSA1	Type B	~~Cask (2.9 M3)~~ **TRUPACT-II**

Oak Ridge Outgoing - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
Stream Comments:		Total volumes and disposition schedule to be disposed at WIPP are consistent between shipping and receiving sites. The Paths to Closure data assumes a generation duration of 73 years ending in FY2070. ORNL volume and shipping rates are inconsistent in that volumes per shipment are too high.													
TRU	1963	RH TRU from ORNL	ORTN	WIPP	2003	63	100 %	63	M3	~~76~~ **102**	~~76~~ **102**	Truck	LSA1	Type B	~~Cask (0.89 M3)~~ **RH-72B**
					2004	119	100 %	119	M3	~~134~~ **192**	~~134~~ **192**	Truck	LSA1	Type B	~~Cask (0.89 M3)~~ **RH-72B**
					2005	37	100 %	37	M3	~~33~~ **60**	~~33~~ **60**	Truck	LSA1	Type B	~~Cask (0.89 M3)~~ **RH-72B**
					2006	37	100 %	37	M3	33	~~33~~ **60**	Truck	LSA1	Type B	~~Cask (0.89 M3)~~ **RH-72B**
					2007	37	100 %	37	M3	~~33~~ **60**	~~33~~ **60**	Truck	LSA1	Type B	~~Cask (0.89 M3)~~ **RH-72B**
					2008	28	100 %	28	M3	~~24~~ **46**	~~24~~ **46**	Truck	LSA1	Type B	~~Cask (0.89 M3)~~ **RH-72B**
					2009	12	100 %	12	M3	~~5~~ **20**	~~5~~ **20**	Truck	LSA1	Type B	~~Cask (0.89 M3)~~ **RH-72B**
					2010	15	100 %	15	M3	~~8~~ **25**	~~8~~ **25**	Truck	LSA1	Type B	~~Cask (0.89 M3)~~ **RH-72B**
Stream Comments:		Includes some RH from SRS. Total volumes to be disposed at WIPP are not significantly different between shipping and receiving sites. Disposition schedules vary because of differing baseline assumptions.													

Oak Ridge Incoming - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	1360	Treated TRU to ORR	PGDP	ORTN	2004	11.7	100 %	11.7	M3	2	57	Truck	TYP A Qty	Type B	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**

Attachment 2

OAK RIDGE NATIONAL LABORATORY TYPE B AND TYPE A-FISSILE PACKAGING BASELINE

10 May 2002

Oak Ridge

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
2001	Nevada Test Site	LLW	86	**TBD**	- / -	
2001	Savannah	SNF	6	GE-2000 Cask	Yes / Yes	
2002	Idaho	SNF	5	TN-FSV	**No** / Yes	
2002	Nevada Test Site	LLW	86	**TBD**	- / -	
2002	Savannah	SNF	13	GE-2000 Cask	Yes / Yes	
2003	Nevada Test Site	LLW	86	**TBD**	- / -	
2003	Nevada Test Site	LLW	19	**TBD**	- / -	
2003	Savannah	SNF	13	GE-2000 Cask	Yes / Yes	
2004	Hanford	LLW	24	**TBD**	- / -	
2004	Nevada Test Site	LLW	86	**TBD**	- / -	
2004	Nevada Test Site	LLW	57	**TBD**	- / -	
2004	Savannah	SNF	13	GE-2000 Cask	Yes / Yes	
2005	Hanford	LLW	18	**TBD**	- / -	
2005	Nevada Test Site	LLW	56	**TBD**	- / -	
2005	Nevada Test Site	LLW	86	**TBD**	- / -	
2005	Savannah	SNF	13	GE-2000 Cask	Yes / Yes	
2006	Hanford	LLW	14	**TBD**	- / -	
2006	Nevada Test Site	LLW	86	**TBD**	- / -	
2006	Nevada Test Site	LLW	4	**TBD**	- / -	
2006	Savannah	SNF	13	GE-2000 Cask	Yes / Yes	
2007	Nevada Test Site	LLW	86	**TBD**	- / -	
2007	Savannah	SNF	13	GE-2000 Cask	Yes / Yes	
2008	Nevada Test Site	LLW	86	**TBD**	- / -	
2008	Savannah	SNF	13	GE-2000 Cask	Yes / Yes	

Oak Ridge

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
2009	Nevada Test Site	LLW	86	**TBD**	**-** / **-**	
2009	Savannah	SNF	13	GE-2000 Cask	Yes / Yes	
2010	Nevada Test Site	LLW	430	**TBD**	**-** / **-**	
2010	Savannah	SNF	13	GE-2000 Cask	Yes / Yes	
TBD	Commercial - TBD	NM-Am-241		5320	**No** / **No**	
TBD	Commercial - TBD	NM-NISS		S-100	**No** / Yes	
TBD	Portsmouth	DUF6		**TBD**	**-** / **-**	Approximately 6000 DUF6 cylinders to be shipped for conversion after the conversion plants are constructed (2004-2005). The state of Tennessee has negotiated orders that all the cylinders have to be removed by 2009.
TBD	**TBD**	NM-NISS		**TBD**	**-** / **-**	

Removed all the NM-HEU and NM-LEU from this report for Oak Ridge, Portsmouth and Paducah per Sherrie Redmond at OR. She indicated it will be under NNSA.

Shirley Cox of OR has been asked to identify packages and schedules for remaining nuclear materials at Oak Ridge, Portsmouth and Paducah. No response to date.

NTP received conflicting information concerning the LLW. NTP has contacted John Patterson and Dayne Thomas to verify if LLW will need Type B containers. Previously, the traffic manager indicated that all LLW would be shipped in Type A containers. To date, no response from Dayne Thomas.

The TNSV (TN-FSV) is at NRC for review and we expect no problems, all we are doing is requesting a different payload configuration. Any non-NNSA FISSILE shipments already have the package requirements identified with current packages.
Parris Brady Lester
DOE Oak Ridge, Operations

NTP comment: If approved for the different payload configuration, the TN-FSV will be used in place of the GE-2000 Cask.

The NNSA Y-12 Area Office does not plan to respond to this request. I am not sure what the source of your data is that references disposition maps or paths that may be outdated. I am also not sure why you are reporting on NNSA HEU shipping plans. Y-12 and MD are part of the Packaging and Shipping Committee and are also represented on our packaging and shipping needs assessment. Our needs assessment effort is intended to evaluate complex wide national security and excess HEU inventories and to identify new shipping package requirements (most specifically to replace the 6M2R). The majority of HEU users and storage sites are represented on our assessment team and will be contacting any other program or site that is not on the team to review our data and recommendations.
Becky Eddy
NNSA Y-12 Area Office

Attachment 3

OAK RIDGE NATIONAL LABORATORY TRANSPORTATION BASELINE SUMMARY

10 May 2002

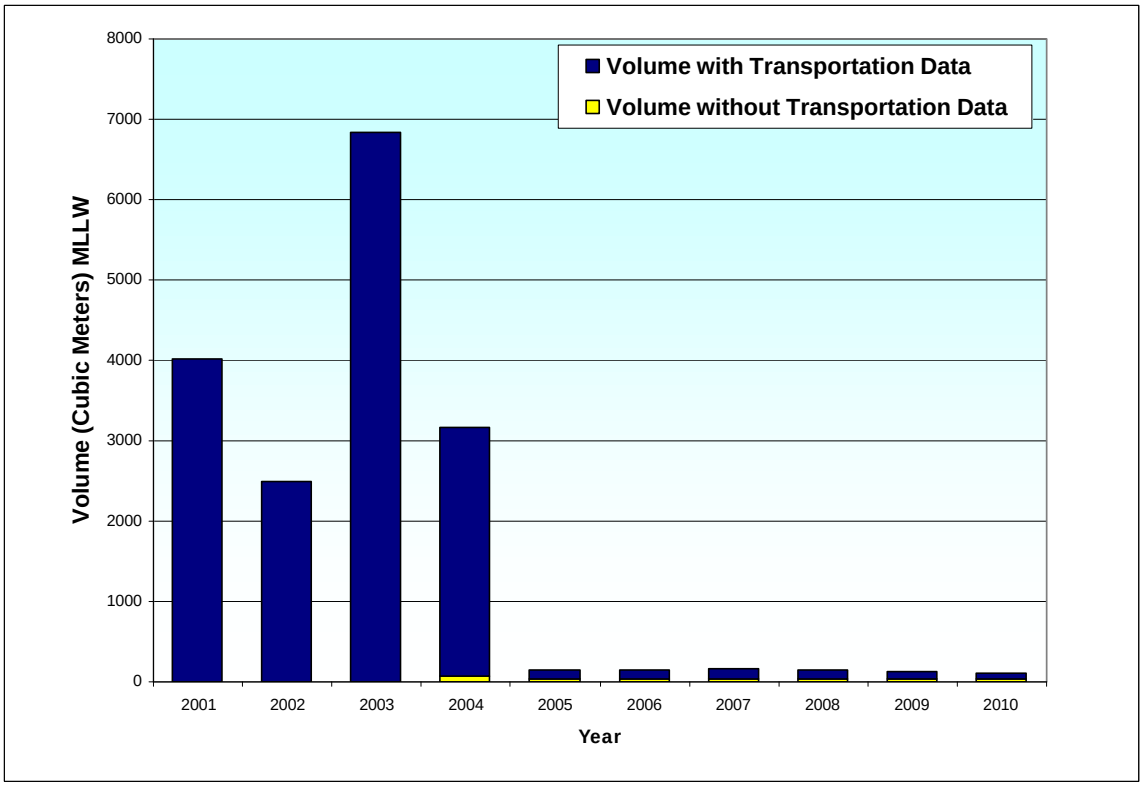


Figure 1. Quantity of MLLW to be shipped by year through 2010

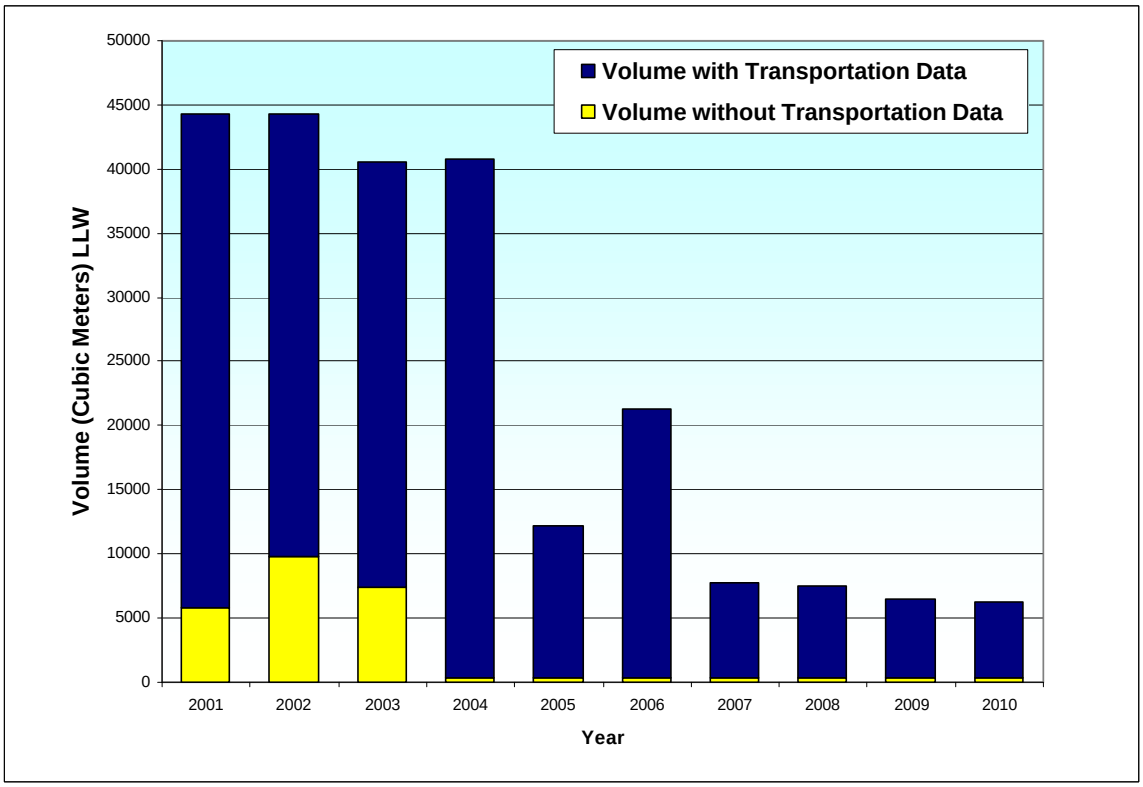


Figure 2. Quantity of LLW to be shipped by year through 2010

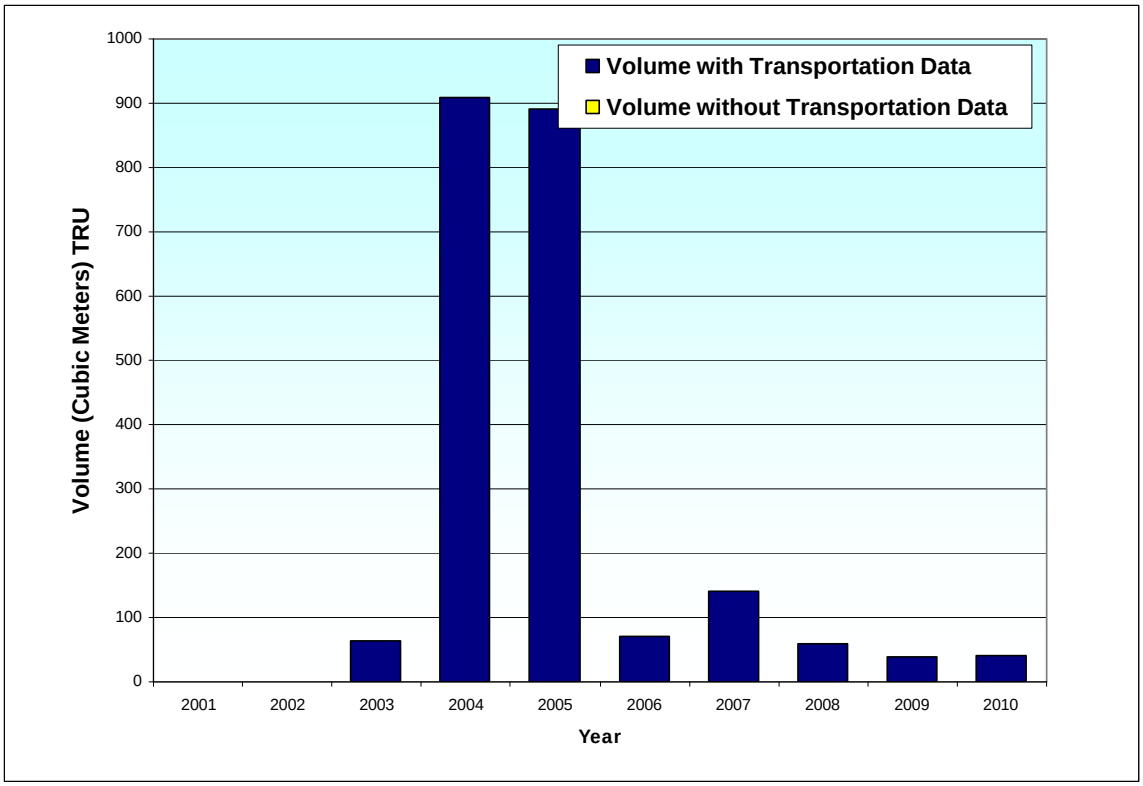


Figure 3. Quantity of TRU to be shipped by year through 2010

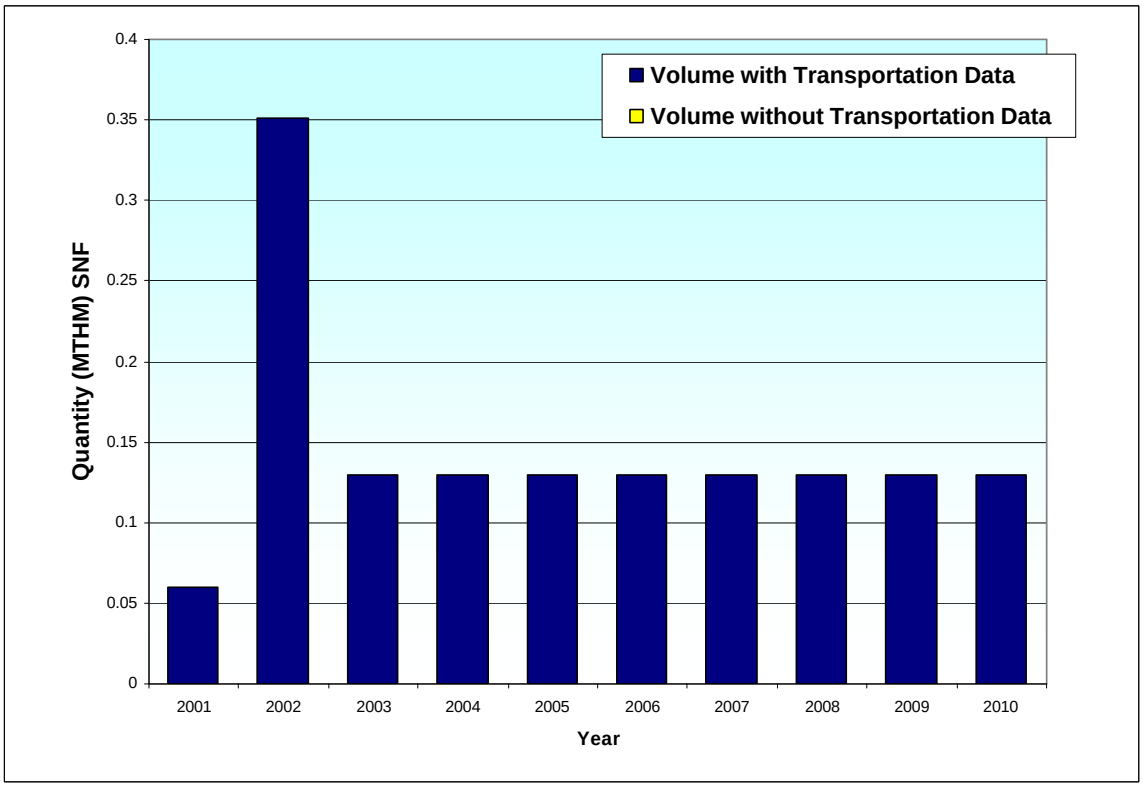
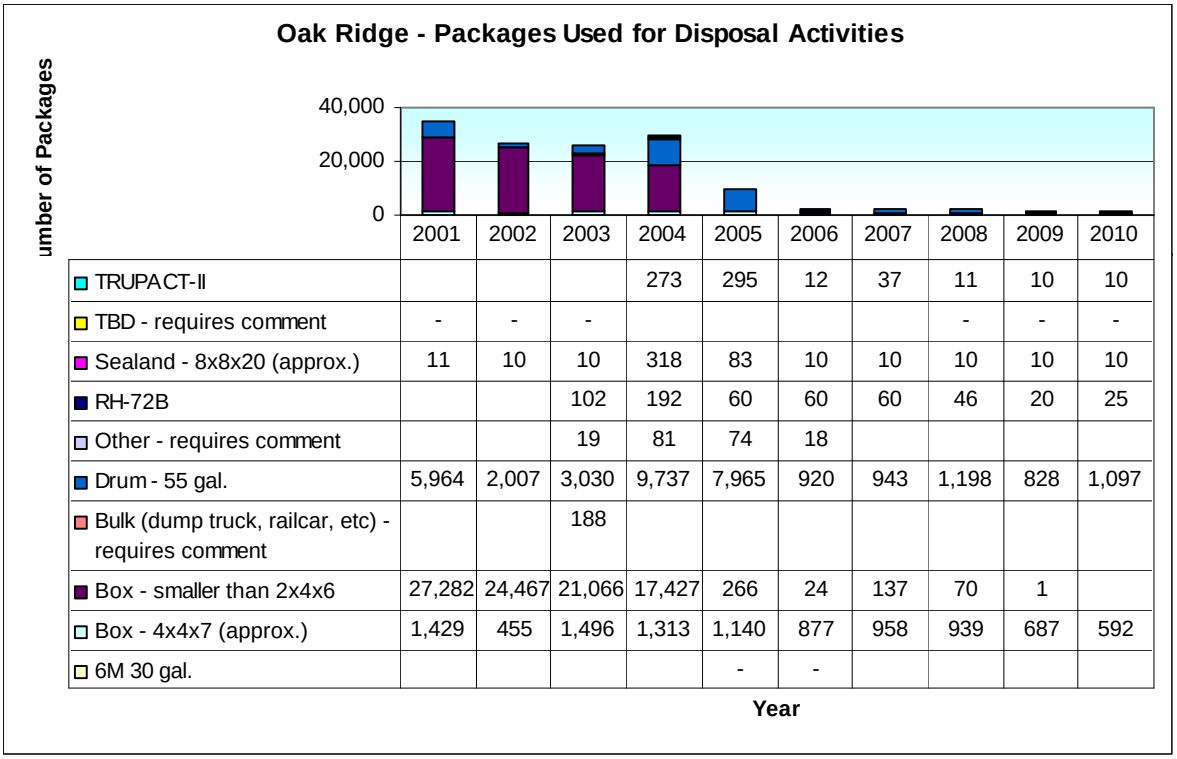
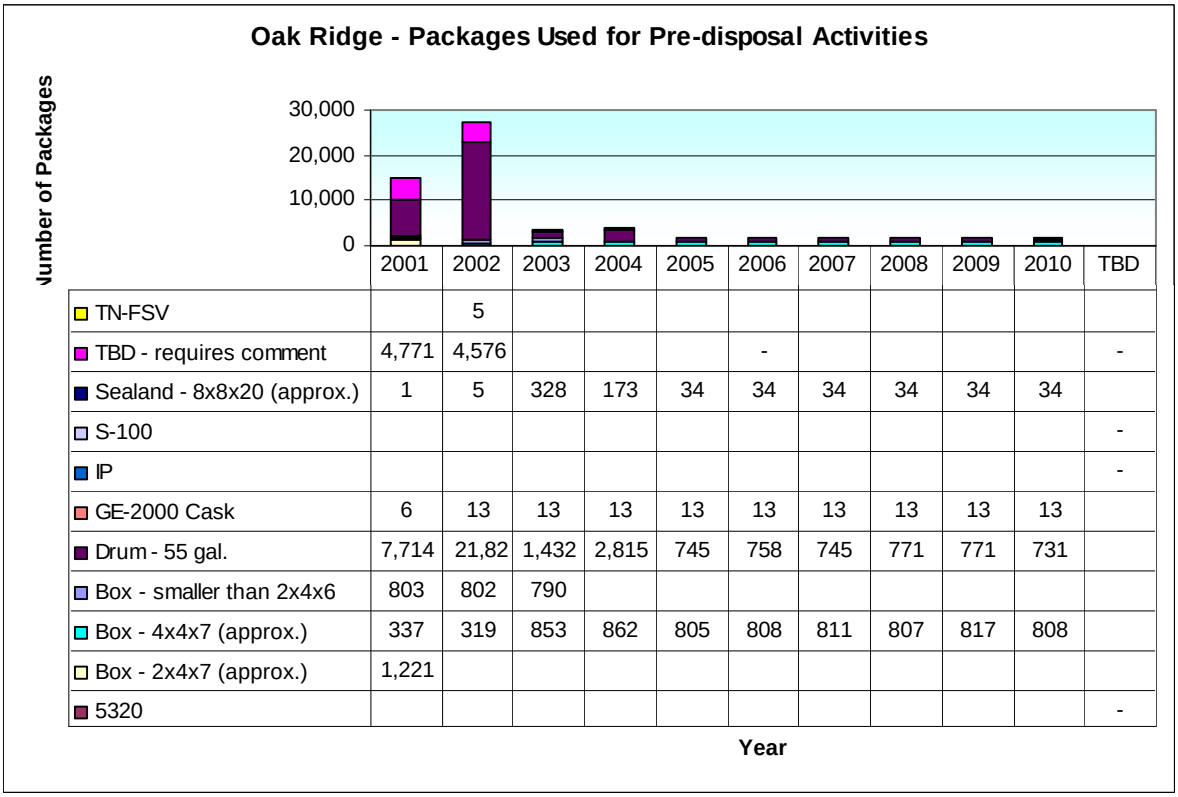


Figure 4. Quantity of SNF to be shipped by year through 2010



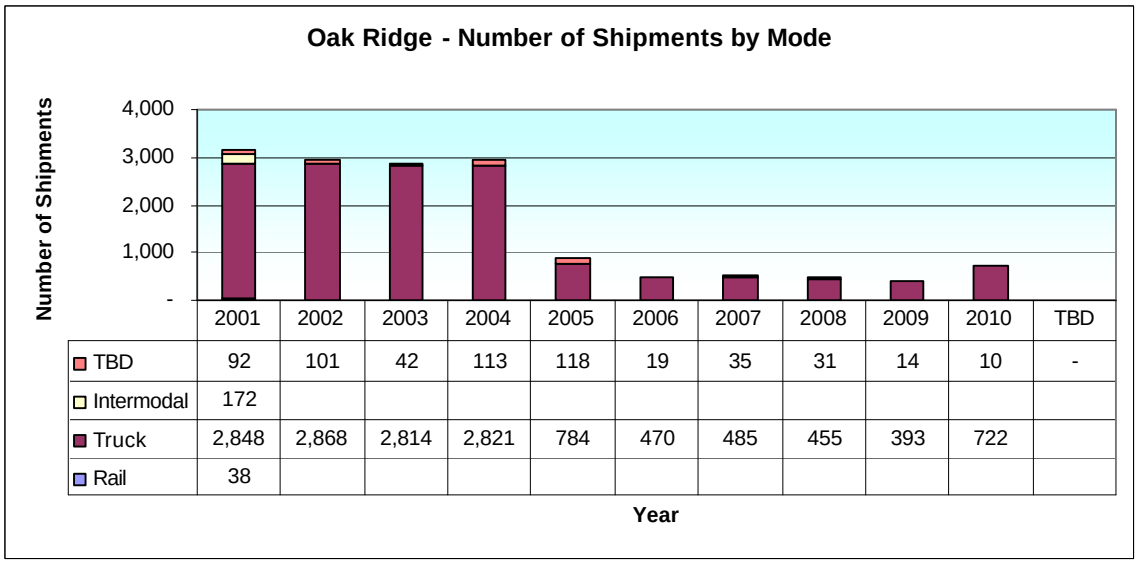
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TRUPACT-II				273	295	12	37	11	10	10
TBD - requires comment	-	-	-					-	-	-
Sealand - 8x8x20 (approx.)	11	10	10	318	83	10	10	10	10	10
RH-72B			102	192	60	60	60	46	20	25
Other - requires comment			19	81	74	18				
Drum - 55 gal.	5,964	2,007	3,030	9,737	7,965	920	943	1,198	828	1,097
Bulk (dump truck, railcar, etc) - requires comment			188							
Box - smaller than 2x4x6	27,282	24,467	21,066	17,427	266	24	137	70	1	
Box - 4x4x7 (approx.)	1,429	455	1,496	1,313	1,140	877	958	939	687	592
6M 30 gal.					-	-				

Figure 5. Number of packages to be shipped to disposal.



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TBD
TN-FSV		5									
TBD - requires comment	4,771	4,576				-					-
Sealand - 8x8x20 (approx.)	1	5	328	173	34	34	34	34	34	34	
S-100											-
IP											-
GE-2000 Cask	6	13	13	13	13	13	13	13	13	13	
Drum - 55 gal.	7,714	21,82	1,432	2,815	745	758	745	771	771	731	
Box - smaller than 2x4x6	803	802	790								
Box - 4x4x7 (approx.)	337	319	853	862	805	808	811	807	817	808	
Box - 2x4x7 (approx.)	1,221										
5320											-

Figure 6. Number of packages to be used for pre-disposal activities.



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TBD
TBD	92	101	42	113	118	19	35	31	14	10	-
Intermodal	172										
Truck	2,848	2,868	2,814	2,821	784	470	485	455	393	722	
Rail	38										

Figure 7. Number of shipments by mode.

Rocky Flats Environmental Technology Site
ENHANCED BASELINE TRANSPORTATION DATA

This section presents and discusses the updated and enhanced basic data sets obtained through the data gathering activities.

Rocky Flats Environmental Technology Site Enhanced Baseline

Rocky Flats Environmental Technology Site Enhanced Baseline data is presented in **Attachment 1**. (Note that data from the original IPABS database is printed in black while additional and corrected data is printed in red.) This information was compiled based on the 2001 IPABS database and was updated and enhanced with data from the Type B and Type A-Fissile Packaging Report and limited input from the reporting site.

Comparison of the 2001 IPABS data with the Enhanced Baseline yields the following observations:

(1) IPABS data does not necessarily represent the site's baseline shipping plans, and
(2) Additional data calls were effective in collecting transportation data for empty data fields.

The discrepancies confirm the need for an improved methodology for collecting and reporting transportation data.

Rocky Flats Environmental Technology Site Type B and Type A-Fissile Packaging Baseline

The Rocky Flats Environmental Technology Site Type B and Type A-Fissile Packaging Baseline (**Attachment 2**) updates and fills gaps in the Rocky Flats Environmental Technology Site data from the October 9, 2001 "NTP Type B and Type A Fissile Packaging Report". Discussion and comments follow the table in Attachment 2.

Planned vs. Actual FY 2001 Shipments

Actual volumes and numbers of containers shipped, and numbers of shipments were not available at the time this Forecast was prepared.

ENHANCED BASELINE ANALYSIS

The data products presented above have been processed and analyzed in ways intended to facilitate long-range planning and evaluate the feasibility of planned shipping activities. Analysis is based on assessment of the validity of appropriate Transportation Baseline Attributes. These attributes are listed at the beginning of this EM Transportation Forecast. The following sections present the results of the data analyses.

Transportation Baseline Summary

The Rocky Flats Transportation Baseline Summary (**Attachment 3**) depicts MLLW, LLW, and TRU volumes involved in transportation events. The data is displayed by waste type. **Figures 1-3 (Attachment 3)** depict, for each waste or material stream, a summary of the annual volume of all Rocky Flats outgoing shipments. In these figures, the quantity of waste that does not have completed transportation data is shown in yellow. This is waste that has a reported volume but has no associated package type, number of shipments, transportation mode, etc.

Figures 4 and 5, show packagings required for treatment and for disposal activities, illustrating the dual role transportation may play in the disposition of waste and material. Some waste/material streams must be transported to an off-site facility for treatment, returned to the site for packaging, and finally shipped to a permanent disposal facility. **Figure 6** provides an annual depiction of shipments to be made by rail, truck, or intermodaly.

Figure 1, below, summarizes outgoing waste and material shipments planned for Rocky Flats Environmental Technology Site over the next 10 years as reported in the enhanced data set. The map depicts the destination of a set of shipments and indicates the number of shipments expected to be completed. It should be noted that in the absence of complete transportation activity profiles the number of shipments have been estimated.

Rocky Flats
Stream Disposition
2001 - 2010 Outgoing Enhanced Shipments

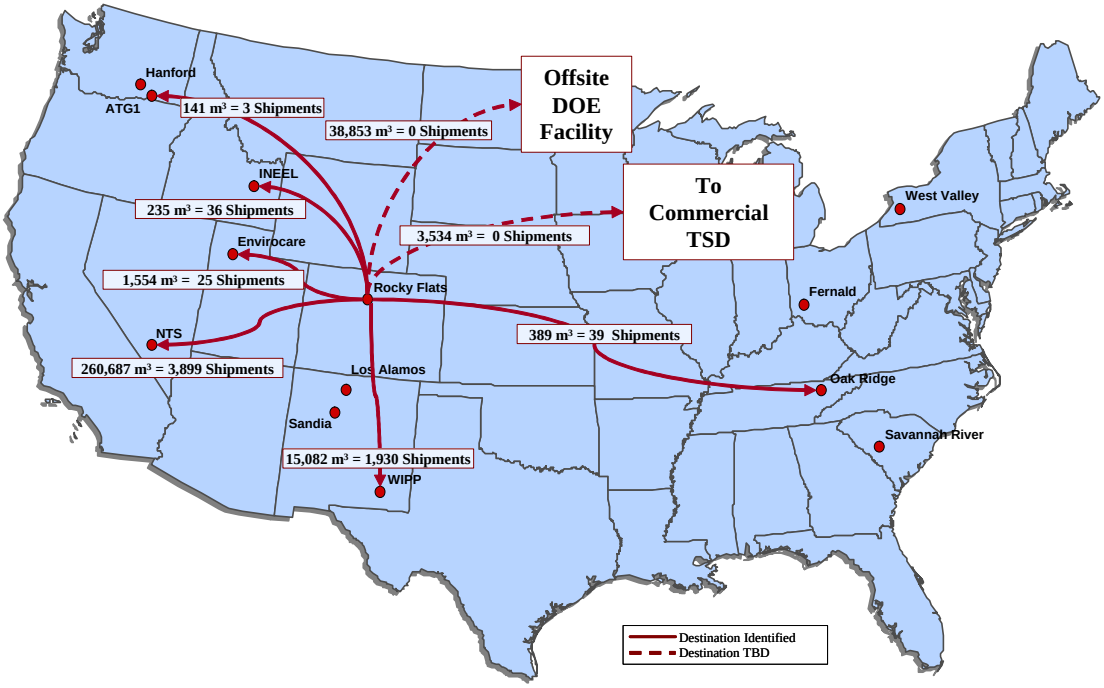


Figure 1. **Rocky Flats Environmental Technology Site Outgoing Shipments.**

Rocky Flats Environmental Technology Site Baseline Transportation Barriers

In addition to the summary barriers reported at the beginning of this EM Transportation Forecast, barriers, as found in IPABS or the Type B and Type A-Fissile Packaging Report, are found listed below in **Table 1**. **The barriers listed have not been assigned a priority order.**

Origin Site	Barrier(s) Impacting this Site *(see attached table)*	Number of Waste Streams Reporting Barrier	Number of Shipments Potentially Affected by Barrier *(NR=not reported or estimated)*
RFTS	**1** - There are excessive delays in processing Type B and fissile packaging certifications	3	105
	16 - Does not meet disposal facility Waste Acceptance Criteria	1	13
	17 - Waste not characterized	5	41 +
	20 - Treatment option not available	5	116 +
	21 - Waste Acceptance Criteria not available	3	NR
	22 - Disposition site TBD	5	1 +
	23 - Stakeholder buy-in not achieved	1	39
	25 - No agreements with receiving, shipping, treatment facility	6	38 +
	27 - Regulatory change concerns	3	52 +
	TOTAL Waste Streams (with one or more barriers) = 15	**TOTAL Shipments (w/one or more barriers) = 197 +**	

Table 1. Barriers from IPABS and Type B and Type A-Fissile Packaging Report

Transportation Activity Maps

Transportation Activity Maps were developed for **Rocky Flats Environmental Technology Site**, but are not included due to the large volume of data. For the inquisitive reader, Transportation Activity Maps are included for the Hanford Site.

Type B and Type A-Fissile Packaging Needs Assessment

Analysis of the Transportation Activity Maps in comparison with the Packaging Baseline produced this summary which details the identity and numbers of Type B and Type A-Fissile packagings that will be required to carry out planned shipping activities. **Table 2** provides a list, by year, of the Type B packages needed by **Rocky Flats Environmental Technology Site** to execute the EM Transportation Baseline along with a short description of the current status of the package. Additional identification and discussion of the packaging issues is presented following the table. Further analysis of packaging status is included in the Transportation Baseline Barriers Analysis section as appropriate.

Table 2. Rocky Flats Environmental Technology Site Site Type B Packaging Needs

Year	Package	Need	Available	Status
TBD	ES-2100	?	?	Availability TBD
2002	9975	12	?	Certified / Available

The following packaging issues are associated with these needs:

- At the time of this report, the packaging has been identified. However, for some of the nuclear material, the data did not specify when they were needed or how many would be required.

Type B Package Certification Schedule

The Type B Package Certification Schedule (**Table 3**) was developed to assist in the coordination of packages being certified. By being cognizant of what revisions are needed, EM can better work with the certifying agencies' schedules and coordinate the submittals to allow time for the reviews and certification to be obtained to meet key clean-up and closure milestones.

