

Environmental Management Long-Term Stewardship

Mission Supporting Goals, and Objectives

Program Mission

The Federal Government has a legal and moral responsibility to ensure the protection of public health and the environment from hazards remaining after cleanup of federal sites is completed. The Department of Energy refers to the activities necessary to manage this obligation as long term stewardship. Mission activities associated with long term stewardship include: policy and planning; training and outreach; operation, maintenance, and monitoring of physical and institutional controls; information management; and, a systematic effort to improve the Department's ability to safely and efficiently manage the long term stewardship responsibility.

Program Goal

Long term stewardship is an emerging mission for the Department. Despite significant progress in addressing the legacy of the Cold War, existing plans and agreements with regulators and affected parties, coupled with technical or financial limitations, will result in the majority of the Department's sites not being cleaned up to the point where they can be released for unrestricted use. Thus the goal of the Long-Term Stewardship program is to enable the Department to provide safe and effective long term stewardship from residual hazards while optimizing future land and resource use. Achieving this goal requires the development and implementation of policies, strategic and program planning, issue identification and resolution, as well as oversight functions necessary to ensure the protection of public health and the environment for sites already in long term stewardship.

Program Objectives

Although 34 sites are already in the Department's long term surveillance and monitoring program, the Department's long term stewardship program is in its infancy. In general, the sites that have completed cleanup have either small source terms (residual radioactive hazards) which have been relatively easy to stabilize or are protected by the installation of significant engineered controls. This coupled with the predominantly remote location of the sites and the lack of any continuing missions has, at least to date, resulted in relatively low risk stewardship. However, the Department plans to transition an additional 33 sites into long term stewardship in the next five years. In general, these sites have larger and more complex source terms (radioactive and chemically hazardous materials in varied forms and conditions), are closer to population centers, and several of the sites will have continuing missions. By the end of the Department's cleanup activities, over 120 sites are

expected to require long term stewardship.

The Long-Term Stewardship program is comprised of four major elements: (1) policy and planning; (2) transition to stewardship; (3) operations and maintenance oversight; and (4) continuous improvement. Funding for operations and maintenance of sites in long term stewardship, with the exception of oversight functions, is currently contained within the Idaho Operations Office portion of the budget and is performed by the Grand Junction Office.

Within these four major elements there are a number of objectives:

- # prepare strategic, program, and site specific plans that enable the Department to identify, evaluate, and meet its long term stewardship responsibilities.
- # establish Department wide policies and procedures that clearly establish the requirements for, and enable the transition of sites into long term stewardship.
- # improve the Department's capabilities to make cost effective and publically acceptable tradeoffs between cleanup, long term stewardship, and future land use.
- # review, analyze, and improve the current set of institutional controls available for enabling, managing, and enforcing long term stewardship.
- # efficiently and effectively support the transfer of sites and portions of sites into long term stewardship to enable reductions in site infrastructure costs.
- # provide the oversight necessary to ensure the continued protection of public health and the environment for sites already in long term stewardship.
- # establish processes for improved oversight, failure trending and analysis, decision analysis, and improved science and technology investment decisions that enable the Department to make continuous improvements to long term stewardship.

Significant Accomplishments and Program Shifts

FY 1998 through FY 2000 were primarily focused on preparing the initial programmatic baseline for long term stewardship and identifying the major issues associated with the successful implementation of long term stewardship within the Department. Issue identification was supported through a national scoping process required by a Settlement Agreement reached in response to the Programmatic Environmental Impact Statement lawsuit, and research and analysis conducted by independent groups including, but not limited to: the National Research Council, the National Governors Association, the Energy Communities Alliance, and Resources for the Future.

FY 2001 marked the beginning of long term stewardship as a program mission for the Department with an emphasis on strategic, programmatic, and site specific planning. FY 2002 continues to emphasize planning but has an increased focus on resolution of issues interfering with, or potentially delaying, the transition of sites

through closure and into long term stewardship. Issue resolution will be conducted, in partnership with the Field Offices and sites. Priority will be placed on those sites approaching closure and on those issues that are crosscutting in nature. Stakeholder and outreach activities will be shifted to provide an improved balance between national groups coordinated by headquarters elements and local groups coordinated by field elements.

