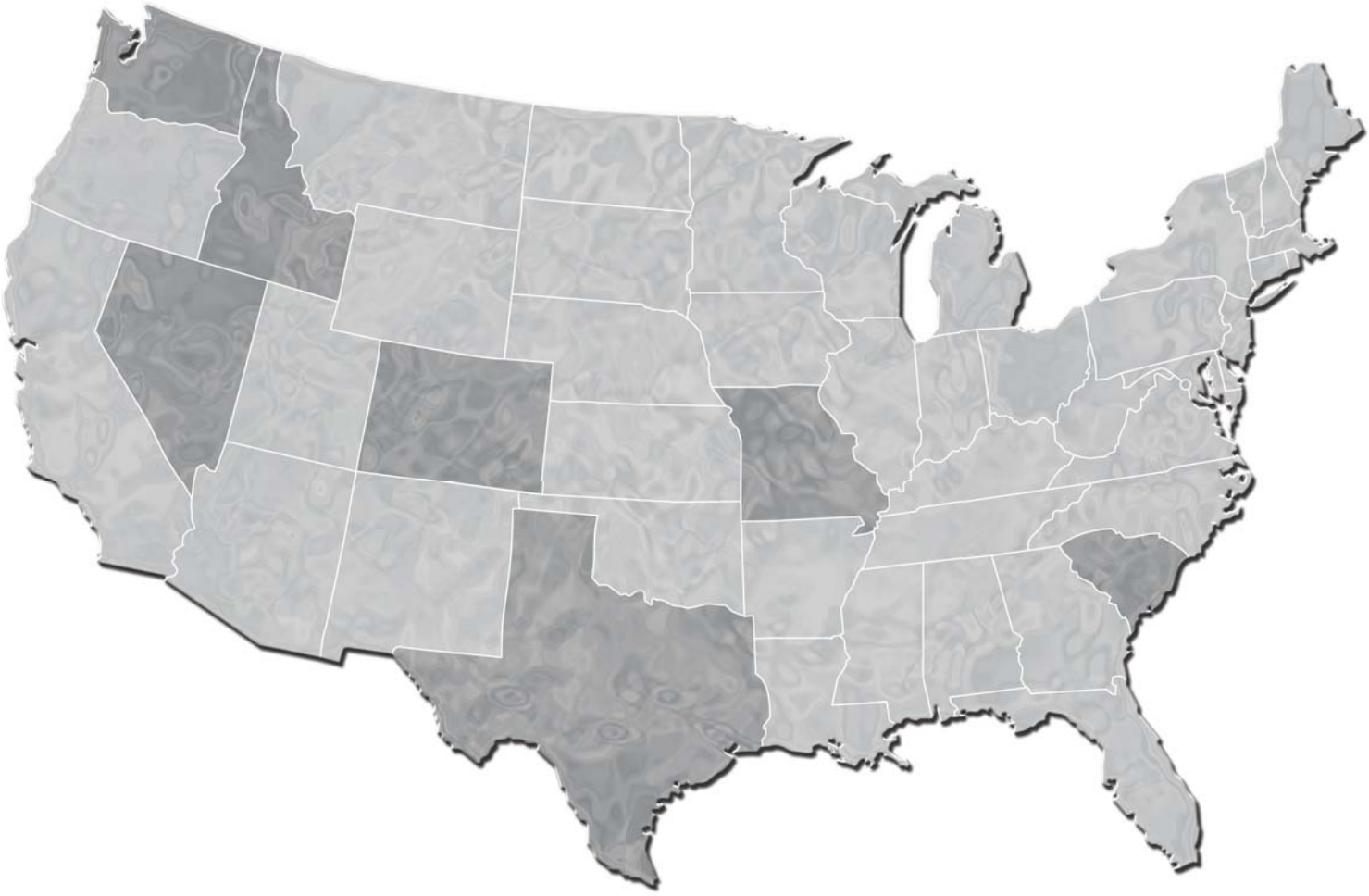
DOE/EIS-0423D
January 2010

Draft

Long-Term Management and Storage of Elemental Mercury

Environmental Impact Statement



Summary and Guide for Stakeholders

U.S. Department of Energy
Office of Environmental Management
Washington, DC

AVAILABILITY OF THE
DRAFT LONG-TERM MANAGEMENT AND
STORAGE OF ELEMENTAL MERCURY
ENVIRONMENTAL IMPACT STATEMENT

For information or to submit comments on this *Draft Mercury Storage EIS*, contact:

David Levenstein, Document Manager
Office of Environmental Compliance (EM–41)
U.S. Department of Energy
Post Office Box 2612
Germantown, MD 20874
Website: http://www.mercurystorageeis.com
Fax: 877-274-5462

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COVER SHEET

Lead Agency: U.S. Department of Energy (DOE)

Cooperating Agencies: U.S. Environmental Protection Agency (EPA)
Mesa County Board of Commissioners, Mesa County, Colorado

Title: *Draft Long-Term Management and Storage of Elemental Mercury Environmental Impact Statement (Mercury Storage EIS)* (DOE/EIS-0423D)

Candidate Locations for Storage Facility(ies): Colorado, Idaho, Missouri, Nevada, South Carolina, Texas, Washington

Contacts: For copies of this draft environmental impact statement (EIS), visit the *Mercury Storage EIS* website at http://www.mercurystorageeis.com or contact David Levenstein at the address below.

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Fax: 877-274-5462

For general information on the DOE National Environmental Policy Act (NEPA) process, contact:

Carol M. Borgstrom, Director
Office of NEPA Policy and Compliance (GC–54)
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585
Website: http://www.gc.energy.gov/NEPA
Telephone: 202-586-4600,
or leave a message at 800-472-2756

Abstract: Pursuant to the Mercury Export Ban Act of 2008 (P.L. 110-414), DOE has been directed to designate a facility or facilities for the long-term management and storage of elemental mercury generated within the United States. DOE is analyzing the storage of up to 10,000 metric tons (11,000 tons) of elemental mercury in a facility(ies) constructed and operated in accordance with the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (74 FR 31723). DOE has prepared this *Mercury Storage EIS* in accordance with the National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S.C. 4321 et seq.), the Council on Environmental Quality (CEQ) implementing regulations (40 CFR 1500–1508), and DOE's NEPA implementing procedures (10 CFR 1021) to evaluate the reasonable alternatives for a facility(ies) for the long-term management and storage of elemental mercury. This *Mercury Storage EIS* analyzes the potential environmental, human health, and socioeconomic impacts of elemental mercury storage at seven candidate locations: Grand Junction Disposal Site near Grand Junction, Colorado; Hanford Site near Richland, Washington; Hawthorne Army Depot near Hawthorne, Nevada; Idaho National Laboratory near Idaho Falls, Idaho; Kansas City Plant in Kansas City, Missouri; Savannah River Site near Aiken, South Carolina; and Waste Control Specialists, LLC, near Andrews, Texas. As required by CEQ NEPA regulations, the No Action Alternative is also analyzed as a basis for comparison. DOE intends to decide (1) where to locate the elemental mercury storage facility(ies) and (2) whether to use existing buildings, new buildings, or a combination of existing and new buildings. DOE's Preferred Alternative is storage in a combination of an existing facility and a new facility at Waste Control Specialists, LLC, near Andrews, Texas.

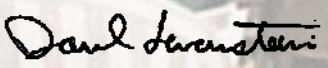
Public Comments: On July 2, 2009, DOE issued a Notice of Intent in the *Federal Register* (74 FR 31723) soliciting public input on development of this draft EIS, and DOE has considered all comments received during the scoping period (July 2 through August 24, 2009) in preparing this draft EIS. Comments on this draft EIS may be submitted during the 60-day comment period, which will begin upon publication of EPA's Notice of Availability in the *Federal Register*. Public hearings on this draft EIS will be held during this 60-day comment period. The dates, times, and locations of these public hearings will be published in a DOE *Federal Register* notice and also will be announced through other media. DOE will consider any comments received after the comment period ends to the extent practicable.

A Message to Stakeholders

I am pleased to present for your review and comment the *Draft Long-Term Management and Storage of Elemental Mercury Environmental Impact Statement (Mercury Storage EIS).* It is a key step in carrying out the intent of Congress in the Mercury Export Ban Act of 2008 to reduce mercury in the global environment. The U.S. Environmental Protection Agency and Mesa County Board of Commissioners are cooperating agencies on the preparation of this *Mercury Storage EIS*.

DOE's goal is to provide safe, secure, long-term mercury storage by establishing a facility(ies) that can accept U.S. elemental mercury and begin storage operations by January 2013. The *Mercury Storage EIS* is intended to provide decisionmakers and the public with clear, reliable, and credible information about the impacts of the proposed action and reasonable mercury storage alternatives. To that end, we have prepared this *Summary and Guide for Stakeholders* to summarize the major components of the full draft environmental impact statement (EIS) and to guide readers to additional detail in the complete document. Technical terms have been avoided where possible or defined. A short list of acronyms and abbreviations has been included to further ensure clarity. You can also find supplementary information on the EIS website at *www.mercurystorageeis.com* and in the Reading Rooms listed in Section 5 of this summary and guide.

I look forward to receiving your comments on this draft EIS, and I hope you will continue to participate in the decisionmaking process as we develop the final EIS and the Record of Decision.



David Levenstein
EIS Document Manager
U.S. Department of Energy

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1. INTRODUCTION

The U.S. Department of Energy (DOE) has prepared this *Draft Long-Term Management and Storage of Elemental Mercury Environmental Impact Statement (Mercury Storage EIS)* as part of DOE's process to establish a facility(ies) for storing elemental mercury in accordance with the Mercury Export Ban Act of 2008 (the Act). The U.S. Environmental Protection Agency (EPA) and the Mesa County Board of Commissioners are cooperating agencies on this environmental impact statement (EIS).

The Mercury Export Ban Act of 2008 (the Act)

- The Act bans the export of elemental mercury from the United States as of January 1, 2013.
- It prohibits the sale, distribution, or transfer of mercury by Federal agencies to other government agencies and private entities as of October 14, 2008.
- The U.S. Department of Energy (DOE) must designate a facility(ies) for long-term management and storage of mercury generated in the United States and have it operational by January 1, 2013.
- Any such facility(ies) must comply with applicable requirements of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.).
- The Act does not specify how long mercury may require storage at the DOE-designated facility(ies).
- DOE is required to charge a fee to cover the cost of mercury storage.
- The Act requires the U.S. Environmental Protection Agency (EPA) to report to Congress on whether to expand the export ban to cover one or more mercury compounds. This report was issued in October 2009.
- EPA must report to Congress by January 1, 2017, on the global supply and trade of elemental mercury, including whether additional primary mercury mining has occurred as a consequence of the Act.

The text box at left provides a synopsis of the relevant features of the Act, while Appendix A of the main volume of this EIS contains a full copy of the Act.

The Act prohibits the sale, distribution, or transfer of elemental mercury by Federal agencies to other government agencies and private entities, effective October 14, 2008, as well as the export of elemental mercury from the United States, effective January 1, 2013. Banning the export of mercury from the United States is expected to result in surplus inventories. Therefore, the Act states that DOE must designate a facility(ies) and be ready to accept custody of elemental mercury and begin storage operations by January 1, 2013.

