

DOE/IG-0505

AUDIT
REPORT

UTILIZATION OF THE DEPARTMENT'S
LOW-LEVEL WASTE DISPOSAL
FACILITIES



MAY 2001

U.S. DEPARTMENT OF ENERGY
OFFICE OF INSPECTOR GENERAL
OFFICE OF AUDIT SERVICES



DEPARTMENT OF ENERGY
Washington, DC 20585

May 25, 2001

MEMORANDUM FOR THE SECRETARY

FROM: Gregory H. Friedman (Signed)
Inspector General

SUBJECT: INFORMATION: Audit Report on "Utilization of the
Department's Low-Level Waste Disposal Facilities"

BACKGROUND

Since the creation of the Department of Energy's nuclear weapons complex, large amounts of low-level waste have been generated as a result of the processes which are part of the mission of the complex. To date, the Department has disposed of nearly 69 million cubic feet of this waste at its facilities, and over the next 70 years, plans to dispose of an additional 358 million cubic feet of low-level waste. In February 2000, the Department announced that it had developed a hierarchy of preferred options for disposal of the low-level waste. In order of priority, these were to dispose of low-level waste at:

- The site of origin,
- The Nevada Test Site or Hanford Site,
- Commercial facilities.

Most Department facilities cannot dispose of all the waste they generate on-site, nor can they store it safely for indefinite periods of time. Storage of waste at generating sites is designed to be a temporary measure, and it is the Department's goal to permanently dispose of low-level waste. The objective of this audit was to determine whether the Department was fully utilizing its disposal capacity at the Nevada and Hanford sites.

RESULTS OF AUDIT

The Department has taken steps to improve its management of low-level waste disposal. These steps included issuing guidance that provides waste generators the opportunity to dispose of this waste in a cost-effective manner and implementing a funding policy at Nevada to make disposal operations more efficient. However, our analysis showed that over the past two years, the Nevada and Hanford disposal facilities have operated at less than 50 percent of capacity. In spite of the availability of the unused capacity, the Department "stored" large amounts of waste at generator sites, and it disposed of some low-level waste commercially. This approach was inconsistent with the Department's determination of preferred disposal alternatives. We found that management had not developed and implemented a corporate approach to maximize the safe and cost-effective disposal of low-level waste. Further, management did not have an overall mechanism for evaluating performance of the low-level waste disposal program. As a result, the

Department had not realized the maximum benefit of its \$30 million investment for waste disposal operations at Nevada and Hanford, and for storage operations at certain generator sites.

We recommended that the Assistant Secretary for Environmental Management develop and implement a complex-wide program that integrates waste disposal operations. This would address interest groups' concerns by ensuring waste is being permanently disposed and providing an opportunity to equitably distribute waste among all available disposal sites. In developing and implementing the program, we suggest that this program be fully coordinated with the newly created National Nuclear Security Administration.

During the course of the audit, we became aware of Congressional concerns regarding the Department's program for disposal of low-level waste. These centered around (1) the need to ensure that disposal fees charged by the receiving sites reflected full life-cycle costs of operations, and (2) the Department's plans to dispose of large quantities of low-level waste from across the complex at the Nevada site. The concerns regarding disposal at Nevada were highlighted in a January 2001 letter from members of the Nevada Congressional delegation to the Secretary of Energy. The delegation's comments, as well as those which came to our attention from the general public, reflect significant policy and regional impact issues. While we were sensitive to these concerns, the focus of the audit was on ensuring the most cost-effective and efficient disposal of over 358 million cubic feet of low-level waste by optimizing the use of existing Departmental facilities.

MANAGEMENT REACTION

Management concurred with our findings and recommendations. The Department agreed to take steps to improve disposal efficiency, including holding a workshop between shipping and receiving sites to develop a strategy for timely and effective use of its waste disposal facilities. However, management stated that the risks posed by long-term storage of low-level waste are not as high as many other challenges facing the Environmental Management program and, as such, it prioritizes funding for higher risk activities first. Management's comments have been included in their entirety in Appendix 5.

