The Secretary of Energy
Washington, DC 20585

July 23, 2004

The Honorable John T. Conway
Chairman
Defense Nuclear Facilities Safety Board
625 Indiana Avenue, NW
Suite 700
Washington, DC 20004-2901

Dear Mr. Chairman:

Enclosed is the revised Implementation Plan for Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2000-1 for stabilization, repackaging, or disposition of nuclear materials at Los Alamos National Laboratory.

The enclosed revision includes: (1) An improved risk ranking methodology that combines consequences with a probability of failure index (based on item age and reactivity) to rank each item according to risk; (2) A three-year acceleration in the stabilization of the non-weapons grade materials utilizing existing glove box capacity; (3) A revised commitment for the completion of stabilization and disposition of nine large vessels; and (4) Intermediate milestones for activities that represent progress in stabilizing, repackaging, and disposition of 2000-1 materials.

The National Nuclear Security Administration (NNSA) will review, approve, and control configuration of the baseline. In addition, the Department of Energy and NNSA are committed to ensuring that the proper resources and oversight are applied to support the stabilization project, and the commitments are accomplished on schedule.

Should you or your staff have any questions, please call Mr. Edwin Wilmot at (505) 667-5105 or Dr. Everet Beckner at (202) 586- 2179.

Sincerely,

Spencer Abraham

Enclosure

cc w/o enclosure:
Linton Brooks, NA-1
Mark Whitaker, DR-1

Los Alamos National Laboratory Implementation Plan

LA-UR-____Pending______

Rev 0

National Nuclear Security Administration

U. S. Department of Energy
National Nuclear Security Administration
Office of Defense Programs
1000 Independence Ave, SW
Washington, DC 20585

May 19, 2004

Table of Contents

1. Executive Summary

This implementation plan (IP) describes the DOE commitment to the DNFSB to stabilize LANL nuclear materials defined by the 1994-1 and 2000-1 recommendations The graph below illustrates the anticipated acceleration of risk reduction relative to the previous IP The improvements include, 1) Substantial overall improvement in the rate of risk reduction (see Figure 1-1 below) 2) An improved risk ranking methodology that combines consequence (source term) with a probability of failure index (based on item age and reactivity) to rank each item according to risk 3) A three-year acceleration of the stabilization of the non-weapons grade materials utilizing existing glove box capacity 4) A proven pathway for accelerating the evaluation and stabilization of materials for recovery and/or disposal, including programmatic materials A comprehensive nuclear materials packaging and storage plan is also being developed separately which utilizes the same risk methodology to maximize the rate of risk reduction, defines criteria for interim storage, provides a mechanism for collecting real package integrity data, and forms the basis for a package surveillance and maintenance program