The table below was developed from transportation information extracted from THE ENHANCED BASELINE DATA SET and the Type B and Type A-Fissile Packaging Report. From this information, an early and late need date was extrapolated for meeting the Enhanced Baseline.

Table 3. Type B Package Certification Schedule

Package Name	Certification Status	Early – Late Need Dates	Certification Expiration	Comments
9975	DOE certification is current.	2002 - 2006	03/31/2006	The SAFEKEG package is more efficient from a transportation perspective and will ultimately support the same contents as the 9975.
ES-2100	Still being developed.	TBD	N/A	Not yet developed.
TRUPACT II	NRC certification is current.	2002 - 2006	06/30/2004	N/A

SUMMARY AND CONCLUSIONS

The data set presented and analyzed in this Forecast is a compilation of the data from the following sources: 1) The 2001 Integrated Planning, Accountability, and Budgeting System (IPBAS) database, 2) The National TRU Program databases, and 3) The Type B and Type A-Fissile Packaging Report. It encompasses offsite transportation activities planned for the next ten years as a part of the EM mission. Data for transportation activities beyond the ten years was limited to reporting quantities only and was not analyzed.

The waste and material streams analyzed are: low-level radioactive waste (LLW), mixed low-level radioactive waste (MLLW), Transuranic waste (TRU), nuclear material (NM), high-level waste (HLW) and spent nuclear fuel (SNF). The analyses produced the following products:

1) Transportation Baseline – This is the baseline of the schedule and quantities of all planned shipments through 2010;
2) Type B and Type A-Fissile Packaging Baseline – This baseline consists of a certification schedule and identifies the packaging required to meet the transportation baseline through 2010;
3) Enhanced Data – This is an improvement to the transportation data from IPABS. The existing data was modified to reflect the site baseline shipping plans and missing data was provided to fill many of the gaps up through 2010; and
4) Barriers Analysis – This is the documentation of the barriers to execution of the transportation baseline.

During the data gathering process, it became apparent that comprehensive information does not reside with any single organization at the sites. In order to build an accurate and comprehensive data set, it is necessary to confer with personnel from various site organizations who both have access to, and a thorough knowledge of their specific data subsets. By working with the sites, significant data improvements can be made by updating existing data and filling in missing data.

The key aspect of the data analysis was carried out with the objective of determining if transportation activities can be executed as planned and the nature and magnitude of any barriers to planned execution. At this point of the analysis, it appears that planned transportation activities can be executed if funding and packagings are made available, and if the barriers identified are resolved as planned. However, it should be noted that although contact has been made with the major eleven sites to update transportation plans and data; the quality of data and understanding to perform the necessary analyses does not compare with conducting site visits.

Attachment 1

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE ENHANCED BASELINE

10 May 2002

Note: Data from the original IPABS database is printed in black, while additional and corrected data is printed in red.

Rocky Flats Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
LLW	3960	Sorted LLW to Offsite Repack	RFTS	COMM			100 %		M3						
Transportation Comments:		Waste will all be shipped offsite in DOT certified containers, RFETS does not know the number of packages, number of shipments, type, yet. Most likely the mode will be truck.													
Barrier Comments:		WORK SCOPE - it has not yet been decided whether repack will occur onsite or offsite. Competitive solicitation will be performed. INTERSITE DEPENDENCY - same as work scope													
NISS	31619	Packaged R09 to Disposal at US Ecology	RFTS	ECTN			100 %		M3						
Stream Comments:		Contains material from generation stream R09. Projected path is commercial disposal by U.S. Ecology..													
LLW	4013	Disposal Sort to Comm Disposal	RFTS	ENVR			100 %		M3						
Transportation Comments:		Will most likely use a variety of packagings to suit the waste type. Commercial disposal currently not planned for LLW, however, could become option if rail avialble													
LLW	3958	LLW to NTS	RFTS	NVTS	2001	13500	100 %	13500	M3	**202**	**202**				**Sealand - 8x8x20 (approx.)**
					2002	22500	100 %	22500	M3	**336**	**336**				**Sealand - 8x8x20 (approx.)**
					2003	42500	100 %	42500	M3	**635**	**635**				**Sealand - 8x8x20 (approx.)**
					2004	52465	100 %	52465	M3	**784**	**784**				**Sealand - 8x8x20 (approx.)**
					2005	70000	100 %	70000	M3	**1045**	**1045**				**Sealand - 8x8x20 (approx.)**
					2006	47963	100 %	47963	M3	**716**	**716**				**Sealand - 8x8x20 (approx.)**
					2007	11724	100 %	11724	M3	**175**	**175**				**Sealand - 8x8x20 (approx.)**
Transportation Comments:		could include SCO, LSA, Type A													
LLW	30115	GTCC LLW	RFTS	NVTS	2004	10	100 %	10	M3	2	~~48~~ **49**	Truck	TYP A Qty TBD		~~TBD (0.21 M3)~~ **Drum - 55 gal.**

Rocky Flats Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
Barrier Comments:		WORK SCOPE - Greater than Class C waste is currently acceptable for disposal at NTS on a case-by-case basis. RFETS waste is not yet approved for disposal because we have not yet generated a profile. INTERSITE DEPENDENCY - same as work scope													
LLW	30116	Classified LLW to NTS	RFTS	NVTS	2004	25	100 %	25	M3	4	~~119~~ **121**	Truck	TBD	TBD	~~TBD (0.21 M3)~~ **Drum - 55 gal.**
Th	30454	Thorium Samples to NTS for Disposal	RFTS	NVTS			100 %		M3						
Stream Comments:		Projected path is LLW disposal at NTS.													
LEU	30457	LUE to NTS	RFTS	NVTS			100 %		M3						
Stream Comments:		Projected path is LLW disposal at NTS.													
NISS	30542	Packaged NISS Orphans to NTS	RFTS	NVTS			100 %		M3						
Stream Comments:		Contains material from generation stream BG-6.													

Rocky Flats Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	30126	MLLW to ATG	RFTS	ATG1	2001	141	100 %	141	M3	~~2~~ **3**	~~2~~ **3**	Truck	LSA1	Bulk	~~Bulk (0 M3)~~ **Sealand - 8x8x20 (approx.)**
Stream Comments:		Planned for treatment at ATG in WA with subsequent disposal at Envirocare.													
MLLW	3975	MLLW to Commercial Treatment/Disposal	RFTS	COMM	2001	23.76	100 %	23.76	M3						
					2002	588.25	100 %	588.25	M3						
					2003	588.25	100 %	588.25	M3						
					2004	588.25	100 %	588.25	M3						
					2005	588.25	100 %	588.25	M3						
					2006	588.25	100 %	588.25	M3						
Barrier Comments:		TECHNOLOGY - A treatment option may not be available for all waste streams in this category. WORK SCOPE - Waste characterization is not complete yet for all waste streams in this category. INTERSITE DEPENDENCY - Treatment site waste acceptance criteria is not available.													
MLLW	3993	MLLW (>10 nCi/g) to Commercial Treatment/Disposal	RFTS	COMM	2003	142.25	100 %	142.25	M3			Truck	TBD	TBD	~~TBD (0 M3)~~ **TBD - requires comment**
					2004	142.25	100 %	142.25	M3						

Rocky Flats Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2005	142.25	100 %	142.25	M3						
					2006	142.25	100 %	142.25	M3						
Barrier Comments:		TECHNOLOGY - Treatment options may not be available for all waste streams in this category. WORK SCOPE - Waste characterization is not complete for all wastes in this category. Final disposal location for waste material has not been identified. INTERSITE DEPENDENCY - Treatment site WAC is not available. No concurrence has been reached among Sites for disposal.													
MLLW	4260	MLLW (ER, LDR Compliant) to DOE Disposal	RFTS	DOE	2002	2007.7	100 %	2007.7	M3			Truck	TBD	TBD	~~TBD (0 M3)~~
															TBD - requires comment
					2003	2869.6	100 %	2869.6	M3						
					2004	5598.2	100 %	5598.2	M3						
					2005	27551.	100 %	27551.	M3						
					2006	826.1	100 %	826.1	M3						
Barrier Comments:		WORK SCOPE - Waste characteization is not well known. No concurrence has been reached between sites for disposal INTERSITE DEPENDENCY - no DOE facility has RCRA disposal permit yet. Disposal facility WAC not yet available.													
MLLW	3976	MLLW to Envirocare	RFTS	ENVR	2001	407	100 %	407	M3						
										7	**7**				**Sealand - 8x8x20 (approx.)**
					2004	382.33	100 %	382.33	M3						
										6	**6**				**Sealand - 8x8x20 (approx.)**
					2005	382.33	100 %	382.33	M3						
										6	**6**				**Sealand - 8x8x20 (approx.)**
					2006	382.33	100 %	382.33	M3						
										6	**6**				**Sealand - 8x8x20 (approx.)**
MLLW	4057	GAC to Oak Ridge	RFTS	ORTN	2001	22.17	100 %	22.17	M3						
					2002	23.52	100 %	23.52	M3						
Transportation Comments:		XXX													
Stream Comments:		Performance Measure 9-30-01 will be missed. Sampling submitted to Oak Ridge for incineration. 8/21/01													
MLLW	4062	Disposal Sort to TSCA Incinerator	RFTS	ORTN			100 %		M3						
Stream Comments:		Superceded by MLLW Organic Liquids/Solids.													
MLLW	30125	MLLW Organic Liquids/Solids	RFTS	ORTN	2001	60	100 %	60	M3						
										7	**289**				**Drum - 55 gal.**
					2002	283.52	100 %	283.52	M3						
										32	**1364**				**Drum - 55 gal.**

Rocky Flats Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name

Barrier Comments: WORK SCOPE - this stream includes both liquids and solids. While liquids is well defined, solids is a new initiative. Characterization still required.
INTERSITE DEPENDENCY - very high risk. State of Tennessee has rejected latest version of burn plan for political reasons. Continued ability to ship liquids is in jeopardy. Ability to initiate shipment of solids is also in jeopardy.

Does not match current approved burn plan however, updates will be included when possible.

Rocky Flats Outgoing - Depleted Uranium (NM-DU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
DU	31610	DU to Offsite Location	RFTS	TBDO			100 %		G						
				LLMS	**TBD**					**1**	**3**				**IP**

Stream Comments: Contains material from generation streams R05.
Projected path is to ship to an unknown location for use.
Barrier Comments: Specific reciever site TBD. Both LANL and NTS under consideration. No signed Site agreement or contract to receive material.

Rocky Flats Outgoing - Nonactinide Isotopes and Sealed Sources (NM-NISS)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
NISS	30541	Beta Gamma Sources to Commercial Use	RFTS	COMM			100 %		NI						
					2006					**1**	**20**				**Self-contained**

Stream Comments: Contains material from generation streams BG-1, BG-2, and BG-3.
Barrier Comments: The exact nature of use in Commercial industry for this material has yet to be determined and finalized. Many potential uses have been identified, no specific agreements with Commercial agency has been made.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
NISS	30561	Packaged SS-6/7 to Envirocare for Commercial Disposal	RFTS	ENVR			100 %		NI						
					TBD										**TBD - requires comment**

Stream Comments: Contains material from generation stream SS-6 and SS-7.
Projected path is commercial disposal by Envirocare.
Barrier Comments: Intended Dispostion is Commercial Disposal through Environcare.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
NISS	31621	Packaged Specials to LLNL	RFTS	LLMS			100 %		NI						
					2002					**1**	**12**				**9975**

Stream Comments: Contains material from generation stream BG-X.

Rocky Flats Outgoing - Nonactinide Isotopes and Sealed Sources (NM-NISS)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
NISS	30549	NS-1/NS-2 to ORNL	RFTS	ORTN			100 %		NI						
					2002										**TBD - requires comment**
Stream Comments:		Contains material from generation stream NS-1 (Cf252) and NS-2 (Pu-239/Be).													
NISS	30550	Packaged NS-3 to ORNL Prog. Use	RFTS	ORTN			100 %		NI						
					TBD										**TBD - requires comment**
Stream Comments:		Contains material from generation stream NS-3.													
NISS	30560	Packaged SS-4 to ORNL	RFTS	ORTN			100 %		NI						
					TBD										**IP**
Stream Comments:		Contains material from generation stream SS-4.													

Rocky Flats Outgoing - Neptunium-237 (NM-Np-237)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
Np237	30563	Packaged Np237 to SRS	RFTS	SARS			100 %		G						
					TBD										**ES-2100**
Stream Comments:		Contains material from generation stream 10A.													

Rocky Flats Outgoing - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	4000	Sorted TRU to INEEL Treatment	RFTS	INEL	2004	78.33	100 %	78.33	M3	12	373	Truck	TYP B Qty	Type B	~~Drum 55 gal (0.208 M3)~~ **TRUPACT-II**
					2005	78.33	100 %	78.33	M3	12	373	Truck	TYP B Qty	Type B	~~Drum 55 gal (0.208 M3)~~ **TRUPACT-II**
					2006	78.33	100 %	78.33	M3	12	373	Truck	TYP B Qty	Type B	~~Drum 55 gal (0.208 M3)~~ **TRUPACT-II**
Barrier Comments:		TECHNOLOGY - thermal treatment may be required; thermal treatment may not be part of scope of AMWTP WORK SCOPE - planning to use the AMWTP, however do not know if it will be available inthe timeframe needed for closure, and unsure of tecnology efficacy. Transportation to INEEL undetermined. INTERSITE DEPENDENCY - no agreement with INEEL has been reached													

Rocky Flats Outgoing - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	1965	CH TRU from RFETS	RFTS	WIPP	2001	~~1158~~	100 %	~~1158~~	M3	~~271~~	~~813~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						1044.3		**1044.3**		**162**	**361**				**TRUPACT-II**
					2002	~~3249~~	100 %	~~3249~~	M3	~~397~~	~~1191~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						2462		**2462**		**408**	**849**				**TRUPACT-II**
					2003	~~3249~~	100 %	~~3249~~	M3	~~454~~	~~1362~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						3756		**3756**		**441**	**1296**				**TRUPACT-II**
					2004	~~3249~~	100 %	~~3249~~	M3	~~423~~	~~1269~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						3677		**3677**		**432**	**1268**				**TRUPACT-II**
					2005	~~3249~~	100 %	~~3249~~	M3	~~253~~	~~759~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						3678		**3678**		**432**	**1269**				**TRUPACT-II**
					2006	~~595~~	100 %	~~595~~	M3	~~498~~	~~147~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						465		**465**		**55**	**161**				**TRUPACT-II**

Stream Comments: Total volumes to be disposed at WIPP are consistent between shipping and receiving sites based on the 5/12/99 site call. Disposition schedule supports closure of RFETS in FY06

Attachment 2

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

TYPE B AND TYPE A-FISSILE PACKAGING BASELINE

10 May 2002

Rocky Flats

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
2002	Lawrence Livermore	NM-NISS	1	9975	Yes / Yes	
2002	Oak Ridge	NM-NISS		**TBD**	**-** / **-**	
2006	Commercial - TBD	NM-NISS	1	Self-contained	**No** / **No**	
TBD	Envirocare	NM-NISS		**TBD**	**-** / **-**	This is part of the LLW stream.
TBD	Oak Ridge	NM-NISS		**TBD**	**-** / **-**	
TBD	Oak Ridge	NM-NISS		IP	Yes / Yes	
TBD	Savannah	NM-Np-237		ES-2100	**No** / Yes	

From the Draft Issue Paper "Schedule Impacts of DT-22 Certification on Rocky Flats SNM Shipping":

- LLNL is currently close to MAR limits in the Superblock vaults. Therefore, before LLNL can receive RFETS SNM shipments, they must first transport SNM to SRS for storage. They may have been able to ship as early as January 02, however they are precluded from shipping until the South Carolina issue is resolved.

- KAMS requires modification before the facility can store the composite parts. Originally the modifications were scheduled to be completed by August 02. Subsequently, the contractor was incentivized to complete modifications by June 02. SRS is currently on schedule, however KAMS modifications are not critical path. If RFETS ships DT-22's before the KAMS modifications are complete, SRS can temporarily store the SNM in 235-F.

- There are 48 Pu composite parts and 77 Pu/EU composite parts that exceed 1,000 A2. These parts will be shipped under a one-time National Security Exemption (NSE) and not under a certificate in the DT-22. DOE-AL has indicated that the NSE, currently scheduled for May 02, may be candidate for acceleration.

- The 277 contaminated HEU parts will be shipped under the 20006 certificate while the 95007 certificate will cover the 21 Pu composite parts to LLNL and the 8 Pu/EU composite parts to SRS. NTP could not cross-reference the 277 containers of "Contaminated HEU" referenced in the above issue paper. The paper indicates the HEU will be shipped under certificate # 20006 of the DT-22 SARP. There are no HEU streams for Rocky Flats in IPABS.

- DT-22's will be acquired from Y-12 according to a pre-determined schedule. Y-12 currently has DT-22's available to support the 95007 certificate. However, before Y-12 can supply the DT-22's to support the 20006 certificate, the containers require additional maintenance. Y-12 has scheduled maintenance so that the 20006 certificate DT-22's will be available in March 02. To process the DT-22's prior to the scheduled time requires relegating high priority NNSA maintenance activities. The certificate should be available in December 2001.

- To date, the Plutonium Stabilization and Packaging System (PuSPS) throughput capacity may impact the Pu metals and Pu oxides shipping campaigns. PuSPS processing is required prior to packaging and transporting these materials in 9975 containers to SRS. It has not been able to sustain a throughput rate that would support one four-truck convoy per month. RFFO believes that the throughput capacity can be improved.

Conclusion:

- The DOE-AL DT-22 certifications are not critical path in the Rocky Flats SNM shipment schedule. Furthermore, EM-33 does not anticipate significant schedule slippage in the DOE-AL certifications.

- Areas that may potentially impact RFETS closure include SST availability and PuSPS throughput capacity. RFFO, in conjunction with EM-33, are closely monitoring these areas.

Per Gary R. Peterson, EM-33

Attachment 3

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE TRANSPORTATION BASELINE SUMMARY

10 May 2002

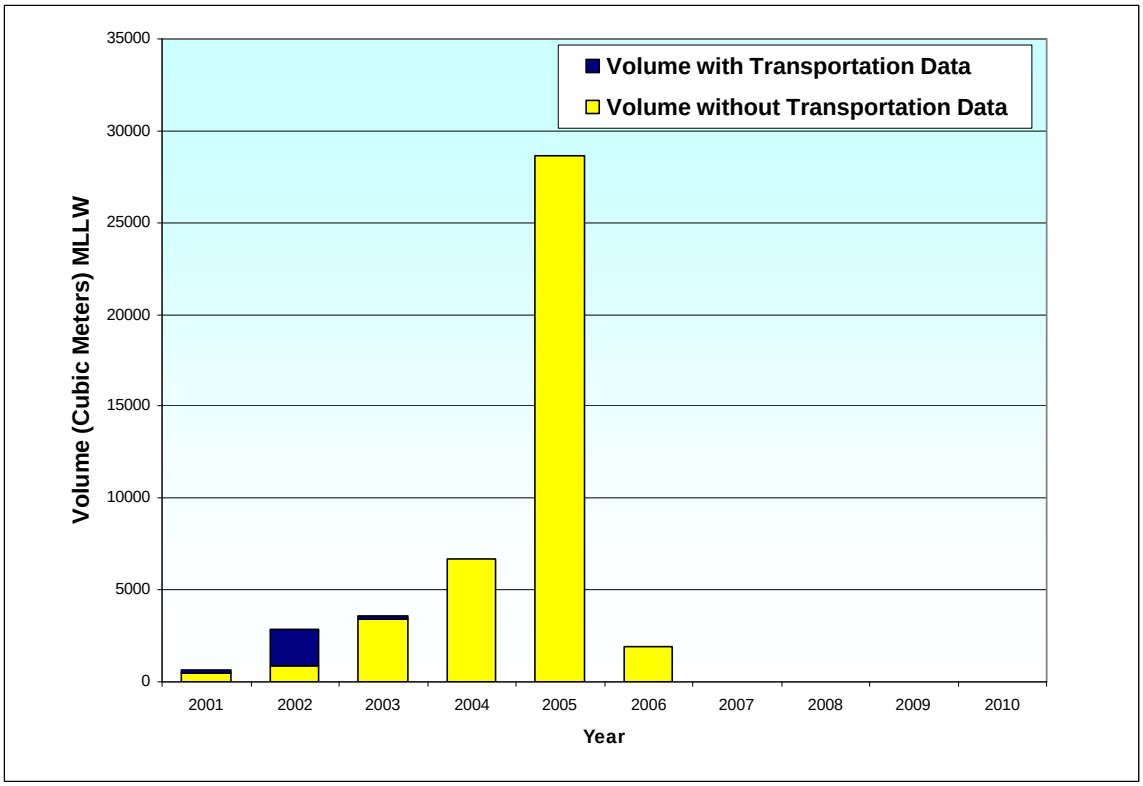


Figure 1. Quantity of MLLW to be shipped by year through 2010

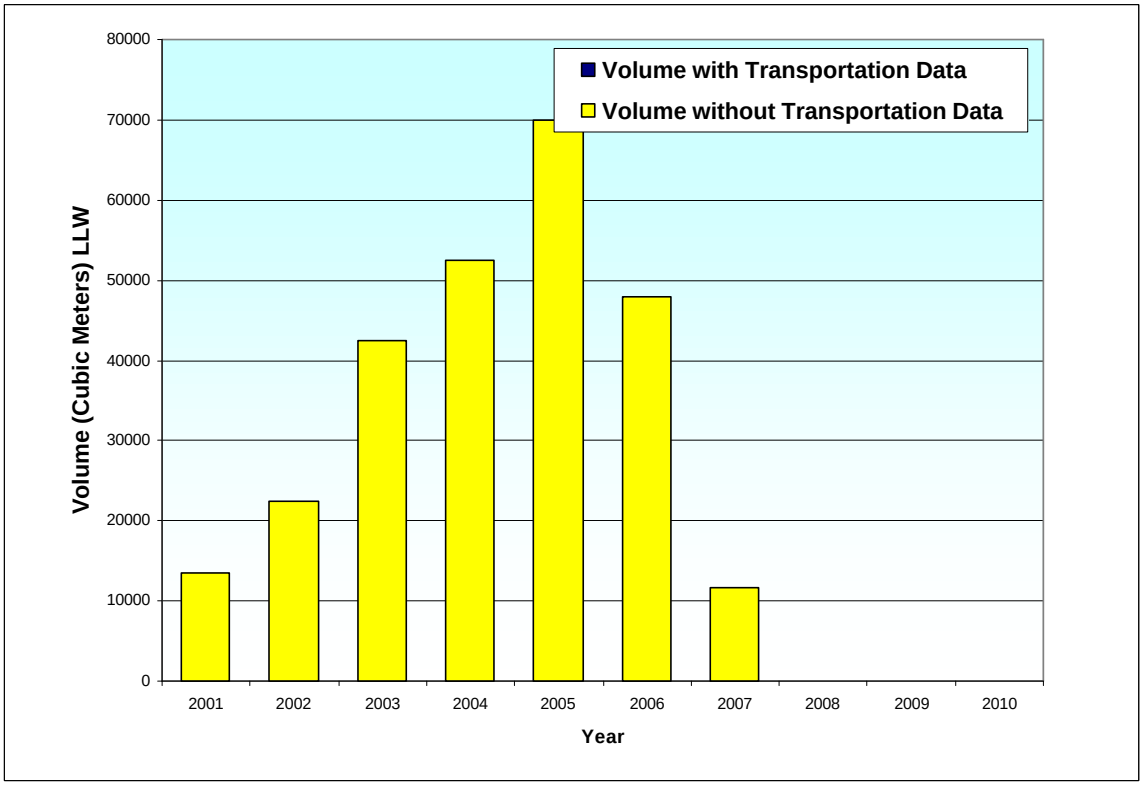


Figure 2. Quantity of LLW to be shipped by year through 2010

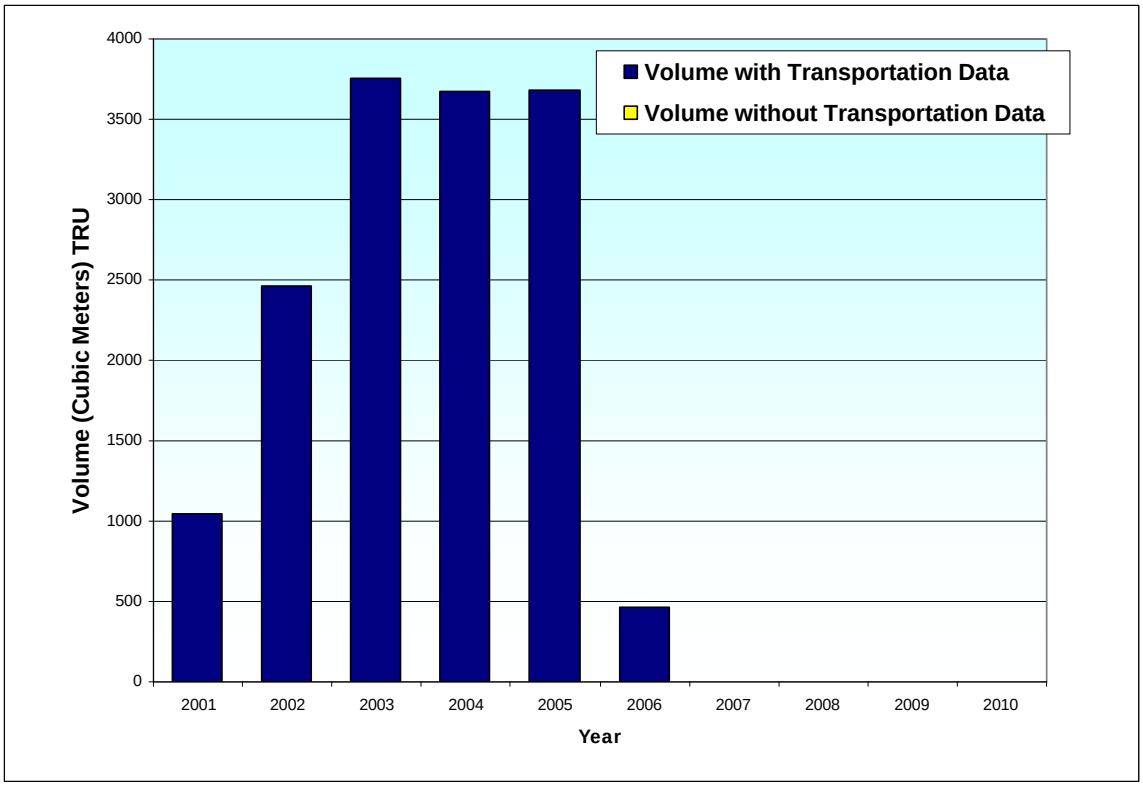
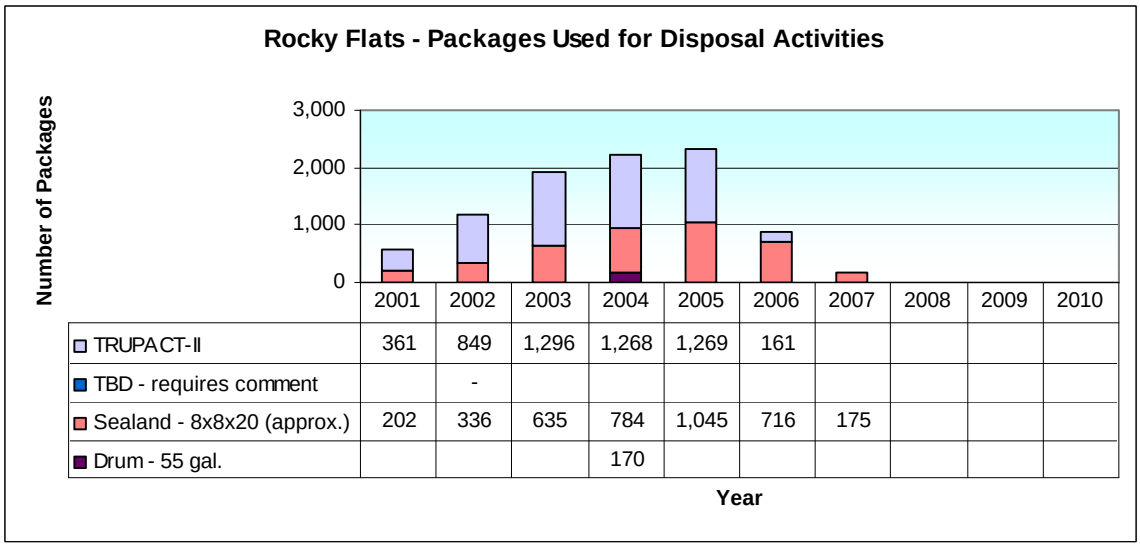
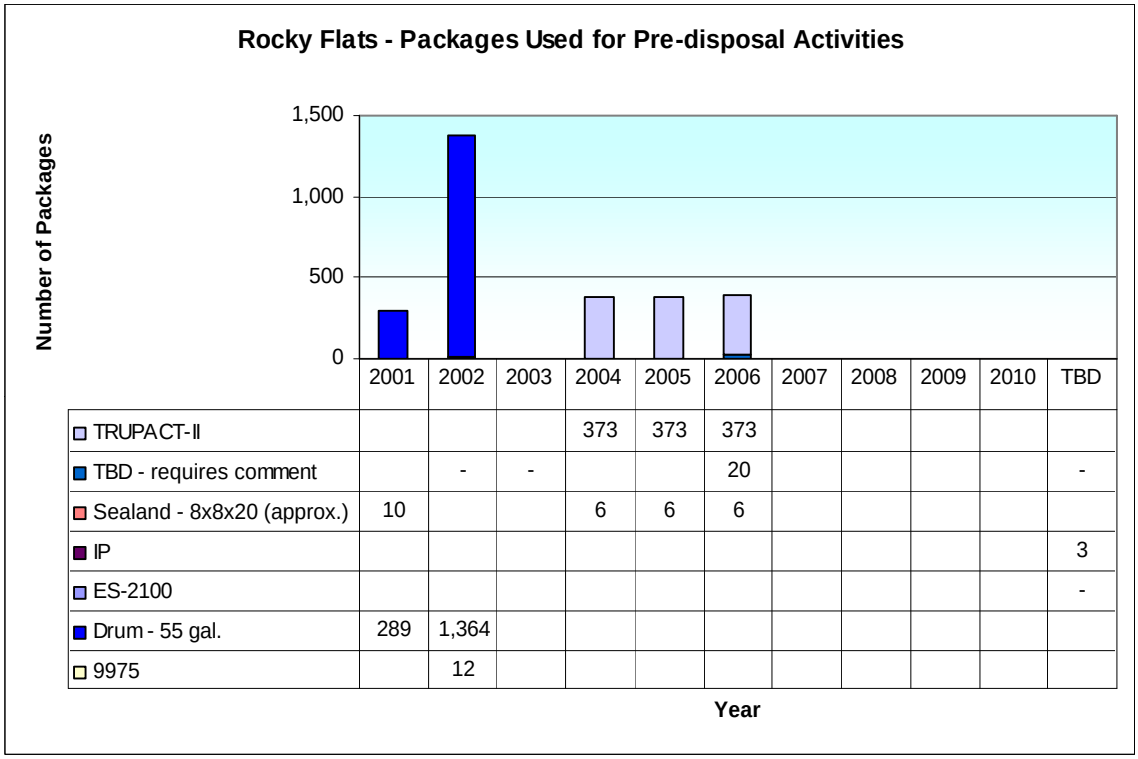


Figure 3. Quantity of TRU to be shipped by year through 2010



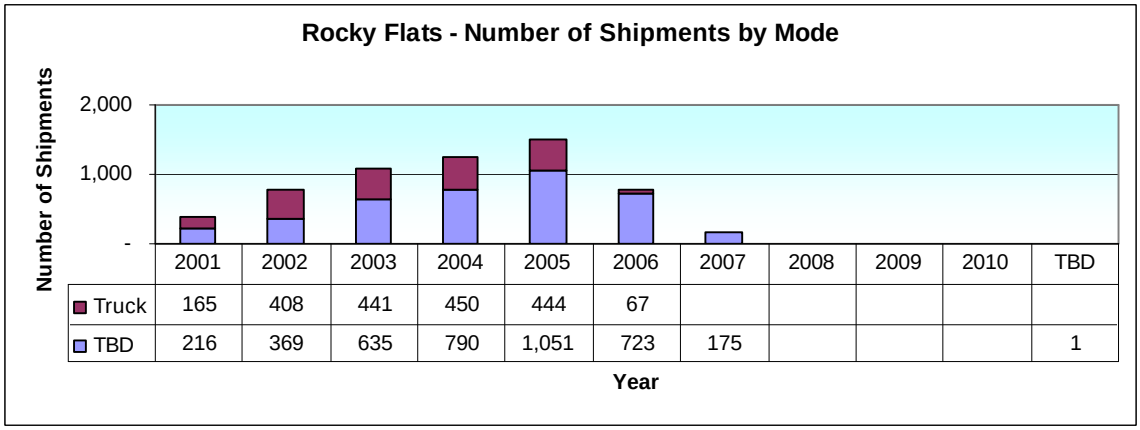
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TRUPACT-II	361	849	1,296	1,268	1,269	161				
TBD - requires comment		-								
Sealand - 8x8x20 (approx.)	202	336	635	784	1,045	716	175			
Drum - 55 gal.				170						

Figure 4. Number of packages to be shipped to disposal



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TBD
TRUPACT-II				373	373	373					
TBD - requires comment		-	-			20					-
Sealand - 8x8x20 (approx.)	10			6	6	6					
IP											3
ES-2100											-
Drum - 55 gal.	289	1,364									
9975		12									

Figure 5. Number of packages to be used for pre-disposal activities



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TBD
Truck	165	408	441	450	444	67					
TBD	216	369	635	790	1,051	723	175				1

Figure 6. Number of shipments by mode

Savannah River Site
ENHANCED BASELINE TRANSPORTATION DATA

This section presents and discusses the updated and enhanced basic data sets obtained through the data gathering activities.

Savannah River Site Enhanced Baseline

Savannah River Site Enhanced Baseline data is presented in **Attachment 1**. (Note that data from the original IPABS database is printed in black while additional and corrected data is printed in red.) This information was compiled based on the 2001 IPABS database and was updated and enhanced with data from the Type B and Type A-Fissile Packaging Report and limited input from the reporting site.

Comparison of the 2001 IPABS data with the Enhanced Baseline yields the following observations:

(1) IPABS data does not necessarily represent the site's baseline shipping plans, and
(2) Additional data calls were effective in collecting transportation data for empty data fields.

The discrepancies confirm the need for an improved methodology for collecting and reporting transportation data.

Savannah River Site Type B and Type A-Fissile Packaging Baseline

The Savannah River Site Type B and Type A-Fissile Packaging Baseline (**Attachment 2**) updates and fills gaps in the Savannah River Site data from the October 9, 2001 "NTP Type B and Type A Fissile Packaging Report". Discussion and comments follow the table in Attachment 2.

Planned vs. Actual FY 2001 Shipments

Actual volumes and numbers of containers shipped, and numbers of shipments were not available at the time this Forecast was prepared.

ENHANCED BASELINE ANALYSIS

The data products presented above have been processed and analyzed in ways intended to facilitate long-range planning and evaluate the feasibility of planned shipping activities. Analysis is based on assessment of the validity of appropriate Transportation Baseline Attributes. These attributes are listed at the beginning of this EM Transportation Forecast. The following sections present the results of the data analyses.

Transportation Baseline Summary

The Savannah River Site Transportation Baseline Summary (**Attachment 3**) depicts MLLW, LLW, TRU, and SNF volumes involved in transportation events. The data is displayed by waste type. **Figures 1-4 (Attachment 3)** depict, for each waste or material stream, a summary of the annual volume of all Savannah River Site incoming and outgoing shipments. In these figures, the quantity of waste that does not have completed transportation data is shown in yellow. This is waste that has a reported volume but has no associated package type, number of shipments, transportation mode, etc.