Attachment

cc: Administrator, National Nuclear Security Administration

UTILIZATION OF THE DEPARTMENT'S LOW-LEVEL WASTE DISPOSAL FACILITIES

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Overview

INTRODUCTION AND OBJECTIVE

During the Cold War, the nuclear weapons complex generated large amounts of low-level waste that typically contained small amounts of radioactivity. To date, the Department of Energy (Department) has disposed of nearly 69 million cubic feet of this waste at its disposal facilities throughout the complex. Over the next 70 years, the Department plans to dispose of an additional 358 million cubic feet.¹ One of the Department's primary goals is to safely and expeditiously clean up sites across the complex where nuclear weapons activities have taken place.

The Department established the Nevada Test Site (Nevada) and the Hanford Site (Hanford) as the preferred options for disposing of low-level waste that could not otherwise be disposed of at the site of origin. Together, Nevada and Hanford can dispose of over 1.6 million cubic feet of this waste annually. The Department plans to dispose of more than 32 million cubic feet at these facilities through 2070. According to the Department's study, Nevada and Hanford were selected because of perceived low impacts to human health, operational flexibility, and relative implementation cost. Also, the geology of Nevada and Hanford was viewed to be inherently beneficial to environmental safety and health, and both facilities have expansion capabilities to handle large amounts of waste. Using two disposal facilities allows waste generators to have alternatives for disposal should one of the facilities be shut down. Departmental policy sets on-site disposal and disposal at Nevada and Hanford as priorities, but allows for commercial disposal if it is to the benefit of the Department as a whole.

The objective of the audit was to determine whether the Department was fully utilizing annual disposal capacity at Nevada and Hanford.

CONCLUSIONS AND OBSERVATIONS

Over the past two years, disposal facilities at Nevada and Hanford have operated at about 48 percent of capacity. Although it did not fully utilize existing capacity at these sites, the Department stored large amounts of waste as a temporary measure at generator sites and disposed of some waste commercially. This occurred because the Department did not have a comprehensive approach to maximize waste disposal.

¹ See Appendix 1 for the planned disposition path of this waste.

Individual sites operated independently of one another. Specifically:

- Disposal decisions were made at the field level;
- Disposal sites did not have standardized quality assurance processes; and
- Performance measures relevant to effective disposal operations were not developed.

As a result, the Department did not realize the maximum benefit from its \$30 million investment for certain waste disposal operations at Hanford and Nevada and storage operations at generator sites. Furthermore, risks to workers and the environment from stored waste were increased. In addition, without useful performance measures, the Department was unable to monitor the effectiveness of its disposal operations. We recommended that the Assistant Secretary for Environmental Management develop and implement a complex-wide low-level waste disposal program that integrates waste disposal operations.

The Department has taken some steps to improve its management of low-level waste disposal. It issued Department Order 435.1 in 1999 and a Record of Decision (ROD) in 2000 as part of its Final Waste Management Programmatic Environmental Impact Statement. These documents have provided the Department's waste generators with the opportunity to ship their aging waste inventories to multiple sites and included guidance to dispose of waste in a cost-effective manner. The Department also initiated a change in the disposal fee policy at Nevada that should streamline disposal operations. In November 2000, Nevada implemented a "flat rate" disposal fee in which waste generators paid an up-front fee to Nevada that allowed disposal of a range of waste. Nevada believed that this proposal would expedite implementation of the ROD, stabilize disposal operations, and reduce disposal costs to the complex. However, as the findings in the report illustrate, more needs to be done to improve waste disposal.

Management should consider the issues discussed in this report when preparing the yearend assurance memorandum on internal controls.

Signed

Office of Inspector General

USE OF LOW-LEVEL WASTE DISPOSAL FACILITIES

Disposal Facility Use

In the last two years, disposal facilities at Nevada and Hanford operated at about 48 percent of capacity. In Fiscal Years (FY) 1999 and 2000, the Department disposed of only 819,449 and 747,974 cubic feet of waste, respectively. In essence, the Department paid for services and resources at Nevada and Hanford to support the 1.6 million cubic foot annual maximum capacity that was not fully used.