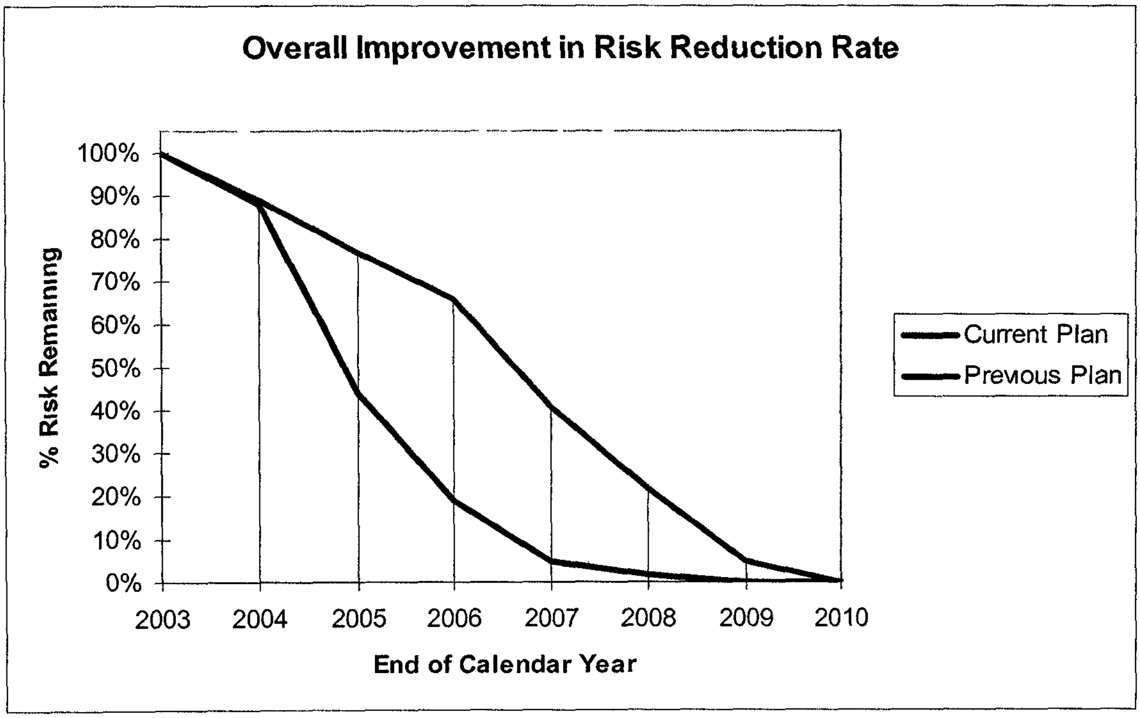

Figure 1-1 Anticipated Risk Reduction Curves for Current and Previous IP's

2. Project Summary

2.1. Prioritization Methodology

To minimize worker and public risk resulting from this campaign as well as potential passive container failure, it is important to rank containers by risk, and based on that ranking, process the riskiest containers first whenever possible Boerigter (2001) previously undertook risk ranking of containers by passive failure modes and vault personnel direct radiation dose The risk methodology used in the previous implementation plan materials ranked the risks associated with a potential inhalation dose resulting from a spill accident while processing a container Interestingly, the two rankings give very similar results

The risk ranking methodology in this plan has been further refined The new methodology incorporates principles from Boerigter's (2001) work as well as the previous 94-1 risk assessment Item descriptions (IDES) have now been used to assign a reactivity factor to each item based on corrosivity, pyrophoricity, gas generation potential, and oxidation expansion potential These reactivity factors were obtained through a consensus of the engineering judgment of both LANL and complex-wide experts The age of the item (determined by the creation date in MASS) and this reactivity factor are combined to assign a probability of failure index to each item Multiplying the source term (consequence) by this failure probability index provides relative risk ranking for every item in the MASS system This risk ranking provides a management tool for prioritizing the stabilization effort to maximize the rate of risk reduction The three graphs below illustrate comparisons of anticipated risk reduction rates (based on the new risk methodology) for the current and previous plans

2.2. Comparison of Risk Reduction Rate

Figure 1-1 above illustrates the overall improvement in risk reduction rate for the current plan relative to the previous plan Figure 2 2-1 below illustrates the anticipated risk reduction curves due to acceleration of the non-weapons grade material processing