DOE's purpose and need for action is thus to provide a capability for managing and storing elemental mercury on a long-term basis. Accordingly, DOE's proposed action is to construct one or more new facilities and/or select one or more existing facilities (including modifications as needed) as mandated by Section 5 of the Act.

The National Environmental Policy Act of 1969 (NEPA) requires Federal agencies to integrate environmental values into their decisionmaking by considering the environmental impacts of proposed actions and the range of reasonable alternatives to those actions. For major Federal actions significantly affecting the quality of the human environment, agencies must prepare an EIS, which considers the potentially affected environment, including the natural physical environment (e.g., air, water, geology, soils, plant and animal life) and the relationship between humans and the environment (e.g., health, safety, jobs, schools, housing, cultural resources, and aesthetics). Environmental justice, the process of ensuring that no group—ethnic, racial, or socioeconomic—of people bears a disproportionate share of adverse impacts, is also a key component of an EIS. The NEPA process emphasizes public outreach to ensure that stakeholders are provided opportunities to learn about the proposed action and to provide the Government with their input in the form of public comments.

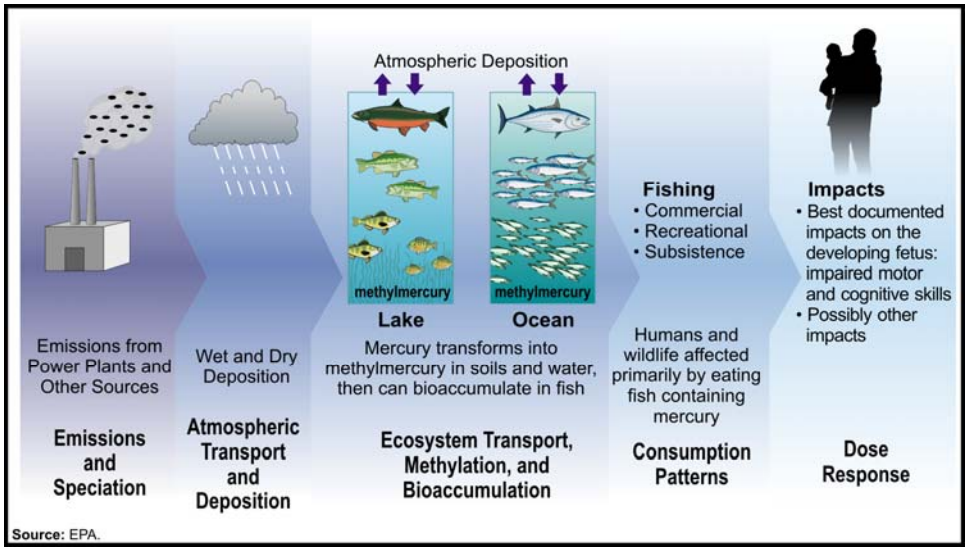
This *Summary and Guide for Stakeholders* presents a concise overview of the major issues addressed in this draft EIS and directs readers to more-detailed information in the full document. A compact disk of the full draft EIS and appendices is enclosed.

Stakeholders are the people or organizations who have an interest in, or may be affected by, a proposed action, including the general public; representatives of environmental and educational groups, industry, unions, and other organizations; and representatives of Congress, Federal agencies, American Indian tribes, state agencies, and local governments.

Why Reduce the Amount of Mercury in the Environment?

Mercury is a naturally occurring element that enters the environment as a result of natural processes (e.g., volcanoes, wildfires, surface emissions) and human activities. Mercury and its compounds are toxic; therefore, they pose human health and ecological risks. The potential effects are widespread because mercury is easily dispersed throughout the environment. Moreover, the free trade of elemental mercury on the world market has encouraged its continued use, resulting in increasingly higher levels of mercury available in the global environment. This has increased the risk of neurological and reproductive effects for humans and wildlife, and it means mercury is a pollutant of environmental concern throughout the world. By banning the export of U.S. mercury, Congress anticipated reducing the amount of mercury available worldwide, thus reducing the associated health risks.

> For purposes of this environmental impact statement, "mercury" refers to elemental mercury unless otherwise indicated.



The Mercury Cycle

Elemental mercury—the form DOE would manage and store—has long been used in manufacturing processes, because it is a good conductor of electricity and it alloys (mixes) readily with other metals. Historically, it was used in batteries, paint, thermometers, thermostats, medical devices such as blood pressure monitors, auto lighting switches, fluorescent lights, and dental fillings. Many of these uses have been curtailed in recent years.

Mercury was once used extensively in manufacturing.

What Are DOE's Objectives in This EIS?

DOE has developed this draft EIS to evaluate the potential impacts of the proposed action, i.e., to establish a facility(ies) for the long-term management and storage of mercury. In accomplishing this, DOE is committed to the following overall objectives for its mercury storage program:

- Protect human health and the environment and ensure the safety of workers and the public.
- Meet the requirements of the Mercury Export Ban Act of 2008.
- Comply with applicable Federal, state, and local laws and regulations.

How Much Mercury Would DOE Manage and Store?

Based on the best available information, DOE anticipates that approximately 10,000 metric tons (11,000 tons) of excess mercury will need to be managed and stored in a facility designed to last at least 40 years, although more or less mercury could require shorter or longer storage.

Potential sources of mercury in the United States include mercury that is used in chlorine and caustic soda manufacturing (i.e., chlor-alkali industry), reclaimed from recycling and waste recovery activities, and generated as a byproduct of gold mining. In addition, DOE currently stores approximately 1,200 metric tons (1,300 tons) of mercury at its Y–12 National Security Complex in Oak Ridge, Tennessee. Table 1 shows the DOE-estimated inventory of mercury that could be available for storage over the next 40 years. That estimate does not include U.S. Department of Defense–related mercury (4,400 metric tons [4,900 tons]) because the Defense Logistics Agency has already determined to store its mercury inventory at the Hawthorne Army Depot in Nevada.

Table 1. Estimated U.S. Mercury Inventory That DOE Could Manage and Store

Source	*Years Sent to Storage* [a]	*Quantity in Metric Tons (tons)*
DOE Y–12 National Security Complex in Oak Ridge, Tennessee	2013–2014	1,200 (1,300)
Closure of four chlor-alkali plants or conversion to non-mercury-cell technology	2013–2019	1,100 (1,200)
Waste reclamation and recycling facilities	2013–2052	2,500 (2,800)
Byproduct of gold mining	2013–2052	3,700–4,900 (4,100–5,400)
Total		**8,500–9,700 (9,400–10,700)**

[a] For purposes of analysis, it was assumed that the elemental mercury from DOE's Y–12 National Security Complex could be shipped to the DOE-designated storage facility(ies) in the first 2 years of operation; chlor-alkali plant elemental mercury would be shipped in the first 7 years of operation; and waste reclamation and recycling facility and gold-mining byproduct elemental mercury would be shipped over the entire 40-year period of analysis.

Key: DOE=U.S. Department of Energy.

Where Would the Mercury Come From?

Potential sources of mercury that may require long-term storage are shown in Figure 1. They include: four chlor-alkali plants expected to still be using mercury-cell technology beyond 2010; gold mining in the state of Nevada, which produces the majority of U.S. byproduct mercury (i.e., the latest available data in 2002 report approximately 97 metric tons [107 tons]), and to a lesser extent South Dakota; six companies that account for most of the secondary mercury waste reclamation and recycling; and, potentially, some or all of the mercury currently stored at the Y–12 National Security Complex.

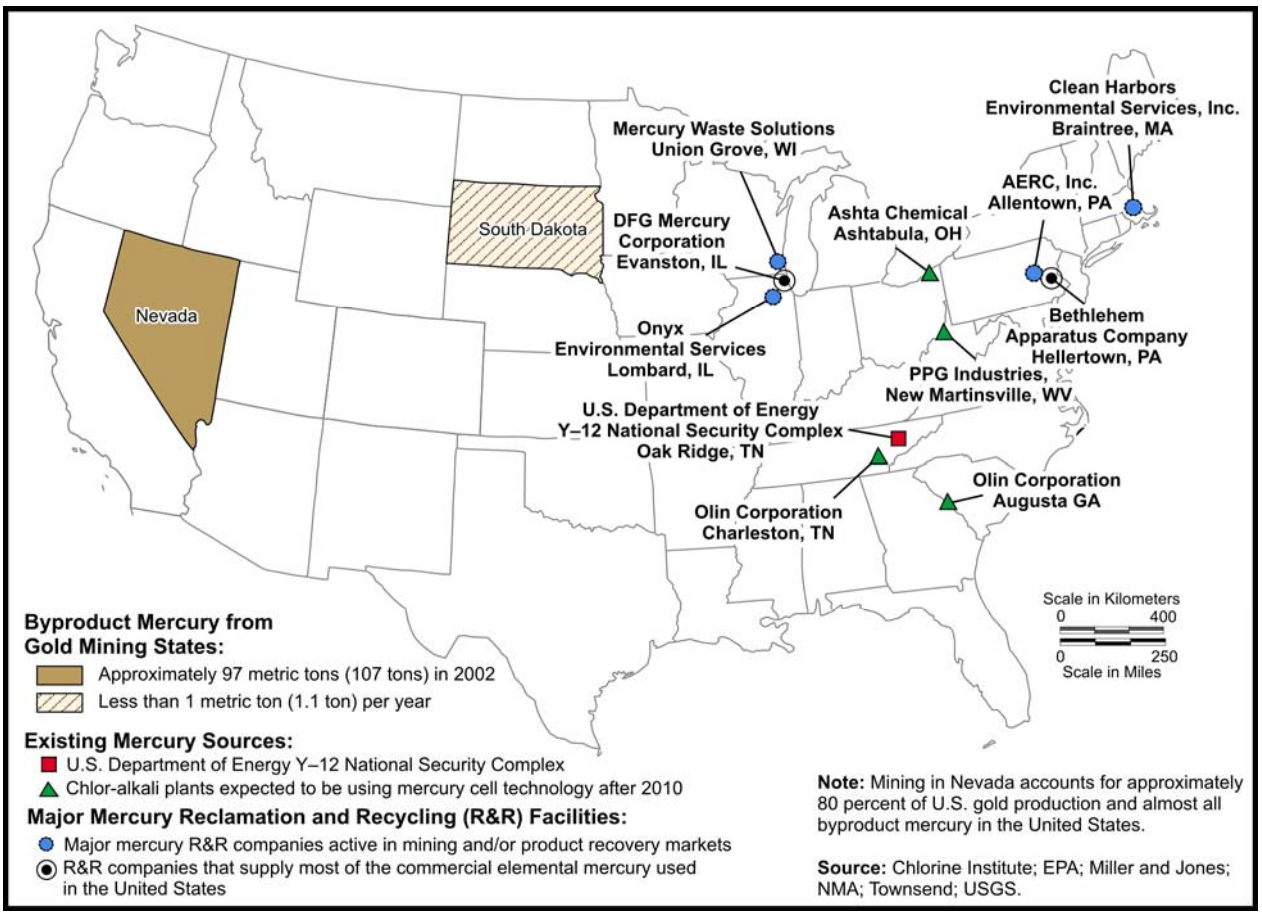


Figure 1. Potential Sources of Mercury in the United States

Estimates of the amount of mercury that DOE will be called upon to manage are uncertain, because, for example, mercury from gold mining depends on how much gold is mined. There may be less gold mining in the future as existing deposits are depleted, or there could be more mining if additional gold deposits are discovered. Similarly, the amount of mercury from waste reclamation and recycling facilities will depend on the volume of material processed. That amount may decrease as initiatives to collect mercury-containing thermometers, thermostats, switches, and natural-gas-metering devices are completed. In addition, some chlor-alkali plants may discontinue mercury-cell processes before 2013.