Figures 5 and 6, show packagings required for treatment and for disposal activities, illustrating the dual role transportation may play in the disposition of waste and material. Some waste/material streams must be transported to an off-site facility for treatment, returned to the site for packaging, and finally shipped to a permanent disposal facility. **Figure 7** provides an annual depiction of shipments to be made by rail, truck, or intermodaly.

Figures 1 and 2, below, summarize outgoing and incoming waste and material shipments planned for Savannah River Site over the next 10 years as reported in the enhanced data set. The map depicts the destination of a set of shipments and indicates the number of shipments expected to be completed. It should be noted that in the absence of complete transportation activity profiles the number of shipments have been estimated.

Savannah River Site
Stream Disposition
2001 - 2010 Outgoing Enhanced Shipments

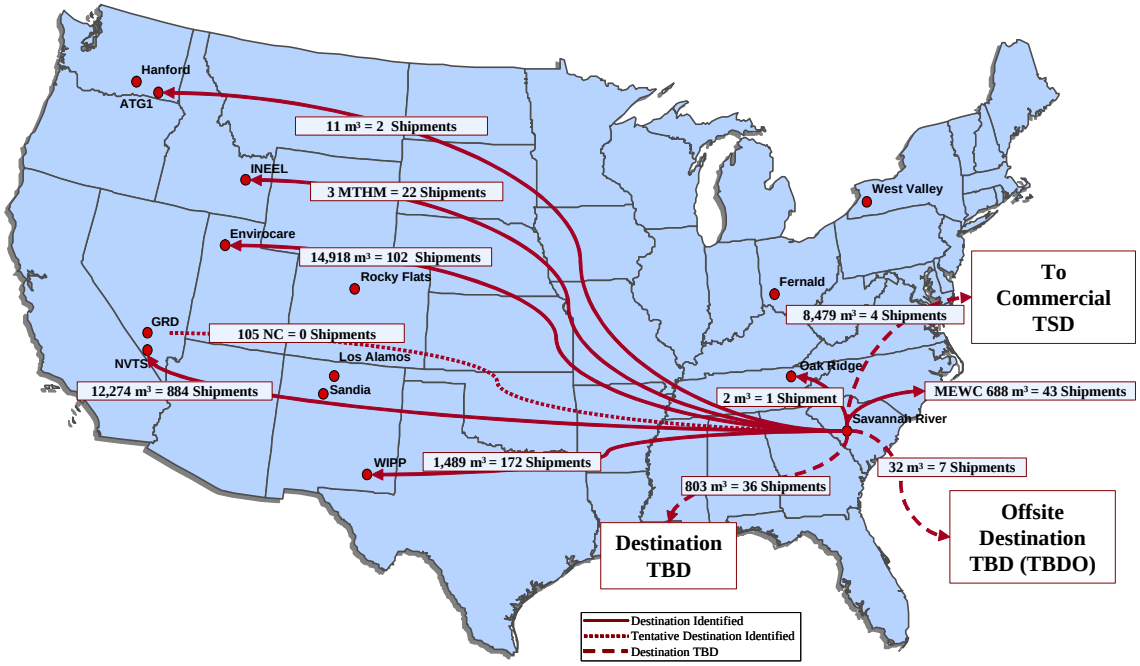


Figure 1. **Savannah River Site Outgoing Shipments**

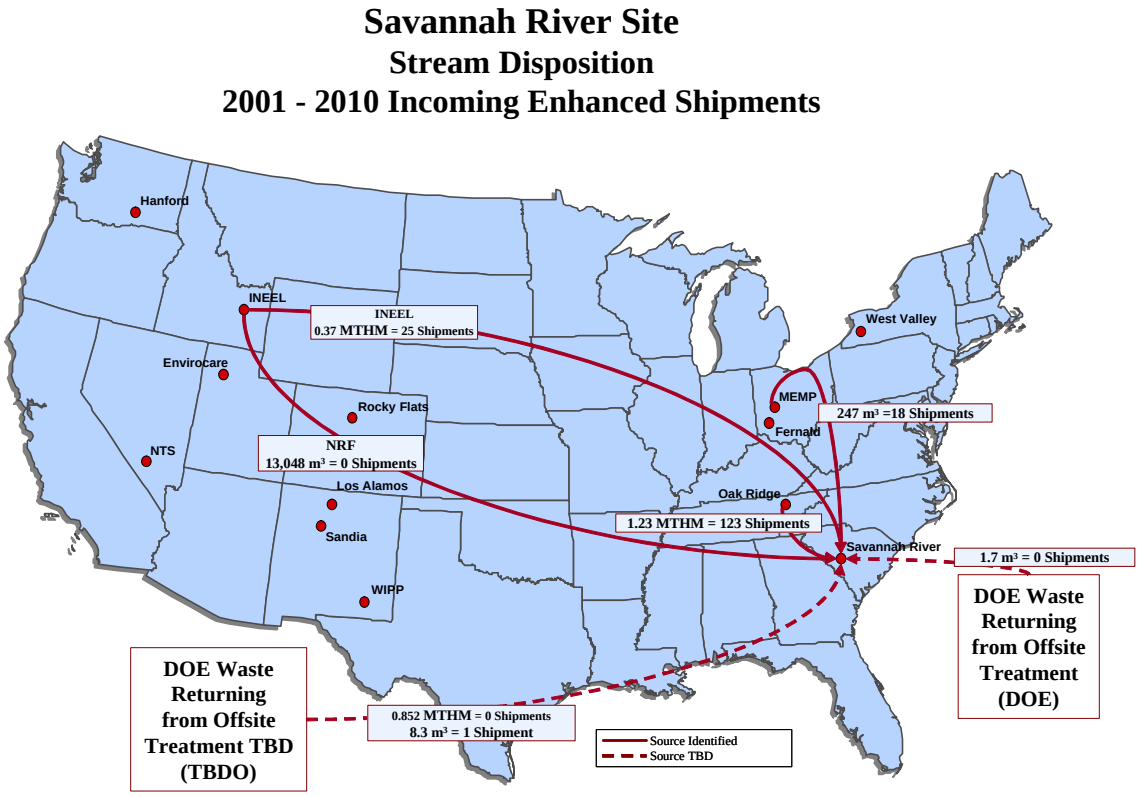


Figure 2. Savannah River Site Incoming Shipments

Savannah River Site Baseline Transportation Barriers

In addition to the summary barriers reported at the beginning of this EM Transportation Forecast, barriers, as found in IPABS or the Type B and Type A-Fissile Packaging Report, are found listed below in **Table 1**. **The barriers listed have not been assigned a priority order.**

Origin Site	Barrier(s) Impacting this Site *(see attached table)*	Number of Waste Streams Reporting Barrier	Number of Shipments Potentially Affected by Barrier *(NR=not reported or estimated)*
SARS	**6** - DOE is unable to appropriately budget for the cost of packaging and transportation	1	122
	14 - There is a lack of rail access to the proposed Monitored Geologic Repository (MGR) at Yucca Mountain for SNF and HLW	1	NR
	15 - Packaging for unique waste and material types does not exist	1	26
	16 - Does not meet disposal facility Waste Acceptance Criteria	1	122
	17 - Waste not characterized	9	551 +
	20 - Treatment option not available	7	112 +
	22 - Disposition site TBD	8	40 +
	23 - Stakeholder buy-in not achieved	2	1 +
	24 - ROD/EIS not issued	5	109 +
	25 - No agreements with receiving, shipping, treatment facility	4	6 +
	27 - Regulatory change concerns	12	192 +
	TOTAL Waste Streams (with one or more barriers) = 23	**TOTAL Shipments (w/one or more barriers) = 820 +**	

Table 1. Barriers from IPABS and Type B and Type A-Fissile Packaging Report

Transportation Activity Maps

Transportation Activity Maps were developed for **Savannah River Site**, but are not included due to the large volume of data. For the inquisitive reader, Transportation Activity Maps are included for the Hanford Site.

Type B and Type A-Fissile Packaging Needs Assessment

Analysis of the Transportation Activity Maps in comparison with the Packaging Baseline produced this summary which details the identity and numbers of Type B and Type A-Fissile packagings that will be required to carry out planned shipping activities. **Table 2** provides a list, by year, of the Type B packages needed by **Savannah River Site** to execute the EM Transportation Baseline along with a short description of the current status of the package. Additional identification and discussion of the packaging issues is presented following the table. Further analysis of packaging status is included in the Transportation Baseline Barriers Analysis section as appropriate.

Table 2. Savannah River Site Type B Packaging Needs

Year	Package	Need	Available	Status
TBD	6M	?	?	Certified / Available
TBD	ES-2100	?	?	Availability TBD
2002	TRUPACT-II	204*	70	Certified / Availability TBD
2003	TRUPACT-II	37*	70	Certified / Availability TBD
2004	TRUPACT-II	37*	70	Certified / Availability TBD

Year	Package	Need	Available	Status
2005	TRUPACT-II	37*	70	Certified / Availability TBD
2006	TRUPACT-II	37*	70	Certified / Availability TBD
2007	TRUPACT-II	37*	70	Certified / Availability TBD
2008	TRUPACT-II	37*	70	Certified / Availability TBD
2009	TRUPACT-II	37*	70	Certified / Availability TBD
2010	TRUPACT-II	37*	70	Certified / Availability TBD
TBD	Type 7A	?	?	Certified / Availability

* The number of TRUCPACT-IIs reported in the table is the number of package trips. The actual number needed to make the number of trips must be calculated based on the number of drums carried in each TRUPACT-II and the turn-around time for the package to be available again for loading.

The following packaging issues are associated with these needs:

- At the time of this report, the packaging has been identified. However, for some of the nuclear material, the data did not specify when they were needed or how many would be required.

Type B Package Certification Schedule

The Type B Package Certification Schedule (**Table 3**) was developed to assist in the coordination of packages being certified. By being cognizant of what revisions are needed, EM can better work with the certifying agencies' schedules and coordinate the submittals to allow time for the reviews and certification to be obtained to meet key clean-up and closure milestones.

The table below was developed from transportation information extracted from THE ENHANCED BASELINE DATA SET and the Type B and Type A-Fissile Packaging Report. From this information, an early and late need date was extrapolated for meeting the Enhanced Baseline.

Table 3. Type B Package Certification Schedule

Package Name	Certification Status	Early – Late Need Dates	Certification Expiration	Comments
6M	DOT certification is current.	2003 - 2007	No Oxides after 2003 No Metals after 2005	DOT Specification 6M Type B fissile packagings are to be phased out within the next couple of years. Possibly could be shipped in ES-2100s that are currently being developed.
ES-2100	Not yet developed.	2003 - 2007	N/A	Not yet developed.

Package Name	Certification Status	Early – Late Need Dates	Certification Expiration	Comments
TRUPACT II	NRC certification is current.	2002 – 2010	06/30/2004	N/A

SUMMARY AND CONCLUSIONS

The data set presented and analyzed in this Forecast is a compilation of the data from the following sources: 1) The 2001 Integrated Planning, Accountability, and Budgeting System (IPBAS) database, 2) The National TRU Program databases, and 3) The Type B and Type A-Fissile Packaging Report. It encompasses offsite transportation activities planned for the next ten years as a part of the EM mission. Data for transportation activities beyond the ten years was limited to reporting quantities only and was not analyzed.

The waste and material streams analyzed are: low-level radioactive waste (LLW), mixed low-level radioactive waste (MLLW), Transuranic waste (TRU), nuclear material (NM), high-level waste (HLW) and spent nuclear fuel (SNF). The analyses produced the following products:

1) Transportation Baseline – This is the baseline of the schedule and quantities of all planned shipments through 2010;
2) Type B and Type A-Fissile Packaging Baseline – This baseline consists of a certification schedule and identifies the packaging required to meet the transportation baseline through 2010;
3) Enhanced Data – This is an improvement to the transportation data from IPABS. The existing data was modified to reflect the site baseline shipping plans and missing data was provided to fill many of the gaps up through 2010; and
4) Barriers Analysis – This is the documentation of the barriers to execution of the transportation baseline.

During the data gathering process, it became apparent that comprehensive information does not reside with any single organization at the sites. In order to build an accurate and comprehensive data set, it is necessary to confer with personnel from various site organizations who both have access to, and a thorough knowledge of their specific data subsets. By working with the sites, significant data improvements can be made by updating existing data and filling in missing data.

The key aspect of the data analysis was carried out with the objective of determining if transportation activities can be executed as planned and the nature and magnitude of any barriers to planned execution. At this point of the analysis, it appears that planned transportation activities can be executed if funding and packagings are made available, and if the barriers identified are resolved as planned. However, it should be noted that although contact has been made with the major eleven sites to update transportation plans and data; the quality of data and understanding to perform the necessary analyses does not compare with conducting site visits.

Attachment 1

SAVANNAH RIVER SITE ENHANCED BASELINE

10 May 2002

Note: Data from the original IPABS database is printed in black, while additional and corrected data is printed in red.

Savannah Outgoing - High Level Waste (HLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
HLW	3554	Canisters to Federal Repository	SARS	GRD	2010	105	100 %	105	NC						

Transportation Comments: Method of transportation to the Federal Repository is yet to be determined. Expected to be by rail.
Barrier Comments: The mode/method of shipment and the design of the shipping facility are currently undefined. Also, stakeholder buy-in has not been achieved.

Savannah Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
LLW	537	Size Red CLE to Offsite Disposal	SARS	COMM	2010	45.36	100 %	45.36	M3	3	~~3~~	Truck/Rail	LSA1	Bulk	~~Bulk (15.3 M3)~~
											4				**Bulk (dump truck, railcar, etc) - requires comment**

Stream Comments: Includes size reduced contaminated large equipment or components. Requires release criteria. Non-RAD shipments do not require DOT transport.
Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: Requires release criteria for off-site (sanitary) disposal. No site decontamination capability for large equipment. This is an operating facility that routinely accepts material for disposal. No problems are foreseen. The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc.). Waste can be characterized using existing capabilities. Waste/material does meet the subsequent treatment/disposal facility waste acceptance criteria (WAC). Waste can be disposed as LLW at SRS E-Area Vaults or NTS (offsite), as required, provided it can be properly size reduced, segregated, and repa

ER	2213	LLW Soils/Coal	SARS	COMM	2001	12.8	100 %	12.8	M3						
					2005	0	100 %	0	M3	~~653~~	~~653~~	Truck	Non-DOT Rad/Non-HAZ	Bulk	~~Bulk (15.3 M3)~~
										0	**0**				**Bulk (dump truck, railcar, etc) - requires comment**
					2006	0	100 %	0	M3	~~653~~	~~653~~	Truck	Non-DOT Rad/Non-HAZ	Bulk	~~Bulk (15.3 M3)~~
										0	**0**				**Bulk (dump truck, railcar, etc) - requires comment**
					2007	8420	100 %	8420	M3						

Savannah Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
Barrier Comments:		INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: INTERSITE DEPENDENCY - INTERSITE AGREEMENT CONFLICTS: WORK SCOPE DEFINITION - CERCLA OR NEPA ROD NOT ISSUED:													
ER	3521	LLW Soil, Rubble, Debris (Off-site)	SARS	ENVR	2005	14242	100 %	14242	M3						
ER	2202	LLW Sludge (2nd waste from AI)	SARS	NVTS	2001	356.8	100 %	356.8	M3						
										40	**1716**				**Drum - 55 gal.**
					2002	356.8	100 %	356.8	M3						
										40	**1716**				**Drum - 55 gal.**
					2003	356.8	100 %	356.8	M3						
										40	**1716**				**Drum - 55 gal.**
					2004	356.8	100 %	356.8	M3						
										40	**1716**				**Drum - 55 gal.**
					2005	356.8	100 %	356.8	M3						
										40	**1716**				**Drum - 55 gal.**
					2006	356.8	100 %	356.8	M3						
										40	**1716**				**Drum - 55 gal.**
					2007	356.8	100 %	356.8	M3						
										40	**1716**				**Drum - 55 gal.**
					2008	356.8	100 %	356.8	M3						
										40	**1716**				**Drum - 55 gal.**
					2009	356.8	100 %	356.8	M3						
										40	**1716**				**Drum - 55 gal.**
					2010	356.8	100 %	356.8	M3						
										40	**1716**				**Drum - 55 gal.**
DU	31720	DUO3 to NTS	SARS	NVTS			100 %		M3						
DU	31721	Inactive Tech Mat to NTS	SARS	NVTS			100 %		M3						
LLW	31782	LLW for Offsite Disposal	SARS	NVTS	2001	1437	100 %	1437	M3	~~7~~	~~13~~	Truck	LSA2	TBD	~~TBD (0 M3)~~
										91	**904**				**Box - smaller than 2x4x6**
					2002	1073	80 %	858.4	M3	~~25~~	~~675~~	Truck	LSA2	STC/IP-1	~~Box - Other (1.27 M3)~~
										54					**Box - 2x4x7 (approx.)**
					2002	1073	20 %	214.6	M3	4	~~8~~	Truck	LSA2	TBD	~~TBD (0 M3)~~
										14	**135**				**Box - smaller than 2x4x6**
					2003	859	100 %	859	M3	~~25~~	675	Truck	LSA2	STC/IP-1	~~Box - Other (1.27 M3)~~
										55					**Box - 2x4x7 (approx.)**

Savannah Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2004	859	100 %	859	M3	~~25~~ 55	675	Truck	LSA2	STC/IP-1	~~Box - Other (1.27 M3)~~ **Box - 2x4x7 (approx.)**
					2005	859	100 %	859	M3	~~25~~ 55	675	Truck	LSA2	STC/IP-1	~~Box - Other (1.27 M3)~~ **Box - 2x4x7 (approx.)**
					2006	859	100 %	859	M3	~~25~~ 55	675	Truck	LSA2	STC/IP-1	~~Box - Other (1.27 M3)~~ **Box - 2x4x7 (approx.)**
					2007	864.1	100 %	864.1	M3	~~30~~ 55	680	Truck	LSA2	STC/IP-1	~~Box - Other (1.27 M3)~~ **Box - 2x4x7 (approx.)**
					2008	613.1	100 %	613.1	M3	~~20~~ 39	482	Truck	LSA2	STC/IP-1	~~Box - Other (1.27 M3)~~ **Box - 2x4x7 (approx.)**
					2009	81	100 %	81	M3	~~3~~ 6	64	Truck	LSA2	STC/IP-1	~~Box - Other (1.27 M3)~~ **Box - 2x4x7 (approx.)**
					2010	40.5	100 %	40.5	M3	~~2~~ 3	32	Truck	LSA2	STC/IP-1	~~Box - Other (1.27 M3)~~ **Box - 2x4x7 (approx.)**

Transportation Comments: Profile 1 covers sealand containers that are 36 m3 in volume and are classified as strongtignt.

Barrier Comments: SRS is an approved generator to the NTS. Some waste may need to be packaged to address high moisture content and will be addressed during the preparation of the waste profile. The transportation EA and ROD has been approved.

MLLW	1907	Non-incinerable rad PCBs	SARS	TBDO	2005	8.29	100 %	8.29	M3	~~2~~	~~42~~	Truck	LSA1	STC/IP-1	~~Drum - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2010	0	100 %	0	M3	~~1~~ 0	~~4~~ 0	Truck	LSA1	STC/IP-1	~~Drum - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**

Barrier Comments: INTERSITE DEPENDENCY ISSUES: An extraction method is currently being developed by one of the Broad Spectrum contractors. Several technologies are being pursued with one being chosen within the next yr. A contractural agreement would have to be made between SRS and this contractor but it is expected to be acceptable. Approval needed on the NEPA.

WORK SCOPE DEFINITION/TECHNOLOGY ISSUES: An extraction method is currently being developed by one of the Broad Spectrum contractors. Several technologies are being pursured with one being chosen within the next yr. A contractural agreement would have to be made between SRS and this contractor but it is expected to be acceptable.

Savannah Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
LLW	538	All Naval Waste	NRF	SARS	2001	1228	100 %	1228	M3						
					2002	1156	100 %	1156	M3						
					2003	1800	100 %	1800	M3						
					2004	847	100 %	847	M3						
					2005	3154.4	100 %	3154.4	M3						
					2006	1926	100 %	1926	M3						
					2007	857	100 %	857	M3						
					2008	814.1	100 %	814.1	M3						

Savannah Incoming - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2009	631.9	100 %	631.9	M3						
					2010	633.9	100 %	633.9	M3						

Stream Comments: Naval Reactor (NR) components consist of a variety of solid-activated metal reactor components. These components are contained in heavily shielded shipping/disposal casks (i.e., related program, NR).

Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: Shipping systems, including packaging (containers, canisters, TRUPACTs and casks as required) are available to transport the waste/material to the next facility. Waste can be packaged and shipped using existing capabilities.

MLLW	1919	Treated Non-Incinerable Rad PCBs	TBDO	SARS	2005	8.29	100 %	8.29	M3						
										1	**40**				**Drum - 55 gal.**

Barrier Comments: INTERSITE DEPENDENCY ISSUES: If the residuals can not be returned to SRS for disposal under the MEGA Rule, commercial disposal location will be used with approval expected. Approval for NEPA needed.

WORK SCOPE DEFINITION ISSUES: If the waste can not be returned to SRS for disposal, then an exemption to DOE Order is needed.

Savannah Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	3919	Incinerable rad PCBs	SARS	ATG1	2004	0	100 %	0	M3	1	~~54~~	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										0	**0**				**Drum - 55 gal.**
					2007	11.25	100 %	11.25	M3	2	~~54~~	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
											55				**Drum - 55 gal.**

Stream Comments: Residuals will not be returned to SRS.

Barrier Comments: TECHNOLOGY/WORK SCOPE DEFINITION/INTERSITE DEPENDENCY ISSUES: ATG is best candidate to treat PCB contaminated waste under the Broad Spectrum contract. No agreement/tie in to the contract has been made but approval is expected. Approval of NEPA/ROD is pending.

MLLW	31673	Radioactive Batteries	SARS	COMM	2003	0	100 %	0	M3	~~1~~	~~1~~	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
										0	**0**				**Drum - 55 gal.**
					2006	0.4	100 %	0.4	M3	1	2	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
															Drum - 55 gal.

Stream Comments: 1 55 gallon drum containing nickel-cadmiun batteries and 1 55 gallon drum containing lead acid batteries. Waiting for Complex-wide treatability variance to use ARROWPAK macroencapsulation method for treatment.

Barrier Comments: Applies to all risk categories: Batteries normally recycled for reuse but these are radioactively contaminated. Treatment pending Complex-wide equivalency to allow this waste to be macroencapsulated.

MLLW	1913	CIF Stabilized Ash/Blowdown with Listed Constituents	SARS	ENVR	2001	360	100 %	360	M3	~~20~~	~~770~~	Truck	TYP A Qty	Type A/IP-3	~~Drum - Other (0.26 M3)~~
										38	**1119**				**Drum - 85 gal.**
					2002	0	100 %	0	M3	~~15~~	~~454~~	Truck	TYP A Qty	Type A/IP-3	~~Drum - Other (0.26 M3)~~
										0	**0**				**Drum - 55 gal.**

Savannah Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2004	8	100 %	8	M3	2	40	Truck	TYP A Qty	Type A/IP-3	~~Drum - Other (0.26 M3)~~ **Drum - 85 gal.**
					2006	0	100 %	0	M3	~~20~~ **0**	~~770~~ **0**	Truck	TYP A Qty	Type A/IP-3	~~Drum - Other (0.26 M3)~~ **Drum - 55 gal.**
					2007	0	100 %	0	M3	~~15~~ **0**	~~410~~ **0**	Truck	TYP A Qty	Type A/IP-3	~~Drum - Other (0.26 M3)~~ **Drum - 55 gal.**
					2008	200	100 %	200	M3	40	1000	Truck	TYP A Qty	Type A/IP-3	~~Drum - Other (0.26 M3)~~ **Drum - 85 gal.**
					2009	107.95	100 %	107.95	M3	22	540	Truck	TYP A Qty	Type A/IP-3	~~Drum - Other (0.26 M3)~~ **Drum - 85 gal.**

Stream Comments: End of FY98 inventory corrected to 295.85 m3. CIF operations was suspended. Planned restart date is FY07.

Barrier Comments: WORK SCOPE DEFINITION/TECHNOLOGY/INTERSITE DEPENDANCY: CIF needs salt stabilization technology that can process multiple contaminants to provide cost effective waste loading/throughput. Stabilization technologies being developed by MWFA, but integration of components and implementation into the CIF system will require additional development, testing efforts, and budget. Modifications cannot be planned until performance data is available. CIF needs modular evaporator system to provide effective offgas system that can manage the salt concentration of the offgas such that salt buildup in the offgas components is eliminated and reduce the amount of blowdown. Approval of NEPA/ROD is pending but expected. DOE Order exemption to allow disposal in a commercial facility is needed.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	1900	Listed inorganic debris	SARS	MEWC	2004	70.31	100 %	70.31	M3	~~1~~ **4**	28	Truck	LSA1	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2005	0	100 %	0	M3	~~1~~ **0**	~~2~~ **0**	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2006	2.2	0 %	0	M3			Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2006	2.2	100 %	2.2	M3	1	2	Truck	LSA1	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2007	40.3	0 %	0	M3			Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2007	40.3	100 %	40.3	M3	~~1~~ **2**	16	Truck	LSA1	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2008	40.2	0 %	0	M3			Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2008	40.2	100 %	40.2	M3	~~1~~ **2**	16	Truck	LSA1	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2009	40.2	0 %	0	M3			Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2009	40.2	100 %	40.2	M3	~~1~~ **2**	~~16~~	Truck	LSA1	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2010	40.2	0 %	0	M3			Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2010	40.2	100 %	40.2	M3	~~1~~ **2**	~~16~~	Truck	LSA1	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**

Savannah Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
Barrier Comments:		INTERSITE DEPENDENCY ISSUES: It is expected that this waste will be treated through the Broad Spectrum contract. Contract tie in with M&EC has been completed in 2-2001. Approval need for NEPA. DOE Order exemption needed for offsite disposal at a commercial facility. WORK SCOPE DEFINITION: Additional characterization is required to meet the DOT and treatment WAC. Existing facilities must be upgraded to provide improved confinement for processing waste for characterzation and segregation. The waste is expected to be treated by a commercial vendor so existing capabilities (i.e. Broad Spectrum Contract) are expected to be adequate. Contract tie in with M&EC has been completed in 2-2001.													
MLLW	1901	Characteristic inorganic debris	SARS	MEWC	2002	100	50 %	50	M3	~~1~~ **3**	20	Truck	LSA1	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2002	100	50 %	50	M3	~~1~~ **3**	20	Truck	LTD Qty	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2003	0	50 %	0	M3	~~1~~ **0**	~~20~~ **0**	Truck	LTD Qty	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2003	0	50 %	0	M3	~~1~~ **0**	~~20~~ **0**	Truck	LSA1	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2004	50.82	50 %	25.41	M3	~~1~~ **2**	10	Truck	LTD Qty	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2004	50.82	50 %	25.41	M3	~~1~~ **2**	10	Truck	LSA1	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2005	71.05	50 %	35.525	M3	~~1~~ **2**	14	Truck	LTD Qty	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2005	71.05	50 %	35.525	M3	~~1~~ **2**	14	Truck	LSA1	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2006	138.37	100 %	138.37	M3	~~2~~ **7**	~~42~~ **51**	Truck	LSA1	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2007	1.95	100 %	1.95	M3	1	1	Truck	LSA1	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2007	1.95	0 %	0	M3			Truck	LTD Qty	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2008	2.55	0 %	0	M3			Truck	LTD Qty	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2008	2.55	100 %	2.55	M3	1	1	Truck	LSA1	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2009	38.85	50 %	19.425	M3	1	8	Truck	LTD Qty	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2009	38.85	50 %	19.425	M3	1	8	Truck	LSA1	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2010	2.55	100 %	2.55	M3	1	1	Truck	LSA1	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**

Savannah Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
Transportation Comments:		Package to qualify for macroencapsulation will be special design, yet TBD.													
Barrier Comments:		INTERSITE DEPENDENCY ISSUES: Waste will be treated through the Broad Spectrum contract. Contract tie in with M&EC was completed in 2-2001. Approval need for NEPA. DOE Order exemption needed for offsite disposal at a commercial facility. WORK SCOPE DEFINITION: Additional characterization is required to meet DOT and treatment WAC. Existing facilities must be upgraded to provide improved confinement for processing waste for characterzation and segregation. Contract tie in with M&EC has been completed in 2-2001. Macroencapsulation of the lead using the ARROWPAC method is pending approval of a Complex-wide equivalency.													
MLLW	1906	Listed/characteristic soils/sludges	SARS	MEWC	2005	0.4	100 %	0.4	M3	1	2	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2005	0.4	0 %	0	M3			Truck	LSA1	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2007	6.25	100 %	6.25	M3	1	3	Truck	LSA1	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2010	41.61	100 %	41.61	M3	2	17	Truck	LSA1	STC/IP-1	~~Box - Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
Barrier Comments:		INTERSITE DEPENDENCY/TECHNOLOGY/WORK SCOPE ISSUES: Characterization is unknown - shown as forecasted only. Since characterization is not known, method to treat and location for treatment cannot be identified fully although this type of waste is typically treated though stabilization. It is expected that this waste will be treated through the Broad Spectrum contract since stabilization is available. Contract tie in with M&EC has been completed in 2-2001. Approval needed on NEPA. DOE Order exemption needed for disposal offsite at a commercial facility.													
MLLW	1908	Meets treatment standard	SARS	NVTS	2008	44.27	50 %	22.135	M3	1	18	Truck	TYP B Qty Type B		~~Cask (2.55 M3)~~ **Box - 4x4x7 (approx.)**
					2008	44.27	50 %	22.135	M3	1	18	Truck	TYP A Qty Type A/IP-3		~~Other (2.55 M3)~~ **Box - 4x4x7 (approx.)**
Barrier Comments:		INTERSITE DEPENDENCY ISSUES: Location not agreed upon but approval expected. Completion of Part B permit revision needed for disposal at NTS. NEPA/ROD approval pending but is expected. WORK SCOPE DEFINITION/TECHNOLOGY ISSUES: Characterization may not be sufficient on some of the old containers of all ready treated waste. Activity and dose may restrict the ability to obtain new samples and analysis. Disposal location is identified and is expected to be approved.													
MLLW	1905	Incinerable rad PCBs	SARS	ORTN	2001	2	100 %	2	M3	1	~~5~~ **10**	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
Stream Comments:		SRS assumes no receipt of treatment residuals.													
Barrier Comments:		INTERSITE DEPENDENCY - INTERSITE AGREEMENT CONFLICTS: The governor of Tennessee has discontinued receipt of offsite shipments of radioactive TSCA waste for treatment at the TSCA incinerator. Recent proposals to renew offsite shipments were rejected by the Governor's office. Resolution of this issue is not expected in the near term. WORK SCOPE DEFINITION - EQUITY CONCERNS: It is not known if a plausible and feasible path for treating and completing final disposition of this waste/material exists. The governor of Tennessee has discontinued receipt of offsite shipments of radioactive TSCA waste for treatment at the TSCA incinerator. Recent proposals to renew offsite shipments were rejected by the Governor's office. Resolution of this issue is not expected in the near term. The facili													
MLLW	1920	Treated Soils/Sludges-M Area	SARS	TBD	2001	0	100 %	0	M3	~~5~~ **0**	~~62~~ **0**	Rail	LSA1	STC/IP-1	~~Other (0.26 M3)~~ **Drum - 55 gal.**

Savannah Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2002	0	100 %	0	M3	~~20~~ **0**	~~769~~ **0**	Rail	LSA1	STC/IP-1	~~Other (0.26 M3)~~ **Drum - 55 gal.**
					2003	375	100 %	375	M3	~~3~~ **17**	~~3020~~	Rail	LSA1	STC/IP-1	~~Other (0.26 M3)~~ **Drum - 55 gal.**
					2004	18	100 %	18	M3	1	~~70~~ **87**	Rail	LSA1	STC/IP-1	~~Other (0.26 M3)~~ **Drum - 55 gal.**
					2005	0	100 %	0	M3	~~20~~ **0**	~~769~~ **0**	Rail	LSA1	STC/IP-1	~~Other (0.26 M3)~~ **Drum - 55 gal.**
					2006	410.00	100 %	410.00	M3	~~15~~ **18**	~~588~~ **1972**	Rail	LSA1	STC/IP-1	~~Other (0.26 M3)~~ **Drum - 55 gal.**

Stream Comments: Delisting petition approval is pending from EPA. Treated waste is expected to become LLW and will go to LLW disposal at the SRS. Re-designation of the waste will not occur until the delisting petition has been approved.

Barrier Comments: An intersite dependency of 3 is used because a delisting petition is pending approval from the EPA. Once approved, the waste will be considered LLW and disposed of at SRS. If the treated waste is not delisted then the disposal site will be Envirocare or the NTS.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	1903	Mercury waste	SARS	TBDO	2004	3.9	100 %	3.9	M3	1	20	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**
					2007	0.44	100 %	0.44	M3	1	~~2~~ **3**	Truck	LTD Qty	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**

Barrier Comments: INTERSITE DEPENDENCY ISSUES: It is expected that this waste will be treated through the Broad Spectrum contract. Although an agreement is not in place between SRS and the commercial vendor, one is expected. Approval need for NEPA. DOE Order exemption needed for offsite disposal at a commercial facility.

WORK SCOPE DEFINITION: Additional characterization is required to meet the DOT and treatment WAC. Existing facilities must be upgraded to provide improved confinement for processing waste for characterzation and segregation. The waste is expected to be treated by a commercial vendor so existing capabilities (i.e. Broad Spectrum Contract) are expected to be adequate. Although an agreement is not in place between SRS and the commercial vendor, one is expected.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	31679	MW with No Path for Disposal	SARS	TBDO	2005	19.8	100 %	19.8	M3	3	99	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**

Barrier Comments: Technology: Waiting definition of treatment path. WorkScope: Probable that one of Broad Spectrum vendors will be able to treat this waste. Intersite Dependancy: NEPA/ROD pending approval. DOE exemption required to dispose treated waste at a commercial disposal facility.

Savannah Incoming - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	3127	Incinerable waste from Offsite	DOE	SARS	2005	1.72	100 %	1.72	M3						

Stream Comments: Consists of existing inventory form Charleston Shipyards and Bettis.

Barrier Comments: WORK SCOPE DEFINITION/TECHNOLOGY/INTERSITE DEPENDANCY: CIF needs a salt stabilization technology that can process multiple contaminants to provide cost effective waste loading and throughput rates. Stabilization technologies are currently being developed by the MWFA, but integration of components and implementation into the CIF system will require additional development, testing efforts, and budget. Modifications cannot be planned until performance data is available. CIF needs a modular evaporator system to provide an effective offgas system that can manage the salt concentration of the offgas such that salt buildup in the offgas components is eliminated and reduce the amount of blowdown. Approval must be obtained from SCDHEC before any MW is received from offsite for treatment.

Savannah Outgoing - Americium-243 and Curium (NM-AmCm)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
AmCm	30792	BAU - Stream	SARS	ORTN	**2007+**		100 %		G						**TBD - requires comment**

Stream Comments: Contains material from generation stream 72.
Barrier Comments: Technology: See SRS needs 00-5030, 01-5049, 01-5050.

Savannah Outgoing - Depleted Uranium (NM-DU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
DU	30469	BAF - Stream	SARS	COMM	**TBD**		100 %		G		**240**				**IP**

Stream Comments: Projected path is shipment to TBD vendor for conversion to oxide and return to SRS.

DU	31718	M Pack to NFS	SARS	NFS	**2003-2006**		100 %		G		**2500**				**Strong Tight / IP-1**
DU	30833	BGG - Stream	SARS	PORT	**TBD**		100 %		G						**IP**

Stream Comments: Contains DU separated from Pu-239 generation streams 14 (Unirradiated Mk42 Targets), and 16 (EBR II Fuel). Projected path is conversion to oxide and storage in drums at an undetermined commercial site.

DU	31719	F Pack to Ports	SARS	PORT	**TBD**		100 %		G						**IP**

Savannah Outgoing - Nonactinide Isotopes and Sealed Sources (NM-NISS)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
NISS	30681	BEJ - Stream	SARS	ORTN	**TBD**		100 %		NI	**1**					**Type 7A (or 6M while available)**

Stream Comments: Contains material from generation stream AS-6.