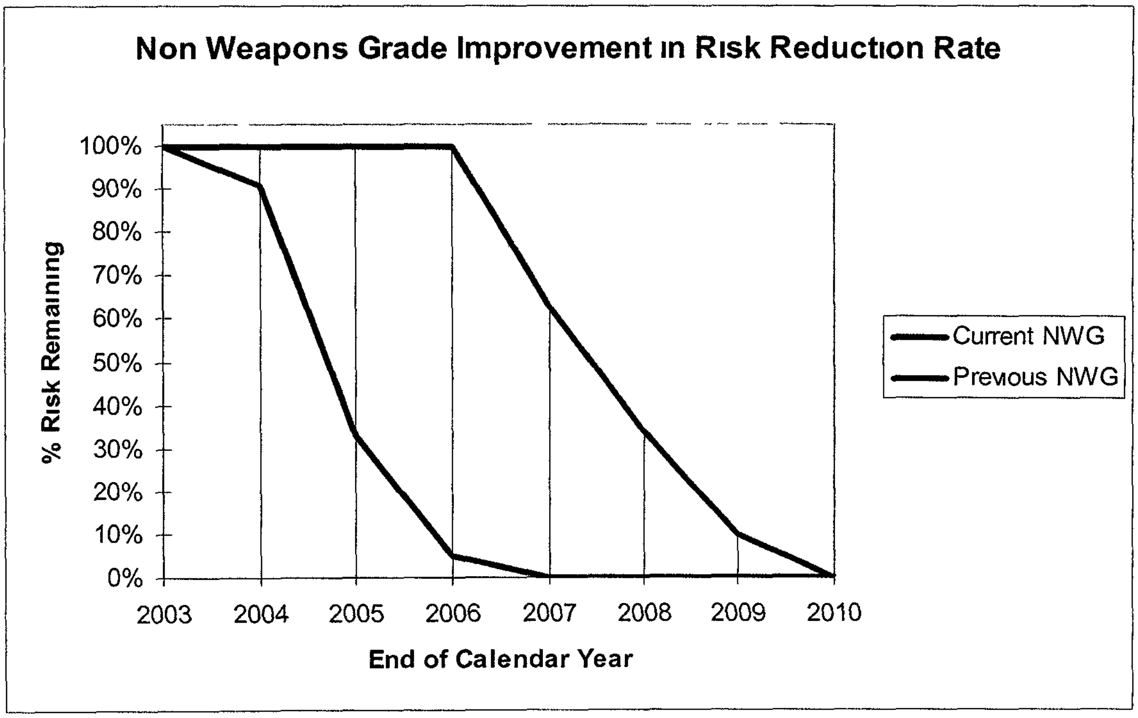

Figure 2 2-1 Non Weapons Grade Anticipated Risk Reduction Curves for Current and Previous IP's

Figure 2 2-2 below illustrates the anticipated risk reduction curves due to acceleration of the weapons grade material processing

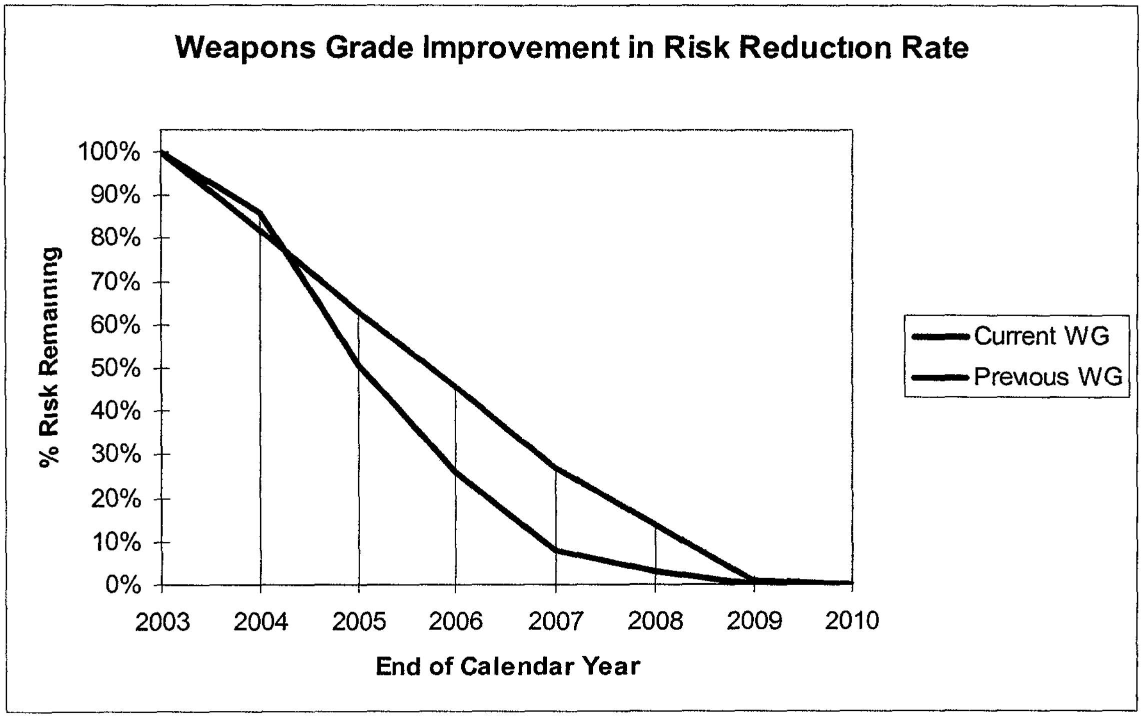

Figure 2.2-2 Weapons Grade Anticipated Risk Reduction Curves for Current and Previous IP's

2.3. *Scope and Schedule*

The processing of the various materials ranges from direct packaging into approved containers to full-scale chemical processing including nitric or hydrochloric acid dissolution, ion-exchange, liquid extraction, precipitation, filtration, roasting and blending, and evaporation The inventory work off schedule is organized according to the processing streams that handle the various types of materials The summary table *(Table 2 3-1)* below provides an overview of the planned baseline schedule for disposition of the Los Alamos 00-1 inventory

Table *2 3-1* Summary Schedule for Processing and Stabilization By End of Calender Year

	End of Calendar Year						
In Kg of Nuclear Material	2004	2005*	2006	2007	2008	2009	Total
Non-Weapons grade Pu(NWG)	26	44	42	54	0	0	165
Weapons Grade (WG)	130	154	153	136	134	47	754
Other Materials	0	60	0	10	15	25	110
Total	156	258	194	200	149	72	1029