- # Prepared the first long term stewardship program baseline with initial estimates of scope, cost, and schedule. Baseline was submitted as a Report to Congress in accordance with the FY 2000 National Defense Authorization Act.
- # Conducted national scoping and public comment process to prepare a comprehensive national study on long term stewardship issues.
- # Developed and issued guidance for the development of site-specific long term stewardship plans.
- # Supported the development of initial policy regarding the ownership and transfer of sites within the Department into long term stewardship.
- # Completed the development and declared the Central Internet Database (one of the requirements from the Programmatic Environmental Impact Statement lawsuit settlement agreement) fully operational.

Funding Schedule

	FY 2000	FY 2001	FY 2002
Policy and Guidance	1,000	3,700	3,200
Transition to Stewardship	0	1,750	2,500
Operations and Maintenance Oversight	0	300	300
Continuous Improvement	0	1,500	1,500
Central Internet Database	500	750	500
Long-Term Stewardship	1,500	8,000	8,000

Detailed Program Justification

(dollars in thousands)

	FY 2000	FY 2001	FY 2002
Policy and Guidance	1,000	3,700	3,200

(dollars in thousands)

FY 2000	FY 2001	FY 2002
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The emerging mission of long term stewardship within the Department provides a set of unique policy challenges as well as a requirement for extensive planning. The policy challenges include the development and implementation of: requirements and procedures for the transfer of sites into long term stewardship; rigorous and redundant engineering and institutional controls; record keeping and information management requirements; decision-aiding tools for evaluating alternative cleanup scenarios and their impacts on stewardship; life-cycle cost estimation techniques; financial mechanisms for long term stewardship; and, an effective management approach within the Department for enabling current and future missions within the constraints of safe and efficient long term stewardship.

The Department has embarked on long term stewardship planning efforts at three levels. At the top level the Department will be constructing a strategic plan for long term stewardship that addresses sites that are closing, as well as, sites with continuing missions. In parallel with the strategic planning effort, the Department is developing a long term stewardship program plan. The program plan will identify the major activities that the Department must take over the next five years to ensure successful management of its long term stewardship responsibility. The third level of planning will be done at the geographic site level. Each site, regardless of expected closure date, will develop a plan for long term stewardship by 2004. This advance planning will allow sites to factor stewardship considerations into cleanup decisions as early as possible. Planned FY 2002 activities include:

- # Establish policies for information management and record keeping the enable the Department to meet the unique challenges of long term stewardship.
- # Review and analyze cleanup decisions with respect to long term stewardship implications. Establish changes to procedures or processes to introduce stewardship considerations earlier in the decision-making processes.
- # Develop and start implementation of life-cycle cost estimating techniques for long term stewardship that enable improved decision-making.
- # Evaluate financial options and alternative institutional approaches for ensuring adequate resources are available to meet long term stewardship requirements.
- # Develop and start implementation of a Department-wide strategic plan for long term stewardship.
- # Establish corporate performance measures that can be used to both drive and evaluate the Department's success in long term stewardship.
- # Develop and start implementation of a fully integrated Department-wide program plan for long term stewardship.
- # Support the preparation of site-specific long term stewardship plans at 40 plus sites around the complex.

(dollars in thousands)

FY 2000	FY 2001	FY 2002
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Transition to Stewardship **0** **1,750** **2,500**

Over 30 sites or portions of sites are expected to transition from cleanup to long term stewardship in the next five years. The source terms at those sites will be either larger, more complex, or have higher risk to the public and the environment than those sites previously transferred. Efficient and effective transfer of these sites into long term stewardship will allow the Department to eliminate or substantially reduce costs associated with site infrastructure. However, achieving this will require improvements in the following areas: information management and public access to records; land use planning, particularly as it relates to state, tribal and local governments; the use of engineering and institutional controls; and, performance assessment and verification tools that can effectively demonstrate to federal and state regulators that cleanup is completed and long term stewardship can begin. In addition, the Department is expected to face growing pressure to consider stewardship responsibility for non-federal, low-level waste disposal sites under Section 151(b) of the Nuclear Waste Policy Act. The potential federal environmental liability of these sites is not well understood.