NISS	31517	ZAS - Stream	SARS	ORTN	**TBD**		100 %		NI		**10**				**Type 7A**

Stream Comments: Contains material from generation stream NS-4.

Savannah Outgoing - Nonactinide Isotopes and Sealed Sources (NM-NISS)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
NISS	31518	ZAR - Stream	SARS	ORTN			100 %		NI						
					TBD										**Type 7A (or LLW pkg)**
Stream Comments:		Contains material from generation stream SS-4 and SS-5.													
NISS	30674	Moderate Beta Gamma Sources	SARS	TBD			100 %		NI						
					TBD										**IP**
Stream Comments:		Qty: 72 items Total curies: 59,000 Ci NISS Management Group Inventory Code: (92-S) Radioisotopes: Co-60 Material currently located at SRTC.													

Savannah Incoming - Nonactinide Isotopes and Sealed Sources (NM-NISS)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
NISS	31597	BAG - Stream	FEMP	SARS			100 %		NI						
					2004										**TBD - requires comment**
Stream Comments:		Projected path is H-B Line demo.													

Savannah Outgoing - Neptunium-237 (NM-Np-237)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
Np237	31722	Np-237 Oxide for Pu-238 Production	SARS	ORTN			100 %		G						
					2005-2007										**6M or ES-2100**

Savannah Incoming - Neptunium-237 (NM-Np-237)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
Np237	30563	Packaged Np237 to SRS	RFTS	SARS			100 %		G						
					TBD										**ES-2100**
Stream Comments:		Contains material from generation stream 10A.													

Savannah Outgoing - Natural Uranium (NM-NU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
NU	31636	DAB - Stream	SARS	PORT			100 %		G						
					TBD						**150**				**IP**

Savannah Outgoing - Spent Nuclear Fuel (SNF)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
SNF	1081	SS/Zircalloy SNF to INEEL	SARS	INEL	2010	2.892	100 %	2.892	MTHM	22	~~39~~	Truck/Rail	TYP B Qty	Type B	~~Cask (0.07 M3)~~ **TBD- requires comment**

Transportation Comments: Exchange schedules and other details have not been finalized as of the FY99 PTC planning cycle. Material will be transferred to a SNF shipping cask prior to shipment.

Stream Comments: Non-Aluminum clad, currently at SRS awaiting transfer to INEEL beginning in 2010 Current inventory PBS is SR-SF03, planned deinventory PBS will be SR-SF02 prior to shipment to INEEL.

Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: It is not known if all of the waste/material meets the receiving facility material acceptance criteria. Not sure if it is sufficiently characterized to meet the receiving facility acceptance criteria, though most of the material came to SRS from Idaho. It is unknown if characterization is sufficient to support designation under Department of Transportation (DOE) or onsite transportation, storage, or treatment requirements. It is likely that identification /characterization will be needed for shipment. It is not known if the capabilities exist to complete the characterization required by the acceptance criteria of the receiving treatment/processing facilities (e.g., burn-up, source term, etc.).

Savannah Incoming - Spent Nuclear Fuel (SNF)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
SNF	736	Dried/Packaged Al Based SNF	INEL	SARS	2004	0.22	100 %	0.22	MTHM	1	1	Truck	TYP B Qty	Type B	~~Cask (0.6 M3)~~ **LWT**
					2010	0.14	100 %	0.14	MTHM	~~6~~ **20**	~~108~~ **1**	Truck	TYP B Qty	Type B	~~Cask (0.6 M3)~~ **LWT**

Barrier Comments: INTERSITE DEPENDENCY: INTERSITE AGREEMENT CONFLICTS - Determination if these fuels go to SRS as candidates for melt and dilute treatment not made.
WORK SCOPE DEFINITION: CERCLA OR NEPA ROD NOT ISSUED - Stream depends on SRS EIS ROD.
TECHNOLOGY: INADEQUATE PACKAGING CAPABILITIES (INCLUDING CONTAINERS) - Insoluble neutron poison needed for disposal in the repository to minimize criticality potential. INADEQUATE CHARACTERIZATION CAPABILITIES - Fuel integrity and burnup must be verified to ship to treatment facility. OVERALL TECHNOLOGY CONCERNS - Inadequate Treatment Capabilities: Melt and dilute not verified at operational scale, other treatment options unknown.
Needs: ID-1.1.02, ID-1.1.05, ID-1.1.06, ID-1.2.09, ID-1.1.12, ID-1.1.20, ID-S.1.06, ID-S.1-22

Savannah Incoming - Spent Nuclear Fuel (SNF)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
SNF	738	INTEC Dry Aluminum Based SNF	INEL	SARS	2010	0.01	100 %	0.01	MTHM	4	~~70~~ **1**	Truck	TYP B Qty	Type B	~~Cask (0.6 M3)~~ **LWT**

Stream Comments: Spent Nuclear Fuel information used in this stream was taken from the National Spent Nuclear Database.

Barrier Comments: INTERSITE DEPENDENCY: OTHER INTERSITE DEPENDENCY ISSUES - Disposition dependent on SRS EIS choices.
WORK SCOPE DEFINITION: CERCLA OR NEPA ROD NOT ISSUED - SRS EIS and ROD to process aluminum fuels not completed. SRS acceptance criteria not established.

Further characterization may be required.
TECHNOLOGY: Transport canister requirements needed. Need fuel integrity information. Poison information needed. Burnup and fissile characterization needed. Needs: ID-1.2.09, ID-1.1.12, ID-1.1.13, ID-1.1.20, ID-1.2.06

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
SNF	4448	HFIR SNF	ORTN	SARS	2001	0.06	100 %	0.06	MTHM	6	6	Truck	TYP B Qty	Type B	~~Cask (0.47 M3)~~ **GE-2000 Cask**
					2002	0.13	100 %	0.13	MTHM	13	13	Truck	TYP B Qty	Type B	~~Cask (0.47 M3)~~ **GE-2000 Cask**
					2003	0.13	100 %	0.13	MTHM	13	13	Truck	TYP B Qty	Type B	~~Cask (0.47 M3)~~ **GE-2000 Cask**
					2004	0.13	100 %	0.13	MTHM	13	13	Truck	TYP B Qty	Type B	~~Cask (0.47 M3)~~ **GE-2000 Cask**
					2005	0.13	100 %	0.13	MTHM	13	13	Truck	TYP B Qty	Type B	~~Cask (0.47 M3)~~ **GE-2000 Cask**
					2006	0.13	100 %	0.13	MTHM	13	13	Truck	TYP B Qty	Type B	~~Cask (0.47 M3)~~ **GE-2000 Cask**
					2007	0.13	100 %	0.13	MTHM	13	13	Truck	TYP B Qty	Type B	~~Cask (0.47 M3)~~ **GE-2000 Cask**
					2008	0.13	100 %	0.13	MTHM	13	13	Truck	TYP B Qty	Type B	~~Cask (0.47 M3)~~ **GE-2000 Cask**
					2009	0.13	100 %	0.13	MTHM	13	13	Truck	TYP B Qty	Type B	~~Cask (0.47 M3)~~ **GE-2000 Cask**
					2010	0.13	100 %	0.13	MTHM	13	13	Truck	TYP B Qty	Type B	~~Cask (0.47 M3)~~ **GE-2000 Cask**

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
SNF	1077	MTRE Type Al SNF (FRR/DRR)	TBDO	SARS	2010	0.852	100 %	0.852	MTHM						

Stream Comments: FRR/DRR, MTR-LIKE The inventory PBS for some of these fuels is SF-03. The fuel that INEEL and ORR is sending is subset of this fuel group, as detailed in the SRS SNF Management EIS.

Barrier Comments: WORK SCOPE DEFINITION - CERCLA OR NEPA ROD NOT ISSUED: There are proposed near-term changes (regulatory or other) that could or will affect the disposition plan. Outcome is EIS dependent. (EIS is prepared. ROD has not been issued).

Technology identified, most have been tested but some exist only at bench scale.

Process Operations are identified and expected to be acceptable to stakeholders.

Activity involves multiple sites, site concurrence has been verbally reached.

Savannah Outgoing - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	1968	CH TRU from SRS	SARS	WIPP	2001	~~297~~	100 %	~~297~~	M3	4	~~12~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						61.7		**61.7**		**7**	**22**				**TRUPACT-II**
					2002	~~594~~	100 %	~~594~~	M3	~~12~~	~~36~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						589		**589**		**68**	**204**				**TRUPACT-II**
					2003	~~105~~	100 %	~~105~~	M3	12	~~36~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						104.8		**104.8**			**37**				**TRUPACT-II**
					2004	~~105~~	100 %	~~105~~	M3	12	~~36~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						104.8		**104.8**			**37**				**TRUPACT-II**
					2005	~~105~~	100 %	~~105~~	M3	12	~~36~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						104.8		**104.8**			**37**				**TRUPACT-II**
					2006	~~105~~	100 %	~~105~~	M3	12	~~36~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						104.8		**104.8**			**37**				**TRUPACT-II**
					2007	105	100 %	105	M3	~~12~~	~~36~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
										13	**37**				**TRUPACT-II**
					2008	~~105~~	100 %	~~105~~	M3	12	~~36~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						104.8		**104.8**			**37**				**TRUPACT-II**
					2009	~~105~~	100 %	~~105~~	M3	12	~~36~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						104.8		**104.8**			**37**				**TRUPACT-II**
					2010	~~105~~	100 %	~~105~~	M3	12	~~36~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						104.8		**104.8**			**37**				**TRUPACT-II**

Stream Comments: Total volumes to be disposed at WIPP are consistent between shipping and receiving sites based on the 5/12/99 site call. Disposition schedules support limiting waste shipments to WIPP receipt limit of 850 per year. Affected period is FY05 to FY08.

Savannah Incoming - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	125	CH TRU Drums	MEMP	SARS	2001	30	100 %	30	M3						
										4	**11**				**TRUPACT-II**
					2004	0	100 %	0	M3	~~11~~	~~11~~	Truck	LSA1	Type A/IP-3	~~Drum - Other (2.912 M3)~~
										0	**0**				**TRUPACT-II**

Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: All of the waste/material meets the subsequent treatment/disposal facility waste acceptance criteria (WAC). This waste stream has no RCRA constituents No capabilities (required methods and facilities) exist to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc). Mound is considering submitting a new characterization need for rapid characterization large amount of left over lab chemicals and other items as they move through D&D of their facilities. However, no STCG need number has been assigned

TECHNOLOGY - INADEQUATE CHARACTERIZATION CAPABILITIES: No capabilities (required methods and facilities) exist to complete the charact

TRU	126	CH TRU Boxes	MEMP	SARS	2001	40	100 %	40	M3		15	Rail	LSA1	Type A/IP-3	~~Box - Other (2.83 M3)~~
										3					**TRUPACT-II**
					2002	177	100 %	177	M3		~~30~~	Rail	LSA1	Type A/IP-3	~~Box - Other (2.83 M3)~~
										11	**62**				**TRUPACT-II**

Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: All of the waste/material meets the subsequent treatment/disposal facility waste acceptance criteria (WAC). Mound is considering submitting a new characterization need for rapid characterization large amount of left over lab chemicals and other items as they move through D&D of their facilities. However, no STCG need number has been assigned. However this waste stream is not RCRA contaminated It is not known if characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. Mound is considering submitting a new characterization need for rapid characterization large amount of left over lab chemicals and other items as they move through D&D of their facilit

Attachment 2

SAVANNAH RIVER SITE
TYPE B AND TYPE A-FISSILE
PACKAGING BASELINE

10 May 2002

Savannah

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
2005-2007	Oak Ridge	NM-Np-237		6M or ES-2100	Yes / Yes	Current plan is to either ship commercially in 6M containers or to ship via SSTs in ES-2100s which are being developed.
2007+	Oak Ridge	NM-AmCm		**TBD**	- / -	Final disposition of Am/Cm is not determined. Current plan is to ship to OR in fuel casks, but may be blended with waste, vitrified and placed in interim storage at SRS.
2008	Nevada Test Site	MLLW	2	**TBD**	- / -	
2010	Idaho	SNF	22	**TBD**	- / -	Specific shipping cask will be selected approx. 2005.Will load/ship one cask per shipment, approx. 3-5 casks in rotation to accomplish 22 shipments per year.
TBD	Oak Ridge	NM-NISS		Type 7A	Yes / Yes	Wide Ci range of Cf_252 sources; largest can use Type A (limit for Cf is 5 mg).
TBD	Oak Ridge	NM-NISS		Type 7A (or LLW pkg)	Yes / Yes	Very small Cf_252 and Cm_244 sources, most may be disposed, but no problem with transfer to ORNL/REDC using same package (if necessary) as larger sources.
TBD	Oak Ridge	NM-NISS	1	Type 7A (or 6M while available)	Yes / Yes	
TBD	**TBD**	NM-NISS		IP	Yes / Yes	Onsite disposal likely. Would probably dispose onsite as LLW if no programmatic need is identified. Various commercial shipping containers are available depending on size of source.

Attachment 3

SAVANNAH RIVER SITE TRANSPORTATION BASELINE SUMMARY

10 May 2002

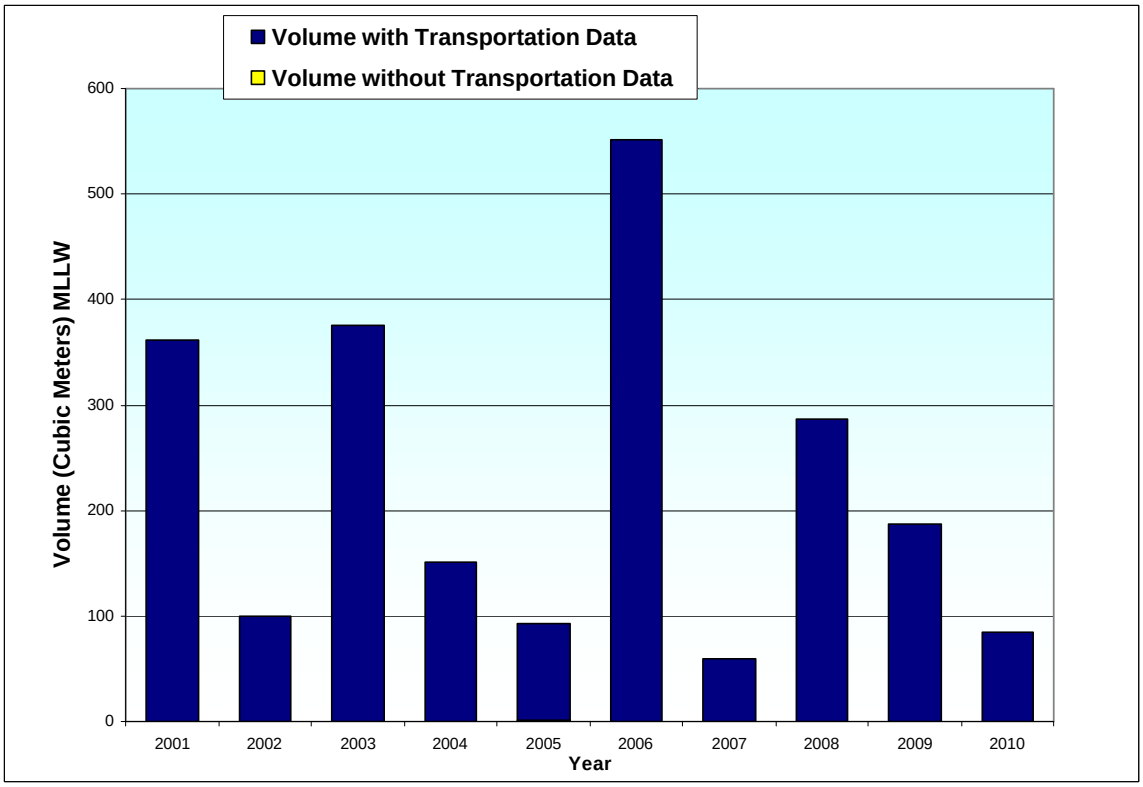


Figure 1. Quantity of MLLW to be shipped by year through 2010

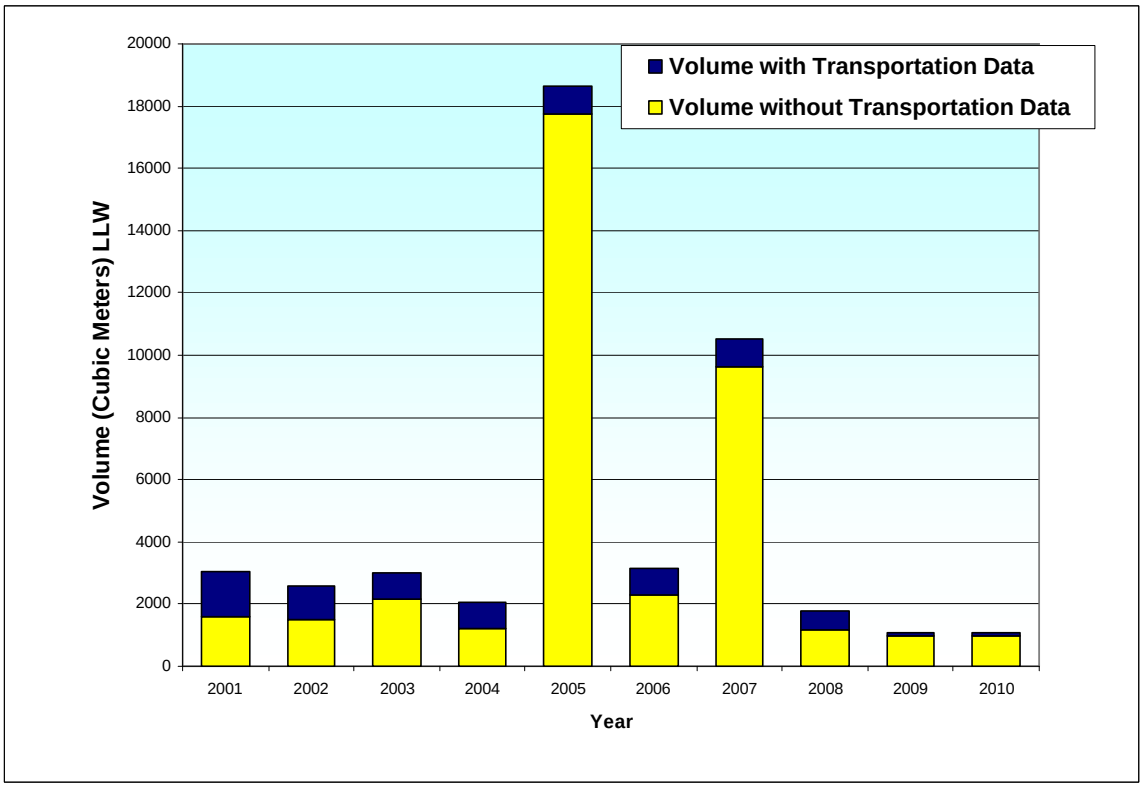


Figure 2. Quantity of LLW to be shipped by year through 2010

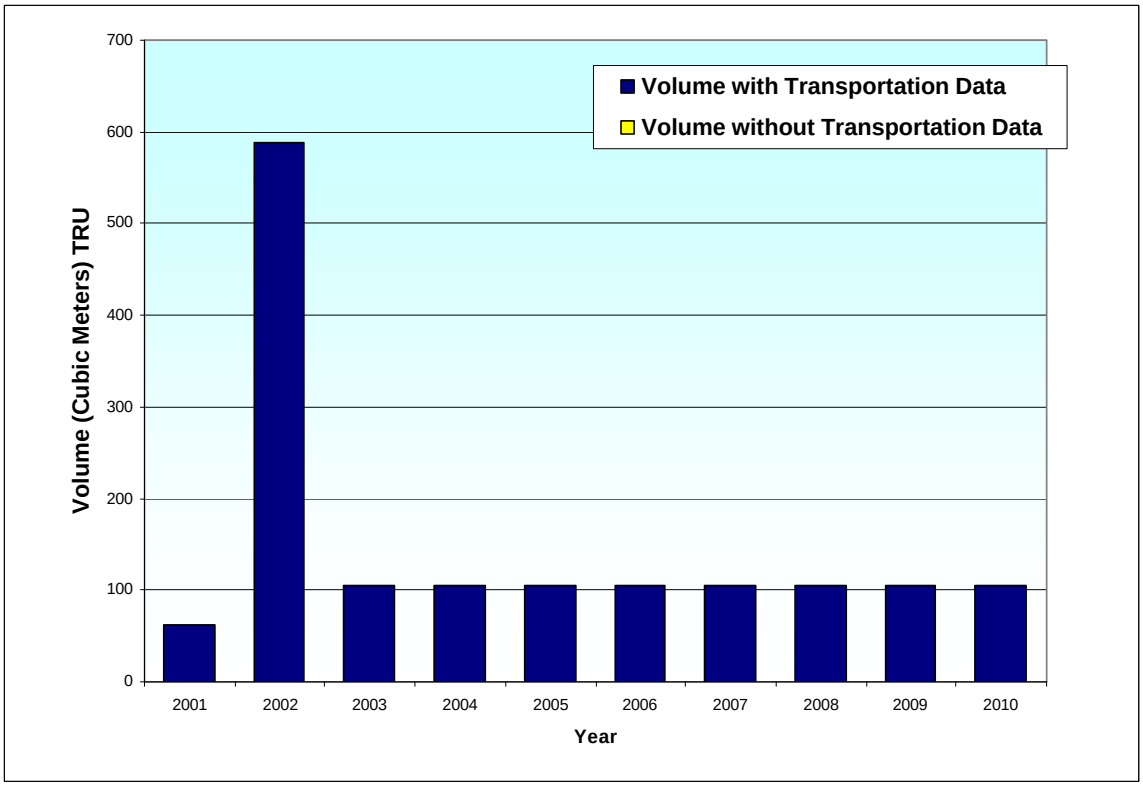


Figure 3. Quantity of TRU to be shipped by year through 2010

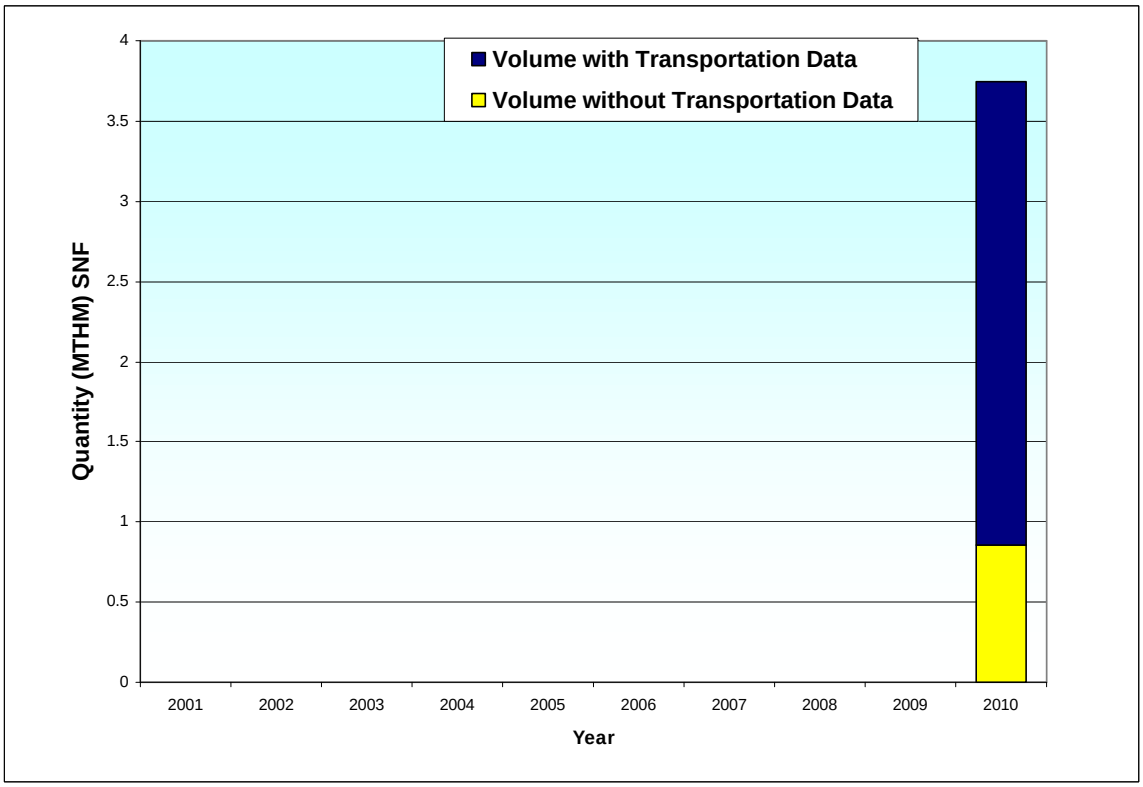
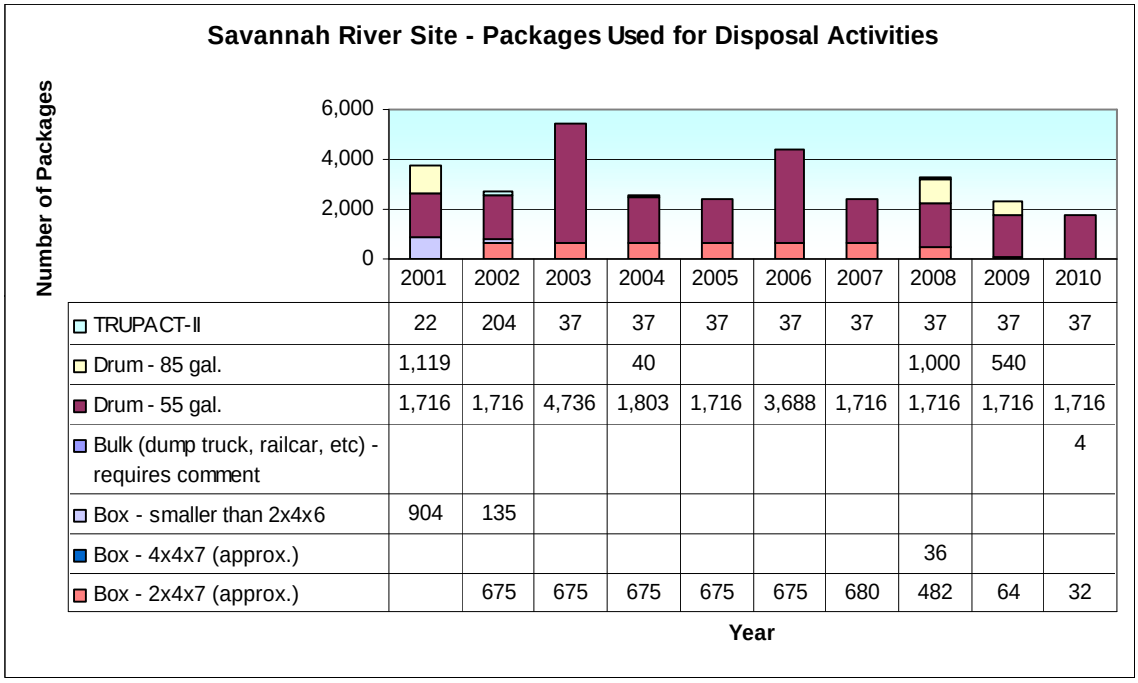
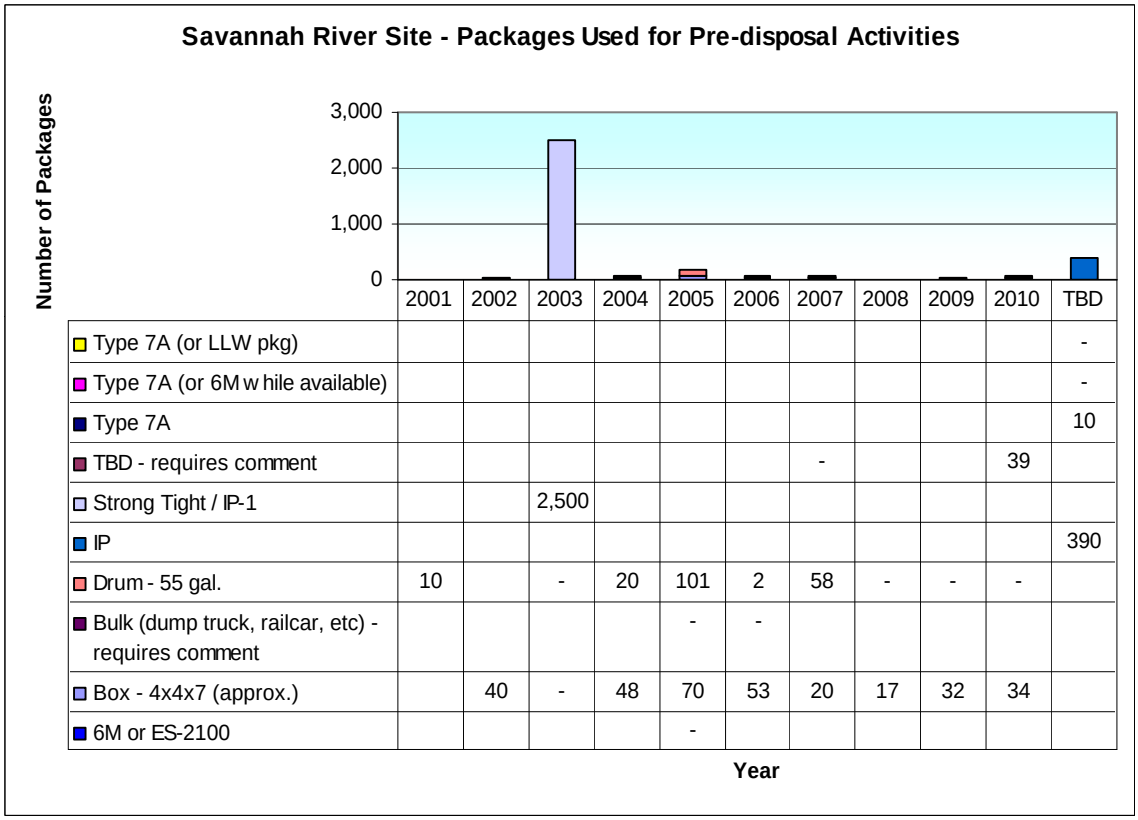


Figure 4. Quantity of SNF to be shipped by year through 2010



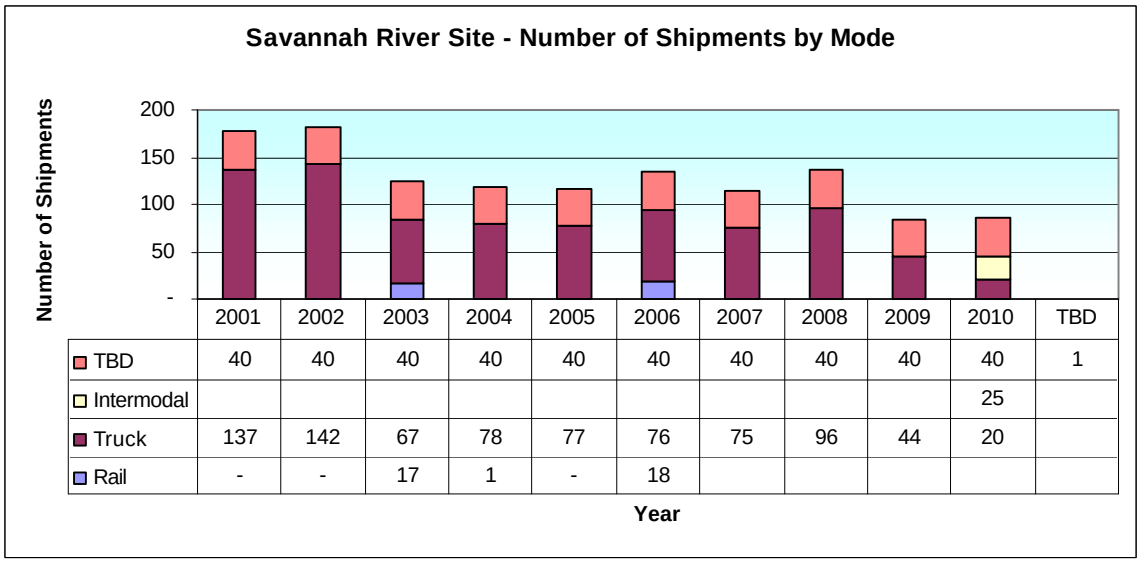
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TRUPACT-II	22	204	37	37	37	37	37	37	37	37
Drum - 85 gal.	1,119			40				1,000	540	
Drum - 55 gal.	1,716	1,716	4,736	1,803	1,716	3,688	1,716	1,716	1,716	1,716
Bulk (dump truck, railcar, etc) - requires comment										4
Box - smaller than 2x4x6	904	135								
Box - 4x4x7 (approx.)								36		
Box - 2x4x7 (approx.)		675	675	675	675	675	680	482	64	32

Figure 5. Number of packages to be shipped to disposal.



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TBD
Type 7A (or LLW pkg)											-
Type 7A (or 6M while available)											-
Type 7A											10
TBD - requires comment							-			39	
Strong Tight / IP-1			2,500								
IP											390
Drum - 55 gal.	10		-	20	101	2	58	-	-	-	
Bulk (dump truck, railcar, etc) - requires comment					-	-					
Box - 4x4x7 (approx.)		40	-	48	70	53	20	17	32	34	
6M or ES-2100					-						

Figure 6. Number of packages to be used for pre-disposal activities



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TBD
TBD	40	40	40	40	40	40	40	40	40	40	1
Intermodal										25	
Truck	137	142	67	78	77	76	75	96	44	20	
Rail	-	-	17	1	-	18					

Figure 7. Number of shipments by mode

Sandia National Laboratories – New Mexico
ENHANCED BASELINE TRANSPORTATION DATA

This section presents and discusses the updated and enhanced basic data sets obtained through the data gathering activities.

Sandia National Laboratories - New Mexico Enhanced Baseline

Sandia National Laboratories - New Mexico Enhanced Baseline data is presented in **Attachment 1**. (Note that data from the original IPABS database is printed in black while additional and corrected data is printed in red.) This information was compiled based on the 2001 IPABS database and was updated and enhanced with data from the Type B and Type A-Fissile Packaging Report and limited input from the reporting site.

Comparison of the 2001 IPABS data with the Enhanced Baseline yields the following observations:

(1) IPABS data does not necessarily represent the site's baseline shipping plans, and
(2) Additional data calls were effective in collecting transportation data for empty data fields.

The discrepancies confirm the need for an improved methodology for collecting and reporting transportation data.

Sandia National Laboratories - New Mexico Type B and Type A-Fissile Packaging Baseline

The Sandia National Laboratories - New Mexico Type B and Type A-Fissile Packaging Baseline (**Attachment 2**) updates and fills gaps in the Sandia National Laboratories - New Mexico data from the October 9, 2001 "NTP Type B and Type A Fissile Packaging Report". Discussion and comments follow the table in Attachment 2.

Planned vs. Actual FY 2001 Shipments

Actual volumes and numbers of containers shipped, and numbers of shipments were not available at the time this Forecast was prepared.

ENHANCED BASELINE ANALYSIS

The data products presented above have been processed and analyzed in ways intended to facilitate long-range planning and evaluate the feasibility of planned shipping activities. Analysis is based on assessment of the validity of appropriate Transportation Baseline Attributes. These attributes are listed at the beginning of this EM Transportation Forecast. The following sections present the results of the data analyses.

Transportation Baseline Summary

The Sandia National Laboratory Transportation Baseline Summary (**Attachment 3**) depicts MLLW, LLW, TRU, and SNF volumes involved in transportation events. The data is displayed by waste type. **Figures 1-4 (Attachment 3)** depict, for each waste or material stream, a summary of the annual volume of all Sandia National Laboratory incoming and outgoing shipments. In these figures, the quantity of waste that does not have completed transportation data is shown in yellow. This is waste that has a reported volume but has no associated package type, number of shipments, transportation mode, etc.

Figures 5 and 6, show packagings required for treatment and for disposal activities, illustrating the dual role transportation may play in the disposition of waste and material. Some waste/material streams must be transported to an off-site facility for treatment, returned to the site for packaging, and finally shipped to a permanent disposal facility. **Figure 7** provides an annual depiction of shipments to be made by rail, truck, or intermodaly.