*Includes survey and reprioritization of 71 Kg of Non TA-55 items

The endpoint for these materials is defined by the term "stabilized " Stabilized is equivalent to placing material into a site standard container, 3013 container, and/or WIPP drum The inventory is characterized into three major types of material Non weapons grade plutonium (NWG = MT 42, 83, 54, 55, 56, and 57), weapons grade plutonium (WG = MT 51-53), and other materials which include the remainder of the inventory The subsequent sections include a processing stream level breakdown for the workoff of the 94-1 inventory

A comprehensive nuclear materials packaging and storage plan (CNMPSP) is currently being developed to ensure that all materials across the LANL complex are packaged into site specific standard containers The CNMPSP will prioritize the repackaging effort of materials using the above mentioned risk ranking methodology Phase I of this plan will include all accountable materials across LANL including all those owned by programs within NMT To ensure safe storage of nuclear materials at TA-55 a new packaging criterion for interim storage has recently been developed along with a packaging survey that will collect statistical data on current nuclear material packages in the inventory The data collected by the survey will be used to validate and/or update the new risk methodology and as a basis for a future surveillance program The new packaging criteria and packaging survey have been reviewed and approved by the above mentioned experts The CNMPSP is available upon request

2.4. Constraints

The project is limited by availability of resources Various major programs are continuously competing for resources such as glove box work space, radiological control personnel, operational personnel, and processing equipment capability Within the NMT organization, line management has the authority to set priority for programmatic use of available resources which does not always coincide with the goals of the 00-1 project Specific instances where competition of resources at the unit operation level impacts the potential productivity of 00-1 materials will be delineated below The project is limited and/or constrained by the capability of equipment, facility systems, and support groups The waste management system plays a large role in the success of the project From handling the increased throughput from the newly established recovery evaluation process (REP) to handling the normal load of TRU and low level waste, the waste management system keeps processes from having to slow or halt processing due to material back up

In addition to ensuring the 00-1 baseline funding, maintaining consistent and sufficient RTBF (facilities infrastructure) funding profile for the waste management system, radiological control group HSR-1, vault operation team at TA-55 and CMR, and additional infrastructure systems is necessary The 00-1 funding designated for processing must not be used to backfill shortfalls in funding for these support groups In other words, any redirection of 00-1 funds to support infrastructure will significantly reduce material processing throughput Specific examples of resource limitations at the operational level will be described in the following sections

2.5. Potential Early Finish

There is a possibility that the majority of the WG material scheduled to be completed in CY09 per the table above (Table 2 2-1) can be stabilized by CY08 Completing WG early will be dependent upon increased capacity in the chloride operations processing line The following table (Table 2 5-1) is the early completion estimate

Table 2 5-1 Summary Schedule for Processing and Stabilization By Calendar Year

	End of Calendar Year						
In Kg of Nuclear Material	2004	2005	2006	2007	2008	2009	Total
Non-Weapons grade Pu(NWG)	26	44	41	54	0	0	165
Weapons Grade (WG)	130	155	168	151	150	0	754
Other Materials	0	60	0	10	15	25	110
Total	156	259	209	215	165	25	1029

2.6. Assumptions

2.6.1 General

Achieving success in the 00-1 project is based on the following assumptions

- All material will be considered stabilized when it is in a site standard package, a 3013 container, or a WIPP drum
- Equipment procurements and installations have average priority in the LANL Work Authorization System
- Nuclear processing facilities including TA-50, TA-18, TA-54, TA-55, and CMR are operational at least 10 months/year
- The resource level availability to the project does not decrease significantly throughout the project
- Close out activities (all excess materials in 3013 or WIPP drums) beyond the 00-1 DNFSB endpoints will be funded by NA-12
- DOE Hq will facilitate intra-DOE interfaces, VA approvals, potential SRS synergy, etc
- The MOX fuel fabrication facility (MFFF) alternate feedstock supply (AFS) remains the disposition path for weapons grade materials
- NA-124 approves the baseline for this project by June 12, 2004
- The requested annual budget profile is fully funded Target funding for the excess items will be $10 9M beginning in FY-03 plus 3% escalation in subsequent year until completion in CY2010
    - An additional $1 8M in target funding will be provided to LANL fro RTBF sources outside LANL to supplement the LANL FYNSP FY-03 funding of $9 1M for this work
    - Budget shortfalls will invoke change control and revisions in out-year target dates Due to explicit instructions from NA-125, there is no contingency in these costs, and unforeseen difficulties may require requests for contingency from NA-125
    - This project depends on various other programs, such as pit manufacturing

and dynamic experiment testing, to maintain minimum capability levels for each operation