2. WHAT DOES THIS DRAFT EIS ADDRESS?

This EIS concerns the range of reasonable alternatives for the long-term safe, secure storage of elemental mercury generated in the United States. More specifically, this EIS addresses the short- and long-term potential health and environmental effects of establishing and operating a facility(ies) to provide the necessary capability for this storage.

Typical Mercury Storage Flasks

Decisions to Be Made

In making long-term mercury management decisions, DOE will consider the results of this EIS, public comments, and other relevant factors. DOE intends to make the following decisions:

- Where to locate the mercury storage facility(ies)
- Whether to use existing buildings, new buildings, or a combination of existing and new buildings for mercury storage

Scope of This EIS

This draft EIS includes the following:

- Identification of potential candidate sites for the mercury storage facility(ies)
- Consideration of the No Action Alternative
- Consideration of new construction and modification of existing facilities
- Potential health and environmental effects, including transportation to each potential storage facility(ies), and cumulative effects of establishing and operating a storage facility(ies) at each candidate site
- Comparison of the analytic results for all sites
- The issues and concerns raised by stakeholders during the scoping period for this EIS, along with DOE's responses
- The DOE Preferred Alternative

Resource Areas of Analysis

This EIS presents the results of DOE's analysis of potential impacts for each of the alternative candidate sites, as well as for a No Action Alternative, as required under NEPA for use as a basis of comparison. In this EIS, the No Action Alternative, contrary to the requirements of the Act, assumes DOE would not establish a facility(ies) for the long-term storage of elemental mercury.

Areas analyzed for each alternative site include: land use and visual resources; geology, soils, and geologic hazards; water resources; meteorology, air quality, and noise; ecological resources; cultural and paleontological resources; site infrastructure; waste management; occupational and public health and safety; ecological risk; socioeconomics; and environmental justice.

The potential impacts analyzed from construction and modification of a mercury storage facility include those related to land disturbance, resource use, air emissions, and employment. Operational impacts, including those related to resource use, emissions, and human health effects, are also presented. See Section 4, "Comparison of Impacts and Alternatives" of this Summary and Guide. Transportation impacts, including those related to air emissions, human health, and ecological risk, are also analyzed. The scope of this draft EIS is introduced in this section and detailed further in Section 6.

Affected Environment

The affected environment described in this draft EIS includes land use and visual resources; geology, soils, and geologic hazards; water resources; meteorology, air quality and noise; ecological resources; cultural and paleontological resources; site infrastructure; waste management; occupational and public health and safety; socioeconomics; and environmental justice.

DOE evaluated the environmental impacts of the proposed action within defined regions of influence specific to each resource area and site evaluated. Regions of influence encompass the geographic areas within which any meaningful impact is expected to occur, and can include the area within which the proposed action would take place, the site as a whole, or offsite areas. For example, impacts on historic resources were evaluated at specific facility locations within each site, whereas human health risks to the general public were assessed for an area within a 16-kilometer (10-mile) radius of the facility location. Brief descriptions of the regions of influence for each resource area are given in Table 2.

Table 2. General Regions of Influence for the Affected Environment

Environmental Resource Area	*Region of Influence*
Land use and visual resources	The project location, the site, and nearby offsite areas
Geology, soils, and geologic hazards	The project location, the site, and nearby offsite areas
Water resources	The project location, the site, and adjacent surface-water bodies and groundwater
Air quality and noise	For air quality, the site and nearby offsite areas potentially affected by air pollutant emissions; for noise, project location, the site, and surrounding areas, including transportation corridors
Ecological resources	The project location, the site, and nearby offsite areas
Cultural and paleontological resources	The project location and adjacent areas
Site infrastructure	The project location, the site, and local areas supporting the site
Waste management	Site waste management facilities
Occupational and public health and safety	The site, offsite areas within 16 kilometers (10 miles) of the site, and the transportation corridors
Socioeconomics	The counties where at least 90 percent of site employees reside
Environmental justice	The area within 16 kilometers (10 miles) of the site and the area within 3.2 kilometers (2 miles) of the site as a subset of the 16-kilometer (10-mile) area

3. MERCURY STORAGE SITE ALTERNATIVES CONSIDERED IN THIS EIS

As required by NEPA, this EIS evaluates a No Action Alternative to serve as a basis for comparison with the action or site alternatives. Under the No Action Alternative, DOE would not establish a facility(ies) for long-term management and storage of mercury, as required by the Act. Because the Act prohibits the export of mercury after January 1, 2013, companies in the United States would have to find another way to manage their excess mercury. Thus, any excess mercury would remain the responsibility of its owners or would be sent to commercial waste management facilities. Approximately 1,200 metric tons (1,300 tons) of DOE mercury currently stored at the DOE Y–12 National Security Complex in Tennessee would continue to be managed and stored at this location. However, to meet the requirements of the Act, DOE proposes to designate one or more existing or new facilities for the long-term management and storage of mercury.

How Were Potential Storage Sites Identified?

To begin the process of identifying potential mercury storage sites, DOE published a Request for Expressions of Interest in *Federal Business Opportunities* and the *Federal Register* in March 2009. DOE also issued an internal memorandum asking offices within DOE to determine whether they have facilities that could be used for mercury storage, as well as the feasibility of new construction.

Positive responses were received from the following Government sites and private companies:

- DOE Grand Junction Disposal Site, Grand Junction, Colorado
- DOE Hanford Site, Richland, Washington
- Hawthorne Army Depot, Hawthorne, Nevada
- DOE Idaho National Laboratory, Idaho Falls, Idaho
- DOE Kansas City Plant, Kansas City, Missouri
- Lowland Environmental Services et al., Knoxville, Tennessee
- Meritex Enterprises, Inc., Lenexa, Kansas
- DOE Savannah River Site, Aiken, South Carolina
- Veolia ES Technical Solutions, LLC, Henderson, Colorado
- Waste Control Specialists, LLC, Andrews, Texas

At the same time, DOE developed the following criteria for identifying candidate sites within the scope of this EIS:

- The facility(ies) will not create significant conflict with any existing DOE site mission and will not interfere with future mission compatibility.

- The candidate location has an existing facility(ies) suitable for mercury storage with the capability and flexibility for operational expansion, if necessary.

- As required by the Act, the facility(ies) is, or potentially will be, capable of complying with Resource Conservation and Recovery Act (RCRA) permitting requirements (see Chapter 5, Sections 5.2.4 and 5.3), including siting requirements.

- The facility(ies) has supporting infrastructure and a capability or potential capability for flooring that would support mercury loadings.

- Storage of mercury at the facility(ies) is compatible with local and regional land use plans, and new construction would be feasible, as may be required.

- The facility(ies) is accessible to major transportation routes.

- The candidate location has sufficient information on hand to adequately characterize the site.

Description of Candidate Sites

Applying the DOE screening criteria confirmed that seven of the ten potential storage sites appeared to be reasonable alternative locations (see Figure 2). The seven candidate sites evaluated in this EIS are briefly described below and in more detail in Chapter 2. The reasons for not evaluating three of the ten potential storage sites are described on page 17 "Alternatives Considered but Eliminated from Detailed Analysis."

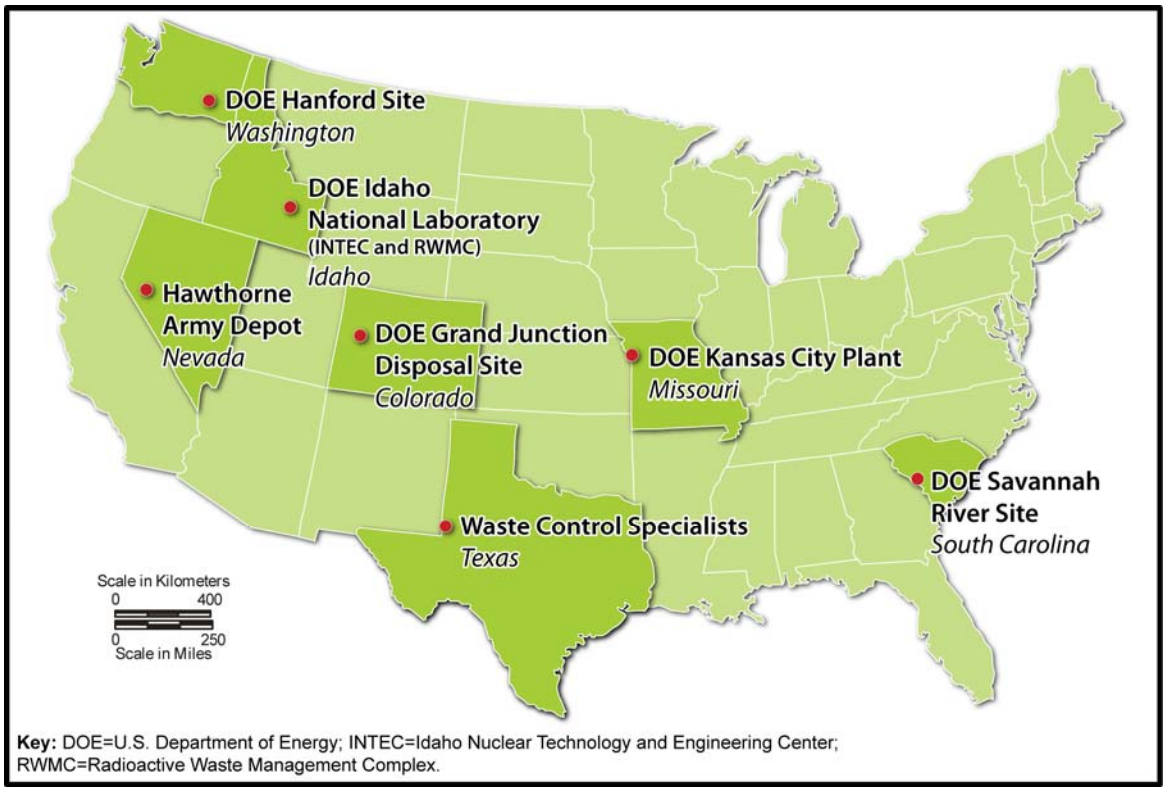


Figure 2. Alternative Sites Analyzed for U.S. Department of Energy Storage of Mercury

DOE Grand Junction Disposal Site, Colorado

The Grand Junction Disposal Site is located on DOE-owned land, 29 kilometers (18 miles) southeast of Grand Junction, Colorado. The site occupies 146 hectares (360 acres) in a rural setting. It is accessed from a two-lane paved road off U.S. Route 50. Currently, a 38-hectare (94-acre) area is used for disposal of uranium mill tailings. The entire site is surrounded by a perimeter fence and it has a gated entrance. The site has road/truck access, but no direct rail access. A new mercury storage facility would be located in the northwest corner of the site. It would occupy 3.1 hectares (7.5 acres).