Figures 1 and 2, below, summarize outgoing and incoming waste and material shipments planned for Sandia National Laboratories - New Mexico over the next 10 years as reported in the enhanced data set. The map depicts the destination of a set of shipments and indicates the number of shipments expected to be completed. It should be noted that in the absence of complete transportation activity profiles the number of shipments have been estimated.

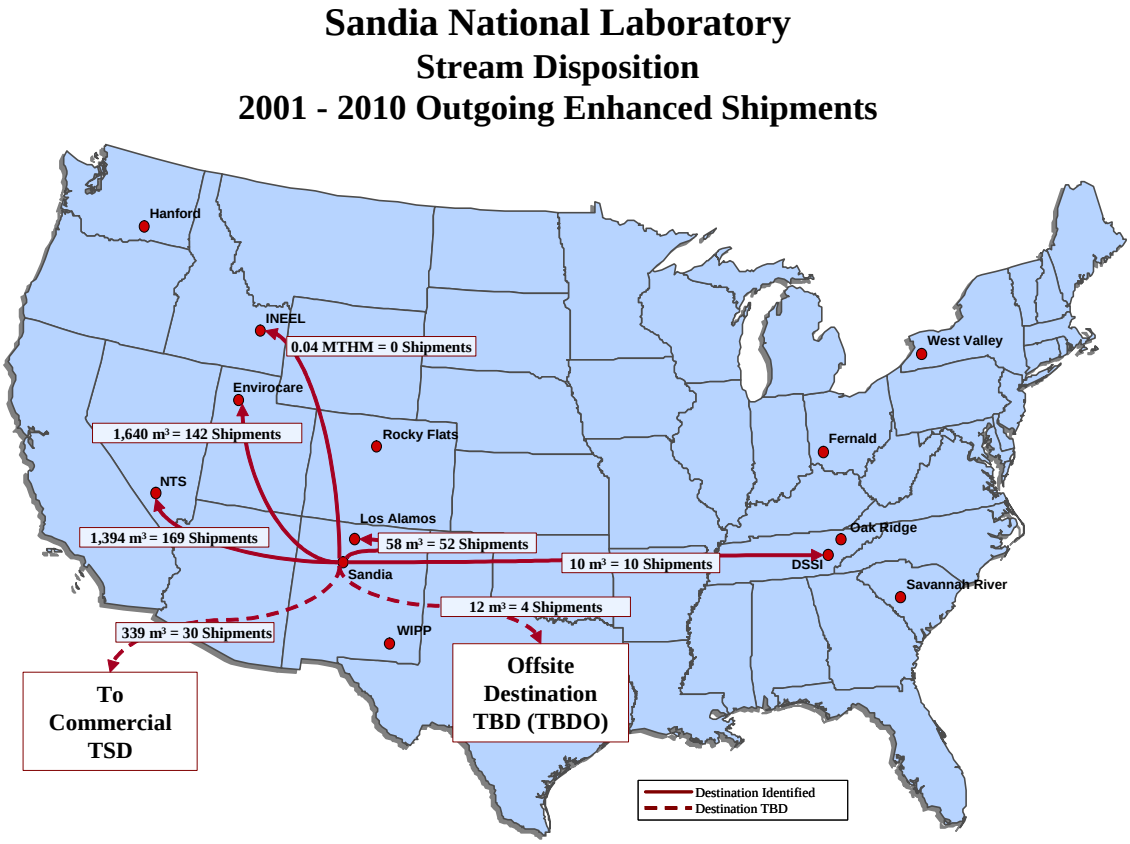


Figure 1. **Sandia National Laboratories - New Mexico Outgoing Shipments**

Sandia National Laboratory
Stream Disposition
2001 - 2010 Incoming Enhanced Shipments

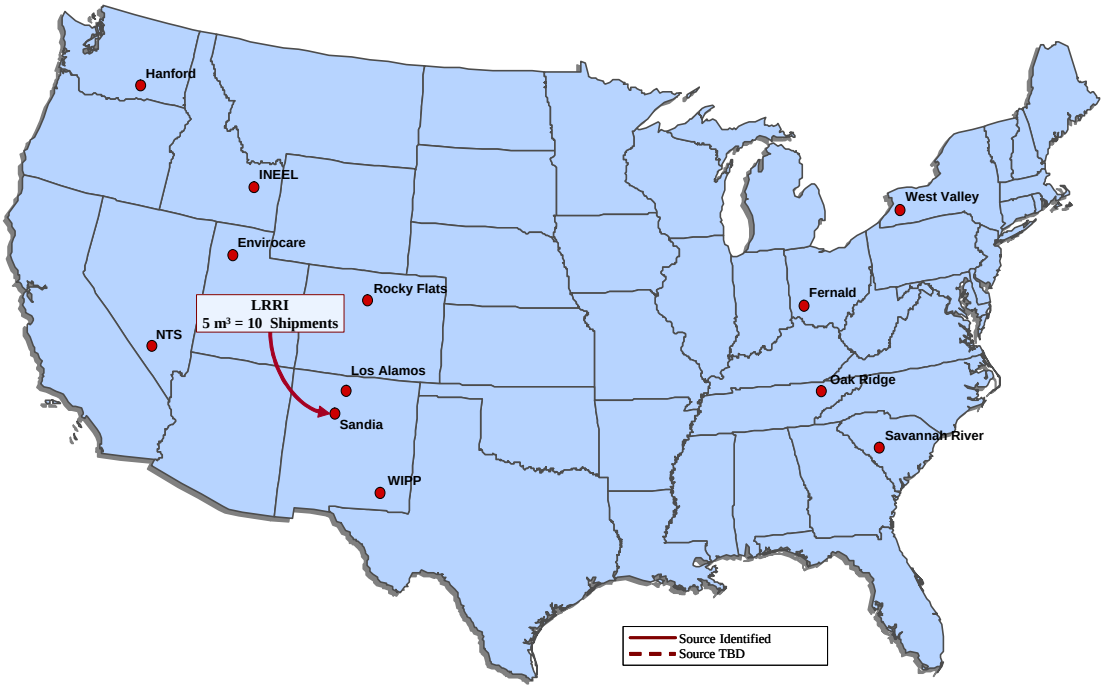


Figure 2. Sandia National Laboratories Incoming Shipments

Sandia National Laboratories - New Mexico Baseline Transportation Barriers

In addition to the summary barriers reported at the beginning of this EM Transportation Forecast, barriers, as found in IPABS or the Type B and Type A-Fissile Packaging Report, are found listed below in **Table 1**. **The barriers listed have not been assigned a priority order.**

Origin Site	Barrier(s) Impacting this Site *(see attached table)*	Number of Waste Streams Reporting Barrier	Number of Shipments Potentially Affected by Barrier *(NR=not reported or estimated)*
SNLN	**17** - Waste not characterized	5	36 +
	20 - Treatment option not available	2	8 +
	22 - Disposition site TBD	4	32
	23 - Stakeholder buy-in not achieved	1	3
	25 - No agreements with receiving, shipping, treatment facility	1	8
	27 - Regulatory change concerns	7	37 +
	TOTAL Waste Streams (with one or more barriers) = 14	**TOTAL Shipments (w/one or more barriers) = 77 +**	

Table 1. Barriers from IPABS and Type B and Type A-Fissile Packaging Report

Transportation Activity Maps

Transportation Activity Maps were developed for **Sandia National Laboratories - New Mexico**, but are not included due to the large volume of data. For the inquisitive reader, Transportation Activity Maps are included for the Hanford Site.

Type B and Type A-Fissile Packaging Needs Assessment

Analysis of the Transportation Activity Maps in comparison with the Packaging Baseline produced this summary which details the identity and numbers of Type B and Type A-Fissile packagings that will be required to carry out planned shipping activities. **Table 2** provides a list, by year, of the Type B packages needed by **Sandia National Laboratories - New Mexico** to execute the EM Transportation Baseline along with a short description of the current status of the package. Additional identification and discussion of the packaging issues is presented following the table. Further analysis of packaging status is included in the Transportation Baseline Barriers Analysis section as appropriate.

Table 2. Sandia National Laboratories - New Mexico Site Type B Packaging Needs

Year	Package	Need	Available	Status
2004	6M 55 gal.	6	?	Certified / Availability TBD
2009	6M 55 gal.	5	?	Certified / Availability TBD
2004	RH-72B	32	?	Certified / Availability TBD
2009	RH-72B	1	?	Certified / Availability TBD
2004	TRUPACT-II	10*	70	Certified / Availability TBD
2009	TRUPACT-II	2*	70	Certified / Availability TBD

* The number of TRUCPACT-IIs reported in the table is the number of package trips. The actual number needed to make the number of trips must be calculated based on the number of drums carried in each TRUPACT-II and the turn-around time for the package to be available again for loading.

The following packaging issues are associated with these needs:

- At the time of this report, the number of available packagings has not been determined.

Type B Package Certification Schedule

The Type B Package Certification Schedule (**Table 3**) was developed to assist in the coordination of packages being certified. By being cognizant of what revisions are needed, EM can better work with the certifying agencies' schedules and coordinate the submittals to allow time for the reviews and certification to be obtained to meet key clean-up and closure milestones.

The table below was developed from transportation information extracted from the enhanced baseline data set and the Type B and Type A-Fissile Packaging Report. From this information, an early and late need date was extrapolated for meeting the Enhanced Baseline.

Table 3. Type B Package Certification Schedule

Package Name	Certification Status	Early – Late Need Dates	Certification Expiration	Comments
6M	DOT certification is current.	2002 - 2009	No Oxides after 2003 No Metals after 2005	DOT Specification 6M Type B fissile packagings are to be phased out within the next couple of years.
TRUPACT II	NRC certification is current.	2004	06/30/2004	N/A
RH-TRU-72B	NRC certification is current.	2004 - 2009	02/28/2005	N/A

SUMMARY AND CONCLUSIONS

The data set presented and analyzed in this Forecast is a compilation of the data from the following sources: 1) The 2001 Integrated Planning, Accountability, and Budgeting System (IPBAS) database, 2) The National TRU Program databases, and 3) The Type B and Type A-Fissile Packaging Report. It encompasses offsite transportation activities planned for the next ten years as a part of the EM mission. Data for transportation activities beyond the ten years was limited to reporting quantities only and was not analyzed.

The waste and material streams analyzed are: low-level radioactive waste (LLW), mixed low-level radioactive waste (MLLW), Transuranic waste (TRU), nuclear material (NM), high-level waste (HLW) and spent nuclear fuel (SNF). The analyses produced the following products:

1) Transportation Baseline – This is the baseline of the schedule and quantities of all planned shipments through 2010;
2) Type B and Type A-Fissile Packaging Baseline – This baseline consists of a certification schedule and identifies the packaging required to meet the transportation baseline through 2010;
3) Enhanced Data – This is an improvement to the transportation data from IPABS. The existing data was modified to reflect the site baseline shipping plans and missing data was provided to fill many of the gaps up through 2010; and
4) Barriers Analysis – This is the documentation of the barriers to execution of the transportation baseline.

During the data gathering process, it became apparent that comprehensive information does not reside with any single organization at the sites. In order to build an accurate and comprehensive data set, it is necessary to confer with personnel from various site organizations who both have access to, and a thorough knowledge of their specific data subsets. By working with the sites, significant data improvements can be made by updating existing data and filling in missing data.

The key aspect of the data analysis was carried out with the objective of determining if transportation activities can be executed as planned and the nature and magnitude of any barriers to planned execution. At this point of the analysis, it appears that planned transportation activities can be executed if funding and packagings are made available, and if the barriers identified are resolved as planned. However, it should be noted that although contact has been made with the major eleven sites to update transportation plans and data; the quality of data and understanding to perform the necessary analyses does not compare with conducting site visits.

Attachment 1

SANDIA NATIONAL LABORATORIES - NEW MEXICO ENHANCED BASELINE

10 May 2002

Note: Data from the original IPABS database is printed in black, while additional and corrected data is printed in red.

Sandia NM Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ER	2716	LLW Soils & Debris-Comm	SNLN	COMM	2001	2	100 %	2	M3	1	30	Truck	LSA2	TBD	~~TBD (0 M3)~~ **TBD - requires comment**
					2002	0	100 %	0	M3	4 **0**	0	Truck	LSA2	TBD	~~TBD (0 M3)~~ **TBD - requires comment**
					2003	0	100 %	0	M3	~~6~~ **0**	~~255~~ **0**	Truck	LSA2	TBD	~~TBD (0 M3)~~ **TBD - requires comment**
					2004	0	100 %	0	M3	~~1~~ **0**	~~30~~ **0**	Truck	LSA2	TBD	~~TBD (0 M3)~~ **TBD - requires comment**
					2005	13	100 %	13	M3						
					2006	205	100 %	205	M3						
					2007	0	100 %	0	M3						

Transportation Comments: Containers used to ship rad waste are Box-ST/EP, Drum-ST/EP, Box-TypeA, and Soft Bag/Wrap, ranging in capacity from .19 M3 to 12 M3 per container.

Stream Comments: The vast majority of rad contamination is in the form of depleted uranium that is removed during ER activities result from destructive testing of various test components. The DU debris that is gathered takes the form of shrapnel and similar sized chunks. Concentration is not meaningful in this context in that the chunks are typically pure DU mixed with soil to the extent it can be reasonably separated.

Barrier Comments: WORK SCOPE DEFINITION - DISPOSITION PATH MATURITY: Waste quantities and characteristics are broadly known.

ER	235	LLW Soils & Debris	SNLN	NVTS	2001	375.6	100 %	375.6	M3	40	1955	Truck	LSA2	TBD	~~TBD (0 M3)~~ **Sealand - 8x8x20 (approx.)**
					2002	0	100 %	0	M3	~~1~~ **0**	~~25~~ **0**	Truck	LSA2	TBD	~~TBD (0 M3)~~ **TBD - requires comment**
					2003	4	100 %	4	M3	20	975	Truck	LSA2	TBD	~~TBD (0 M3)~~ **Sealand - 8x8x20 (approx.)**
					2004	1	100 %	1	M3	1	20	Truck	LSA2	TBD	~~TBD (0 M3)~~ **Sealand - 8x8x20 (approx.)**
					2005	10	100 %	10	M3	1	20	Truck	LSA2	TBD	~~TBD (0 M3)~~ **Sealand - 8x8x20 (approx.)**
					2006	183	100 %	183	M3	~~1~~ **6**	10	Truck	LSA2	TBD	~~TBD (0 M3)~~ **Sealand - 8x8x20 (approx.)**

Sandia NM Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
Transportation Comments: Containers used to ship rad waste are Box-ST/EP, Drum-ST/EP, Box-TypeA, and Soft Bag/Wrap, ranging in capacity from .19 M3 to 12 M3 per container.															
Stream Comments: 559.2 M3 of this waste was collected and dispositioned prior to the end of FY97 (439 M3 in FY97 and 120.2 M3 in FY96). The vast majority of depleted uranium that is removed during ER activities result from destructive testing of various test components. The DU debris that is gathered takes the form of shrapnel and similar sized chunks. Concentration is not meaningful in this context in that the chunks are typically pure DU mixed with soil to the extent it can be reasonably separated.															
Barrier Comments: WORK SCOPE DEFINITION - DISPOSITION PATH MATURITY: Volumes uncertain and variable.															
LLW	593	Lab Trash	SNLN	NVTS	2001	3	100 %	3	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
					2002	3	100 %	3	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
					2003	3	100 %	3	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
					2004	3	100 %	3	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
					2005	3	100 %	3	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
					2006	3	100 %	3	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
					2007	3	100 %	3	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
					2008	3	100 %	3	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
					2009	3	100 %	3	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
					2010	3	100 %	3	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**
Stream Comments: FY98 EM-funded; FY99-70 DP-funded.															
Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc.). Waste can be characterized using existing capabilities. Waste/material retrieval is not applicable. Waste is in containerized storage. Retrieval is not required. Characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. Waste can be characterized for shipping using existing capabilities. A plausible and feasible path for treating and completing final disposition of this waste/material does exist. Waste will be directly disposed at NTS.															
LLW	595	Reactor Materials	SNLN	NVTS	2001	1.5	100 %	1.5	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (1.5 M3)~~ **Box - 2x4x7 (approx.)**
					2002	1.5	100 %	1.5	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (1.5 M3)~~ **Box - 2x4x7 (approx.)**
					2003	1.5	100 %	1.5	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (1.5 M3)~~ **Box - 2x4x7 (approx.)**
					2004	1.5	100 %	1.5	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (1.5 M3)~~ **Box - 2x4x7 (approx.)**
					2005	1.5	100 %	1.5	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (1.5 M3)~~ **Box - 2x4x7 (approx.)**
					2006	1.5	100 %	1.5	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (1.5 M3)~~ **Box - 2x4x7 (approx.)**

Sandia NM Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2007	1.5	100 %	1.5	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (1.5 M3)~~ **Box - 2x4x7 (approx.)**
					2008	1.5	100 %	1.5	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (1.5 M3)~~ **Box - 2x4x7 (approx.)**
					2009	1.5	100 %	1.5	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (1.5 M3)~~ **Box - 2x4x7 (approx.)**
					2010	1.5	100 %	1.5	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (1.5 M3)~~ **Box - 2x4x7 (approx.)**

Stream Comments: FY98 EM-funded; FY99-70 DP-funded.

Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc.). Waste can be characterized using existing capabilities. Characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. Waste can be characterized for shipping using existing capabilities. Waste/material retrieval is not applicable. Waste is in containerized storage. Retrieval is not required. A plausible and feasible path for treating and completing final disposition of this waste/material does exist. Waste will be directly disposed at NTS.

LLW	596	Neutron Generators #1	SNLN	NVTS	2001	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ **Other - requires comment**
					2002	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ **Other - requires comment**
					2003	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ **Other - requires comment**
					2004	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ **Other - requires comment**
					2005	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ **Other - requires comment**
					2006	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ **Other - requires comment**
					2007	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ **Other - requires comment**
					2008	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ **Other - requires comment**
					2009	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ **Other - requires comment**

Sandia NM Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2010	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ **Other - requires comment**

Stream Comments: FY98 EM-funded; FY99-70 DP-funded.

Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc.). Waste can be characterized using existing capabilities. Characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. Waste can be characterized for shipping using existing capabilities. Waste/material can be retrieved. The existing inventory is in containerized storage. Retrieval is not required. Future volumes will require retrieval. No problems are foreseen. A plausible and feasible path for treating and completing final disposition of

LLW	598	D&D - DOE #1	SNLN	NVTS	2001	4.4	100 %	4.4	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (4.4 M3)~~ **Box - 4x4x7 (approx.)**
					2002	4.4	100 %	4.4	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (4.4 M3)~~ **Box - 4x4x7 (approx.)**
					2003	4.4	100 %	4.4	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (4.4 M3)~~ **Box - 4x4x7 (approx.)**
					2004	4.4	100 %	4.4	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (4.4 M3)~~ **Box - 4x4x7 (approx.)**
					2005	4.4	100 %	4.4	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (4.4 M3)~~ **Box - 4x4x7 (approx.)**
					2006	4.4	100 %	4.4	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (4.4 M3)~~ **Box - 4x4x7 (approx.)**
					2007	4.4	100 %	4.4	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (4.4 M3)~~ **Box - 4x4x7 (approx.)**
					2008	4.4	100 %	4.4	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (4.4 M3)~~ **Box - 4x4x7 (approx.)**
					2009	4.4	100 %	4.4	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (4.4 M3)~~ **Box - 4x4x7 (approx.)**
					2010	4.4	100 %	4.4	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (4.4 M3)~~ **Box - 4x4x7 (approx.)**

Stream Comments: FY98 EM-funded; FY99-70 DP-funded.

Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: Characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. Waste can be characterized for shipping using existing capabilities. A plausible and feasible path for treating and completing final disposition of this waste/material does exist. Some waste will be directly disposed at Envirocare under an existing contract. No problems are foreseen. This is the only distinction between D&D #1 and D&D #2, and the decision to dispose one at NTS and the other at Envirocare does not have any specific technical, regulatory, programmatic, or other reason. Waste/material can be retrieved. The existing inventory is in containerized storage. Retrieval is not required.

LLW	604	Asbestos	SNLN	NVTS	2001	4	100 %	4	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (4 M3)~~ **Box - 4x4x7 (approx.)**

Stream Comments: FY98 EM-funded; FY99-70 DP-funded.

Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: Waste/material retrieval is not applicable. Waste is in containerized storage. Retrieval is not required. Characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. Waste can be characterized for shipping using existing capabilities. A plausible and feasible path for treating and completing final disposition of this waste/material does exist. Waste will be directly disposed at NTS. No problems are foreseen. The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility physical sampling, onsite analytical capability, offsite contracts, etc.). Waste can be characterized usi

Sandia NM Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
LLW	605	D&D #2	SNLN	NVTS	2001	12.7	100 %	12.7	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (12.7 M3)~~ **Sealand - 8x8x20 (approx.)**
					2002	12.7	100 %	12.7	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (12.7 M3)~~ **Sealand - 8x8x20 (approx.)**
					2003	12.7	100 %	12.7	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (12.7 M3)~~ **Sealand - 8x8x20 (approx.)**
					2004	12.7	100 %	12.7	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (12.7 M3)~~ **Sealand - 8x8x20 (approx.)**
					2005	12.7	100 %	12.7	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (12.7 M3)~~ **Sealand - 8x8x20 (approx.)**
					2006	12.7	100 %	12.7	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (12.7 M3)~~ **Sealand - 8x8x20 (approx.)**
					2007	12.7	100 %	12.7	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (12.7 M3)~~ **Sealand - 8x8x20 (approx.)**
					2008	12.7	100 %	12.7	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (12.7 M3)~~ **Sealand - 8x8x20 (approx.)**
					2009	12.7	100 %	12.7	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (12.7 M3)~~ **Sealand - 8x8x20 (approx.)**
					2010	12.7	100 %	12.7	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (12.7 M3)~~ **Sealand - 8x8x20 (approx.)**

Stream Comments: FY98 EM-funded; FY99-70 DP-funded.

Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: A plausible and feasible path for treating and completing final disposition of this waste/material does exist. Waste will be directly disposed at NTS. No problems are foreseen. The only distinction between D&D #1 and D&D #2 is that one is disposed at NTS and the other at Envirocare. This decision is apparently not based on any specific technical, regulatory, programmatic, or other reason. Characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. Waste can be characterized for shipping using existing capabilities. The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility

LLW	1428	Treated H3 Oil	SNLN	NVTS	2001	1	100 %	1	M3	~~1~~	~~1~~ **5**	Truck	LSA1	STC/IP-1	~~Other (1 M3)~~ **Drum - 55 gal.**
LLW	1431	Encapsulated Reactor Materials RH	SNLN	NVTS	2001	1.4	100 %	1.4	M3	**1**	**7**				**Drum - 55 gal.**

Sandia NM Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2002	1.4	100 %	1.4	M3						
										1	7				Drum - 55 gal.
					2003	1.4	100 %	1.4	M3						
										1	7				Drum - 55 gal.
Stream Comments:		FY98 EM-funded; FY99-70 DP-funded. Long term assumptions may change based on D&D of Sandia Engineering Reactor and Sandia Pulsed Reactor.													
LLW	1434	Dewatered Resins	SNLN	NVTS	2001	1	100 %	1	M3	~~1~~	~~1~~	Rail	LSA1	STC/IP-1	~~Other (1 M3)~~
											5				Drum - 55 gal.
					2002	1	100 %	1	M3						
										1	5				Drum - 55 gal.
					2003	1	100 %	1	M3						
										1	5				Drum - 55 gal.
					2004	1	100 %	1	M3						
										1	5				Drum - 55 gal.
					2005	1	100 %	1	M3						
										1	5				Drum - 55 gal.
					2006	1	100 %	1	M3						
										1	5				Drum - 55 gal.
					2007	1	100 %	1	M3						
										1	5				Drum - 55 gal.
					2008	1	100 %	1	M3						
										1	5				Drum - 55 gal.
					2009	1	100 %	1	M3						
										1	5				Drum - 55 gal.
					2010	1	100 %	1	M3						
										1	5				Drum - 55 gal.
Stream Comments:		FY98 EM-funded; FY99-70 DP-funded.													
Barrier Comments:		Dewatered resins have been shipped to NTS in the past. Sandia now solidifies these wastes with polyacrylamide super-absorbent and plans to ship these solidified resins also to NTS.													
LLW	3609	UNSP Line Backlog	SNLN	NVTS	2001	109.4	100 %	109.4	M3	7	~~1~~	Truck	LSA1	STC/IP-1	~~Other (109.4 M3)~~
											4				Box - larger than 8x8x20
					2002	104.4	100 %	104.4	M3	7	~~1~~	Truck	LSA1	STC/IP-1	~~Other (104.4 M3)~~
											4				Box - larger than 8x8x20
					2003	105.4	100 %	105.4	M3	7	~~1~~	Truck	LSA1	STC/IP-1	~~Other (104.4 M3)~~
											4				Box - larger than 8x8x20
					2004	106.6	100 %	106.6	M3	7	~~1~~	Truck	LSA1	STC/IP-1	~~Other (106.6 M3)~~
											4				Box - larger than 8x8x20
					2005	62.6	100 %	62.6	M3	~~5~~	313	Truck	LSA1	STC/IP-1	~~Other (0.2 M3)~~
										7					Drum - 55 gal.

Sandia NM Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2006	10.9	100 %	10.9	M3	1	2	Truck	LSA1	STC/IP-1	~~Other (10 M3)~~ **Sealand - 8x8x20 (approx.)**

Stream Comments: FY98 EM-funded; FY99-70 DP-funded.

Sandia NM Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	2270	RMWMF Product - Septage	SNLN	COMM	2001	21.5	100 %	21.5	M3	~~2~~ **3**	108	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~ **Drum - 55 gal.**

Stream Comments: FY98 EM-funded; FY99-70 DP-funded.
Barrier Comments: Solidified septage to be sent to Envirocare for disposal. Profile not yet approved however, we do not anticipate any problems.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	3924	Organic Debris	SNLN	COMM	2003	0.6	100 %	0.6	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (0.6 M3)~~ **Drum - 85 gal.**
					2004	0.6	100 %	0.6	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (0.6 M3)~~ **Drum - 85 gal.**
					2005	0.6	100 %	0.6	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (0.6 M3)~~ **Drum - 85 gal.**
					2006	0.6	100 %	0.6	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (0.6 M3)~~ **Drum - 85 gal.**
					2007	0.6	100 %	0.6	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (0.6 M3)~~ **Drum - 85 gal.**
					2008	0.6	100 %	0.6	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (0.6 M3)~~ **Drum - 85 gal.**
					2009	0.6	100 %	0.6	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (0.6 M3)~~ **Drum - 85 gal.**
					2010	0.6	100 %	0.6	M3	1	~~1~~ **2**	Truck	LSA1	STC/IP-1	~~Other (0.6 M3)~~ **Drum - 85 gal.**

Stream Comments: FY98 EM-funded; FY99-70 DP-funded. Initial TG8 waste shipped to WERF FY98 thru FY02; this remaining waste will be shipped during FY03-70 to a Commercial facility TBD.
Barrier Comments: Waste requires incineration; WERF will be closed; no agreement exists between the CIF and Sandia to be treated.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	3926	Organic Debris with TCLP	SNLN	COMM	2003	0.8	100 %	0.8	M3	1	~~1~~ **3**	Truck	LSA1	STC/IP-1	~~Other (0.8 M3)~~ **Drum - 85 gal.**
					2004	0.8	100 %	0.8	M3	1	~~1~~ **3**	Truck	LSA1	STC/IP-1	~~Other (0.8 M3)~~ **Drum - 85 gal.**
					2005	0.8	100 %	0.8	M3	1	~~1~~ **3**	Truck	LSA1	STC/IP-1	~~Other (0.8 M3)~~ **Drum - 85 gal.**
					2006	0.8	100 %	0.8	M3	1	~~1~~ **3**	Truck	LSA1	STC/IP-1	~~Other (0.8 M3)~~ **Drum - 85 gal.**

Sandia NM Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2007	0.8	100 %	0.8	M3	1	~~1~~ 3	Truck	LSA1	STC/IP-1	~~Other (0.8 M3)~~ Drum - 85 gal.
					2008	0.8	100 %	0.8	M3	1	~~0~~ 3	Truck	LSA1	STC/IP-1	~~Other (0.8 M3)~~ Drum - 85 gal.
					2009	0.8	100 %	0.8	M3	1	~~0~~ 3	Truck	LSA1	STC/IP-1	~~Other (0.8 M3)~~ Drum - 85 gal.
					2010	0.8	100 %	0.8	M3	1	~~1~~ 3	Truck	LSA1	STC/IP-1	~~Other (0.8 M3)~~ Drum - 85 gal.

Stream Comments: FY98 EM-funded; FY99-70 DP-funded. Waste shipped to WERF FY98 thru FY02; residual waste will be shipped during FY03-70 to a Commercial facility TBD.
Barrier Comments: Sandia plans to ship to Envirocare for macroencapsulation and diposal.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	3949	UNSP Line MW1A	SNLN	COMM	2001	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ Other - requires comment
					2002	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ Other - requires comment
					2003	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ Other - requires comment
					2004	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ Other - requires comment
					2005	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ Other - requires comment
					2006	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ Other - requires comment
					2007	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ Other - requires comment
					2008	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ Other - requires comment
					2009	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ Other - requires comment
					2010	8.6	100 %	8.6	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (8.6 M3)~~ Other - requires comment

Stream Comments: FY98 EM Funded; FY99-70 EM Funded.
Barrier Comments: Sandia plans to treat on site or ship to commercial diposal facilities, Envirocare or M&EC.

Sandia NM Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	612	Organic Liq.-Scintillation Cocktails	SNLN	DSSI	2001	1	100 %	1	M3	1	5	Truck	LSA1	STC/IP-1	~~Other (0.2 M3)~~ **Drum - 55 gal.**
					2002	1	100 %	1	M3	1	5	Truck	LSA1	STC/IP-1	~~Other (0.2 M3)~~ **Drum - 55 gal.**
					2003	1	100 %	1	M3	1	5	Truck	LSA1	STC/IP-1	~~Other (0.2 M3)~~ **Drum - 55 gal.**
					2004	1	100 %	1	M3	1	5	Truck	LSA1	STC/IP-1	~~Other (0.2 M3)~~ **Drum - 55 gal.**
					2005	1	100 %	1	M3	1	5	Truck	LSA1	STC/IP-1	~~Other (0.2 M3)~~ **Drum - 55 gal.**
					2006	1	100 %	1	M3	1	5	Truck	LSA1	STC/IP-1	~~Other (0.2 M3)~~ **Drum - 55 gal.**
					2007	1	100 %	1	M3	1	5	Truck	LSA1	STC/IP-1	~~Other (0.2 M3)~~ **Drum - 55 gal.**
					2008	1	100 %	1	M3	1	5	Truck	LSA1	STC/IP-1	~~Other (0.2 M3)~~ **Drum - 55 gal.**
					2009	1	100 %	1	M3	1	5	Truck	LSA1	STC/IP-1	~~Other (0.2 M3)~~ **Drum - 55 gal.**
					2010	1	100 %	1	M3	1	5	Truck	LSA1	STC/IP-1	~~Other (0.2 M3)~~ **Drum - 55 gal.**

Stream Comments: FY98 EM-funded; FY99-70 DP-funded.
Barrier Comments: Routinely shipped to DSSI for incineration.

ER	234	MLLW Soil/Debris/Stab	SNLN	ENVR	2001	31	100 %	31	M3	55	2735	Truck	LSA2	TBD	~~TBD (0 M3)~~ **Sealand - 8x8x20 (approx.)**
					2002	0	100 %	0	M3	~~18~~ **0**	0	Truck	LSA2	TBD	~~TBD (0 M3)~~ **Sealand - 8x8x20 (approx.)**
					2003	1	100 %	1	M3	5	~~0~~ **1**	Truck	LSA2	TBD	~~TBD (0 M3)~~ **Sealand - 8x8x20 (approx.)**
					2004	141	100 %	141	M3	**5**	**5**	**Truck**		**TBD**	**Sealand - 8x8x20 (approx.)**
					2005	103	100 %	103	M3	**4**	**4**	**Truck**		**TBD**	**Sealand - 8x8x20 (approx.)**
					2006	159	100 %	159	M3	**5**	**5**	**Truck**		**TBD**	**Sealand - 8x8x20 (approx.)**

Sandia NM Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
Transportation Comments:		Containers used to ship rad waste are Box-ST/EP, Drum-ST/EP, Box-TypeA, and Soft Bag/Wrap, ranging in capacity from .19 M3 to 12 M3 per container.													
Stream Comments:		107.5 M3 of this waste was collected and dispositioned prior to the end of FY97 (100.9 M3 in FY97 and 6.6 M3 in FY96). Contaminant concentration values are estimates for future remediation waste and subject to wide varibility; Ave. concentration are mean of lower and upper values. The vast majority of rad contamination is in the form of depleted uranium that is removed during ER activities result from destructive testing of various test components. The DU debris that is gathered takes the form of shrapnel and similar sized chunks. Concentration is not meaningful in this context in that the chunks are typically pure DU mixed with soil to the extent it can be reasonably separated. The vast majority of rad contamination is in the form of depleted uranium that is removed during ER activities result from destructive testing of various test components. The DU debris that is gathered takes the form of shrapnel and similar sized chunks. Concentration is not meaningful in this context in that the chunks are typically pure DU mixed with soil to the extent it can be reasonably separated.													
Barrier Comments:		WORK SCOPE DEFINITION - DISPOSITION PATH MATURITY: Waste quantities and characteristics are broadly known. INTERSITE DEPENDENCY- Quantities are insignificant to create scheduling issues.													
MLLW	615	Organic Debris with TCLP	SNLN	ENVR	2001	1	100 %	1	M3	1	5	Truck	LSA1	STC/IP-1	~~Other (0.2 M3)~~ **Drum - 55 gal.**
					2002	1	50 %	0.5	M3	1	5	Truck	LSA1	STC/IP-1	~~Other (0.2 M3)~~ **Drum - 55 gal.**
					2002	1	50 %	0.5	M3	1	2	Truck	LSA1	STC/IP-1	~~Other (0.8 M3)~~ **Drum - 85 gal.**
					2003	1	100 %	1	M3	1	5	Truck	LSA1	STC/IP-1	~~Other (0.2 M3)~~ **Drum - 55 gal.**
					2004	1	100 %	1	M3	1	5	Truck	LSA1	STC/IP-1	~~Other (0.2 M3)~~ **Drum - 55 gal.**
					2005	1	100 %	1	M3	1	5	Truck	LSA1	STC/IP-1	~~Other (0.2 M3)~~ **Drum - 55 gal.**
					2006	1	100 %	1	M3	1	5	Truck	LSA1	STC/IP-1	~~Other (0.2 M3)~~ **Drum - 55 gal.**
					2007	1	100 %	1	M3	1	5	Truck	LSA1	STC/IP-1	~~Other (0.2 M3)~~ **Drum - 55 gal.**
					2008	1	100 %	1	M3	1	5	Truck	LSA1	STC/IP-1	~~Other (0.2 M3)~~ **Drum - 55 gal.**
					2009	1	100 %	1	M3	1	5	Truck	LSA1	STC/IP-1	~~Other (0.2 M3)~~ **Drum - 55 gal.**
					2010	1	100 %	1	M3	1	5	Truck	LSA1	STC/IP-1	~~Other (0.2 M3)~~ **Drum - 55 gal.**
Stream Comments:		FY98 EM-funded; FY99-70 DP-funded. Waste shipped to WERF FY98 thru FY02; residual waste will be shipped during FY03-70 to a Commercial facility TBD.													
Barrier Comments:		Sandia routinely ships this waste type to Envirocare for macroencapsulation.													
MLLW	618	Soils (Inventory)	SNLN	ENVR	2001	5.63	100 %	5.63	M3	1	30	Truck	LSA1	STC/IP-1	~~Drum - Other (5.63 M3)~~ **Drum - 55 gal.**
					2002	0.6	100 %	0.6	M3	**1**	**3**				**Drum - 55 gal.**
					2003	0.6	100 %	0.6	M3	**1**	**3**				**Drum - 55 gal.**
					2004	0.6	100 %	0.6	M3	**1**	**3**				**Drum - 55 gal.**

Sandia NM Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2005	0.6	100 %	0.6	M3						
										1	**3**				**Drum - 55 gal.**
					2006	0.6	100 %	0.6	M3						
										1	**3**				**Drum - 55 gal.**
					2007	0.6	100 %	0.6	M3						
										1	**3**				**Drum - 55 gal.**
					2008	0.6	100 %	0.6	M3						
										1	**3**				**Drum - 55 gal.**
					2009	0.6	100 %	0.6	M3						
										1	**3**				**Drum - 55 gal.**
					2010	0.6	100 %	0.6	M3						
										1	**3**				**Drum - 55 gal.**

Stream Comments: FY98 EM-funded; FY99-70 DP-funded.

Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc.). This waste stream can be characterized using existing capabilities. A plausible and feasible path for treating and completing final disposition of this waste/material does exist. Waste will be stabilized and disposed at a commercial facility (i.e. Envirocare). No problems are foreseen. Characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. Waste can be characterized for shipment using existing capabilities. DOT regulations are not appl

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
ER	2714	MLLW Soil/Debris/Disp.	SNLN	ENVR	2001	2.7	100 %	2.7	M3	1	15	Truck	LSA2	TBD	~~TBD (0 M3)~~
															Sealand - 8x8x20 (approx.)
					2002	0	100 %	0	M3	~~83~~	0	Truck	LSA2	TBD	~~TBD (0 M3)~~
										0					**Sealand - 8x8x20 (approx.)**
					2003	0	100 %	0	M3	~~25~~	~~1135~~	Truck	LSA2	TBD	~~TBD (0 M3)~~
										0	**0**				**Sealand - 8x8x20 (approx.)**
					2004	0	100 %	0	M3	~~95~~	~~4715~~	Truck	LSA2	TBD	~~TBD (0 M3)~~
										0	**0**				**Sealand - 8x8x20 (approx.)**
					2005	158	100 %	158	M3						
										5	**5**	**Truck**		**TBD**	**Sealand - 8x8x20 (approx.)**
					2006	1013	100 %	1013	M3						
										31	**31**	**Truck**		**TBD**	**Sealand - 8x8x20 (approx.)**

Transportation Comments: Containers used to ship rad waste are Box-ST/EP, Drum-ST/EP, Box-TypeA, and Soft Bag/Wrap, ranging in capacity from .19 M3 to 12 M3 per container.

Stream Comments: Contaminant concentration values are estimates for future remediation waste and subject to wide varibility; Ave. concentration are mean of lower and upper values. The vast majority of rad contamination is in the form of depleted uranium that is removed during ER activities result from destructive testing of various test components. The DU debris that is gathered takes the form of shrapnel and similar sized chunks. Concentration is not meaningful in this context in that the chunks are typically pure DU mixed with soil to the extent it can be reasonably separated.

Barrier Comments: INTERSITE DEPENDENCY- Quantities are insignificant to create scheduling issues.

Sandia NM Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	4075	Heterogeneous Debris Output	SNLN	ENVR	2001	1	100 %	1	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3.6 M3)~~ **Box - 4x4x7 (approx.)**
					2002	1	100 %	1	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3.6 M3)~~ **Box - 4x4x7 (approx.)**
					2003	1	100 %	1	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3.6 M3)~~ **Box - 4x4x7 (approx.)**
					2004	1	100 %	1	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3.6 M3)~~ **Box - 4x4x7 (approx.)**
					2005	1	100 %	1	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3.6 M3)~~ **Box - 4x4x7 (approx.)**
					2006	1	100 %	1	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3.6 M3)~~ **Box - 4x4x7 (approx.)**
					2007	1	100 %	1	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3.6 M3)~~ **Box - 4x4x7 (approx.)**
					2008	1	100 %	1	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3.6 M3)~~ **Box - 4x4x7 (approx.)**
					2009	1	100 %	1	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3.6 M3)~~ **Box - 4x4x7 (approx.)**
					2010	1	100 %	1	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3.6 M3)~~ **Box - 4x4x7 (approx.)**

Barrier Comments: Heterogeneous debris is broken down in to the hazardous and non-hazardous components resulting in volume reduction. Residual mixed waste items are integrated into appropriate treatment streams.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	2267	Macroencapsulated Inorganic Debris	SNLN	TBDO	2001	7	100 %	7	M3	1	~~30~~	Truck	LSA1	STC/IP-1	~~Drum 55 gal (0.208 M3)~~
					2002	4.85	100 %	4.85	M3	2	**34** ~~1~~	Truck	LSA1	STC/IP-1	**Drum - 55 gal.** ~~Other (30 M3)~~ **Sealand - 8x8x20 (approx.)**

Stream Comments: FY98 EM-funded; FY99-70 DP-funded.

Barrier Comments: WORK SCOPE DEFINITION - COMPLIANCE ISSUES: The facility is not currently operational. The only existing facilities that could accept these waste streams (i.e. Hanford and NTS) do not currently accept offsite mixed waste for disposal. It is unknown if a new disposal facility or planned upgrade is projected even though the facility is not currently operational. There is strong stakeholder objection to accepting offsite mixed waste for disposal in both Washington and Nevada. A commercial facility is not available. It is not known if the facility can obtain the required permits, licenses, and/or NEPA documentation. There is strong stakeholder objection to accepting offsite mixed waste for disposal in both Washington and Nevada. A commercial facility is not available.

WORK SCOPE DEFIN

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	2268	Treated Sodium Uranium	SNLN	TBDO	2001	0.1	100 %	0.1	M3	1	1	Truck	LSA1	STC/IP-1	~~Other (3 M3)~~ **Box - 4x4x7 (approx.)**

Sandia NM Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name

Stream Comments: FY98 EM-funded; FY99-70 DP-funded. Possible final processing/disposal at Argonne-West pending further coordination. Assumes Hot Cell operational by FY01.

Barrier Comments: WORK SCOPE DEFINITION - LICENSE OR PERMIT ISSUES: There are major regulatory, licensing, permitting or NEPA issues hindering operations, such as a class 3 RCRA permit modification. The RMWMF does not have RH capabilities, which would require a permit modification.

WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: Characterization is sufficient to support designation under Department of Transportation or onsite transportation requirements. Waste can be characterized for shipment using existing capabilities. Shipping systems, including packaging (containers, canisters, TRUPACTs and casks as required) are available to transport the waste/material to the next facility. Waste can be packaged and shipped using existing capabilities. Waste/material does meet the subsequent treat

Sandia NM Outgoing - Low Enriched Uranium (NM-LEU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
LEU	31034	BAI - Stream	SNLN	TVA	**TBD**		100 %		G						**6M**

Stream Comments: Projected path is programmatic use.

Sandia NM Outgoing - Nonactinide Isotopes and Sealed Sources (NM-NISS)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
NISS	31053	BBA - Stream	SNLN	ORTN	**TBD**		100 %		NI						**IP**

Stream Comments: Contains material from generation stream NS-1. Projected path is isotope program sourge recovery.

Sandia NM Outgoing - Spent Nuclear Fuel (SNF)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
SNF	30100	SNL SNF2, Sodium Bonded (PNL Mixed Matl's)	SNLN	INEL	2006	0.04	100 %	0.04	MTHM			Truck	TYP B Qty	TBD **Type B**	~~TBD (0 M3)~~ **TBD - requires comment**

Barrier Comments: Technology: Auxiliary Hot Cell Facility duration
Work Scope: Characterization methods of material
Intersite: Need to identify casks to move fuel to treatment facility

Sandia NM Outgoing - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	622	CH Organic Debris	SNLN	LANL	2004	26.2	100 %	26.2	M3	13	~~1~~ **10**	Truck	TYP B Qty	Type B	~~Cask (26.2 M3)~~ **TRUPACT-II**
					2009	4.5	100 %	4.5	M3	2	~~1~~ **2**	Truck	TYP B Qty	Type B	~~Cask (4.5 M3)~~ **TRUPACT-II**

Stream Comments: FY98 EM-funded; FY99-70 DP-funded. TRU waste will be shipped to LANL for consolidation and subsequent disposal at WIPP.
Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc.). ER program does the characterization.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	3620	RH Organic Debris - Sorted	SNLN	LANL	2004	1.9	100 %	1.9	M3	~~1~~ **4**	~~1~~ **4**	Truck	TYP B Qty	Type B	~~Cask (1.9 M3)~~ **RH-72B**
					2009	0.5	100 %	0.5	M3	1	1	Truck	TYP B Qty	Type B	~~Cask (0.5 M3)~~ **RH-72B**

Stream Comments: FY98 EM-funded; FY99-70 DP-funded.
Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: It is not known if all of the waste/material meets the subsequent treatment/disposal facility waste acceptance criteria (WAC). There are proposed near-term changes (regulatory or other) that could make the treatment and disposition path not feasible.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	3622	RH (Inorganic Debris) - Sorted	SNLN	LANL	2004	17	100 %	17	M3	~~8~~ **28**	~~1~~ **28**	Truck	TYP B Qty	Type B	~~Cask (17 M3)~~ **RH-72B**

Stream Comments: FY98 EM-funded; FY99-70 DP-funded.
Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: It is not known if all of the waste/material meets the subsequent treatment/disposal facility waste acceptance criteria (WAC). There are proposed near-term changes (regulatory or other) that could make the treatment and disposition path not feasible.

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	4103	ITRI Waste	SNLN	LANL	2001	5.5	100 %	5.5	M3	2	28	Truck	TYP B Qty	Type B	~~Cask (5.5 M3)~~ **6M 55 gal.**
					2004	1.2	100 %	1.2	M3	1	~~1~~ **6**	Truck	TYP B Qty	Type B	~~Cask (1.2 M3)~~ **6M 55 gal.**
					2009	1	100 %	1	M3	1	~~1~~ **5**	Truck	TYP B Qty	Type B	~~Cask (1 M3)~~ **6M 55 gal.**

Stream Comments: FY98 EM-funded; FY99-70 DP-funded. TRU Waste to be shipped to LANL for consolidation and subsequent disposal at WIPP.

Sandia NM Incoming - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	322	Transuranic Waste	LRRI	SNLN	2001	0.5	100 %	0.5	M3	**1**	**3**				**Drum - 55 gal.**
					2002	0.5	100 %	0.5	M3	**1**	**3**				**Drum - 55 gal.**

2003	0.5	100 %	0.5	M3	1	3	Drum - 55 gal.
2004	0.5	100 %	0.5	M3	1	3	Drum - 55 gal.
2005	0.5	100 %	0.5	M3	1	3	Drum - 55 gal.
2006	0.5	100 %	0.5	M3	1	3	Drum - 55 gal.
2007	0.5	100 %	0.5	M3	1	3	Drum - 55 gal.
2008	0.5	100 %	0.5	M3	1	3	Drum - 55 gal.
2009	0.5	100 %	0.5	M3	1	3	Drum - 55 gal.
2010	0.5	100 %	0.5	M3	1	3	Drum - 55 gal.

Transportation Comments: The small amount of TRU waste will be collected at ITL until a time when DOE authorizes Sandia Labs to receive it and incorporate it into their much larger TRU waste stream for ultimate disposal.

Stream Comments: TRU waste generated at ITL is picked up by Sandia NM for storage and subsequent shipment to LANL pending disposal at WIPP. Since waste from ITL to SNL does not occur across public access, DOT regulations do not apply. FY98 shows a .2 cubic meter disposition which was actually a reduction in volume. ITL was able to recycle this amount for reuse.

Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: All of the waste/material meets the subsequent treatment/disposal facility waste acceptance criteria (WAC). The waste meets requirements for storage at SNL. Once placed in storage, SNL is responsible to characterize, process, and package to meet WIPP waste acceptance criteria. There are not any proposed near-term changes (regulatory or other) that could make the treatment and disposition path not feasible. Waste is sent to Sandia National Lab New Mexico for storage and any further treatment, characterization, processing, packaging, and shipping required for disposal at WIPP.

Attachment 2

SANDIA NATIONAL LABORATORIES - NEW MEXICO
TYPE B AND TYPE A-FISSILE
PACKAGING BASELINE

10 May 2002

Sandia NM

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
2006	Idaho	SNF		TBD	- / -	
TBD	Oak Ridge	NM-NISS		IP	Yes / Yes	
TBD	Tennessee Valley Authority	NM-LEU		6M	Yes / Yes	

The 15 streams on the attached data sheets appear to be part of the nuclear materials data that was seeded into IPABS for the first time this year, based on the "Material Type" entries. These are all nuclear material, as opposed to waste, designations. Because you stated that you need an answer today, I would recommend answering "No" for the question "Has a Package been selected?" for each of these 15 streams. Packaging and transportation needs for nuclear material are being worked, with a focus on the near-term needs due to resource limitations. Most of these 15 streams represent out-year activities that will be worked in the near future. The Nuclear Materials Stewardship Program [NMSP] worked closely with the IPABS team to seed the information that was available. NMSP is working with the sites, which own the data, to update their IPABS entries. Several sites were visited and assisted this Fiscal Year, and this activity will continue in FY-2002, subject to available funding at NMSP and the sites.Michael Gates, DOE-AL / NMSPO

NTP comment: The 15 streams include streams from Los Alamos, Sandia. All Pantex shipments previously reported are being documented by NNSA.

There are no Type B packages available for identified neutron sources > 15 Ci for AM-241/Li. However, for AM-241/Be > 20 Curies there are two packages authorized for shipments: USA/0302/B(U) U.K. Design 0666AW and the S-100 pipe overpack in Trupact-II. There are a total of 413 Items– 1,006 Ci of Am-241, 427 items – 47 Ci of Cf-252, 8 Items – 711 Ci of Cm-244, 22 Items – 14 Ci of Ra-226 and 1 Item - <1 Ci of Th-Be-228 that have been identified across more than 19 DOE Sites. Cathy Ottinger

NTP will continue to track the disposition of the neutron sources as more information about the packaging and transportation issues are determined.

Attachment 3

SANDIA NATIONAL LABORATORIES - NEW MEXICO TRANSPORTATION BASELINE SUMMARY

10 May 2002

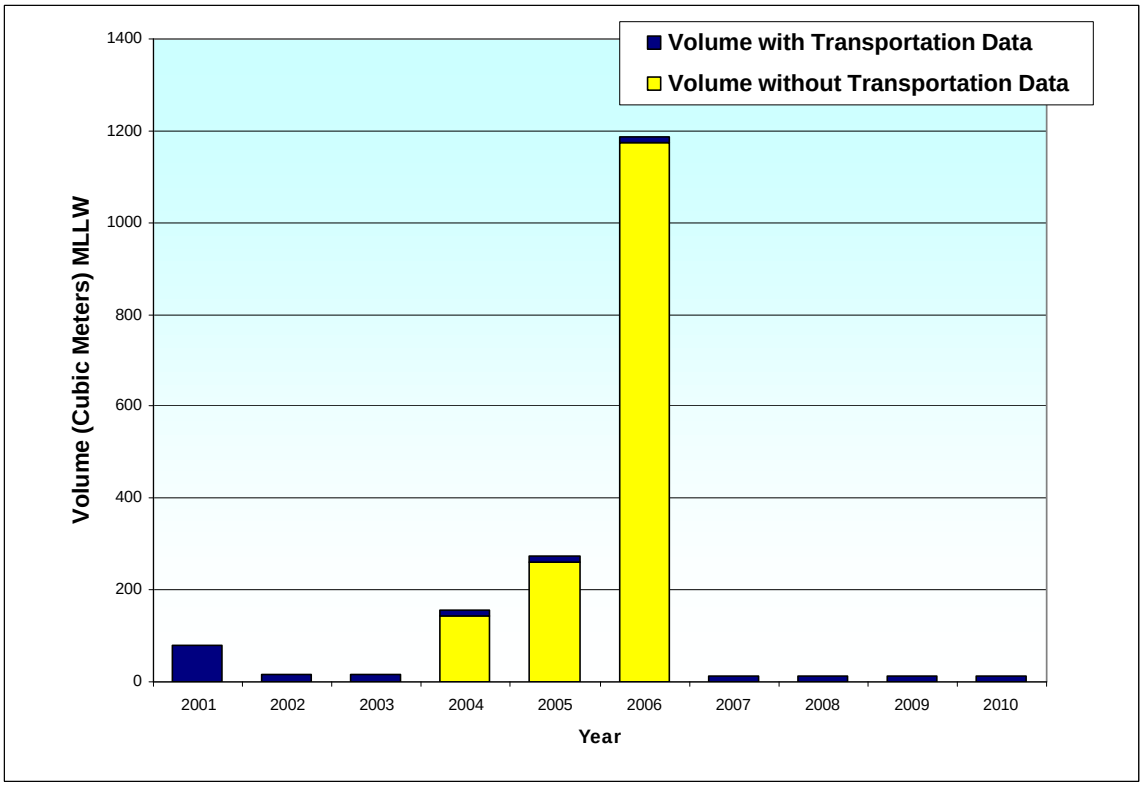


Figure 1. Quantity of MLLW to be shipped by year through 2010

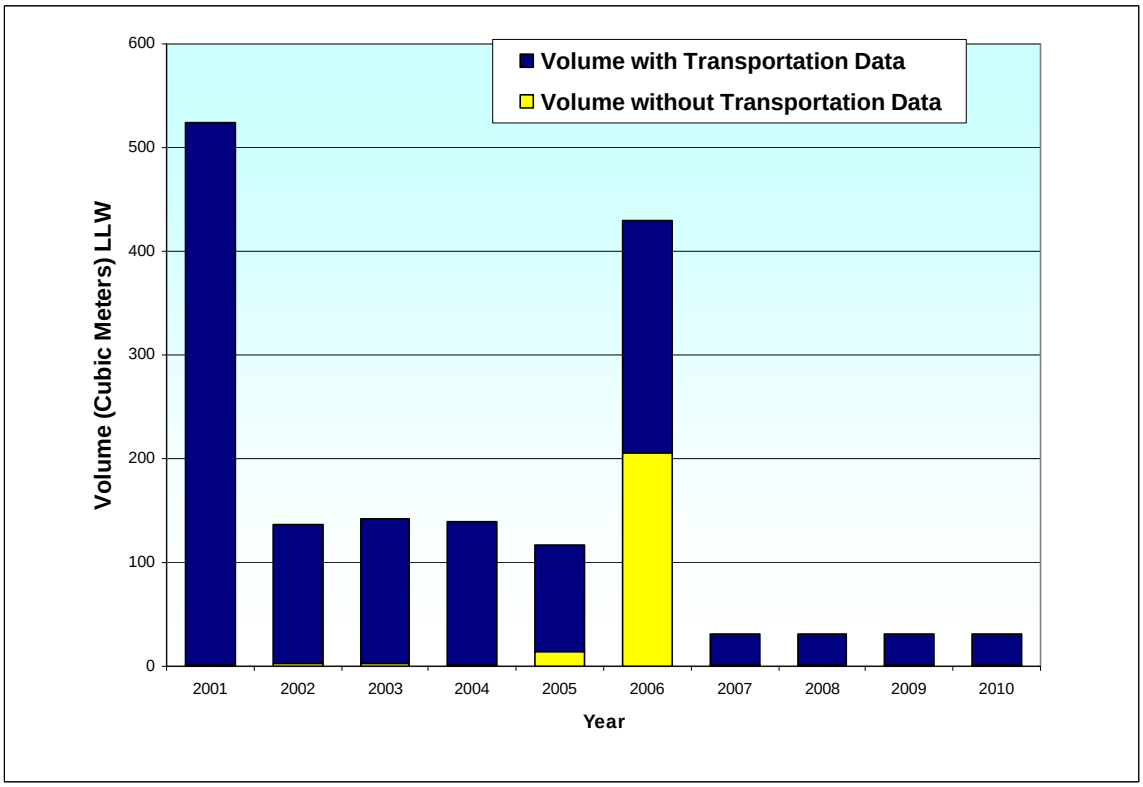


Figure 2. Quantity of LLW to be shipped by year through 2010

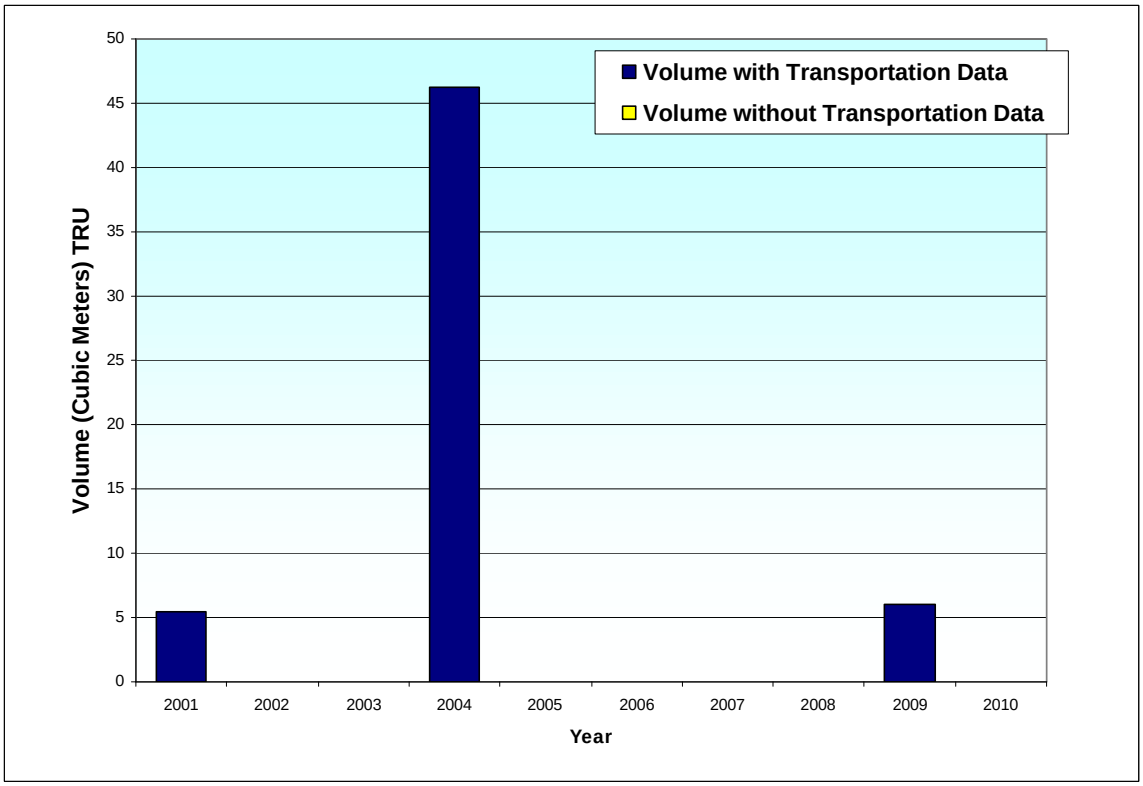


Figure 3. Quantity of TRU to be shipped by year through 2010

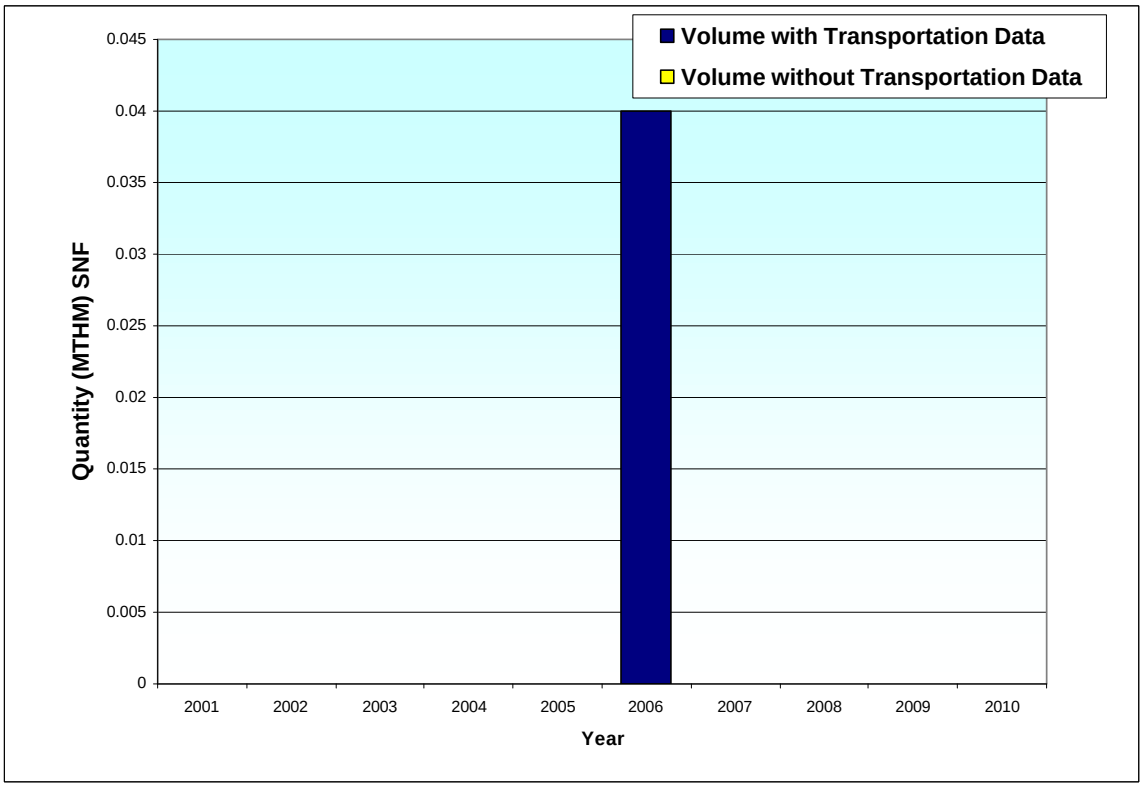
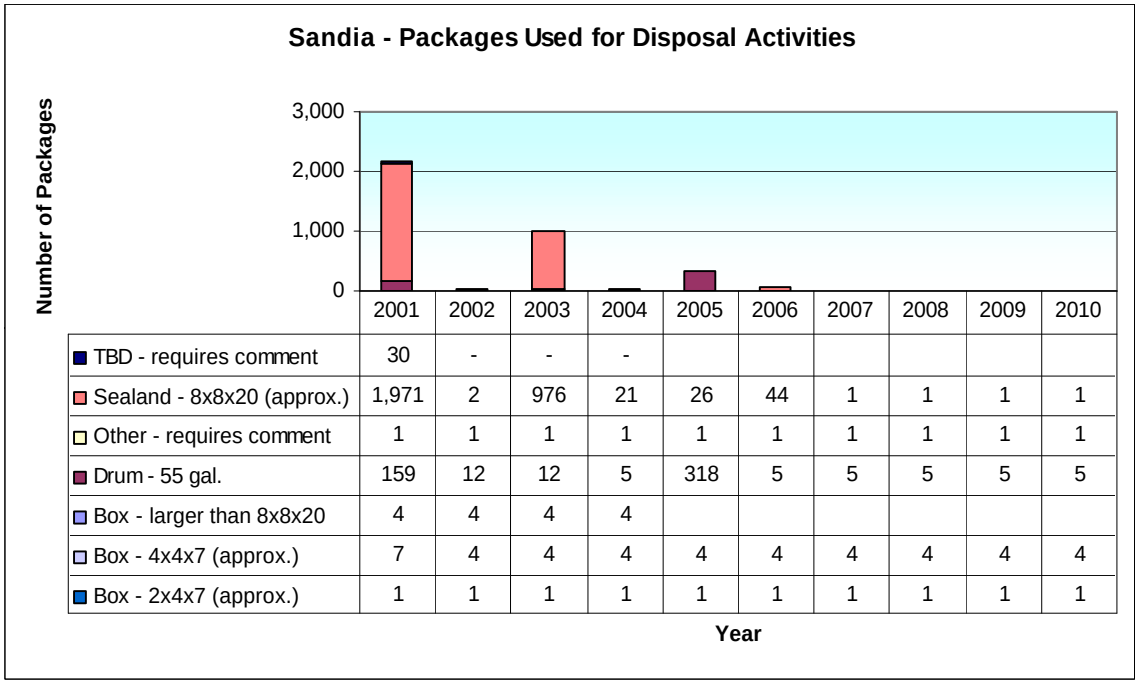
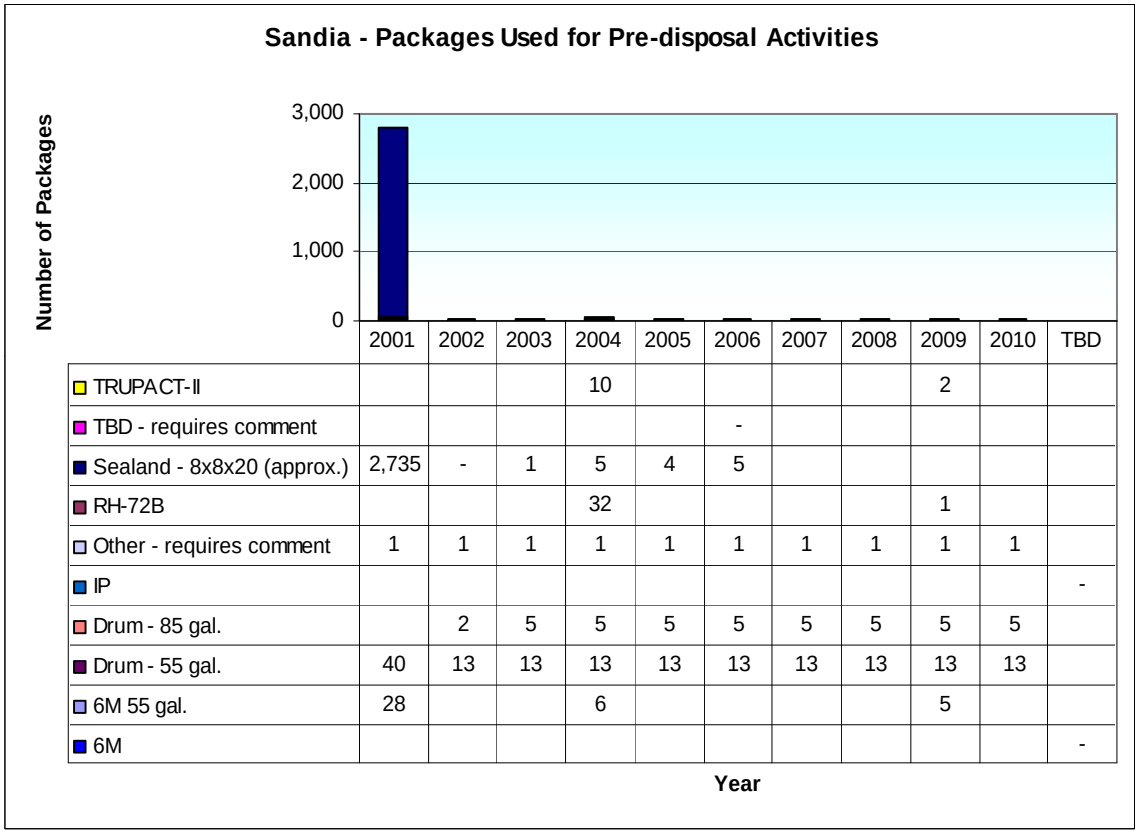


Figure 4. Quantity of SNF to be shipped by year through 2010



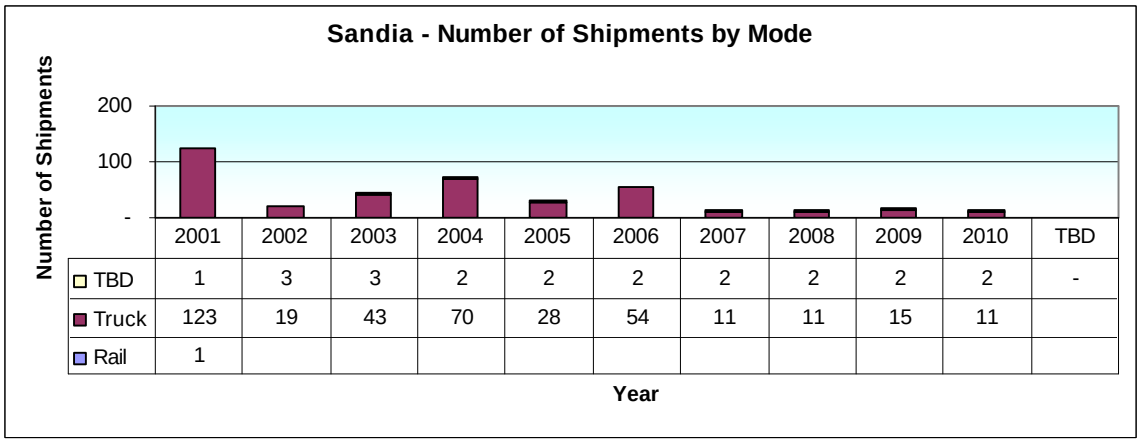
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TBD - requires comment	30	-	-	-						
Sealand - 8x8x20 (approx.)	1,971	2	976	21	26	44	1	1	1	1
Other - requires comment	1	1	1	1	1	1	1	1	1	1
Drum - 55 gal.	159	12	12	5	318	5	5	5	5	5
Box - larger than 8x8x20	4	4	4	4						
Box - 4x4x7 (approx.)	7	4	4	4	4	4	4	4	4	4
Box - 2x4x7 (approx.)	1	1	1	1	1	1	1	1	1	1

Figure 5. Number of packages to be shipped to disposal.



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TBD
TRUPACT-II				10					2		
TBD - requires comment						-					
Sealand - 8x8x20 (approx.)	2,735	-	1	5	4	5					
RH-72B				32					1		
Other - requires comment	1	1	1	1	1	1	1	1	1	1	
IP											-
Drum - 85 gal.		2	5	5	5	5	5	5	5	5	
Drum - 55 gal.	40	13	13	13	13	13	13	13	13	13	
6M 55 gal.	28			6					5		
6M											-

Figure 6. Number of packages to be used for pre-disposal activities.



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	TBD
TBD	1	3	3	2	2	2	2	2	2	2	-
Truck	123	19	43	70	28	54	11	11	15	11	
Rail	1										

Figure 7. Number of shipments by mode.

West Valley Demonstration Project
ENHANCED BASELINE TRANSPORTATION DATA

This section presents and discusses the updated and enhanced basic data sets obtained through the data gathering activities.

West Valley Demonstration Project Enhanced Baseline

West Valley Demonstration Project Enhanced Baseline data is presented in **Attachment 1**. (Note that data from the original IPABS database is printed in black while additional and corrected data is printed in red.) This information was compiled based on the 2001 IPABS database and was updated and enhanced with data from the Type B and Type A-Fissile Packaging Report and limited input from the reporting site.

Comparison of the 2001 IPABS data with the Enhanced Baseline yields the following observations:

(1) IPABS data does not necessarily represent the site's baseline shipping plans, and
(2) Additional data calls were effective in collecting transportation data for empty data fields.

The discrepancies confirm the need for an improved methodology for collecting and reporting transportation data.

West Valley Demonstration Project Type B and Type A-Fissile Packaging Baseline

The West Valley Demonstration Project Type B and Type A-Fissile Packaging Baseline (**Attachment 2**) updates and fills gaps in the West Valley Demonstration Project data from the October 9, 2001 "NTP Type B and Type A Fissile Packaging Report". Discussion and comments follow the table in Attachment 2.

Planned vs. Actual FY 2001 Shipments

Actual volumes and numbers of containers shipped, and numbers of shipments were not available at the time this Forecast was prepared.

ENHANCED BASELINE ANALYSIS

The data products presented above have been processed and analyzed in ways intended to facilitate long-range planning and evaluate the feasibility of planned shipping activities. Analysis is based on assessment of the validity of appropriate Transportation Baseline Attributes. These attributes are listed at the beginning of this EM Transportation Forecast. The following sections present the results of the data analyses.

Transportation Baseline Summary

The West Valley Demonstration Project Transportation Baseline Summary (**Attachment 3**) depicts MLLW, LLW, TRU, and SNF volumes involved in transportation events. The data is displayed by waste type. **Figures 1-4 (Attachment 3)** depict, for each waste or material stream, a summary of the annual volume of all West Valley Demonstration Project outgoing shipments. In these figures, the quantity of waste that does not have completed transportation data is shown in yellow. This is waste that has a reported volume but has no associated package type, number of shipments, transportation mode, etc.