2.6.2 Funding

A resource loaded schedule defining the stabilization and packaging of 00-1 materials has been established by LANL This schedule is the basis for the LANL funding request outlined in the following table *(Table* 2 6 2-1*)* and graph (*Figure* 2 6 2-1) This funding profile has been agreed upon between LANL and the DOE

Table 2 6 2-1 Funding Request Table

FY	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**
Cost/Funding ($M)	**4 4**	**14 3**	**10 9**	**11 2**	**11 6**	**11 9**	**12 3**	**12 6**	**13**	**10 1**

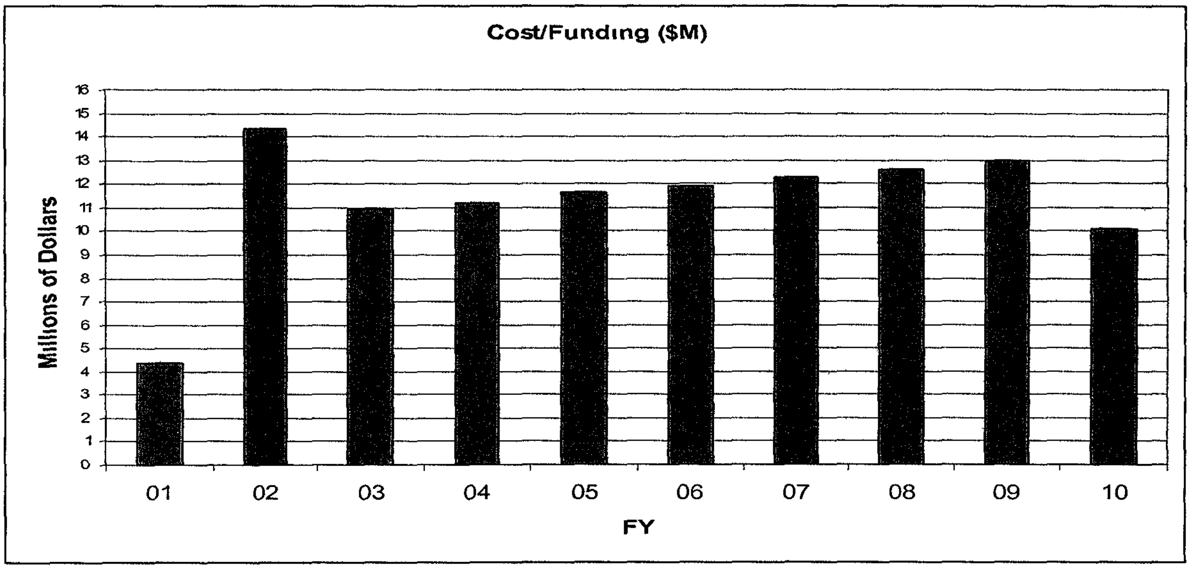

Figure 2.6.2-1 Requested Funding Profile

3. Vessel Disposition

3.1. Description

The overall goal of this portion of the project is the complete disposition of the 9 full vessels The endpoint is 1) empty, possibly size reduced, vessels meeting either the WIPP-Waste Acceptance Criteria or the Low Level Waste Criteria, and 2) the contents in either WIPP-WAC packages or 3013-specification long-term storage containers The vessels will be brought into an enclosure in the CMR facility, cleaned out by mating their portals up to a workstation and emptying their contents into drums The SNM-containing items will be physically sorted and evaluated for disposition Table 3 1-1 contains the milestone date for completing vessels This schedule assumes that the vessel processing begins on July 1, 2005

Table 3 1-1 Vessel Processing Schedule

	End of Calendar Year				Year Complete
End of CY	**2005**	**2006**	**2007**	**2008**	
Full Vessels Emptied	1	2	3	3	Dec 2008

3.2. Constraints

In the past these types of containment vessels were cleaned out inside the PF-4 facility at TA-55 It was recognized in late 2000 that programmatic conflicts with programs such as pit manufacturing and mixed oxide fuel would be too severe to ensure timely processing (i e one vessel per year maximum) in the glove boxes that were previously used for this activity Furthermore, the staff and technicians identified significant worker safety issues associated with the old processing methodology Thus, the CMR Wing 9 has been chosen as the ideal location for conducting this work Though the cost of implementing the capability at CMR is significant, the risk of competing for space and appropriate technical personnel is eliminated, thereby reducing time for cleanup of the spheres, and ultimately reducing risk to workers and the public at an accelerated rate However, the authorization basis approval process associated with bringing this capability up in the CMR facility is currently delaying the installation