The Department is tackling the challenges associated with transferring sites into long term stewardship at several levels: coordination with other federal agencies; interaction with national organizations; and, solving site specific issues. Several federal agencies, in particular the Department of Defense, are land owners who are embarking on long term stewardship missions. In addition, two federal agencies, the Nuclear Regulatory Commission and the Environmental Protection Agency are faced with oversight of non-federal sites that will be cleaned up but require long term stewardship. The cost of long term stewardship to the federal government can be reduced if there is adequate coordination across federal agencies. National organizations are rapidly engaging on this complex issue as evidenced by long term stewardship committees being established by the National Governors Association and the Environmental Council of States. Effective communication and coordination at the national level will result in stewardship decisions that are safer and more cost effective. Sites planning to transition into long term stewardship within the next ten years are actively managing stewardship issues today. The majority of funding requested in this activity will be used to support site specific or cross-cutting issues facing those sites. Specifically, technical assistance, training, and funding will be provided to sites to enable transition to stewardship. In FY 2002, planned activities include:

- # Transfer site record keeping and information management from a cleanup orientation to those required for long term stewardship with an emphasis on public access.
- # Support the development, communication, and use, of engineering and institutional controls at the site level.
- # Support land use planning activities for long term stewardship particularly as it relates to the use of “brown fields” or reindustrialization and the responsibilities of state, tribal and local governments.
- # Provide and oversee the implementation of performance assessment and verification tools for ensuring long term stewardship requirements are met.
- # Review and evaluate the potential environmental liability to the federal government of non-federal sites regulated by the Nuclear Regulatory Commission.

(dollars in thousands)

FY 2000	FY 2001	FY 2002
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Operations and Maintenance Oversight **0** **300** **300**

As of January 2001, 34 sites had completed the successful transition to long term stewardship and are under the purview of the Grand Junction Office's long term surveillance and monitoring program. To date, site monitoring has shown that engineering and institutional controls can be used effectively to prevent damage to human health and the environment from residual hazards. However, as previously noted, the sites currently in stewardship have relatively low levels of risk associated with them and the time spent in stewardship has been relatively short. Operations and maintenance of sites in long term stewardship is conducted by the Grand Junction Office and the majority of funding is contained in the Idaho portion of the budget. In FY 2002, planned activities include:

- # Provide oversight to ensure that sites in long term stewardship remain fully compliant with applicable regulations, and that surveillance, monitoring, and maintenance activities are conducted in accordance with approved site-specific long term stewardship plans.

Continuous Improvement **0** **1,500** **1,500**

The very nature of the problem requires the Department to review, analyze, and invest in improvements to long term stewardship. The cost of long term stewardship will be significantly less than cleanup; however, safely maintaining the protection of public health and the environment for decades, let alone thousands of years, will require significant resources. Failure trending and analysis tools, as well as other decision tools, are needed to determine the uncertainty of the long-term effectiveness and permanence of engineering and institutional controls. It must be assumed that containment structures, caps, and subsurface barriers will fail. Failure could result from the impact of natural disasters or the gradual breakdown over time of engineered controls. In a number of cases, it is expected that the potential value of the land and/or the facilities in long term stewardship will increase to the point where more active use will be cost effective. Effective stewardship will enable the development and use of these "brown fields" as time progresses. Targeted investments in science and technology will result in technological improvements that can have a significant impact on the cost of long term stewardship and the ability to improve the use of land and/or facilities. Planned FY 2002 activities include:

- # Establish a systematic process to analyze degradation and failures to establish trends and develop options to mitigate failures and their impacts.
- # Evaluate the existing and planned stewardship baseline for opportunities to change the remedial action strategy or existing remedy to enable improved land or facility use.
- # Develop a science and technology roadmap that identifies critical research needs for effective long term stewardship.

(dollars in thousands)

FY 2000	FY 2001	FY 2002
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Central Internet Database **500** **750** **500**

The Department developed the Central Internet Database pursuant to the terms of a legally binding agreement that settled a lawsuit regarding the EM Programmatic Environmental Impact Statement. While the Central Internet Database was made available to the public in January 2000, it did not meet the requirements of the lawsuit and was not fully operational. The Central Internet Database contains data on the Department's waste, contaminated media, facilities, and spent nuclear fuel. There are no data calls associated with the Central Internet Database; all data is obtained from other Departmental information systems. The Department is obligated to maintain the system for at least six years from the time it is declared fully operational.

Responsibility for this system is being transferred to Environmental Management's Chief Information Officer. FY 2002 will be the last year funding is requested in the Long Term Stewardship budget request. Planned FY 2002 activities include:

- # Maintain the Central Internet Database operational. Update the database with new information and respond to inquiries and requests.

Total, Long-Term Stewardship	1,500	8,000	8,000
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Explanation of Changes from FY 2001 to FY 2002

	FY 2002 vs. FY 2001 (\$000)
Long-Term Stewardship	
# No change.	0
Total Funding Change, Long-Term Stewardship	<u>0</u>