Even though the disposal facilities were not fully utilized, the Department stored large amounts of waste at generator sites and disposed of some waste commercially. The Department disposed of 206,000 cubic feet² of waste at a commercial facility during FYs 1999 and 2000 and stored over 2 million cubic feet during FY 2000. Oak Ridge, Fernald, Argonne National Laboratory, and Rocky Flats alone have more than 2 million cubic feet of waste in storage, 918,000 of which is over 5 years old.³ In some cases, the waste is more than 20 years old, creating potential safety risks to workers and the environment. In addition, officials at the Oak Ridge Reservation expect to run out of storage capacity in FY 2002.

Waste Disposal Policy

In FY 1988, the Department issued Order 5820.2A that required low-level waste to be disposed of at the site where the waste was generated, if practical, or at another Department disposal facility. This requirement was reiterated in FY 1999 in Department Order 435.1, which also noted that if the Department's capabilities for waste disposal were not practical or cost-effective, exemptions to use non-Department facilities for disposal would be granted given specified criteria. The Department issued the Final Waste Management Programmatic Environmental Impact Statement (Impact Statement) in 1997 which identified a number of alternative disposal sites across the complex.

In February 2000, the Department issued the ROD as part of the Impact Statement which concluded that Nevada and Hanford were available sites to dispose of low-level waste from any Department site. The ROD also provided that low-level waste be disposed of at the site of origin to the extent practicable and allowed for continued use of commercial disposal facilities. The ROD further established preferred options for

² This excludes 2.9 million cubic feet of waste disposed of commercially using rail shipments because Nevada and Hanford are unable to accept shipments by rail.

³ See Appendix 2 for the age of low-level waste by site.

disposal of low-level waste. Specifically, sites, in order of priority, were to dispose of low-level waste at:

- The site of origin,
- Nevada or Hanford,
- A commercial facility.

Low-Level Waste Program

The Department did not have in place a complex-wide system to ensure that the most effective disposal decisions for the Department were made. Specifically, disposal decisions were made at the field level, no standardized procedures for disposal facility quality assurance were in place, and, consistent, useful performance measures were not in place to monitor the efficiency of disposal operations.

Field Level Decisions Did Not Ensure Optimal Use of Disposal Facilities

The Department's current organizational and funding structure placed the responsibility for decisions regarding low-level waste disposition at the field office level. However, the audit disclosed that waste managers at the field office level did not possess the necessary Departmentwide information to make decisions that benefited the entire Department rather than their individual sites.

For example, waste generators independently conducted cost-benefit analyses to determine where and when to ship and dispose of low-level waste. The analyses considered "disposal fees" charged by Nevada and Hanford. However, we found that the disposal fees were not based solely on the incremental cost of disposal. Rather, they included costs, including fixed costs, that the Department would bear at the Nevada and Hanford sites under any scenario. For example, officials at Nevada estimated that a significant portion of the disposal fee included overhead that would remain even if disposal operations were closed. This shortcoming had the effect of artificially increasing apparent disposal costs at Nevada and Hanford.

In September 1998, the Office of Inspector General issued Report DOE/IG-0426, *Disposal of Low-Level and Low-Level Mixed Waste* and recommended that the Department periodically evaluate sites' implementation of the Departmentwide strategy to ensure disposal decisions are made in a cost-effective manner. Although disposal at Department sites has historically been preferred, the ROD had not established Nevada and Hanford as preferred alternatives at the time of our 1998 report. In a related report, the General Accounting Office

concluded that disposal fees could artificially shift priorities and were sensitive to increases or decreases in disposal volumes. It further pointed out that waste generators considered only impacts to their own budgets and not impacts to the Department as a whole when making waste disposal decisions.⁴

Waste generators also did not adequately justify the use of commercial disposal facilities. The Impact Statement noted that disposal decisions should consider factors in addition to cost, including cumulative environmental impact, ability to mitigate adverse impacts, and equitable distribution of waste between sites. However, after reviewing several exemption requests developed by waste generators to use commercial disposal, we found that the waste generators justified using commercial facilities based only on cost to the generator and the ability to accept certain waste streams without delay. Had the waste generators considered the other factors prescribed in the Impact Statement, the use of the Department's disposal facilities may have become the alternative of choice for low-level waste disposal.