3.3. Potential Significant Throughput Improvements

Timely review and approval of the authorization basis documents could allow an early finish of December, 2007 Table 3 3-1 contains the milestone dates for completing the vessel processing assuming that the vessel processing begins on January 1, 2005

Table 3 3-1 Potential Early Finish Schedule for Vessel Processing

	End of Calendar Year			Year Complete
End of CY	**2005**	**2006**	**2007**	
Full Vessels Emptied	2	3	4	Dec 2007

4. Dry Operations

4.1. Description

This team performs burning, brushing, screening, blending, packaging and high temperature stabilization of plutonium metals, oxides and oxide-like materials Items from the vault will be brought directly into dry operations processing and placed in a site standard packaging configuration or packaged for welding into 3013-specification storage containers The following table (*Table* 4 1-1) outlines the nuclear material mass of feed to be retrieved directly from the vault

Table 4 1-1 Dry Operations

In Kg of Nuclear Material		End of Calendar Year 2004	2005	2006	2007	2008	2009	Total
Dry Operations Processing	NonWG	17	8	6	27			58
	WG	53	54	65	25	39		236
	Other		2		10			12
	Total	70	64	71	62	39		306

All 00-1 materials recovered through chloride and nitrate recovery operations will be processed in dry operations to meet 3013 specification in addition to items run directly from the vault These secondary feed streams have been factored into the dry operations baseline capability for vault work off Throughput levels for this process stream are also affected by the multiple criteria requirements of, 3013 packaging, alternate feedstock supply specifications, quality control documentation, and MIS product representation

4.2. Constraints

This line shares resources with pit manufacturing and the MOX/LTA program The major limitation for materials processed through this operation is glove box space Because projects such as MOX/LTA and pit manufacturing must avoid cross contamination of materials, glove boxes are either specifically designated for each program or they must be thoroughly cleaned between batches of materials Furthermore, major fluctuations in funding from these programs can affect the ability to maintain the dry operations capability It is assumed that the 00-1 project will support 1/3 of the total resources for this operation

4.3. Potential Significant throughput Improvements

A glove box in dry operations is currently receiving equipment upgrades to meet current processing requirements This glove box should be operational by the end of FY04 The glove box will be shared by multiple programs Potential capacity for this work station is approximated at 60 kilograms of oxide/oxide like material per year If 00-1 can increase resource availability to a 40% level in the overall dry operations process from FY05 to FY07, WG materials can potentially be processed by FY07

5. Chloride Processing

5.1. Description

This team performs dissolution, leaching, recovery, purification by anion exchange or solvent extraction, oxalate precipitation, hydroxide precipitation, followed by calcination of SNM-containing residues in chloride processing Typical residues processed include impure plutonium metals, alloys, salts, oxides and crucible pieces Recovered material will go into either a site standard package or sent directly to dry operations for packaging into a 3013 Residues that stem from the recovery process of excess materials will proceed to TRU waste disposition (STL) or sent through the recovery evaluation process This operation is critical to the success of the materials stabilization project Chloride based residues comprise a major portion of the 00-1 inventory The following table (*Table* 5 1-1) outlines the baseline schedule of nuclear material mass in kilograms to be retrieved directly from the vault

Table 5 1-1 Chloride Processing

		End of Calendar Year						
In Kg of Nuclear Material		2004	2005	2006	2007	2008	2009	Total
Chloride	WG	32	45	49	49	48	47	270

5.2. *Constraints*

Resources for this process line are shared between 00-1 and pit manufacturing at a level of 60/40 respectively Current generation pit manufacturing residues from pyrochemical processes must be processed through the chloride processing line to avoid the unnecessary dose, inefficiency associated with double handling of items, and potential vault overload The chloride line is also constrained by it's limited storing tank space The liquid waste treatment facility, TA-50 allows only one liquid waste dump per week At high production levels, the available tank space is exceeded causing processing to halt