Grand Junction Disposal Site

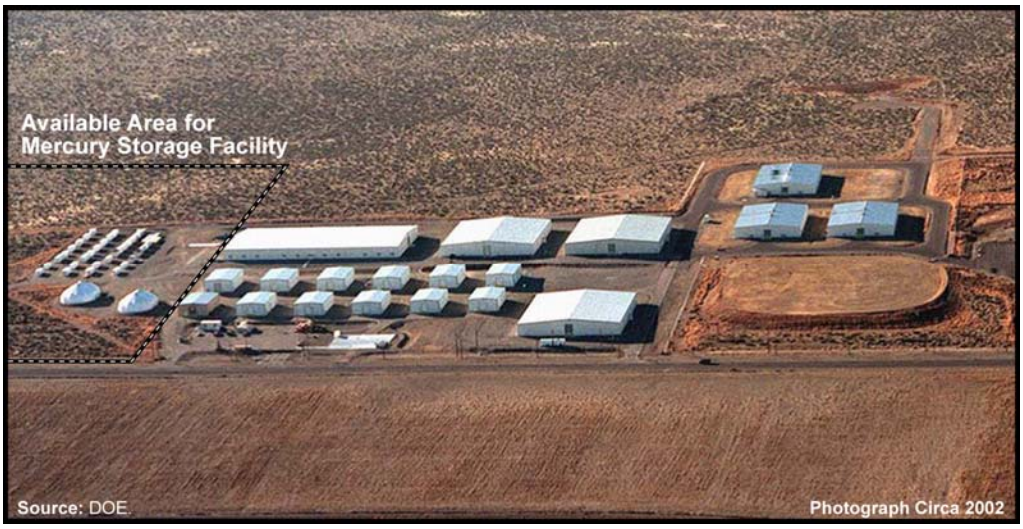
In 1996, DOE and Mesa County Board of Commissioners (Mesa County) entered into a Memorandum of Understanding (1996 MOU) to provide meaningful consultation with and participation of Mesa County in DOE's use of the Grand Junction Disposal Site. The position of Mesa County, a cooperating agency for purposes of this EIS, is that use of the Grand Junction Disposal Site is restricted per the 1996 MOU between DOE and Mesa County, and that the 1996 MOU governs any proposed mercury storage at the Grand Junction Disposal Site. Mesa County believes the agreement is clear and that Grand Junction Disposal Site is only to be used for uranium mill tailings, almost exclusively of local origin. Mesa County further asserts that DOE assured the citizens of Mesa County that the disposal site would never be used to store any wastes other than mill tailings. Mesa County believes DOE is obligated to honor this agreement.

DOE acknowledges that the 1996 MOU stipulates that DOE must consult with Mesa County regarding decisions related to operations at the site. DOE will evaluate the applicability of the 1996 MOU to the long-term management and storage of elemental mercury at the Grand Junction Disposal Site to determine whether the 1996 MOU would affect the viability of this site as a reasonable alternative.

DOE Hanford Site, Washington

The DOE Hanford Site occupies 151,775 hectares (375,040 acres) along the Columbia River in southeastern Washington State. It is owned by the Federal Government and managed by DOE. It is situated to the northwest of the Tri-Cities (Richland, Kennewick, and Pasco) and encompasses large areas of open land interspersed by a number of industrial facilities. The site is accessed from Richland via

State Route 240 and George Washington Way. The new mercury storage facility would be located in the Central Waste Complex of 200-West Area. Both truck and rail access are available.



Central Waste Complex at the Hanford Site

Hawthorne Army Depot, Nevada

The Hawthorne Army Depot encompasses 59,500 hectares (147,000 acres) of open land in the high desert of southwestern Nevada. The installation is accessible from U.S. Route 95. The Central Magazine Area, the area within which mercury would be stored, is located about 6.4 kilometers (4 miles) north of the town of Hawthorne, Nevada. Under this alternative, DOE would designate up to 29 buildings in the Central Magazine Area for DOE mercury storage. There are 14 other similar buildings in that area which are currently designated for storage of Defense Logistics Agency mercury. This would provide approximately 27,000 square meters (290,000 square feet) of space for DOE storage of mercury. Modifications to the proposed buildings would be required prior to DOE storage of mercury and could include reinforcing and epoxy-sealing the floor; installing spill control measures, utilities, and security monitors; and servicing the rail spur. Both truck and rail access are available.

Existing Storage Buildings in the Central Magazine Area at the Hawthorne Army Depot

DOE Idaho National Laboratory, Idaho

Idaho National Laboratory is owned by DOE and occupies a 230,323-hectares (569,135-acre) area in southeastern Idaho. It consists of several facility areas in an expanse of otherwise undeveloped, cool desert terrain. It is 39 kilometers (24 miles) west of Idaho Falls, Idaho, and is accessed from that city via U.S. Route 20. Two options for long-term storage of mercury have been identified: new construction and reuse of existing buildings. New-construction would take place at the Idaho Nuclear Technology and Engineering Center. Current operations at the center include management of sodium-bearing waste, spent nuclear fuel storage, nuclear material disposition, environmental remediation, and demolition of excess facilities. The reuse of existing buildings would take place at the Radioactive Waste Management Complex and would involve reuse of up to seven storage buildings in the Transuranic Storage Area. These seven buildings could provide a total of 19,000 square meters (205,000 square foot) of storage space. Truck and rail access are available at both locations.

Idaho Nuclear Technology and Engineering Center at Idaho National Laboratory

Existing Storage Buildings at the Radioactive Waste Management Complex at Idaho National Laboratory

DOE Kansas City Plant, Missouri

The Kansas City Plant is a DOE-owned site situated on 55 hectares (136 acres) of the 125-hectare (310-acre) Bannister Federal Complex. It is located within Kansas City, Missouri, 19 kilometers (12 miles) south of the downtown area. The surrounding area is characterized by single- and multiple-family dwellings, commercial establishments, industrial districts, and public use lands.

Existing Main Manufacturing Building at the Kansas City Plant

The plant, which is very compact and highly developed, is served by two four-lane city streets: Troost Avenue to the west and Bannister Road to the south. The Kansas City Plant has adequate floor space in existing buildings to support a mercury storage facility. Both truck and rail access are available.

DOE Savannah River Site, South Carolina

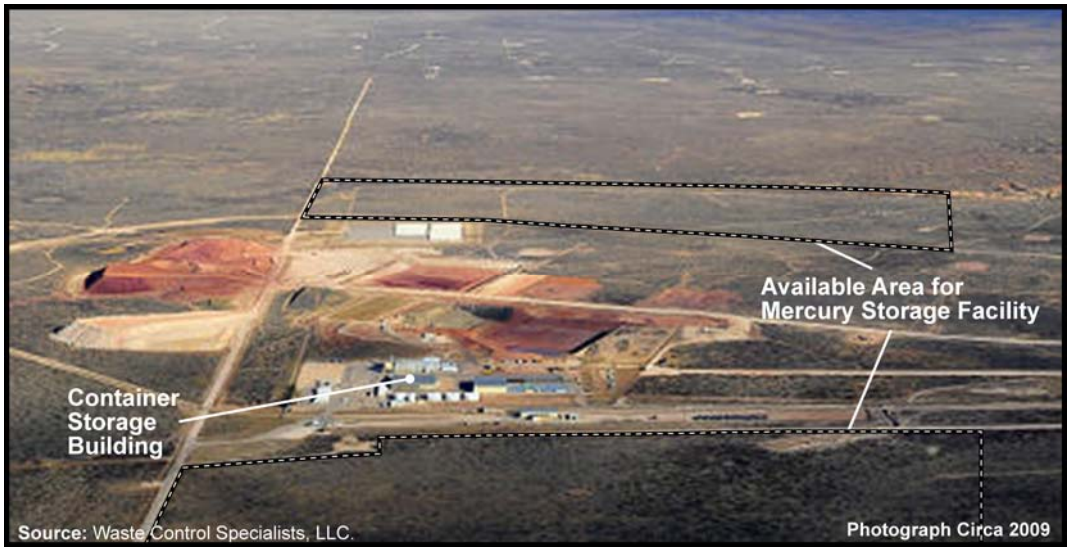
The Savannah River Site is a DOE-owned site that occupies 80,290 hectares (198,400 acres) in southwestern South Carolina. The site is approximately 19 kilometers (12 miles) south of Aiken, South Carolina, and 24 kilometers (15 miles) southeast of Augusta, Georgia. The Savannah River Site is accessed via South Carolina Highway 125 from Augusta and South Carolina Highway 19 from Aiken. About 90 percent of the site consists of natural forests and managed pine plantations; the surrounding area is largely rural. Under this alternative, a new facility would be constructed in E Area, which is 134 hectares (330 acres) designated for industrial use. Truck and rail access are available.

E Area at the Savannah River Site

Waste Control Specialists, LLC, Texas – DOE's Preferred Alternative

Waste Control Specialists, LLC, is a commercial entity that owns and operates a 541-hectare (1,338-acre) site for the treatment, storage, and landfill disposal of various hazardous and radioactive wastes. The site is located approximately 50 kilometers (31 miles) west of Andrews, Texas, and 10 kilometers (6 miles) east of Eunice, New Mexico. It is surrounded by a 5,460-hectare (13,500-acre) tract of land also owned by Waste Control Specialists. The facility is currently permitted under RCRA for storage of hazardous waste. Under this alternative, a new facility would be constructed either north or south of the existing commercial hazardous waste storage facilities. The Container Storage Building, within the Waste Control Specialists site, is covered under the existing RCRA permit and could be used to store mercury on an interim basis until the new storage facility could be constructed. The Container Storage Building is configured to store hazardous waste, would be suitable for storage of mercury, and could provide up to approximately 2,650 square meters (28,500 square feet) of storage space. Truck and rail access are available at the site.

Waste Control Specialists



What Would the DOE Mercury Storage Facility(ies) Include?

The DOE mercury storage facility(ies) would include the following characteristics:

- RCRA-regulated/permitted design with proper spill containment features and emergency response procedures
- Security and access control
- Fire suppression systems
- Ventilated storage area(s)
- Fully enclosed weather-protected building(s)
- Reinforced-concrete floors able to accommodate mercury storage

The mercury storage facility(ies) would have areas for administration, receiving and shipping, storage, and handling. The storage area would constitute approximately 90 percent of the floor space. The storage area would generally be a large open space similar to a warehouse, where storage, inspection, and monitoring could be effectively performed. The mercury storage facility(ies) would accept two types of mercury containers: 3-liter (34.6-kilogram [76-pound]) flasks and 1-metric-ton (1.1-ton) containers. Other containers could be approved and accepted on a case-by-case basis. The 3-liter (34.6-kilogram [76-pound]) flasks would be single-, double- or triple-stacked, and the 1-metric-ton (1.1-ton) containers would be single- or double-stacked.