Figures 5 and 6, show packagings required for treatment and for disposal activities, illustrating the dual role transportation may play in the disposition of waste and material. Some waste/material streams must be transported to an off-site facility for treatment, returned to the site for packaging, and finally shipped to a permanent disposal facility. **Figure 7** provides an annual depiction of shipments to be made by rail, truck, or intermodaly.

Figure 1, below, summarizes outgoing waste and material shipments planned for West Valley Demonstration Project over the next 10 years as reported in the enhanced data set. The map depicts the destination of a set of shipments and indicates the number of shipments expected to be completed. It should be noted that in the absence of complete transportation activity profiles the number of shipments have been estimated.

West Valley
Stream Disposition
2001 - 2010 Outgoing Enhanced Shipments

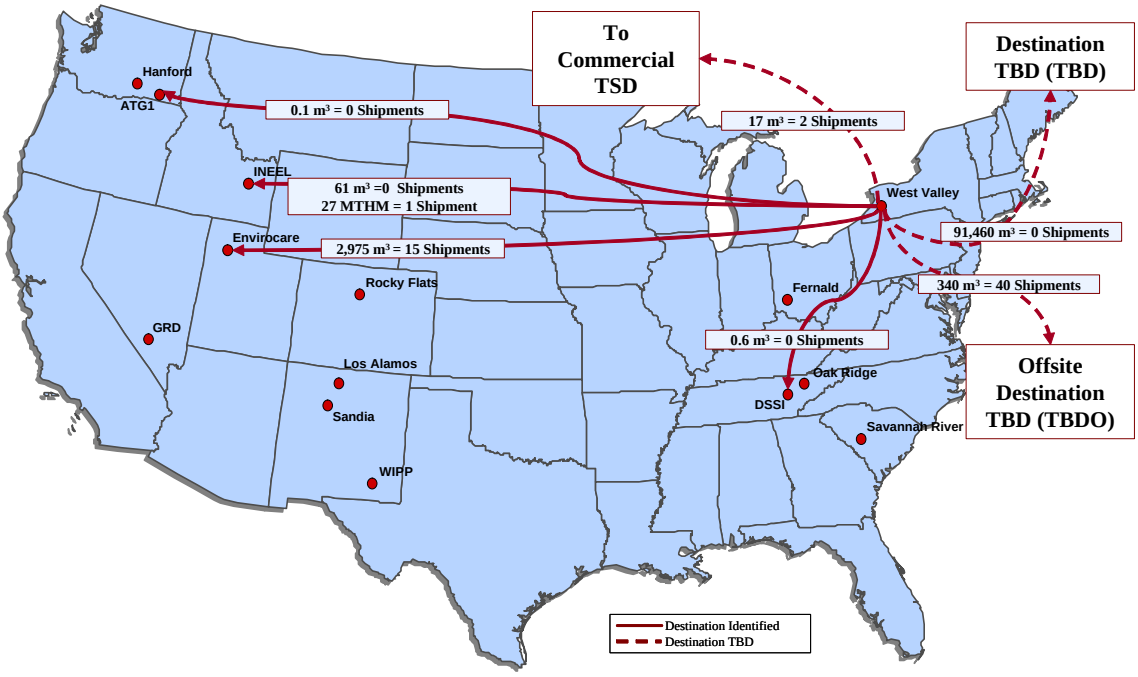


Figure 1. **West Valley Demonstration Project Outgoing Shipments**

West Valley Demonstration Project Baseline Transportation Barriers

In addition to the summary barriers reported at the beginning of this EM Transportation Forecast, barriers, as found in IPABS or the Type B and Type A-Fissile Packaging Report, are found listed below in **Table 1**. **The barriers listed have not been assigned a priority order.**

Origin Site	Barrier(s) Impacting this Site *(see attached table)*	Number of Waste Streams Reporting Barrier	Number of Shipments Potentially Affected by Barrier *(NR=not reported or estimated)*
WVDP	**3** - Packaging and transportation needs are often not included in corporate and site level planning	6	17 +
	16 - Does not meet disposal facility Waste Acceptance Criteria	1	NR
	17 - Waste not characterized	3	2 +
	20 - Treatment option not available	5	2 +
	21 - Waste Acceptance Criteria not available	1	40
	22 - Disposition site TBD	7	40 +
	23 - Stakeholder buy-in not achieved	2	3
	24 - ROD/EIS not issued	4	NR
	27 - Regulatory change concerns	2	2 +
	TOTAL Waste Streams (with one or more barriers) = 16	**TOTAL Shipments (w/one or more barriers) = 58 +**	

Table 1. Barriers from IPABS and Type B and Type A-Fissile Packaging Report

Transportation Activity Maps

Transportation Activity Maps were developed for **West Valley Demonstration Project**, but are not included due to the large volume of data. For the inquisitive reader, Transportation Activity Maps are included for the Hanford Site.

Type B and Type A-Fissile Packaging Needs Assessment

Analysis of the Transportation Activity Maps in comparison with the Packaging Baseline produced this summary which details the identity and numbers of Type B and Type A-Fissile packagings that will be required to carry out planned shipping activities. **Table 2** provides a list, by year, of the Type B packages needed by **West Valley Demonstration Project** to execute the EM Transportation Baseline along with a short description of the current status of the package. Additional identification and discussion of the packaging issues is presented following the table. Further analysis of packaging status is included in the Transportation Baseline Barriers Analysis section as appropriate.

Table 2. West Valley Demonstration Project Site Type B Packaging Needs

Year	Package	Need	Available	Status
TBD	TN-REG / TN-BRP	2	2	Certified / Available
2006	TRUPACT-II	24*	?	Certified / Availability TBD

Year	Package	Need	Available	Status
2007	TRUPACT-II	24*	?	Certified / Availability TBD
2008	TRUPACT-II	24*		Certified / Availability TBD
2009	TRUPACT-II	24*		Certified / Availability TBD
2010	TRUPACT-II	24*		Certified / Availability TBD

* The number of TRUCPACT-IIs reported in the table is the number of package trips. The actual number needed to make the number of trips must be calculated based on the number of drums carried in each TRUPACT-II and the turn-around time for the package to be available again for loading.

The following packaging issues are associated with these needs:

- At the time of this report, the number of available packagings has not been determined.

Type B Package Certification Schedule

The Type B Package Certification Schedule (**Table 3**) was developed to assist in the coordination of packages being certified. By being cognizant of what revisions are needed, EM can better work with the certifying agencies' schedules and coordinate the submittals to allow time for the reviews and certification to be obtained to meet key clean-up and closure milestones.

The table below was developed from transportation information extracted from the enhanced baseline data set and the Type B and Type A-Fissile Packaging Report. From this information, an early and late need date was extrapolated for meeting the Enhanced Baseline.

Table 3. Type B Package Certification Schedule

Package Name	Certification Status	Early – Late Need Dates	Certification Expiration	Comments
TN-BRP	NRC certification is current.	TBD	05/30/2004	Certified as a Spent Fuel Package.
TN-REG	NRC certification is current.	TBD	05/31/2005	Certified as a Spent Fuel Package.
TRUPACT II	NRC certification is current.	2010	06/30/2004	N/A

SUMMARY AND CONCLUSIONS

The data set presented and analyzed in this Forecast is a compilation of the data from the following sources: 1) The 2001 Integrated Planning, Accountability, and Budgeting System (IPBAS) database, 2) The National TRU Program databases, and 3) The Type B and Type A-Fissile Packaging Report. It encompasses offsite transportation activities planned for the next

ten years as a part of the EM mission. Data for transportation activities beyond the ten years was limited to reporting quantities only and was not analyzed.

The waste and material streams analyzed are: low-level radioactive waste (LLW), mixed low-level radioactive waste (MLLW), Transuranic waste (TRU), nuclear material (NM), high-level waste (HLW) and spent nuclear fuel (SNF). The analyses produced the following products:

1) Transportation Baseline – This is the baseline of the schedule and quantities of all planned shipments through 2010;
2) Type B and Type A-Fissile Packaging Baseline – This baseline consists of a certification schedule and identifies the packaging required to meet the transportation baseline through 2010;
3) Enhanced Data – This is an improvement to the transportation data from IPABS. The existing data was modified to reflect the site baseline shipping plans and missing data was provided to fill many of the gaps up through 2010; and
4) Barriers Analysis – This is the documentation of the barriers to execution of the transportation baseline.

During the data gathering process, it became apparent that comprehensive information does not reside with any single organization at the sites. In order to build an accurate and comprehensive data set, it is necessary to confer with personnel from various site organizations who both have access to, and a thorough knowledge of their specific data subsets. By working with the sites, significant data improvements can be made by updating existing data and filling in missing data.

The key aspect of the data analysis was carried out with the objective of determining if transportation activities can be executed as planned and the nature and magnitude of any barriers to planned execution. At this point of the analysis, it appears that planned transportation activities can be executed if funding and packagings are made available, and if the barriers identified are resolved as planned. However, it should be noted that although contact has been made with the major eleven sites to update transportation plans and data; the quality of data and understanding to perform the necessary analyses does not compare with conducting site visits.

Attachment 1

WEST VALLEY DEMONSTRATION PROJECT
ENHANCED BASELINE

10 May 2002

Note: Data from the original IPABS database is printed in black, while additional and corrected data is printed in red.

West Valley Outgoing - Low Level Waste (LLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
LLW	3625	Envirocare Disposal	WVDP	ENVR	2001	425	100 %	425	M3	15	16	Truck	LSA1	STC/IP-1	Other (28.33 M3) **Sealand - 8x8x20 (approx.)**
					2002	850	100 %	850	M3						
					2003	850	100 %	850	M3						
					2004	850	100 %	850	M3						

Transportation Comments: Wastes are sorted and packaged for shipment off-site. Wastes shipped to date have been shipped as Non DOT Regulated or Radioactive Material, LSA, n.o.s. Planning efforts to ship additional volumes after FY 01 has not occurred.

LLW	644	WVDP Site Closure	WVDP	TBD	2004	12730	100 %	12730	M3
					2005	12730	100 %	12730	M3
					2006	12730	100 %	12730	M3
					2007	12730	100 %	12730	M3
					2008	12730	100 %	12730	M3
					2009	12730	100 %	12730	M3
					2010	12730	100 %	12730	M3

Stream Comments: 1. Outyear Project Completion/Closure Quantities (140,000 M3) based on average DEIS alternative. Final quantities to be estimated and baselined after EIS ROD determination. Quantities are in cubic meters and are based on Planning Level Funding. Disposal site TBD.

Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc.). Waste can be characterized for shipping using existing capabilities. This waste stream will be generated during ER and D&D activities. Some may require retrieval, but no problems are foreseen. Further characterization and classification is required. It is not known if the waste/material meets the subsequent treatment/disposal facility waste acceptance criteria (WAC). The final volume of this waste will be dependent on final decisions arising from completion of the WVDP Site Completion EIS. Disposition of this wa

LLW	645	Stabilized LLW-Drum Cell Waste	WVDP	TBD	2006	470	100 %	470	M3
					2007	470	100 %	470	M3
					2008	470	100 %	470	M3
					2009	470	100 %	470	M3
					2010	470	100 %	470	M3

Stream Comments: Site Closure EIS ROD will determine disposition path from current storage location (Drum Cell).

Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: A plausible and feasible path for completing final disposition of this waste/material does exist. This waste stream consists of supernatant from WVDP tanks that has already been stabilized and placed in tumulus type MRS cells. The WVDP EIS in process will determine if these wastes will remain at the WVDP or be shipped off-site for disposal. Waste/material can be retrieved. Characterization is sufficient to support designation under Department of Transportation (DOT) or onsite transportation requirements. If it is required to be disposed offsite, the waste is expected to meet the WAC. This material was a characteristic mixed waste that has been treated and complies with LDRs. Accordingly, it can be managed as a LLW. No prob

West Valley Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
MLLW	649	Organic Liquids	WVDP	ATG1	2001	0.056	100 %	0.056	M3						
					2002	0.014	100 %	0.014	M3						
					2003	0.014	100 %	0.014	M3						
					2004	0.014	100 %	0.014	M3						

Transportation Comments: The tentative date for treatment at the WERF Facility is May 2000. However, due to operational and/or regulatory agency constraints, this date may be extended. Transportation information will be supplied when available.

Stream Comments: This treatment was tentatively scheduled for FY 2000 at the WERF facility. It has now been profiled to ATG for thermal treatment.

Barrier Comments: WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: Waste can be characterized for shipping using existing capabilities. A plausible and feasible path for treating and completing final disposition of this waste/material does exist. The capabilities do exist (required methods and facilities) to complete the characterization required by the WAC of the receiving facility (physical sampling, onsite analytical capability, offsite contracts, etc.). Waste is in containerized storage. The preferred option for

MLLW	651	Lead-Acid Batteries	WVDP	COMM	2001	0.029	100 %	0.029	M3						
					2002	0.029	100 %	0.029	M3						
					2003	0.029	100 %	0.029	M3						
					2004	0.029	100 %	0.029	M3						

Transportation Comments: Wastes shipped to date have been shipped as Non DOT regulated or Radioactive Material, LSA, n.o.s. Planning efforts to ship additional volumes will occur as needed.

Stream Comments: 10 batteries were shipped to GTS Duratek in FY98 for decontamination and free release. No treatment occurred in FY99 since the remaining batteries do not meet the GTS Waste acceptance Criteria and a milestone has been added to the Plan volume of the STP to complete an alternative treatment assessment. IPAB's MLLW stream is aligned with Section 3.1.2 of the current WVDP Site Treatment Plan (February 2000).

Barrier Comments: TECHNOLOGY - OTHER SCIENCE OR TECHNOLOGY ISSUES: Three batteries remain in inventory that are not acceptable at GTS Duratek or Envirocare for decontamination/macroencapsulation. The DOE Broad Spectrum Treatment Contract may provide alternative treatment opportunities.

MLLW	652	Elemental Lead and Solid Metals	WVDP	COMM	2001	0.07	100 %	0.07	M3						
					2002	0.07	100 %	0.07	M3						
					2003	0.07	100 %	0.07	M3						
					2004	0.595	100 %	0.595	M3						

Transportation Comments: Wastes shipped to date have been shipped as Non DOT regulated or Radioactive Material, LSA, n.o.s. Planning efforts to ship additional volumes will occur as needed.

Stream Comments: Consists of Site Treatment Plan waste streams WV-W002 and WV-W046.

Barrier Comments: TECHNOLOGY - OVERALL PROJECT TECHNOLOGY CONCERNS: This waste stream includes some lead forms that pose significant barriers to decontamination (sponge, foam, shot, wool). Decontamination/macroencapsulation options are currently being evaluated. The DOE Broad Spectrum Treatment Contract may provide treatment alternatives.

MLLW	2421	Debris/Solids w/Organics	WVDP	COMM	2001	0.68	100 %	0.68	M3						
					2002	0.68	100 %	0.68	M3						
					2003	0.68	100 %	0.68	M3						
					2004	0.68	100 %	0.68	M3						

Transportation Comments: Planning efforts to ship the identified volume have not occurred. Transportation information will be supplied when available.

Stream Comments: IPABS MLLW stream 2421 is aligned with Section 3.1.10 of the current site Treatment Plan (February 2000). The preferred treatment option for this waste stream is macroencapsulation at an offsite commercial facility. STP numbers WV-W028, W035, W036, W037, W042.

Unlike previous approaches, segregation of this waste into its organic and inorganic components is not required for macroencapsulation of the waste. Incineration of the organic portion of this waste (if segregated) is no longer considered a viable option. See IPABS MLLW stream 2282.

West Valley Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
Barrier Comments:	WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: Unlike previous approaches segregation of this waste into its organic and inorganic components is not required for macroencapsulation of the waste. TECHNOLOGY - OTHER SCIENCE OR TECHNOLOGY ISSUES: The preferred treatment option for this waste stream is macroencapsulation at an offsite commercial facility.														
MLLW	3073	PCB Solids	WVDP	COMM	2001	4.304	100 %	4.304	M3	0	0	Truck	TBD	STC/IP-1	Other (0 M3)
										1	**21**				**Drum - 55 gal.**
					2004	1.944	100 %	1.944	M3						
										1	**10**				**Drum - 55 gal.**
Transportation Comments:	Planning efforts to ship the identified volume have not occurred. Transportation information will be supplied when available.														
Stream Comments:	Treatment of this waste stream depends on acceptance at DOE-Oak Ridge's Eastern Tennessee Technology Park. IPABS MLLW stream 3073 is now aligned with Section 3.1.5 of the current WVDP Site Treatment Plan (February 2000). STP number WV-W040. Waste from IPABS MLLW 3077 was added to this section along with routine generation.														
Barrier Comments:	TECHNOLOGY - OVERALL PROJECT TECHNOLOGY CONCERNS: This waste stream may include non-incinerable and incinerable solids. Characterization of these wastes will be completed during FY 2000. Currently there are no facilities available for treating the non-incinerable solids, but alternatives may exist through the use of DOE's Broad Spectrum Treatment Contract. Currently the State of Tennessee is not allowing out-of-state wastes to be incinerated at the TSCA Facility, therefore, DOE's Broad Spectrum Treatment Contract may provide treatment alternatives for incinerable solids included in this waste stream.														
MLLW	3074	Heterogeneous/Glass	WVDP	COMM	2001	3.027	100 %	3.027	M3						
					2002	0.013	100 %	0.013	M3						
					2003	0.013	100 %	0.013	M3						
					2004	3.772	100 %	3.772	M3						
Transportation Comments:	Planning efforts to ship the identified volumes have not occurred. Transportation information will be supplied when available.														
Stream Comments:	This waste stream consists of mercury contaminated debris and flourescent light bulbs.IPABS MLLW stream 3074 is aligned with Section 3.1.4 of the current WVDP Site Treatment Plan (February 2000). Plans are being made to ship part of this waste stream to ATG for treatment in FY 2000 and FY2001. STP numbers WV-W020, W038.														
Barrier Comments:	TECHNOLOGY - OTHER SCIENCE OR TECHNOLOGY ISSUES: This waste stream consists of mercury contaminated debris and flourescent light bulb debris. Treatment plans are being discussed with ATG. Potential treatment options may be available through use of the DOE Broad Spectrum Treatment Contract.														
MLLW	650	Organic Liquids	WVDP	DSSI	2001	0.14	100 %	0.14	M3						
					2002	0.215	100 %	0.215	M3						
					2003	0.14	100 %	0.14	M3						
					2004	0.14	100 %	0.14	M3						
Transportation Comments:	Planning efforts to ship the identified volume have not occurred. Transportation information will be supplied when available.														
Barrier Comments:	WORK SCOPE DEFINITION - OTHER WORK SCOPE DEFINITION ISSUES: The preferred option for treatment of these wastes is at DSSI. Waste can be packaged and shipped using existing capabilities. No problems are foreseen.														
MLLW	3071	Heterogeneous Debris	WVDP	INEL	2001	60.445	100 %	60.445	M3						
					2002	0.184	100 %	0.184	M3						
					2003	0.092	100 %	0.092	M3						
					2004	0.092	100 %	0.092	M3						
Transportation Comments:	Planning efforts to ship the identified volume have not occurred. Transportation information will be supplied when available.														

West Valley Outgoing - Mixed Low Level Waste (MLLW)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name

Stream Comments: IPABS MLLW stream is aligned with Section 3.1.9 of the current Site Treatment Plan (October 2000). The preferred treatment for this waste was WERF, but because they plan to cease operations in 09/01, an alternative to WERF incineration is being developed. STP numbers WV-W057, W058.

Waste from IPABS 3077 was added to this section.

Barrier Comments: TECHNOLOGY - INADEQUATE CHARACTERIZATION CAPABILITIES: Additional analysis may be required to demonstrate compliance with specific WAC requirements prior to offsite shipment.

TECHNOLOGY - OVERALL PROJECT TECHNOLOGY CONCERNS: The preferred treatment option for these wastes is incineration followed by ash stabilization. Some of the Pb contaminated PPE may have Pb concentrations too high for acceptance for incineration at INEEL WERF. The DOE Broad Spectrum Treatment Contract may provide treatment alternatives.

West Valley Outgoing - Spent Nuclear Fuel (SNF)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
SNF	273	Spent Nuclear Fuel	WVDP	INEL	~~2001~~	26.32	100 %	26.32	MTHM	~~0~~	~~0~~	Rail	~~TBD~~	Type B	~~Cask (0 M3)~~
					TBD					**1**	**2**		**TYP B Qty**		**TN-REG / TN-BRP**

Transportation Comments: Plaaning efforts are currently in progress.

Barrier Comments: INTERSITE DEPENDENCY - INTERSITE TRANSFER ISSUES: The assemblies will be stored on a pad in dry storage using the shipping casks as the storage container. The project is baselined on the belief that the NRC will allow only shipment of a half-load fill of the casks. The first half-shipment will be sent and unloaded at TAN and stored in the Silo. Once the second shipment is made the stored elements will be moved from the Silo into the cask for interim storage with the second half-load.
WORK SCOPE DEFINITION - LICENSE OR PERMIT ISSUES: Concern exists that the State of Idaho may prevent the shipment of commercial fuel in to Idaho if milestones in the Settlement Agreement are not met by DOE. This shipment of WV fuel would represent the first non-Navy/ foreign-research-reactor fuel since

West Valley Outgoing - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	1461	Combined TRU Waste (Disposition Ready)	WVDP	TBDO	2006	68	100 %	68	M3	~~0~~	~~0~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										8	**24**				**TRUPACT-II**
					2007	68	100 %	68	M3	~~0~~	~~0~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										8	**24**				**TRUPACT-II**
					2008	68	100 %	68	M3	~~0~~	~~0~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										8	**24**				**TRUPACT-II**
					2009	68	100 %	68	M3	~~0~~	~~0~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										8	**24**				**TRUPACT-II**

West Valley Outgoing - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2010	68	100 %	68	M3	~~0~~	~~0~~	Truck	TBD	TBD	~~TBD (0 M3)~~
										8	**24**				**TRUPACT-II**

Transportation Comments: Disposal and transportation systems needed for disposal of WVDP non-defense TRU wastes resulting from RHWF processing on-site are not defined. It is not known if all of the wastes/materials will meet the subsequent disposal facility waste acceptance criteria (WAC). Since the disposal facility for WVDP non-defense TRU waste is not defined, the WAC is not known. WVDP would prefer to have the national TRU policy modified by Congress to allow non-defense TRU waste to go to WIPP for disposal. The WVDP will prepare TRU material onsite for disposal in the RHWF. WIPP WAC will be used as the basis for facility requirements until other requirements are stipulated. Transportation of this material will likely require DOT Type B containers. The needed transport system is not defined , WVDP assum

Stream Comments: Volume shipped for disposal in FY 11 - 68 cubic meters, FY 12 - 68 cubic meters, FY 13 - 72 cubic meters

Barrier Comments: Intersite Agreement Conflicts:A defined disposal path for WVDP TRU waste has not been identified. WVDP TRU waste is not on the authorized shipping list for WIPP. Work Scope Definition:The RHWF was designed to remotely handle TRU, and e package TRU for disposal. A disposal path needs to be identified by DOE-HQ for WVDP TRU. Work Scope Definition Issues: Disposal and transport systems needed for disposal of WVDP non-defense TRU waste are not defined. It is not known if all of the wastes/materials will meet the subsequent disposal facility waste acceptance criteria (WAC). As the disposal facility for WVDP non-defense TRU waste is not defined the WAC is not known. WVDP would prefer to have the national TRU policy modified by Congress to allow non-defense TRU to go to WIPP.

Attachment 2

WEST VALLEY DEMONSTRATION PROJECT
TYPE B AND TYPE A-FISSILE
PACKAGING BASELINE

10 May 2002

West Valley

Year	Destination	Stream Type	# Shpts	Package	Package Certified / Available	Comments
TBD	Idaho	SNF	1	TN-REG / TN-BRP	Yes / Yes	Both West Valley casks will go on the same shipment.

Attachment 3

WEST VALLEY DEMONSTRATION PROJECT TRANSPORTATION BASELINE SUMMARY

10 May 2002

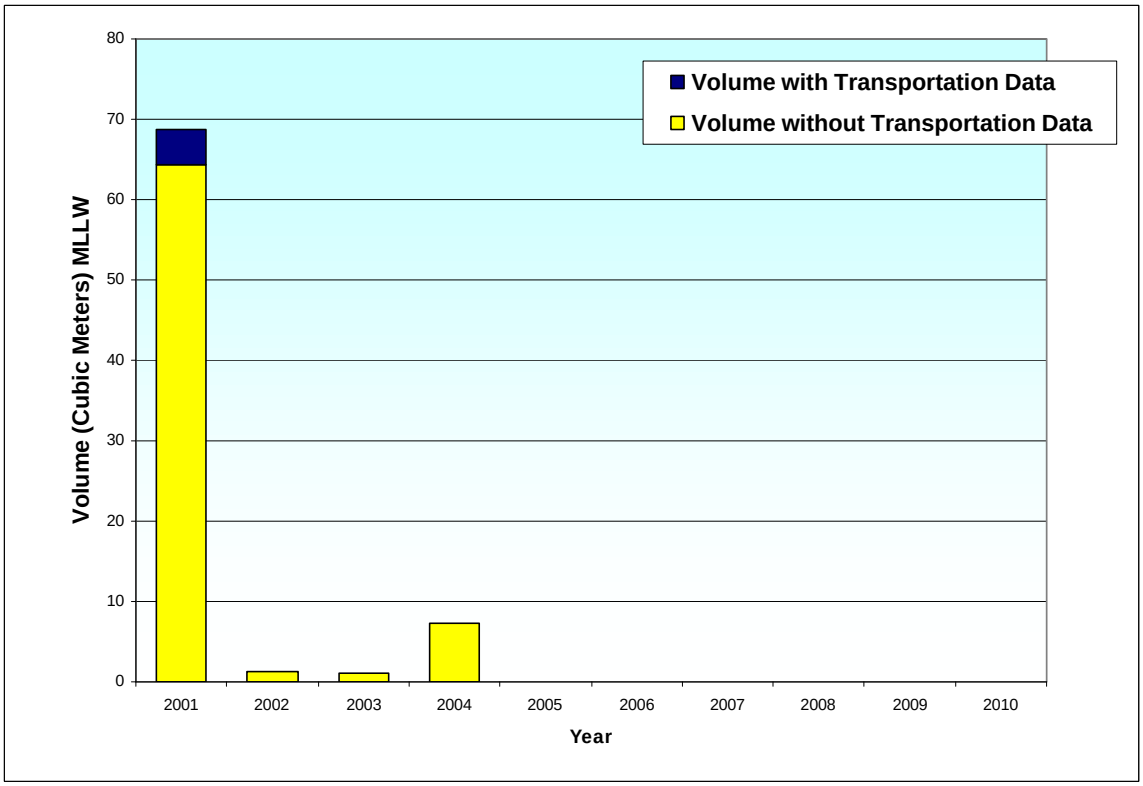


Figure 1. Quantity of MLLW to be shipped by year through 2010

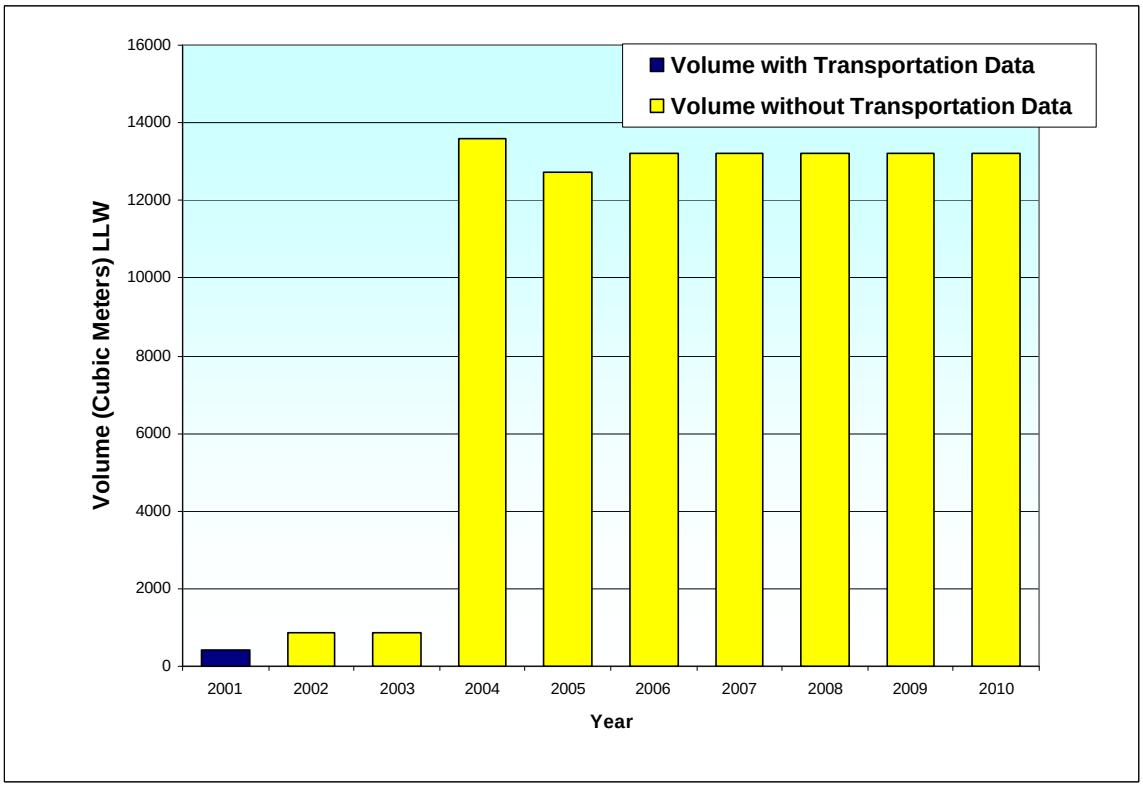


Figure 2. Quantity of LLW to be shipped by year through 2010

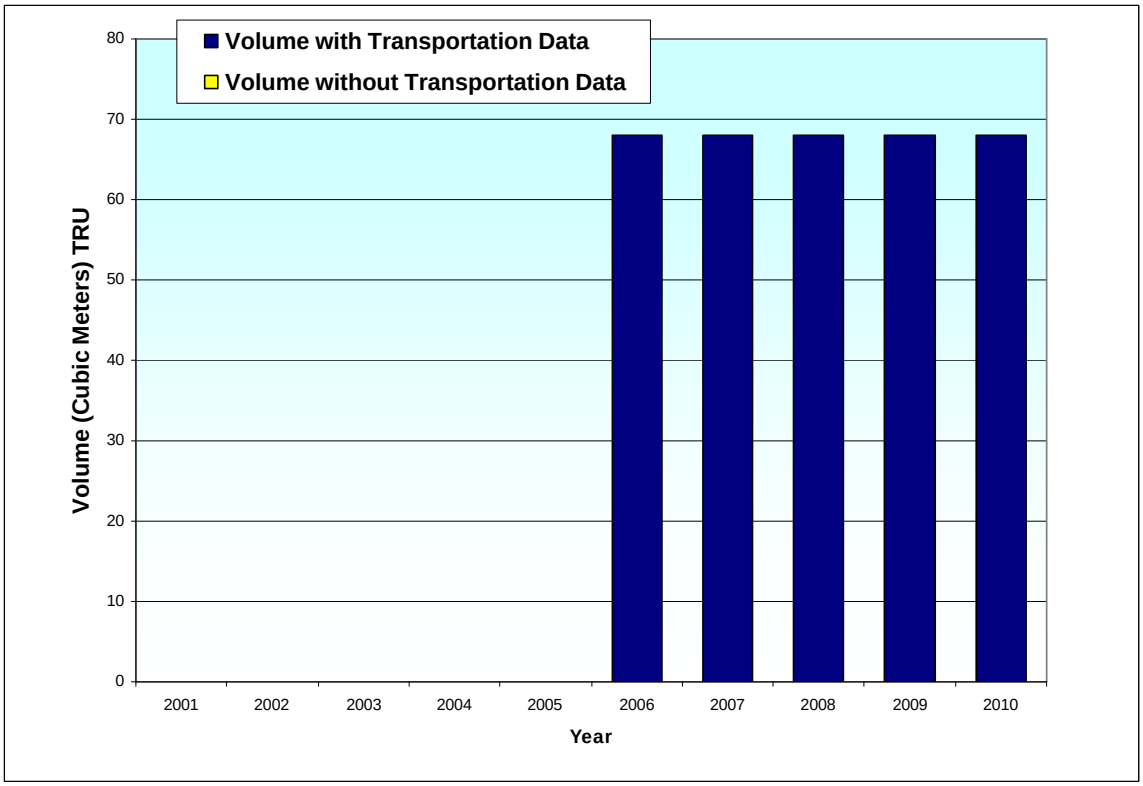


Figure 3. Quantity of TRU to be shipped by year through 2010

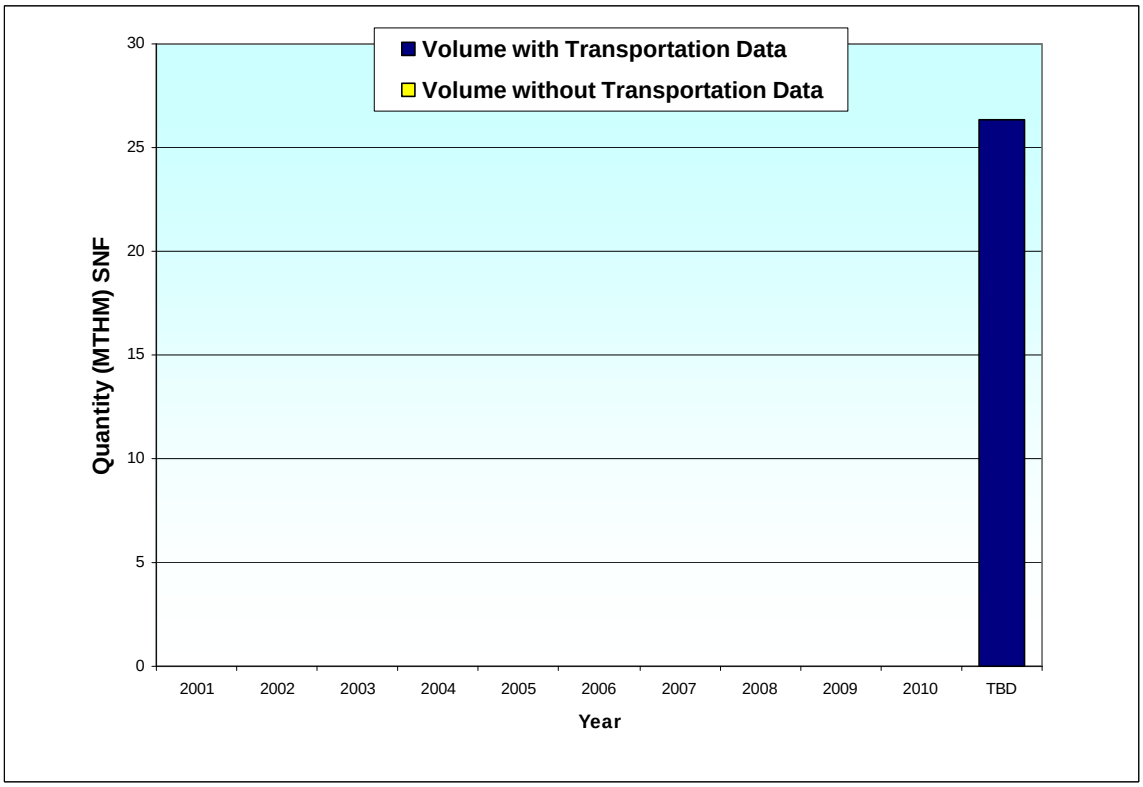


Figure 4. Quantity of SNF to be shipped by year through 2010

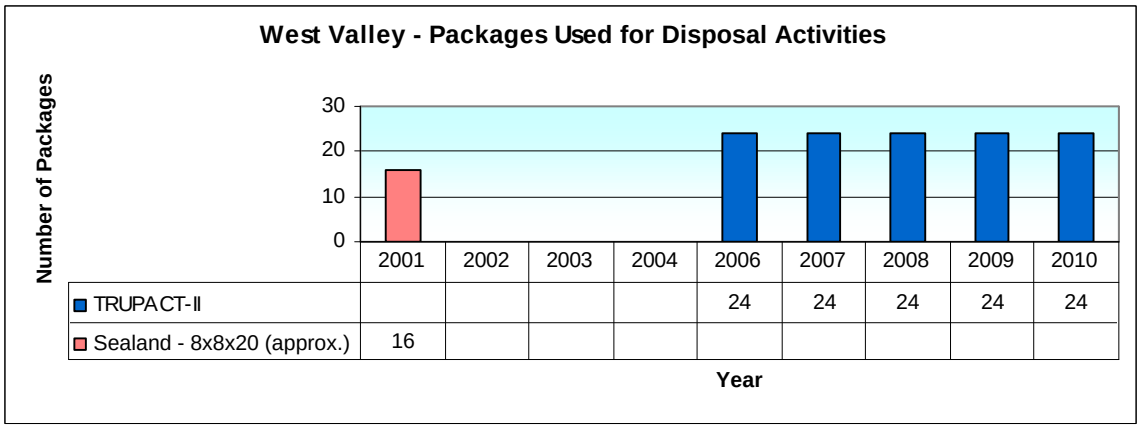


Figure 5. Number of packages to be shipped to disposal.