Dissimilar Quality Assurance Processes

The Department's Nevada and Hanford disposal facilities used significantly different quality assurance processes for certifying a generator as an approved shipper and for ensuring that the generators comply with existing waste acceptance criteria. These differences resulted in waste generators shipping to commercial disposal facilities rather than Nevada and Hanford, or delaying waste shipments pending acceptance by Nevada as a waste generator. We found that an approved waste generator at Hanford could not automatically use Nevada for disposal. This limited the waste generators' options for disposal. For example, several waste generators that had been using Hanford to dispose of waste expressed a preference to have the option to use Nevada, as well. However, even though they had been approved by Hanford, these generators were still required to go through Nevada's quality assurance process including incurring the preparation costs and waiting up to 18 months for approval before the first shipment could be made. In a classic example of a lack of a corporate policy, if Nevada and Hanford had a standardized quality assurance process or had established a reciprocal agreement to rely on each other's experiences, these costs and delays could have been avoided. In addition, if either

⁴ *Low-Level Radioactive Wastes: Department of Energy Has Opportunities to Reduce Disposal Costs* (GAO/RCED-00-64, April 2000)

disposal facilities had to shut down, a lack of standardized quality assurance processes effectively prevents waste generators from immediately disposing of waste at the remaining disposal facility as contemplated by the ROD.

Performance Measures Not In Place

The Department did not establish useful performance measures in accordance with the Government Performance and Results Act relevant to effective disposal operations. In our view, given the Department's policy of maintaining both Nevada and Hanford as disposal facilities, the Department's performance measures should include measures to ensure that Nevada and Hanford were used as contemplated in the ROD. Although the Department identified measures for disposing of waste in FY 2000, these measures did not include specifics relating to maximizing usage of Departmental disposal capacity by waste generators.

The audit disclosed, as well, that individual disposal sites did not have useful performance measures. Neither Nevada nor Hanford were able to evaluate their level of effort for disposal operations against the actual volumes of waste disposed. For example, the FY 2000-2001 Nevada Strategic Plan did not contain any waste management performance measures related to comparing inputs to outputs. In addition, the FY 1999 Richland Operations Office Strategic Plan included performance measures related to the disposal of waste, but they did not associate the amount of waste disposed to costs incurred in the program, undermining the effect of these measures.

Inefficient Use of Disposal Funds

The Department has incurred inefficiencies as a result of under utilizing its disposal capacities. In FY 2000, the Department spent about \$15 million for about 1.6 million cubic feet of capacity, but used only 747,974 cubic feet, or about 46 percent. At the same time, the Department paid \$450,000 to dispose of waste commercially and spent over \$15 million to store more than 2.1 million cubic feet of waste at generator sites.

Our analysis of the situation Departmentwide suggests that eliminating the disposal fee and funding the disposal operation directly may be beneficial. Direct funding would stabilize funding for disposal operations at the waste generators rather than forcing it to compete with other activities. In addition, direct funding would allow disposal sites to focus on assisting waste generators with expeditious disposal of low-

level waste. It would also ensure that disposal sites remained operational through changes in disposal volumes throughout the year. A 1997 contractor study on integration opportunities⁵ identified several benefits to eliminating the disposal fee and direct funding disposal operations including savings in overall Departmental disposal costs. The Nevada Operations Office has also studied this issue and noted that advantages of funds being specifically designated for disposal activities include a higher likelihood that resources would be available for use by all waste generators. However, the direct funding approach is not currently being used.