New Storage Facility Design and Construction

If a new mercury storage facility(ies) were built, it would be designed and constructed to provide the safe and secure long-term storage of up to 10,000 metric tons (11,000 tons) of mercury for at least 40 years. Figure 3 illustrates what the exterior of a new mercury storage facility(ies) might look like, and Figure 4 provides a potential conceptual layout of the interior and how the mercury containers might be stored. Appendix C provides additional details and data related to the requirements for construction and operations of a new facility(ies).

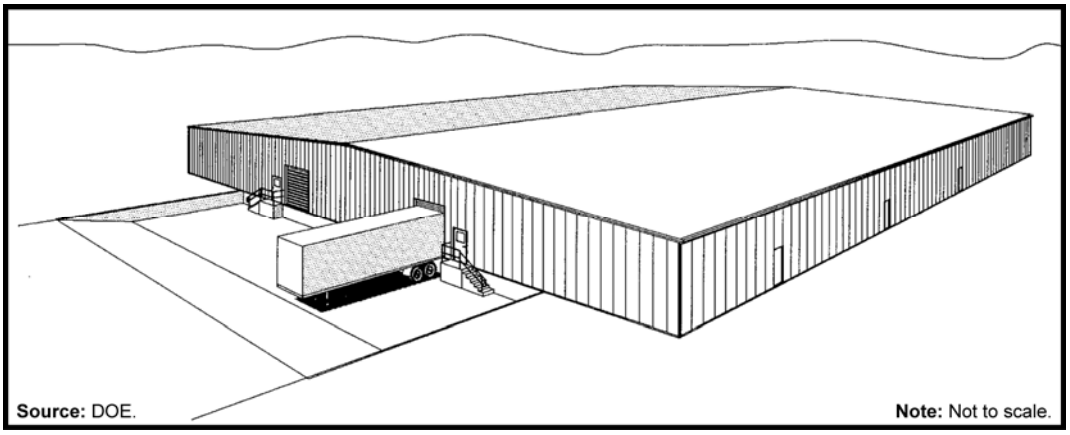


Figure 3. Representation of the Exterior of a New Mercury Storage Facility

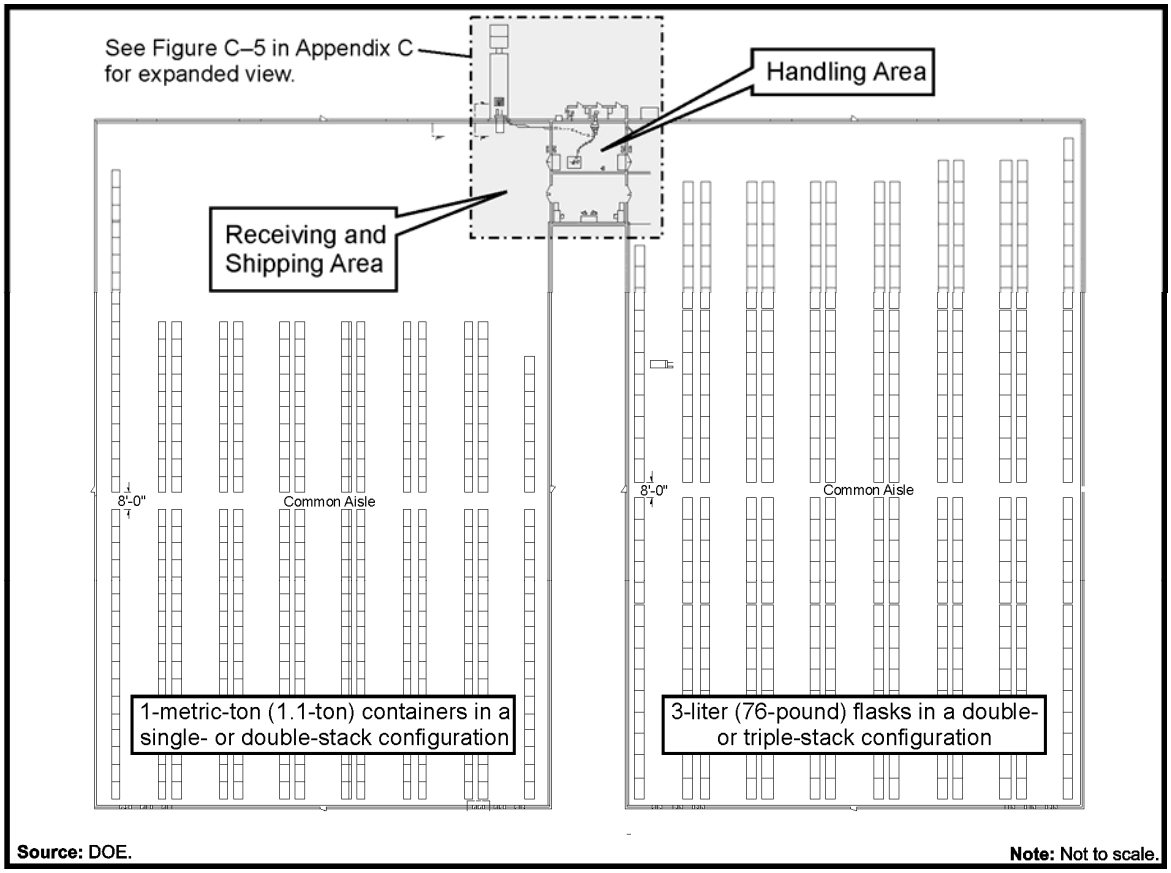


Figure 4. Representation of the Interior of a New Mercury Storage Facility

A new mercury storage facility(ies) could require up to approximately 13,610 square meters (146,500 square feet) of storage space. The height of the building(s) would be approximately 6.1 meters (20 feet) to accommodate the potential for triple stacks of pallets of 3-liter (34.6-kilogram [76-pound]) flasks. The new facility would have a reinforced-concrete floor, strong enough to withstand the heavy loads from mercury storage. The floors would be treated with an epoxy sealant to add strength and spill containment properties. Lighting, ventilation, fire suppression, and security systems would be incorporated into the facility design. Monitoring systems could include security alarms and surveillance cameras. A new full size standalone facility would encompass approximately 3.1 hectares (7.5 acres). The facility would be RCRA regulated and permitted, and, as such, would require secondary containment (e.g., curbing), regular inspection of stored materials, strict record-keeping, and periodic reporting to the state.

Existing Facility Modification and Upgrades

Existing facilities were considered only if their former use is consistent with the storage of hazardous materials, thus keeping the need for modifications to a minimum. Alternative locations with existing facilities analyzed in this *Mercury Storage EIS* are the storage buildings at the Hawthorne Army Depot, the Radioactive Waste Management Complex at the DOE Idaho National Laboratory, and the Main Manufacturing Building at DOE's Kansas City Plant in Missouri. The Container Storage Building at the Waste Control Specialists site was also considered for interim storage pending construction of a new facility.

Regardless of the candidate site chosen, mercury storage operations would include the following:

- **Facility Security.** The mercury storage facility(ies) would be within a fenced and secure area with controlled access to the premises. Only authorized vehicles and personnel would be allowed access within the facility boundary. Security alarms, surveillance cameras, and security guards may be used.

- **Shipping and Receiving.** Mercury containers would be inspected and prepared for storage at the originating facility prior to shipment to the DOE mercury storage facility(ies). All containers would have sufficient integrity to be transported and placed in long-term storage. Shipments of mercury would most likely be conducted by third-party transportation companies in accordance with regulations governing transportation of hazardous waste.

Loading Dock at a U.S. Department of Energy Storage Facility

- **Inspections.** Upon arrival at the mercury storage facility, concentrations of mercury vapor would be measured to verify that they are below actionable levels. A visual inspection would follow to detect obvious problems that may have occurred during transport. If initial inspections and manifest documentation are acceptable, the mercury would be moved to the Shipping and Receiving Area where additional visual inspections would be performed. The mercury would then be moved to the Handling Area for additional verification that it meets waste acceptance criteria (e.g., 99.5 percent purity). Containers and pallets that pass the acceptance/verification process would be placed into long-term storage. Containers that fail inspection would be returned to the sender.

- **Monitoring and Long-Term Storage.** Regular inspections of the mercury containers would be performed within the Storage Area(s) to ensure that no containers are corroding or leaking. These Storage Area(s) would be naturally ventilated when not occupied; however, prior to and during occupancy, they would be ventilated using high-volume industrial-sized roof- or wall-mounted vent fans. Monitoring would include testing the airspace for elevated concentrations of mercury vapors.

- **Record-Keeping.** Manifests, inspection records, training logs, and required reports would need to be completed regularly. These documents would be stored in the Office Administration Area.

Alternatives Considered but Eliminated from Detailed Analysis

The following alternatives were initially considered but were not evaluated in detail in this EIS:

- **Storage at the DOE Y–12 National Security Complex, Oak Ridge Reservation.** The Act specifies that the DOE-designated mercury storage facility(ies) shall not include Y-12 National Security Complex or any other portion or facility at the Oak Ridge Reservation in Oak Ridge, Tennessee (42 U.S.C. 6939f(a)(1)). DOE may sometimes include reasonable alternatives that are outside the scope of what Congress has approved. However, in the case of this action, where Congress has expressly prohibited a potential alternative, DOE finds that it is reasonable to forego its consideration. Accordingly, DOE has eliminated this option as an action alternative.

- **Fuels and Materials Examination Facility at the Hanford Site.** The Fuels and Materials Examination Facility at Hanford was constructed in the late 1970s and early 1980s to perform fuel fabrication and development and examination of breeder reactor fuels. Although it is a robust building with thick walls and heavy shielding, the design and internal configuration are not optimal for waste storage; the building is not RCRA permitted; and modifications that would be required would be substantial. Therefore, DOE eliminated this facility from further consideration as a potential site.

- **N and F Area Buildings at the Savannah River Site.** This option is not compatible with future site missions. DOE plans to consolidate waste storage operations followed by decontamination and demolition of storage buildings in N Area. Therefore, DOE eliminated N Area existing buildings from further consideration. Buildings in F Area were previously committed to support the mixed oxide fuel program and would not be available to support long-term storage of mercury.

- **Veolia ES Technical Solutions, LLC**, of Henderson, Colorado, and a business partnership, **Lowland Environmental Services, et al.**, of Knoxville, Tennessee, responded to the Request for Expressions of Interest DOE published in the *Federal Register*. Neither company proposed a specific candidate site to be evaluated. Lowland later withdrew its Expression of Interest, and both were eliminated from detailed study in this *Mercury Storage EIS*.