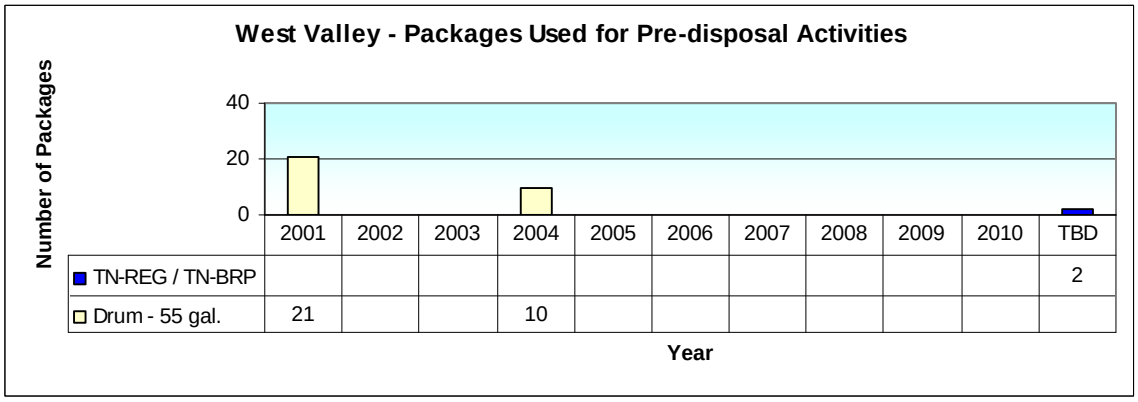


Figure 6. Number of packages to be used for pre-disposal activities.

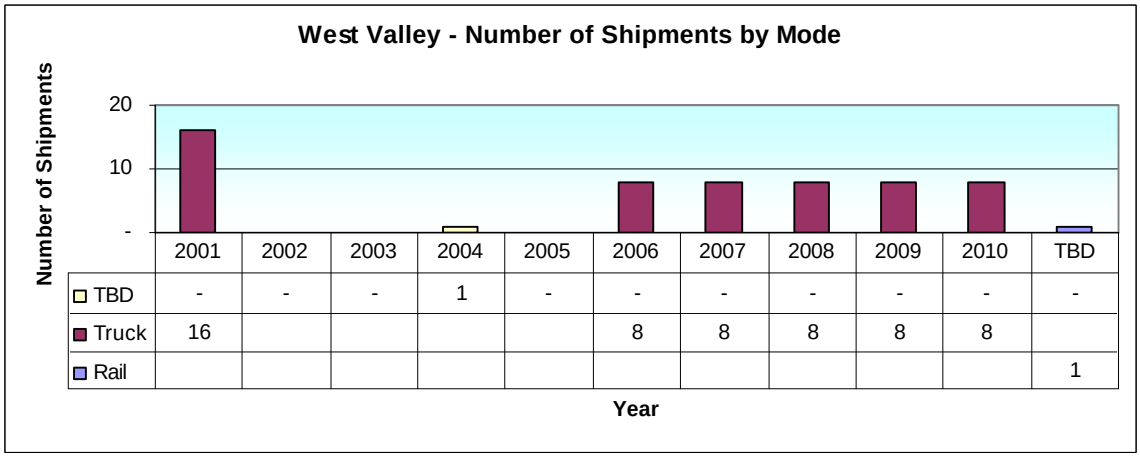


Figure 7. Number of shipments by mode.

Waste Isolation Pilot Plant
ENHANCED BASELINE TRANSPORTATION DATA

This section presents and discusses the updated and enhanced basic data sets obtained through the data gathering activities.

Waste Isolation Pilot Plant Enhanced Baseline

Waste Isolation Pilot Plant Enhanced Baseline data is presented in **Attachment 1**. (Note that data from the original IPABS database is printed in black while additional and corrected data is printed in red.) This information was compiled based on the 2001 IPABS database and was updated and enhanced with data from the Type B and Type A-Fissile Packaging Report and limited input from the reporting site.

Comparison of the 2001 IPABS data with the Enhanced Baseline yields the following observations:

(1) IPABS data does not necessarily represent the site's baseline shipping plans, and
(2) Additional data calls were effective in collecting transportation data for empty data fields.

The discrepancies confirm the need for an improved methodology for collecting and reporting transportation data.

Waste Isolation Pilot Plant Type B and Type A-Fissile Packaging Baseline

The Waste Isolation Pilot Plant is not a shipper. The Type B and Type A-Fissile Packaging Report is taken from the shipper perspective; therefore no entry is made for WIPP.

Planned vs. Actual FY 2001 Shipments

Actual volumes and numbers of containers shipped, and numbers of shipments were not available at the time this Forecast was prepared.

ENHANCED BASELINE ANALYSIS

The data products presented above have been processed and analyzed in ways intended to facilitate long-range planning and evaluate the feasibility of planned shipping activities. Analysis is based on assessment of the validity of appropriate Transportation Baseline Attributes. These attributes are listed at the beginning of this EM Transportation Forecast. The following sections present the results of the data analyses.

Transportation Baseline Summary

The Waste Isolation Pilot Plant Transportation Baseline Summary (**Attachment 2**) depicts TRU volumes involved in transportation events. **Figure 1 (Attachment 2)** depicts a summary of the annual volume of incoming TRU shipments. In the figures, the quantity of waste that does not

have completed transportation data is shown in yellow. This is waste that has a reported volume but has no associated package type, number of shipments, transportation mode, etc.

Figures 2 and 3, show packagings required for treatment and for disposal activities, illustrating the dual role transportation may play in the disposition of waste and material. Some waste/material streams must be transported to an off-site facility for treatment, returned to the site for packaging, and finally shipped to a permanent disposal facility. **Figure 4** provides an annual depiction of shipments to be made by rail, truck, or intermodaly.

Figure 1, below, summarizes incoming waste shipments planned for Waste Isolation Pilot Plant over the next 10 years as reported in the enhanced data set. The map depicts the destination of a set of shipments and indicates the number of shipments expected to be completed. It should be noted that in the absence of complete transportation activity profiles the number of shipments have been estimated.

WIPP
Stream Disposition
2001 - 2010 Incoming Enhanced Shipments

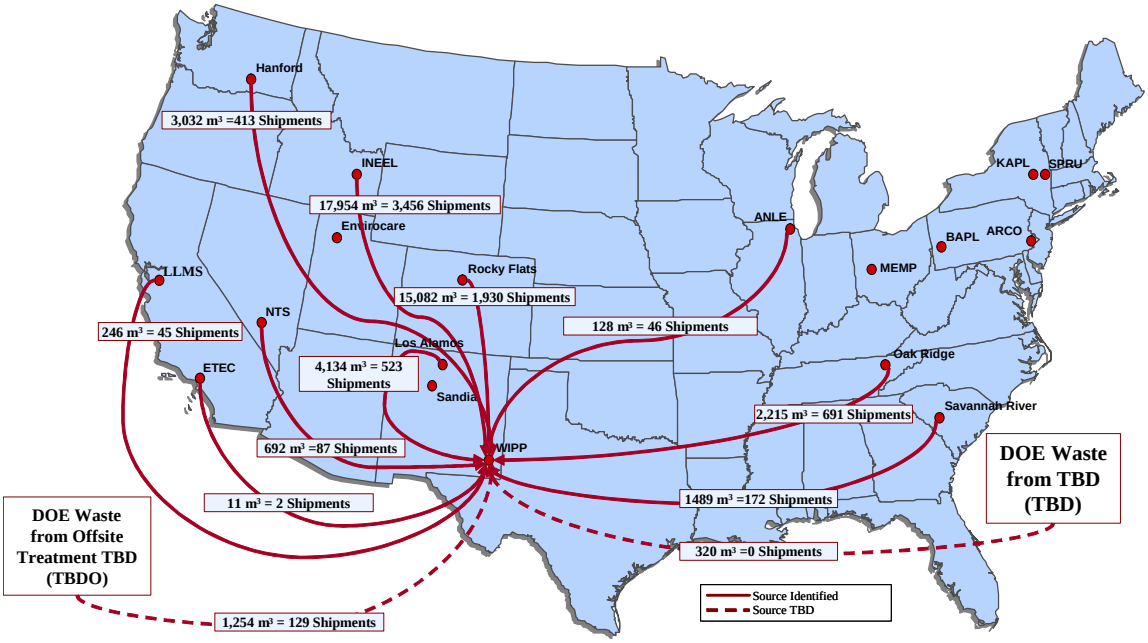


Figure 1. **Waste Isolation Pilot Plant Incoming Shipments**

Waste Isolation Pilot Plant Baseline Transportation Barriers

There are no barriers for WIPP that have been recorded in IPABS.

Transportation Activity Maps

Transportation Activity Maps were developed for **Waste Isolation Pilot Plant**, but are not included due to the large volume of data. For the inquisitive reader, Transportation Activity Maps are included for the Hanford Site.

Type B and Type A-Fissile Packaging Needs Assessment

The Type B and Type A-Fissile packaging needs for WIPP are shown from the shipper perspective under each of the sites shipping to WIPP.

Type B Package Certification Schedule

The Type B Package Certification Schedule was developed to assist in the coordination of packages being certified. By being cognizant of what revisions are needed, EM can better work with the certifying agencies' schedules and coordinate the submittals to allow time for the reviews and certification to be obtained to meet key clean-up and closure milestones.

This Forecast has taken the shipper perspective in identifying the schedule for package certification. In this case, WIPP is a receiver and not a shipper; therefore no certification schedule was developed.

SUMMARY AND CONCLUSIONS

The data set presented and analyzed in this Forecast is a compilation of the data from the following sources: 1) The 2001 Integrated Planning, Accountability, and Budgeting System (IPBAS) database, 2) The National TRU Program databases, and 3) The Type B and Type A-Fissile Packaging Report. It encompasses offsite transportation activities planned for the next ten years as a part of the EM mission. Data for transportation activities beyond the ten years was limited to reporting quantities only and was not analyzed.

The analyses produced the following products:

1) Transportation Baseline – This is the baseline of the schedule and quantities of all planned shipments through 2010;
2) Type B and Type A-Fissile Packaging Baseline – This baseline consists of a certification schedule and identifies the packaging required to meet the transportation baseline through 2010. This is shown from the shipper perspective and may be found under the sites shipping to WIPP;
3) Enhanced Data – This is an improvement to the transportation data from IPABS. The existing data was modified to reflect the site baseline shipping plans and missing data was provided to fill many of the gaps up through 2010; and
4) Barriers Analysis – This is the documentation of the barriers to execution of the transportation baseline.

During the data gathering process, it became apparent that comprehensive information does not reside with any single organization at the sites. In order to build an accurate and comprehensive

data set, it is necessary to confer with personnel from various site organizations who both have access to, and a thorough knowledge of their specific data subsets. By working with the sites, significant data improvements can be made by updating existing data and filling in missing data.

The key aspect of the data analysis was carried out with the objective of determining if transportation activities can be executed as planned and the nature and magnitude of any barriers to planned execution. At this point of the analysis, it appears that planned transportation activities can be executed if funding and packagings are made available, and if the barriers identified are resolved as planned. However, it should be noted that although contact has been made with the major eleven sites to update transportation plans and data; the quality of data and understanding to perform the necessary analyses does not compare with conducting site visits.

Attachment 1

WASTE ISOLATION PILOT PLANT
ENHANCED BASELINE

10 May 2002

Note: Data from the original IPABS database is printed in black, while additional and corrected data is printed in red.

WIPP Incoming - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
TRU	1939	CH TRU from ANL-E	ANLE	WIPP	2002	95.3	100 %	95.3	M3	~~13~~	~~39~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
										15	**33**				**TRUPACT-II**
					2010	16.1	100 %	16.1	M3	~~2~~	~~6~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
										3	**6**				**TRUPACT-II**
Stream Comments:		First campaign takes care of currently stored and generated TRU through 2002. 8 years later 2nd campaign is planned with completion in FY30 period. Total volumes to be disposed at WIPP differ. Disposition schedules vary due to differing baseline assupmtions. Shipments of TRU waste from ANL-E to WIPP are contingent upon Chicago DOE receiving appropriate funding for certification, characterization, and packaging.													
TRU	7293	RH TRU from ANL-E	ANLE	WIPP	2003	9.7	100 %	9.7	M3						
										16	**16**				**RH-72B**
					2010	7	100 %	7	M3						
										12	**12**				**RH-72B**
Barrier Comments:		added August 16, 2001													
TRU	1950	CH TRU from Hanford	HASI	WIPP	2001	~~34~~	100 %	~~34~~	M3	~~12~~	~~36~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						61.7		**61.7**		**7**	**22**				**TRUPACT-II**
					2002	~~41~~	100 %	~~41~~	M3	~~59~~	~~177~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						0		**0**		**0**	**0**				**TRUPACT-II**
					2003	~~165~~	100 %	~~165~~	M3	~~59~~	~~177~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						82		**82**		**12**	**29**				**TRUPACT-II**
					2004	~~359~~	100 %	~~359~~	M3	~~73~~	~~219~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						117		**117**		**16**	**41**				**TRUPACT-II**
					2005	~~462~~	100 %	~~462~~	M3	~~78~~	~~234~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						144		**144**		**20**	**50**				**TRUPACT-II**
					2006	~~479~~	100 %	~~479~~	M3	~~101~~	~~303~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						204		**204**		**28**	**71**				**TRUPACT-II**
					2007	~~442~~	100 %	~~442~~	M3	~~91~~	~~273~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						275		**275**		**38**	**95**				**TRUPACT-II**
					2008	~~444~~	100 %	~~444~~	M3	~~72~~	~~216~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						499		**499**		**68**	**173**				**TRUPACT-II**
					2009	~~449~~	100 %	~~449~~	M3	~~84~~	~~252~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						749		**749**		**102**	**259**				**TRUPACT-II**
					2010	~~447~~	100 %	~~447~~	M3	~~93~~	~~279~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						900		**900**		**122**	**311**				**TRUPACT-II**
Stream Comments:		Total volumes to be disposed at WIPP and the site disposition schedule differ due to the sites using different baseline assumptions. Disposition schedules vary because of the need to maintain receipts within WIPP receipt limit of 850 shipments per year. Hanford changes over shipping data are in FY04 and F05. The number of shipment values are provided by Hanford.													
TRU	1952	CH TRU from INEEL	INEL	WIPP	2001	~~1159~~	100 %	~~1159~~	M3	~~170~~	~~510~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						697		**697**		**121**	**241**				**TRUPACT-II**
					2002	~~1483~~	100 %	~~1483~~	M3	~~216~~	~~648~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
										381	**512**				**TRUPACT-II**

WIPP Incoming - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2003	~~1082~~	100 %	~~1082~~	M3	~~177~~	~~531~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						790		**790**		**149**	**273**				**TRUPACT-II**
					2004	~~1817~~	100 %	~~1817~~	M3	~~386~~	~~1158~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						1530		**1530**		**274**	**528**				**TRUPACT-II**
					2005	~~2238~~	100 %	~~2238~~	M3	~~485~~	~~1455~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						1948		**1948**		**348**	**672**				**TRUPACT-II**
					2006	~~2210~~	100 %	~~2210~~	M3	~~478~~	~~1434~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						1920		**1920**		**343**	**663**				**TRUPACT-II**
					2007	~~2502~~	100 %	~~2502~~	M3	~~547~~	~~1641~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						2212		**2212**		**395**	**763**				**TRUPACT-II**
					2008	~~2984~~	100 %	~~2984~~	M3	~~662~~	~~1986~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						2694		**2694**		**482**	**929**				**TRUPACT-II**
					2009	~~2480~~	100 %	~~2480~~	M3	~~925~~	~~2775~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						2190		**2190**		**392**	**756**				**TRUPACT-II**
					2010	~~2723~~	100 %	~~2723~~	M3	~~984~~	~~2952~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						2433		**2433**		**435**	**839**				**TRUPACT-II**
Stream Comments:		Total volumes to be disposed at WIPP and those to be shipped from INEEL are consistent. Disposition schedules vary because of the need to maintain total annual receipt schedule within the WIPP limit of 850 shipments per year. Shipment rates are modified for FY04, 05, and 06.													
TRU	1953	RH TRU from INEEL	INEL	WIPP	2007	14.17	100 %	14.17	M3	34	~~34~~	Truck	LSA1	Type B	~~Cask (0.89 M3)~~
											23				**RH-72B**
					2008	14.17	100 %	14.17	M3	34	~~34~~	Truck	LSA1	Type B	~~Cask (0.89 M3)~~
											23				**RH-72B**
					2009	14.17	100 %	14.17	M3	34	~~34~~	Truck	LSA1	Type B	~~Cask (0.89 M3)~~
											23				**RH-72B**
					2010	14.17	100 %	14.17	M3	34	~~34~~	Truck	LSA1	Type B	~~Cask (0.89 M3)~~
											23				**RH-72B**
Stream Comments:		Total volumes to be disposed at WIPP and those to be shipped from INEEL differ. Disposition schedules vary because of differing baseline assumptions. INEEL supports 85 m3 as a shipping volume.													
TRU	1956	CH TRU from LANL	LANL	WIPP	2001	~~159.9~~	100 %	~~159.9~~	M3	28	~~84~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						73.6		**73.6**			**26**				**TRUPACT-II**
					2002	~~385~~	100 %	~~385~~	M3	~~65~~	~~195~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						219.6		**219.6**		**23**	**76**				**TRUPACT-II**
					2003	~~521.9~~	100 %	~~521.9~~	M3	~~76~~	~~228~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						282		**282**		**32**	**98**				**TRUPACT-II**
					2004	~~773~~	100 %	~~773~~	M3	~~160~~	~~480~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						520.5		**520.5**		**65**	**180**				**TRUPACT-II**
					2005	~~1035.7~~	100 %	~~1035.7~~	M3	~~167~~	~~501~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						532		**532**		**66**	**184**				**TRUPACT-II**
					2006	~~1368.4~~	100 %	~~1368.4~~	M3	~~228~~	~~684~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						541		**541**		**67**	**187**				**TRUPACT-II**
					2007	~~1504.8~~	100 %	~~1504.8~~	M3	~~166~~	~~498~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						586		**586**		**73**	**203**				**TRUPACT-II**

WIPP Incoming - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2008	~~1424.9~~	100 %	~~1424.9~~	M3	~~153~~	~~459~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						542		**542**		**67**	**187**				**TRUPACT-II**
					2009	~~1379.5~~	100 %	~~1379.5~~	M3	~~120~~	~~360~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						439		**439**		**54**	**152**				**TRUPACT-II**
					2010	~~1412.5~~	100 %	~~1412.5~~	M3	~~118~~	~~354~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						398		**398**		**48**	**138**				**TRUPACT-II**
Stream Comments:		Disposition volumes are consistent based on 5/12/99 site call. The schedule is adjusted to satisfy the WIPP receipt limit of 850 shipments per year. the affected years are FY 04, 06, and 07.													
TRU	1958	CH TRU from LLNL	LLMS	WIPP	2004	~~119~~	100 %	~~119~~	M3	~~13~~	~~39~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						26.46		**26.46**		**14**	**10**				**TRUPACT-II**
					2005	~~66~~	100 %	~~66~~	M3	~~7~~	~~21~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						0		**0**		**0**	**0**				**TRUPACT-II**
					2006	~~66~~	100 %	~~66~~	M3	~~7~~	~~21~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						0		**0**		**0**	**0**				**TRUPACT-II**
					2007	~~93~~	100 %	~~93~~	M3	~~10~~	~~30~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						165		**165**		**23**	**57**				**TRUPACT-II**
					2008	~~73~~	100 %	~~73~~	M3	~~8~~	~~24~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						0		**0**		**0**	**0**				**TRUPACT-II**
					2009	27	100 %	27	M3	~~3~~	~~9~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
										4	**10**				**TRUPACT-II**
					2010	27	100 %	27	M3	3	9	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
										4	**10**				**TRUPACT-II**
Stream Comments:		Total volumes to be disposed at WIPP are consistent between shipping and receiving sites based on the 5/12/99 site call.													
TRU	1961	CH TRU from NTS	NVTS	WIPP	2002	215	100 %	215	M3	33	~~99~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
											75				**TRUPACT-II**
					2005	~~451~~	100 %	~~451~~	M3	~~30~~	~~90~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						424		**424**		**46**	**147**				**TRUPACT-II**
					2009	~~54~~	100 %	~~54~~	M3						
						53.4		**53.4**		**8**	**19**				**TRUPACT-II**
Stream Comments:		Total volumes to be disposed, and total volumes scheduled to be disposed at WIPP are consistent between shipping and receiving sites.													
TRU	1962	CH TRU from ORNL	ORTN	WIPP	2004	~~241~~	100 %	~~241~~	M3	~~56~~	~~168~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						789.7		**789.7**		**74**	**273**				**TRUPACT-II**
					2005	~~134~~	100 %	~~134~~	M3	~~32~~	~~96~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						855		**855**		**40**	**295**				**TRUPACT-II**
					2006	~~12~~	100 %	~~12~~	M3	~~3~~	~~9~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						33.2		**33.2**		**8**	**12**				**TRUPACT-II**
					2007	~~12~~	100 %	~~12~~	M3	~~3~~	~~9~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						104.8		**104.8**		**12**	**37**				**TRUPACT-II**
					2008	~~9~~	100 %	~~9~~	M3	~~2~~	~~6~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						30		**30**		**7**	**11**				**TRUPACT-II**
					2009	~~5~~	100 %	~~5~~	M3	~~1~~	~~3~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						27		**27**		**6**	**10**				**TRUPACT-II**

WIPP Incoming - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2010	~~5~~	100 %	~~5~~	M3	~~1~~	~~3~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						27		**27**		**6**	**10**				**TRUPACT-II**
Stream Comments:		Total volumes and disposition schedule to be disposed at WIPP are consistent between shipping and receiving sites. The Paths to Closure data assumes a generation duration of 73 years ending in FY2070. ORNL volume and shipping rates are inconsistent in that volumes per shipment are too high.													
TRU	1963	RH TRU from ORNL	ORTN	WIPP	2003	63	100 %	63	M3	~~76~~	~~76~~	Truck	LSA1	Type B	~~Cask (0.89 M3)~~
										102	**102**				**RH-72B**
					2004	119	100 %	119	M3	~~134~~	~~134~~	Truck	LSA1	Type B	~~Cask (0.89 M3)~~
										192	**192**				**RH-72B**
					2005	37	100 %	37	M3	~~33~~	~~33~~	Truck	LSA1	Type B	~~Cask (0.89 M3)~~
										60	**60**				**RH-72B**
					2006	37	100 %	37	M3	33	~~33~~	Truck	LSA1	Type B	~~Cask (0.89 M3)~~
											60				**RH-72B**
					2007	37	100 %	37	M3	~~33~~	~~33~~	Truck	LSA1	Type B	~~Cask (0.89 M3)~~
										60	**60**				**RH-72B**
					2008	28	100 %	28	M3	~~24~~	~~24~~	Truck	LSA1	Type B	~~Cask (0.89 M3)~~
										46	**46**				**RH-72B**
					2009	12	100 %	12	M3	~~5~~	~~5~~	Truck	LSA1	Type B	~~Cask (0.89 M3)~~
										20	**20**				**RH-72B**
					2010	15	100 %	15	M3	~~8~~	~~8~~	Truck	LSA1	Type B	~~Cask (0.89 M3)~~
										25	**25**				**RH-72B**
Stream Comments:		Includes some RH from SRS. Total volumes to be disposed at WIPP are not significantly different between shipping and receiving sites. Disposition schedules vary because of differing baseline assumptions.													
TRU	1965	CH TRU from RFETS	RFTS	WIPP	2001	~~1158~~	100 %	~~1158~~	M3	~~271~~	~~813~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						1044.3		**1044.3**		**162**	**361**				**TRUPACT-II**
					2002	~~3249~~	100 %	~~3249~~	M3	~~397~~	~~1191~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						2462		**2462**		**408**	**849**				**TRUPACT-II**
					2003	~~3249~~	100 %	~~3249~~	M3	~~454~~	~~1362~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						3756		**3756**		**441**	**1296**				**TRUPACT-II**
					2004	~~3249~~	100 %	~~3249~~	M3	~~423~~	~~1269~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						3677		**3677**		**432**	**1268**				**TRUPACT-II**
					2005	~~3249~~	100 %	~~3249~~	M3	~~253~~	~~759~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						3678		**3678**		**432**	**1269**				**TRUPACT-II**
					2006	~~595~~	100 %	~~595~~	M3	~~498~~	~~147~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						465		**465**		**55**	**161**				**TRUPACT-II**
Stream Comments:		Total volumes to be disposed at WIPP are consistent between shipping and receiving sites based on the 5/12/99 site call. Disposition schedule supports closure of RFETS in FY06													
TRU	1968	CH TRU from SRS	SARS	WIPP	2001	~~297~~	100 %	~~297~~	M3	~~4~~	~~12~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						61.7		**61.7**		**7**	**22**				**TRUPACT-II**
					2002	~~594~~	100 %	~~594~~	M3	~~12~~	~~36~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						589		**589**		**68**	**204**				**TRUPACT-II**
					2003	~~105~~	100 %	~~105~~	M3	12	~~36~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						104.8		**104.8**			**37**				**TRUPACT-II**

WIPP Incoming - Transuranic Waste (TRU)

Map	Stream #	Stream Name	Origin	Dest.	Year	Annual Qty	Ship %	Profile Qty	Unit	# Ship	# Pkg	Mode	DOT Category	Package Type	Package Name
					2004	~~105~~	100 %	~~105~~	M3	12	~~36~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						104.8		**104.8**			**37**				**TRUPACT-II**
					2005	~~105~~	100 %	~~105~~	M3	12	~~36~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						104.8		**104.8**			**37**				**TRUPACT-II**
					2006	~~105~~	100 %	~~105~~	M3	12	~~36~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						104.8		**104.8**			**37**				**TRUPACT-II**
					2007	105	100 %	105	M3	~~12~~	~~36~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
										13	**37**				**TRUPACT-II**
					2008	~~105~~	100 %	~~105~~	M3	12	~~36~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						104.8		**104.8**			**37**				**TRUPACT-II**
					2009	~~105~~	100 %	~~105~~	M3	12	~~36~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						104.8		**104.8**			**37**				**TRUPACT-II**
					2010	~~105~~	100 %	~~105~~	M3	12	~~36~~	Truck	LSA1	Type B	~~Cask (2.9 M3)~~
						104.8		**104.8**			**37**				**TRUPACT-II**

Stream Comments: Total volumes to be disposed at WIPP are consistent between shipping and receiving sites based on the 5/12/99 site call. Disposition schedules support limiting waste shipments to WIPP receipt limit of 850 per year. Affected period is FY05 to FY08.

Attachment 2

WASTE ISOLATION PILOT PLANT TRANSPORTATION BASELINE SUMMARY

10 May 2002

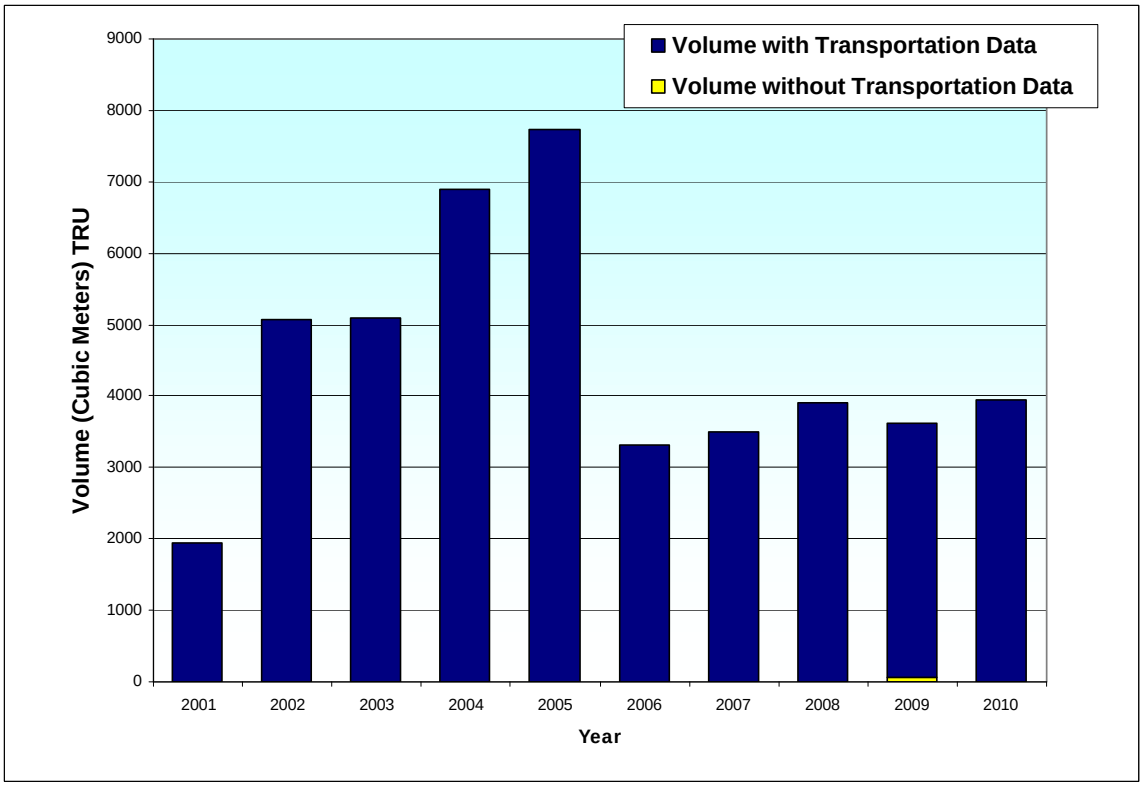
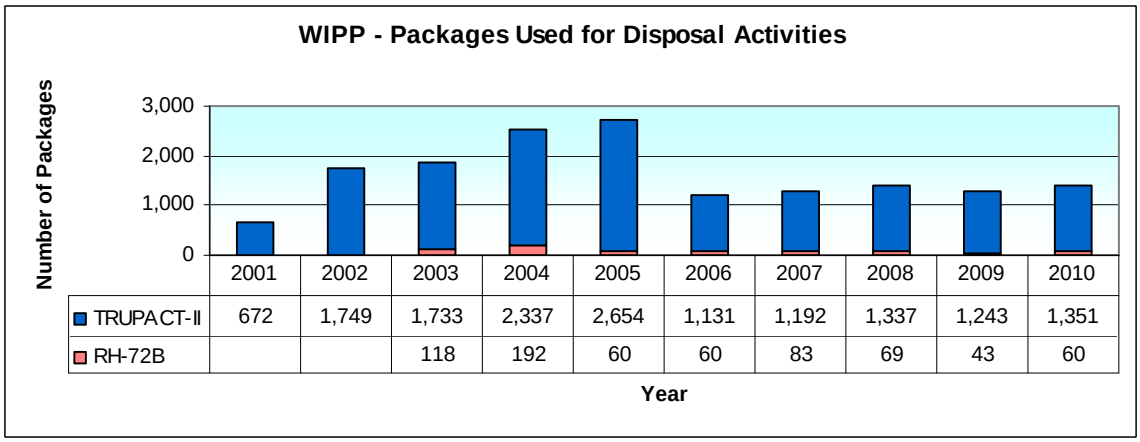


Figure 1. Quantity of TRU to be shipped by year through 2010



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
TRUPACT-II	672	1,749	1,733	2,337	2,654	1,131	1,192	1,337	1,243	1,351
RH-72B			118	192	60	60	83	69	43	60

Figure 2. Number of packages to be shipped to disposal

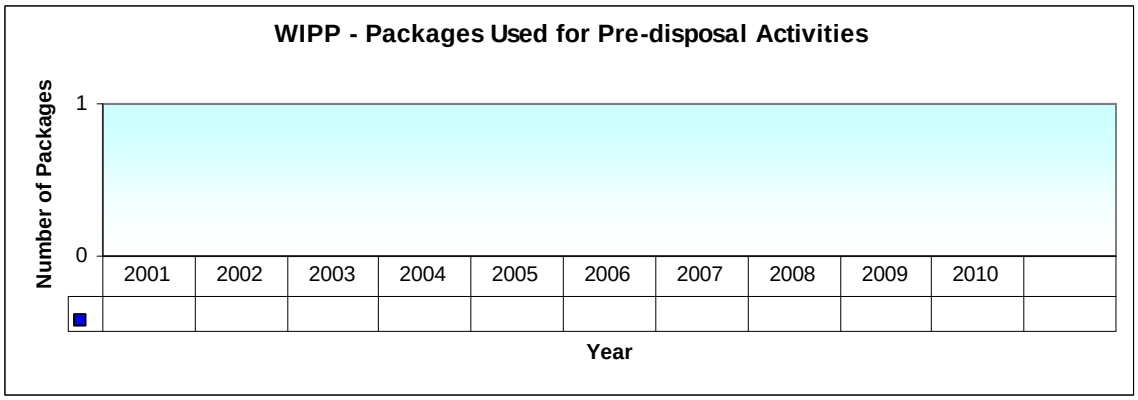


Figure 3. Number of packages to be used for pre-disposal activities (empty)

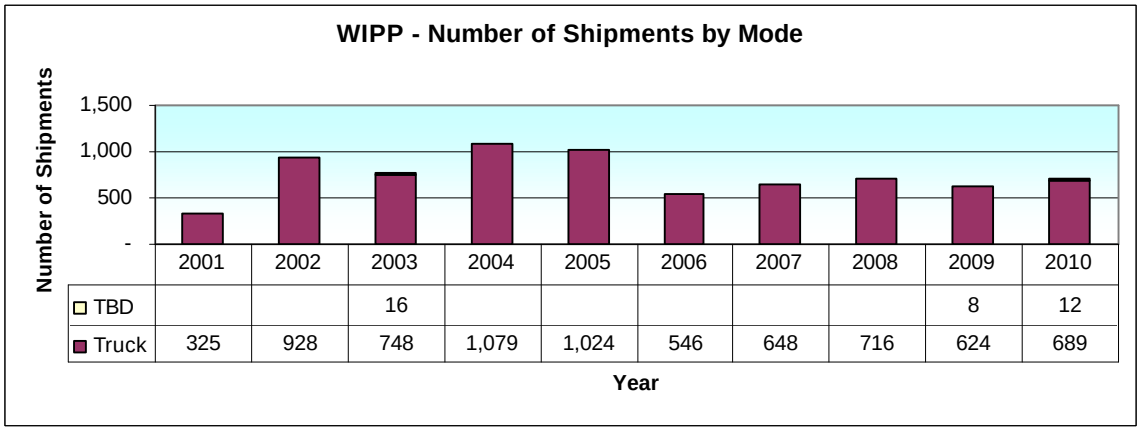


Figure 4. Number of shipments by mode

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10 May 2002