The Department is also facing potential health risks by storing aging low-level waste. To address disposition of the low-level waste, in 1999, the Department established the policy that waste with an identified path to disposal should not be stored longer than one year. However, we identified over 900,000 cubic feet of low-level waste included in storage at the waste generator sites visited that is more than 5 years old, and in some cases, waste in inventory was over 20 years old. Waste generators typically disposed of newly generated waste before older waste because the older waste required more handling.

Older waste in storage can leak in the storage areas and require recharacterization and repackaging. This additional handling not only increases costs to the Department, but also increases worker exposure to the health risks associated with waste handling. The Office of Environmental Management has reported that vulnerabilities exist regarding the storage of low-level waste and result in delayed cleanup progress and increased risk to workers and the environment. Storage costs could be better used to dispose of this waste and alleviate unacceptable storage conditions throughout the Department that could lead to releases of radioactive materials.

⁵ This report, *Contractor Report to the Department of Energy on Opportunities for Integration of Environmental Management Activities Across the Complex (Predecisional Draft)*, was originally issued in March 1997, was later reissued in May 1997 as a discussion draft, but was never issued as a final report.

RECOMMENDATIONS

To facilitate the cost-effective disposal of low-level waste, we recommend that the Assistant Secretary for Environmental Management:

1. Establish an integrated complex-wide disposal program to ensure the optimal use of disposal facilities. Specifically:
 - Centralize funding from the Environmental Management aggregate budget and direct fund Nevada and Hanford.
 - Ensure that disposal capacities at Nevada and Hanford correspond to the amounts of waste being shipped by waste generators.
 - Include adequate controls to ensure funds are used for disposal operations.
 - Compare full life-cycle cost estimates for disposal facilities and waste generators to ensure optimal use of on-site, off-site, and commercial facilities.
2. Develop standard waste acceptance criteria to allow for waste generators to readily use either Nevada or Hanford.
3. Establish performance measures for the efficient use of Nevada and Hanford disposal operations.

MANAGEMENT REACTION

Management concurred with our findings and recommendations. The Department agreed to take steps to improve disposal efficiency, including holding a workshop between shipping and receiving sites to develop a strategy for timely and effective use of its waste disposal facilities. Management's comments have been included in their entirety in Appendix 5.

AUDITOR COMMENTS

Planned corrective actions were responsive to our recommendations.

DISPOSITION PATH OF LOW-LEVEL WASTE

The Department plans to dispose of significant quantities of low-level waste over the next several decades. Due to the volumes of waste expected to be disposed of in the future, it is imperative that the Department identify and implement efficiencies related to disposal of low-level waste. The Department's current plans for disposing of this waste are shown in Table 1 below.

**Table 1. Estimated Volume and Disposition Path
For Low-Level Waste Through 2070.**

<i>(000s cubic feet)</i>		
Projected Disposition	LLW	% of Total
Existing or Planned On Site Disposal Facilities	270,751	75%
Waste Operations Disposal Facilities	42,360	12%
Commercial Disposal	35,300	10%
Disposition To Be Determined	9,884	3%
Total	358,295	100%

Source: *The Current and Planned Low-Level Waste Disposal Capacity Report, Revision 2* (December 2000).

Appendix 2

AGE OF LOW-LEVEL WASTE INVENTORY

The Department is facing potential health risks by storing aging low-level waste. The longer waste remains in inventory, the higher the risk of leakage and possible radiation exposure to workers and the environment. Also, stored waste results in higher handling costs and delayed cleanup progress. The Department's current low-level waste inventory amounts are shown in the table below.

Table 2. Age of Low-Level Waste Inventory
(all amounts in cubic feet)

Age in Yrs ¹	0-5	6-10	11-15	16-20	>20
Argonne East	10,820	1,838	511	1	7
Fernald	274,294	234,139	112,723	8,598	496
Oak Ridge	614,423	436,711	16,362	1,752	1,517
Rocky Flats	237,004	82,217	21,049	67	7
Totals	1,136,541	754,905	150,645	10,418	2,027

¹ *Ages in Table 2 reflect inventory at or near fiscal yearend 2000. These amounts may not reflect the actual age as of the date of this report. Management provided updated amounts for Rocky Flats as of March 27, 2001, but those amounts are not reflected here.*

Appendix 3

SCOPE

This audit was performed from May 2000 to December 2000 at Department Headquarters in Washington, DC, and Germantown, Maryland. Disposal site visits were made to the Nevada and Richland Operations Offices. Generator site visits were made to the Rocky Flats and Ohio Field Offices, the Chicago Operations Office, and the Oak Ridge Reservation.