- **Meritex Enterprises, Inc**., of Lenexa, Kansas, submitted a potential site in Cumberland Furnace, Tennessee, for consideration by DOE. This site is a commercial subterranean storage facility developed within a former limestone mine. Due to concerns about permitting and operating an underground facility for long-term storage of mercury and concerns about mercury storage being incompatible with storage of other materials, DOE has eliminated this option from further consideration.

- **Multiple-Site Strategy** – DOE considered the possibility of using a "hybrid" or multiple-site strategy composed of candidate sites being evaluated in this *Mercury Storage EIS*. DOE eliminated such a strategy from further evaluation because the duplicative resources that would be required would not be cost-effective.

- **Treatment Alternatives**. The EPA has not yet established treatment and disposal standards for the elemental mercury waste DOE would store. Therefore, DOE is not considering treatment and storage or disposal for detailed evaluation in this *Mercury Storage EIS*.

- **Transportation Options.** This draft EIS contemplates transport of mercury from current locations to the DOE storage facility(ies) by truck or rail. Transportation by air is not analyzed because of the additional cost and handling required to move the mercury to and from the airports. The weight of mercury would limit the amount of mercury that could be transported per trip, resulting in much higher costs for air transit. The movement of mercury within the continental United States by barge is not a reasonable option due to the limited number of barge routes and the additional handling required to move the mercury to and from the barge route.

4. COMPARISON OF IMPACTS AND ALTERNATIVES

The overall conclusion of the impact analyses in this EIS is that there would be no major differences in impacts on resource areas among the mercury storage site alternatives.

Table 3 presents a comparison of impacts on resources from the transportation, receipt, and long-term storage of mercury at the candidate mercury storage sites. Environmental consequences for all resource areas are summarized further in Chapter 2 and discussed in detail in Chapter 4.

The No Action Alternative would affect all sources of mercury and would involve various mercury storage locations, many of which are undetermined; therefore, these locations are not presented in Table 3 with the action alternatives. Excess mercury that could not be sold would be stored to the extent allowed by law. Some mercury would likely be considered waste and would be stored in accordance with law. Such storage would not necessarily occur at the sites identified as potential sources of excess mercury. This storage service might be provided by a commercial waste management company or companies. In brief, such facilities could vary in location, size, natural and human environments, and in the nature of their operations. Because of the various sites and circumstances in which mercury would be stored under the No Action Alternative, environmental consequences would be highly speculative. Non-DOE storage facilities may be constructed and some non-DOE storage sites may need to modify their storage capacity by constructing additional storage space. It could be argued that the biggest impact of the No Action Alternative would be widely dispersed storage. The potential benefit of Federal action would be long-term storage and maintenance of this material as opposed to continued, dispersed storage by multiple private entities. The approximately 1,200 metric tons (1,300 tons) of DOE mercury currently stored in 35,000 of the 3-liter (34.6-kilogram [76-pound]) flasks at the Y–12 National Security Complex would continue to be managed and stored in this location. No new construction would be required at the Y–12 National Security Complex, nor would any incremental increase in impacts on resource areas occur because storage operations at the Y–12 National Security Complex would not change. A more-detailed discussion comparing the impacts of the No Action Alternative with the action alternatives can be found in Chapter 2, Section 2.7.

Major Conclusions

The impacts on the various resource areas at each site from construction and operation of a mercury storage facility(ies) would range from none to minor. No resource area at any site evaluated was predicted to be subject to impacts greater than minor. The analyses in this EIS support the following conclusions:

- Impacts on **land use and visual resources** are expected to range from negligible to minor at all candidate sites.
- In the areas of **geology, soils**, **and geologic hazards**, construction of a new storage facility would expose surface soil for up to 6 months. Although unlikely to occur over the 40-year analysis period, geologic hazards such as earthquakes could potentially have an adverse effect on a mercury storage facility(ies). However, design for construction of a new facility or modification of existing buildings would take seismic risk into consideration to minimize potential adverse impacts.
- Construction and/or operation of a mercury storage facility(ies) are not expected to have any impact on **surface-water or groundwater resources.** Under all alternatives, best management practices, including adherence to an integrated contingency plan and spill prevention, control, and countermeasures plan for mercury storage would be employed to prevent **spills and releases**, including the use of spill trays under mercury containers, spill containment features, and regular inspections.
- Minor, short-term (6-month) **air quality** impacts would occur under alternatives involving construction of a new storage facility(ies). Impacts would include a small increase in air pollutant emissions from activities in the immediate vicinity of the construction site during working hours.
- **Air emissions** associated with operations using existing buildings for mercury storage would be negligible and limited to employee vehicles, trucks, semiannual testing of emergency generators, and small amounts of mercury vapor from storage containers or residual contamination, where applicable. Occasionally, some mercury vapors would result from repackaging of mercury in new containers. The Handling Area would be outfitted with a vacuum air exhaust and mercury vapor filter that would maintain air emissions exhausted to the outside at negligible concentrations.

Air Sampling at a U.S. Department of Energy Site

- **Engine exhaust emissions from transporting mercury** would be in proportion to the number of miles required to transport the mercury to the storage facility(ies). Truck and/or rail transport from various locations to the DOE long-term mercury storage facility(ies) would generate engine exhaust air emissions along routes of transport. Peak exhaust emissions from transport of mercury are expected to occur in 2013, the first year of facility(ies) operation. The frequency of truck and/or rail shipments is expected to decrease over time.

Table 3. Comparison of Impacts

Key Resource Areas	*Mercury Storage in Existing Buildings*		
	Idaho National Laboratory – RWMC	***Hawthorne Army Depot***	***DOE Kansas City Plant***
Land use and visual resources	No additional land use or visual resource impacts.		
Geology and soils	None	Utility connections may require minor trenching.	None
Earthquake risk	Risk of slight damage to ordinary buildings.	Risk of considerable damage to ordinary buildings.	Negligible risk of damage.
Water resources	Negligible water use for modifications and operations compared with availability. No impact on water resources from construction or normal operations; located above sole-source aquifer; negligible risk from flooding.	Negligible water use for modifications and operations compared with availability. No impact on water resources from construction or normal operations; negligible risk from flooding.	Negligible water use for modifications and operations compared with availability. No direct impact on water resources from construction or normal operations, but close proximity to surface-water bodies; existing system protects site from riverine flooding but must be manually operated.
Air quality	Negligible increase in air emissions from modification of existing buildings. Emissions from operations would be limited to employee vehicles, trucks, periodic generator testing and venting of residual mercury vapors. Operational emissions would not exceed air quality standards. Transport of mercury would result in negligible emissions of criteria and toxic pollutants.		
Site infrastructure	Negligible impact; existing site capacity would easily meet increased utility demands.		
Occupational and public health and safety			
Normal operations [a]	SL-I consequences and negligible risk to involved workers, noninvolved workers, and members of the public at all sites.		
Facility accidents [a]	Consequences range from SL-I to -II with an associated negligible-to-low risk to involved workers and noninvolved workers from both inside and outside spills. Consequences of SL-I with an associated negligible risk to public receptors from inside and outside spills.		
Transportation			
Annual truck accident fatalities [b]	9.2×10^{-4}	1.1×10^{-3}	7.8×10^{-4}
Truck accident – human health [a]	For spillages of mercury onto the ground, consequences could be SL-II with a low risk under Truck Scenario 2 and a negligible risk under Truck Scenario 1. Consequences of these scenarios could also be SL-III, but with a negligible risk. For transportation accidents with fires, acute-inhalation consequences could be at SL-I with a negligible risk under both truck scenarios. The corresponding consequences following deposition on the ground could be SL-I with a negligible risk. For direct spillages of mercury into water, the consequences could be SL-I or -II with a negligible-to-low risk (but with a large degree of uncertainty).		
Annual rail accident fatalities [b]	1.5×10^{-4}	1.6×10^{-4}	1.0×10^{-4}
Rail accident – human health [a]	For spillages of mercury onto the ground, consequences could be SL-II with a negligible risk. Consequences could also be SL-III, but with a negligible risk. For transportation accidents with fires, acute-inhalation consequences could be at SL-I with a negligible risk. The corresponding consequences following deposition on the ground could be SL-I with a negligible risk. For direct spillages of mercury into water, the consequences could be SL-I or -II with a negligible-to-low risk (but with a large degree of uncertainty).		
Ecological impacts [a]	For truck or railcar spills with a pallet fire, consequences could range from SL-I to -IV for both dry and wet deposition pathways, with wet deposition potentially having somewhat greater consequences. The associated risk to ecological receptors would range from negligible to high except in the case of wet deposition with rail transport, for which the risk would be negligible to all receptors. The highest ecological risk would be to sediment-dwelling biota and soil invertebrates in the case of truck transportation accidents with fires and dry deposition. In contrast, risk to the red-tailed hawk would be negligible in all transportation scenarios.		
Environmental justice	None	None	A transportation accident at or near the facility could disproportionately impact low-income and/or minority individuals.

Key: DOE = U.S. Department of Energy; INTEC = Idaho Nuclear Technology and Engineering Center; RWMC = Radioactive Waste Management Complex; SL = severity level.

Note: Yellow shading indicates resource areas with increased potential for impacts compared with other alternatives.
=Mercury Storage in Existing Buildings, =Mercury Storage in New Buildings

Mercury Storage in New Buildings				
DOE Grand Junction Disposal Site	***DOE Hanford 200-West Area Site***	***DOE Savannah River Site E Area***	***Waste Control Specialists, LLC***	***DOE Idaho National Laboratory – INTEC***
Land use of 3.1 hectares (7.5 acres) and visual impacts on landscape would be minimal compared with total available site area. (Note: For Grand Junction Disposal Site only: 1996 Memorandum of Understanding possible restriction on land use and current zoning – under evaluation.				
Minor trenching for concrete footers and utility connections. Small inconsequential consumption of geologic resources. Soil disturbance and increased risk of soil erosion for up to 6 months during construction activities.				
Risk of slight damage to ordinary buildings.	Risk of slight-to-moderate damage to ordinary buildings.	Risk of slight-to-moderate damage to ordinary buildings.	Risk of slight damage to ordinary buildings.	
Negligible water use for construction and operations compared with availability. No impact on water resources from construction or normal operations; negligible risk from flooding.				Negligible water use for construction and operations compared with availability. No impact on water resources from construction or normal operations; located above sole-source aquifer; minor risk from riverine flooding.
Short-term increase in air pollutant emissions from construction activities, including use of heavy equipment and trucks. Emissions from operations would be limited to employee vehicles, trucks, periodic generator testing and venting of residual mercury vapors. Operational emissions would not exceed air quality standards. Transport of mercury would result in negligible emissions of criteria and toxic pollutants.				
Moderate impact; electrical capacity would have to be increased. No public water supply. No rail access.	Negligible impact; existing site capacity would meet increased demands.			
SL-I consequences and negligible risk to involved workers, noninvolved workers, and members of the public at all sites.				
Consequences range from SL-I to -II with an associated negligible-to-low risk to involved workers and noninvolved workers from both inside and outside spills. Consequences of SL-I with an associated negligible risk to public receptors from inside and outside spills.				
8.7×10^{-4}	1.2×10^{-3}	9.4×10^{-4}	1.0×10^{-3}	9.2×10^{-4}
For spillages of mercury onto the ground, consequences could be SL-II with a low risk under Truck Scenario 2 and a negligible risk under Truck Scenario 1. Consequences of these scenarios could also be SL-III, but with a negligible risk. For transportation accidents with fires, acute-inhalation consequences could be at SL-I with a negligible risk under both truck scenarios. The corresponding consequences following deposition on the ground could be SL-I with a negligible risk. For direct spillages of mercury into water, the consequences could be SL-I or -II with a negligible-to-low risk (but with a large degree of uncertainty).				
1.3×10^{-4}	1.9×10^{-4}	1.2×10^{-4}	1.6×10^{-4}	1.5×10^{-4}
For spillages of mercury onto the ground, consequences could be SL-II with a negligible risk. Consequences could also be SL-III, but with a negligible risk. For transportation accidents with fires, acute-inhalation consequences could be at SL-I with a negligible risk. The corresponding consequences following deposition on the ground could be SL-I with a negligible risk. For direct spillages of mercury into water, the consequences could be SL-I or -II with a negligible-to-low risk (but with a large degree of uncertainty).				
For truck or railcar spills with a pallet fire, consequences could range from SL-I to -IV for both dry and wet deposition pathways, with wet deposition potentially having somewhat greater consequences. The associated risk to ecological receptors would range from negligible to high except in the case of wet deposition with rail transport, for which the risk would be negligible to all receptors. The highest ecological risk would be to sediment-dwelling biota and soil invertebrates in the case of truck transportation accidents with fires and dry deposition. In contrast, risk to the red-tailed hawk would be negligible in all transportation scenarios.				
None	None	A transportation accident at or near the facility could disproportionately impact minority individuals.	No disproportionate impacts on low income and/or minority individuals	None