5.3. *Potential Significant throughput Improvements*

The processing throughput levels of 00-1 residues in chloride operations could potentially be increased by the DOE approval of the current request to allow for discard of pit manufacturing residues This approval would potentially free up processing time of pit manufacturing residues in the chloride line and potentially allow for more 00-1 processing capacity The addition of the Chloride Extraction Aqueous Recovery (CLEAR) line could also potentially increase production of 00-1 residues Additional tank space is included in the plans for CLEAR line which will increase the amount of tank storage space for dissolved feed as well as liquid waste, and will provide for more efficient staging of waste effluent Current tank storage capacity allows for only one release to TA-50 per week whereas the increased capacity would allow for two releases per week The CLEAR line will also provide a means to significantly reduce dose when processing hydroxide precipitate materials The dose incurred by processing excess materials through the chloride line is significantly higher than that of pit manufacturing residue dose and could potentially halt processing The following estimated early finish schedule (*see Table* 5 3-1) may be feasible if the discard authorization is approved by August 1, 2004 and the CLEAR line is operational on July 1, 2005

Table 5 3-1 Chloride Possible Early Finish

Kg of Nuclear Material		End of Calendar Year 2004	2005	2006	2007	2008	2009	Total
Chloride	WG	32	46	64	64	64	0	270

6. Nitrate Processing

6.1. *Description*

This team performs nitric acid dissolution, leaching, anion exchange, oxalate precipitation, hydroxide precipitation, evaporation, nitric acid recycle, crushing and pulverizing, and pyrolysis Standard feeds are plutonium-containing materials that do not contain chlorides These include items such as impure plutonium oxides, non-chloride salts, sand slags, crucibles, leaded gloves, plastics, tools, non-actinide metals, glass, graphite, cellulose rags, etc The nitrate support operations also include a recovery evaluation team, vitrification, cementation, and WIPP-WAC packaging operations Product from the nitrate stream are packaged in site standard storage containers and sent directly to dry operations and/or the vault The following table (6 1-1) outlines the baseline schedule of nuclear material mass in kilograms to be retrieved directly from the vault

Table 6 1-1 Nitrate Processing

In Kg of nuclear Material		End of Calendar Year 2004	2005	2006	2007	2008	2009	Total
Nitrate Processing	NonWG	6	18	15	4	0	0	43
	WG	5	11	11	13	13	0	53
	Total	11	29	26	17	13	0	96

6.2. *Constraints*

Resources for this process line are shared between 00-1 and pit manufacturing at a level of 65/35 respectively The product from the pit manufacturing effort in this processing line is polished oxide feed that will be used in support of metal production in pyrochemical processes Facility steam supply is a vital part of this processes functionality The steam line is problematic and has halted the operation on various occasions Storage tank space is limited and can limit throughput

7. Recovery Evaluation

7.1. Description

This process is used to evaluate materials for recoverability Through acceptable knowledge of item history, visual examination in a glovebox, and subject matter expert determination, the appropriate disposition path (i e repackage, waste, and/or processed) is chosen The recovery evaluation process also includes classification sanitation, programmatic need determination, confirmation of nuclear material assay, and packaging to site standardized criteria A formalized process flow sheet has been established and implemented The following table (*Table* 7 1-1) outlines the annual throughput mass goals for this process

Table 7 1-1 Recovery Evaluation Process

		End of Calendar Year						
In Kg of Nuclear Material		**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**Total**
REP	NonWG	3	13	20	9	0	0	45
	WG	38	36	28	43	34	0	179
	Other	0	0	0 1	0 3	15	9	24
	Total	41	49	48	52	49	9	248

7.2. Constraints

The REP process relies heavily on support group capabilities such as the waste management system and non destructive assay (NDA) instrumentation These capabilities are a facility resource and as such must be shared with all other operations handling nuclear material

The recovery evaluation process is based on an assessment for TA-55 items only The waste acceptance criteria (WAC) for materials moving to WIPP are very restrictive Drum storage handling and packaging space at TA-55 is limited Furthermore, items with dose levels greater than 200mR/hr must be placed in pipe-overpack-containers (POC) Because POCs do not currently meet DOT shipping criteria, materials slated for POC's cannot be packaged In addition, items greater than 200mR/hr can not always be identified prior to evaluation and this can lead to undesired double handling of items Currently, only excess items at TA-55 are covered by the discard approval authorization Permitting inclusion of materials from other sites such as TA-18 and CMR would increase the utility of the process The table above (*Table* 7 1-1) includes the assumption that POC's have been approved and can be utilized