The scope of our audit was limited to the transfer and subsequent disposal of low-level waste between Departmental sites and a commercial disposal facility.

METHODOLOGY

To accomplish our audit objective we:

- Reviewed prior Office of Inspector General reports and General Accounting Office reports to identify concerns associated with waste transfer and disposal throughout the Department.
- Reviewed reports issued by other Departmental programs to identify concerns related to our audit and determined whether actions were taken by the responsible program to correct any problems identified in these reports.
- Obtained and reviewed applicable Departmental directives for disposing of low-level waste.
- Held discussions with Office of Environmental Management officials regarding the process used by the Department to dispose of low-level waste.
- Determined if the Department established performance measures in accordance with the Government Performance and Results Act to measure the effectiveness of the waste disposal operations.

We conducted the audit in accordance with generally accepted Government auditing standards for performance audits, and included tests of internal controls and compliance with laws and regulations to the extent necessary to satisfy the audit objective. Accordingly, we assessed internal controls and performance with regard to the process used by the Department to transfer and dispose of low-level waste at

off-site disposal facilities. Because our review was limited, it would not necessarily have disclosed all internal control deficiencies that may have existed at the time of our audit. We relied on computer-processed data to accomplish our audit objective. We performed limited test work of data reliability during our audit and determined that we could rely on the computer-processed data.

The Office of Environmental Management waived an exit conference.

RELATED PRIOR AUDIT REPORTS

Disposal of Low-Level and Low-Level Mixed Waste, (DOE/IG-0426, September 1998). The Department did not dispose of low-level and low-level mixed waste as cost-effectively as possible. The Office of Inspector General reported that the Department could have saved \$5.3 million in disposal costs for low-level waste between FYs 1993 and 1996. In addition, the Department built low-level waste disposal facilities at Savannah River and Oak Ridge at a cost of \$27.1 million even though off-site disposal would have been more cost-effective.

Low-Level Radioactive Wastes: Department of Energy Has Opportunities to Reduce Disposal Costs, (GAO/RCED-00-64, April 2000). The General Accounting Office concluded that the Department does not have complete, comparable, and consistent information on the life-cycle costs of its disposal facilities so that accurate cost comparisons can be made. The General Accounting Office also reported that disposal fees were not comparable and consistent between disposal sites. Charging disposal fees may also reduce efficiencies at some waste-generating sites. In addition, the General Accounting Office noted that disposal decisions were made with site specific budgetary interests.

Appendix 5

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United States Government

Department of Energy

memorandum

DATE: April 20, 2001
REPLY TO
ATTN OF: EM-22, Karen Guevara (301) 903-4981
SUBJECT: Draft Report on "Utilization of the Department's Low-Level Waste Disposal Facilities"

Deputy Inspector General for Audit Services, IG-30

On March 20, 2001, you provided a copy of your draft report on the subject audit for the Office of Environmental Management (EM) review and comment. You also provided copies of the report to staffs at the Nevada, Richland and Chicago Operations Offices, Rocky Flats and Ohio Field Offices, and the Oak Ridge Reservation – all of which you visited in conducting this audit. Specifically, you asked that we review the information in this draft and provide written comments within 15 working days on the facts presented, conclusions reached, appropriateness of the recommendations, and reasonableness of the estimated potential monetary impact or other benefits that may be realized. (We verbally requested a 10-day extension of the comment period, which was verbally granted by your staff on April 6, 2001).