[a] Consequences are presented by SLs, with SL-I representing negligible-to-very-low consequences and SL-IV representing the most severe consequences. SLs are defined in Appendix D, Section D.1.1.2.

[b] Annual fatalities for truck or rail transportation are due to mechanical impacts only and represent the predicted annual average occurrence of an accident involving a fatality over the 40-year analysis period of this environmental impact statement.

- **Noise** levels would not increase substantially above background levels at any of the candidate sites.

- There would be negligible impacts on **ecological resources** at candidate sites whether a new facility(ies) is built or existing buildings are used.

- No impacts on **cultural and paleontological resources** are expected under site alternatives involving the use of existing buildings because no new construction or external modifications of the buildings would be required. New facility construction would result in negligible impacts on cultural resources because it would occur in previously disturbed industrialized areas, except at the DOE Grand Junction Site in Colorado, where additional analysis is needed.

- Adverse impacts on a potential site's **infrastructure** could occur if available capacity is approached or exceeded. Infrastructure includes roads and railways, electricity, fuel, and water supplies. Existing utility infrastructure is adequate and could easily accommodate utility demands for facility construction and operations at all candidate sites except at the DOE Grand Junction Disposal Site in Colorado.

- Impacts on the site's **waste management infrastructure** of construction and operation of a mercury storage facility(ies) would be negligible under all alternatives.

- **Impacts on human health during normal operations** at the mercury storage facility(ies) were determined to be negligible for workers and the public under all alternatives evaluated. Risks were determined using the risk matrix approach, which defines levels of risk in terms of frequency of release and severity of consequence (see Figure 5). DOE, EPA, and other Government agencies use this approach. Events have a high (level IV) frequency if they occur once in 100 years or more frequently; moderate (level III) between once in 10,000 years and once in 100 years; low (level II) between once in 1 million years and once in 10,000 years; and negligible (level I) less than once in 1 million years. Consequence severity levels depend on the receptor (human or ecological) and the pathway (e.g., inhalation or ingestion). For example, for acute (up to about 8-hour) inhalation exposures, severity level IV corresponds to the possibility of fatality; severity level III to severe, nonlethal health effects; severity level II to reversible health effects; and severity level I to negligible health effects or minor irritation. Risks are considered negligible if either frequency or severity is at level I. Frequency levels and severity levels are discussed in more detail in Chapter 4, Section 4.2.9.1.1, and Appendix D, Section D.1.1.

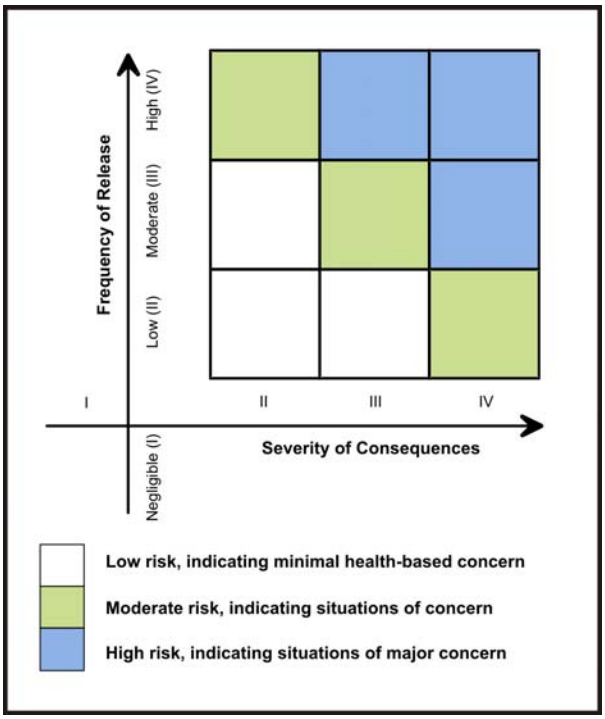


Figure 5. Risk Matrix

- **Human health impacts from facility accidents** would range from severity level I to level II with an associated negligible to low risk at all candidate sites evaluated.

- **Transportation impacts** under all alternatives are dependent on the method of transportation (i.e., truck or rail), the number of miles traveled, and the nature of the accident. For truck travel, the projected frequency of fatalities due to mechanical impact would range from 1.2×10^{-3} to 9.4×10^{-4} per year for the action alternatives. For rail travel, the range would be slightly lower from 1.0×10^{-4} to 1.9×10^{-4} fatalities per year. In addition to the possibility of fatal accidents due to mechanical impact, exposure to mercury from spills could impact human health. For truck spills onto the ground, the consequences could range from severity level II with low risk to severity level III with negligible risk. For rail spills onto the ground, the consequences could range from severity level I to III, all with negligible risk. For truck or rail spills into water, the consequences could be as high as severity level II with negligible-to-low risk. For truck and rail spills with fire, the consequences from the inhalation pathway could be severity level II with low risk or as high as severity level III with negligible risk. For truck or rail spills with fire, the consequences from deposition pathways could be severity level I with an associated negligible risk.

- **Socioeconomic impacts** would be negligible to minor on overall employment and population trends under all alternatives.

- The minimal increase in the number of vehicle trips projected for construction and operations of a mercury storage facility(ies) over baseline **traffic** would be negligible for all alternative sites.

- Census data indicate that minority and/or low-income populations are present within the 16-kilometer (10-mile) region of influence (ROI) at the DOE Kansas City Plant, the DOE Savannah River Site, and Waste Control Specialists. However, **environmental justice** analyses for this EIS indicate that no disproportionately high and adverse effects on minority or low-income populations would be expected at any of the candidate sites due to construction or operations of a mercury storage facility. Within a smaller 3.2-kilometer (2-mile) radius, there are disproportionately high minority and/or low-income populations at the DOE Kansas City Plant. At the DOE Savannah River Site several of the minority blocks are adjacent to transportation arteries. Therefore, it would be reasonable to conclude that a transportation accident at or near the facility could impact minority and low-income populations disproportionately at the DOE Kansas City Plant or the DOE Savannah River Site.

Cumulative Impacts

Cumulative impacts are those impacts on the environment that would result from the proposed action when added to other past, present, and reasonably foreseeable future actions. Actions that may contribute to cumulative impacts include on- and offsite projects conducted by government agencies, businesses, or individuals within an ROI of 16 kilometers (10 miles) of the actions considered.

Projected impacts on the various resource areas of constructing and operating a mercury storage facility range from none, to negligible, to minor. Those resource areas that were predicted to be impacted in a minor way were evaluated for their potential to contribute to cumulative impacts within the ROI. Where impacts were predicted not to occur or were negligible, cumulative impacts were not analyzed since there would be either no or only a very small incremental increase in impacts on the resources within the ROI.

Regardless of the projected level of impact, land disturbance associated with new construction and air quality impacts resulting from mercury emissions were evaluated for their potential to contribute to cumulative impacts within the ROI. Based on the criteria noted above, the analysis included an evaluation of air quality for all sites; land use for the DOE Grand Junction Disposal Site, DOE Hanford Site, DOE Idaho National Laboratory, DOE Savannah River Site, and Waste Control Specialists, LLC; visual resources for the Grand Junction Disposal Site and Waste Control Specialists, LLC; infrastructure for the Grand Junction Disposal Site; and ecological resources for the Waste Control Specialists, LLC. As presented in Table 4, it was determined that the potential contribution to cumulative impacts on those resource areas evaluated would be negligible.

The Preferred Alternative

The Preferred Alternative in an EIS is the alternative that the agency believes would best fulfill its statutory mission and responsibilities, giving consideration to economic, environmental, technical, and other factors.

Why Did DOE Identify Waste Control Specialists, LLC, as the Preferred Alternative?

DOE has identified Waste Control Specialists, LLC, near Andrews, Texas, as the Preferred Alternative location for long-term storage of U.S. mercury, based on the following factors:

- Compatibility with existing waste management activities, land use plans, and regulatory agreements
- Remote location
- Low population density in surrounding area
- No nearby major bodies of surface water
- Existing rail line
- Environmental impacts similar to those at other candidate sites

No final decision will be made until this draft EIS has been subject to public review and comment, the final EIS has been published, and a Record of Decision (ROD) has been issued. The ROD will present DOE's rationale for selecting a mercury storage site based on analyses in this EIS and other studies, as well as mission and policy considerations.