8. Unique Materials Processing

8.1. Description

Thıs sectıon encompasses materıals that wıll not be processed through any of the above mentıoned process streams Specıal technıques, procedures, processıng lınes, agreements, and/or other dısposıtıon paths wıll be necessary to work off these materıals Materıals desıgnated for thıs process ınclude Neptunıum, some mıxed actınıde materıals, sealed/clad ıtems, and other unantıcıpated materıals ıntended for other operatıons that are determıned to be ınapproprıate The followıng table (*Table* 8 1-1) outlınes the baselıne schedule of nuclear materıal mass ın kılograms to be retrıeved dırectly from the vault

Table 8 1-1 Unıque Materıals Processıng

In Kg of Nuclear Materıal		End of Calendar Year 2004	2005	2006	2007	2008	2009	Total
Unıque	NonWG	08	0	0	14	0	0	14
	WG	0	0	0	6	0	0	6
	Other	0	0	0	0	0	14	14
	Total	08	0	0	20	0	14	34

8.2. Constraints

Dısposıtıon paths for these materıals ıs not yet defined These materıals are generally lower ın rısk than the above mentıoned materıals Items such as neptunıum and some clad ıtems are slated for transfer to other facılıtıes wıthın the DOE complex

9. Non-TA-55 Materials Survey and Packaging

Items not at TA-55 wıll be resurveyed to ensure packagıng ıs ın safe configuratıon Prıorıtızatıon of ıtems surveyed wıll be conducted as each ıtem ıs surveyed Processes mentıoned above wıll maıntaın the capabılıty to process any ıtems from the followıng table that are prıorıtızed as hıgher rısk than the ıtems they are slated to process The table *(Table* 9-1*)* below shows the schedule for survey of offsıte ıtems The estımated completıon of stabılızatıon of these ıtems ıs CY08

Table 9-1 Offsıte Survey and Packagıng

In Kg of Nuclear Materıal		End of Calendar Year 2004	2005	2006	2007	2008	2009	Grand Total
Offsıte Items	Non WG	0 2	5	0	0	0	0	5
	WG	2	8	0	0	0	0	10
	Other	0	58	0	0	0	0	58
	Total	2	71	0	0	0	0	73

10. Appendixes

10.1. References

U S Department of Energy, *A Risk-Based Prioritization Methodology of Legacy Fissile Material Disposition at LANL*, LA-UR-00-5111

10.2. Summary of Commitments

Vessel Disposition

Commitment Statement Stabilize all full vessels and disposition materials
IP Commitment Number _____
Due Date December 2008

Non-Weapons Grade (NWG) MT 54-57 83,42

Commitment Statement Stabilize 50% of the NWG Pu (83Kg)
IP Commitment Number _____
Due Date December 2006

Commitment Statement Stabilize all NWG Pu (165Kg)
IP Commitment Number _____
Due Date December 2007

Weapons Grade (WG) MT 51-53

Commitment Statement Stabilize 50% of the WG Pu (377Kg)
IP Commitment Number _____
Due Date December 2006

Commitment Statement Stabilize all WG Pu (754Kg)
IP Commitment Number _____
Due Date December 2009

Recovery Evaluation Process (REP)

Commitment Statement Stabilize 50% of materials (147 Kg)
IP Commitment Number _____
Due Date December 2006

Commitment Statement Stabilize all materials (294 Kg)
IP Commitment Number _____
Due Date December 2009

Non TA-55 Excess Materials

Commitment Statement Survey and reprioritize all non-TA-55 and schedule accordingly
IP Commitment Number _____
Due Date December 2005

All 00-1 Materials

Commitment Statement Stabilize all 00-1 materials
IP Commitment Number _____
Due Date October 2009

Note: Stabilized= 3013, WIPP drum, or Site Standard Container

10.3. List of Completed Actions

Complete Roasting and Blending of oxide items <100 mrem/hr 12/03
Stabilized remaining 4 organic solutions, 12/02
Stabilized nitrides and cellulose rags, 12/02
Stabilized high-risk vault items to meet the long-term storage standards, 7/98
Developed risk-based, complex-wide categorization and prioritization criteria that all stored residues will be required to meet, 3/96
Stabilized 220 kgs of residues, 10/95
Processed 90% of analytical solutions, 8/95
Began repackaging of Pu metal and oxide at the TA-55 Pu facility, 5/95
Completed peer review of packaging operations for long-term storage, 4/95
Integrated and demonstrated repackaging operations at the TA-55 Pu facility, 4/95
Performed a 100% inspection of vault inventory, 4/95
Recovered 100 neutron sources, 4/95
Processed 100 kgs of sand, slag and crucible materials, 4/95
Processed 70 kgs of hydroxide solids, 4/95