This memorandum provides our responses to your recommendations, as well as two minor comments. We appreciate your report's acknowledgment that the Department has taken significant steps in recent years to improve its low-level waste (LLW) management, including issuance of a new Radioactive Waste Management order and a programmatic decision on LLW disposal. The draft report stated that despite these steps, you find the Department has not fully utilized existing LLW disposal capacity at Hanford and the Nevada Test Site (NTS), and so did not realize the maximum benefit of its investment in waste storage and disposal operations. The EM program agrees to take steps to improve disposal efficiency and offers the following responses to your recommendations.

Recommendation 1 - Establish an integrated complex-wide disposal program to ensure the optimal use of disposal facilities. The Department agrees with this general recommendation, and plans to take the following actions to support such an effort. First, we acknowledge there are improvements we can make in the operations of our LLW disposal facilities to further facilitate disposal efforts. Consequently, the EM Office of Technical Program Integration (EM-22) has been assigned responsibility for coordinating integrated planning efforts, and is sponsoring a June 2001 workshop between shipping and receiving sites to develop a strategy for ensuring timely and effective use of the Department of Energy's (DOE) LLW and mixed LLW disposal facilities. Second, at this workshop we will discuss alternatives to use of waste generator fees, including NTS's recent experience with the "flat-fee" concept. Options for funding DOE disposal operations will also take into consideration and support DOE's continued use of commercial disposal facilities, consistent with DOE's goal of ensuring the availability of a broad range of cost-effective disposal services. Development of any alternative funding mechanism will be timed to coincide with the EM program's budget development cycle, making Fiscal Year 2003 the first year that such a funding change could likely occur. Third, after the June 2001 meeting among shipping and receiving sites, EM-22

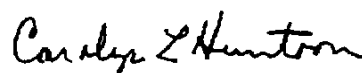
will formally document the path forward for implementing this general recommendation and will at that time address and respond to each of your four sub-recommendations on centralized funding, ensuring capacity aligns with disposal needs, funding controls, and use of life-cycle disposal cost to optimize disposal facility use.

Recommendation 2 - Develop standard waste acceptance criteria to allow for waste generators to readily use either Nevada or Hanford. The Department agrees with this recommendation. During the June 2001 workshop, we will develop the information needed to modify the waste-acceptance criteria and process so there is general consistency between Hanford and NTS, thus easing access to both. As a result, EM-22 will formally document the specific steps and schedule for implementing this recommendation after the June 2001 meeting among shipping and receiving sites.

Recommendation 3 - Establish performance measures for the efficient use of Nevada and Hanford disposal operations. The Department agrees with the general recommendation to establish performance measures for efficient disposal operations. The June 2001 workshop will also discuss appropriate ways to measure efficiency and how/whether these measures should link to waste disposal metrics at generator sites. The Department had earlier established complex-wide off-site disposal metrics at Hanford and NTS, but eliminated these measures when realizing that neither site was in control of the volumes of waste they received for disposal. The June 2001 workshop will discuss these past experiences in determining how to establish new performance measures. As a result, EM-22 will detail the next steps toward implementing this recommendation after the workshop among shipping and receiving sites.

You also asked for any comments on the draft report. One of the sites you visited, Rocky Flats, offered corrections to the age of LLW inventory you detail in Appendix 2 of your draft report. They recommend the following volumes/ages be used instead of those now shown: 254,040 ft³ stored from 0-5 years; 78,014 ft³ stored from 6-10 years; 32,804 ft³ stored from 11-15 years; 193 ft³ stored from 16-20 years; and 7 ft³ stored longer than 20 years. In addition, Rocky Flats notes there are another 2,500 m³ of waste from which they could not identify age data.

In addition, your draft report notes that long-term storage of LLW poses environmental and worker health risks. The Department believes the risks posed by long-term LLW storage are not as high as many other challenges facing the EM program. The EM program prioritizes its funding to reduce the highest risks first, and we believe we are putting our funding toward appropriate risk-reducing activities.



Carolyn L. Huntoon
Assistant Secretary for
Environmental Management

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4. What additional actions could the Office of Inspector General have taken on the issues discussed in this report which would have been helpful?

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