Table 4. Summary of Cumulative Impacts Assessment

Alternative	Resource Area	Cumulative Impacts	Contribution of Proposed Action to Cumulative Impacts
U.S. Department of Energy (DOE) Grand Junction Disposal Site	Land use	Rural area; limited development expected within the region of influence (ROI). Delta County solid waste landfill planned that will occupy 45 hectares (110 acres). No substantial cumulative impacts on land use or visual resources.	Negligible
	Visual resources		Negligible
	Air quality	No exceedance of air quality standards.	Negligible
	Infrastructure	No substantial cumulative impacts on regional power consumption.	Negligible
DOE Hanford Site (Hanford), 200-West Area	Land use	Numerous projects could disturb up to 1,100 hectares (2,720 acres) across Hanford. Most development is or would be within areas designated as Industrial and Industrial-Exclusive. Potential for minor cumulative impacts.	Negligible
	Air quality	No exceedance of air quality standards except potential impacts from carbon monoxide and particulate emissions from Hanford tank closure and waste management activities.	Negligible
Hawthorne Army Depot	Air quality	No exceedance of air quality standards.	Negligible
DOE Idaho National Laboratory (INL), Idaho Nuclear Technology and Engineering Center	Land use	Limited development expected within the ROI. Development would take place within the Central Core Area of INL. No substantial cumulative impacts within ROI.	Negligible
	Air quality	No exceedance of air quality standards.	Negligible
DOE Idaho National Laboratory, Radioactive Waste Management Complex	Air quality	No exceedance of air quality standards.	Negligible
DOE Kansas City Plant	Air quality	No exceedance of air quality standards.	Negligible
DOE Savannah River Site (SRS), E Area	Land use	Several onsite projects within ROI. Development is, or would be, within the Industrial Core Management Area. The major offsite project within the ROI is expansion of the Vogtle Electric Generating Plant. No substantial cumulative impacts.	Negligible
	Air quality	No exceedance of air quality standards, although the existing SRS contribution to 24-hour particulate matter concentrations approach the standard.	Negligible
Waste Control Specialists, LLC	Land use	Rural area; numerous projects within ROI along the Highway 176 corridor. Substantial recent local changes to land use and visual resources.	Negligible
	Visual resources		Negligible
	Air quality	No exceedance of air quality standards.	Negligible
	Ecological resources	Numerous projects within ROI along the Highway 176 corridor. Substantial recent local loss of low desert grassland and rangeland habitat.	Negligible

5. PUBLIC INVOLVEMENT

DOE is committed to communicating with the public to help ensure that potentially affected communities and other interested parties understand DOE's proposed actions and are given opportunities to participate in decisions that may affect them. Public involvement for the *Mercury Storage EIS* began with publication of the Notice of Intent in the *Federal Register* (74 FR 31723) on July 2, 2009, and establishment of a *Mercury Storage EIS* website (www.mercurystorageeis.com) to give the public access to information on the NEPA process, this EIS, and public involvement opportunities. Display advertisements were subsequently published in local newspapers to announce the dates and locations of eight public scoping meetings and the mechanisms for submitting comments by email through the website, by toll-free fax (1-877-274-5462), and by U.S. mail.

Public Scoping Meetings

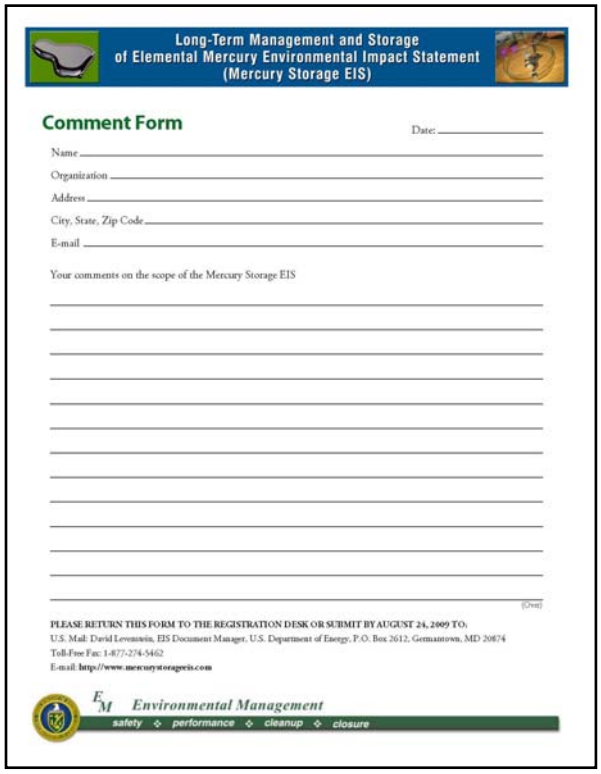
Approximately 300 people attended *Mercury Storage EIS* public scoping meetings at which DOE provided information on the Mercury Export Ban Act of 2008 and the scope of this EIS. The scoping period extended from July 2, 2009, to August 24, 2009. During this time, DOE solicited comments from stakeholders, including Federal, state, and local agencies; American Indian tribal representatives; and the general public to assist in defining the proposed action, alternatives, and issues requiring analysis. Public scoping meetings were held on the following dates in locations near the parenthetically listed candidate mercury storage sites:

- July 21, 2009 – Grand Junction, Colorado [DOE Grand Junction Disposal Site]
- July 23, 2009 – Kansas City, Missouri [DOE Kansas City Plant]
- July 28, 2009 – Richland, Washington [DOE Hanford Site]
- July 30, 2009 – North Augusta, South Carolina [DOE Savannah River Site]
- August 4, 2009 – Hawthorne, Nevada [Hawthorne Army Depot]
- August 6, 2009 – Andrews, Texas [Waste Control Specialists, LLC]
- August 11, 2009 – Idaho Falls, Idaho [DOE Idaho National Laboratory]
- August 13, 2009 – Portland, Oregon [DOE Hanford Site]

Public Comments on the Scope of This EIS

DOE received 507 comment documents (emails, faxes, letters, and transcripts of oral comments) containing 1,244 individual comments during the scoping period. DOE considered all oral and written public comments in refining the scope of this EIS.

Comments received during the public scoping period focused primarily on the amount and sources of U.S. mercury; the process for identifying potential mercury storage facility locations; the mercury storage site alternatives; storage protocols; transportation issues; health and safety concerns, including accidents; potential environmental impacts; socioeconomics, including environmental justice concerns; American Indian issues; regulatory compliance concerns; public meeting notifications; and costs. Comments are presented in more detail along with DOE responses in Chapter 1.


Long-Term Management and Storage
of Elemental Mercury Environmental Impact Statement
(Mercury Storage EIS)

Comment Form

Date: _____

Name _____

Organization _____

Address _____

City, State, Zip Code _____

E-mail _____

Your comments on the scope of the Mercury Storage EIS

PLEASE RETURN THIS FORM TO THE REGISTRATION DESK OR SUBMIT BY AUGUST 24, 2009 TO:
U.S. Mail: David Levenstein, EIS Document Manager, U.S. Department of Energy, P.O. Box 2612, Germantown, MD 20874
Toll-Free Fax: 1-877-274-5462
E-mail: http://www.mercurystorageeis.com

EM Environmental Management
safety ◇ performance ◇ cleanup ◇ closure

Representative comments in major categories of concern and DOE responses are summarized below:

- **How much mercury would be stored?** DOE estimates that approximately 10,000 metric tons (11,000 tons) of mercury may be received for storage.

- **Where would the mercury come from?** DOE expects mercury to come primarily from closing chlor-alkali plants, gold mining, and waste reclamation and recycling. The DOE mercury inventory currently at the Y–12 National Security Complex in Tennessee could also be sent to the new facility(ies) for storage.

- **Would the mercury be privately owned or owned by the Government?** Upon acceptance for storage, DOE would own the mercury stored in the facility(ies).

- **Mercury should not be stored at a site near a population center or surface water and groundwater, or one with a strong likelihood of natural hazards such as tornadoes and earthquakes.** DOE could choose to store mercury at any of the alternative locations analyzed in this EIS. The range of alternatives analyzed includes sites (1) near and distant from population centers and water sources; (2) near mercury source locations; (3) of different sizes; and (4) subject to different degrees of natural hazard risk. However, no significant risks to human health or ecology were identified at any of the candidate sites in the Human Health and Ecological Risk Assessment Analysis, Appendix D.

- **DOE should store mercury at a Government site because a private company could go bankrupt.** The Mercury Export Ban Act of 2008 requires DOE to designate a facility or facilities for storage of mercury. DOE has interpreted the Act to authorize storage at a facility owned or leased by DOE. The mercury would be owned and monitored by DOE.

- **Why were other DOE facilities not evaluated?** Chapter 1 describes the methods used to solicit sites interested in, and capable of, hosting the mercury storage facility(ies) and the evaluation criteria used to determine if the potential sites were reasonable alternatives for mercury storage. A range of reasonable alternatives was considered for analysis in this EIS.

- **What would happen after the 40-year storage period?** The Act contemplates indefinite storage at the DOE-designated storage facility(ies). For purposes of analysis, it was assumed that the mercury storage facility(ies) would operate over a 40-year timeframe. Forty years is the period of analysis in this EIS because it is the Government's planning projection for receipt of mercury for storage. If treatment and disposal options become available, DOE would initiate additional NEPA analysis to identify and evaluate treatment and disposal alternatives and provide additional opportunities for public participation. Moreoever, additional NEPA analyses may be required if DOE extends its operations beyond the 40-year period of analysis.

- **DOE should evaluate currently available treatment technologies to make mercury safer for long-term storage, and as an alternative to long-term storage.** There is currently no EPA-approved method for the treatment of high-purity elemental mercury wastes for land disposal.

- **How would the mercury be stored and monitored?** The DOE mercury storage facility(ies) would be under the control and authority of DOE and would include appropriate security. It would be a weather-protected structure with a reinforced-concrete floor. The floor would be curbed and treated with an epoxy sealant to contain spills. Lighting, ventilation, fire suppression, and monitoring systems would be incorporated. Monitoring would include leak detection and mercury vapor monitors, as well as security systems. The facility would be RCRA regulated and permitted, and, as such, regular inspections, strict record-keeping, and periodic reporting would be required. More detail is available in DOE's interim guidance, as well as in Chapters 2 and 4 of this EIS.

- **What security would there be at the DOE mercury storage site?** The facility(ies) would be located in an area under the control and authority of DOE. A perimeter barbed-wired fence would be used to further control unauthorized access. Remote surveillance may also be employed.

- **How would mercury be transported to the DOE mercury storage site?** Transportation of mercury would be in accordance with RCRA hazardous waste and U.S. Department of Transportation hazardous material shipping requirements for commercial truck and rail routes. Appendix C provides a description of the shipping modes and containers that would be used to transport mercury. Mercury has been safely transported for many years as an industrial commodity and as a hazardous waste.

- **What would the risks be to site workers, individuals near the mercury storage site, and sensitive populations such as children, pregnant women, and the elderly?** Chapter 4 describes the risks from exposure to mercury during normal operations and accidents. Risks were considered for all reasonable exposure routes, including air and soil exposure. Risks to workers and the public from mercury exposure during normal operations and accidents would be negligible to low at all candidate mercury storage sites. Risks to workers and the public include consideration of risks to sensitive groups such as children, pregnant women, and the elderly.

- **Concerns about accidents, response measures, and cleanup costs.** Risks to workers and the public from mercury released during facility accidents would be negligible to low. The EIS risk analysis includes consideration of accidents initiated by natural disasters, such as earthquakes and tornadoes, and human-initiated spills, leaks, and other events, such as aircraft crashes. Chapter 4 includes an assessment of intentional destructive acts, which indicates that the mercury stockpile is not a likely target for terrorists. In the event of an accident, emergency responders would contain any released mercury to minimize public exposure. Emergency response personnel would be responsible for assessing the significance of an accident and determining if the evacuation of nearby residents is warranted. Additional hazardous materials response teams could be called in to help assess, contain, and clean up the contamination. DOE or the contractor responsible for operating the facility would be responsible for the costs of accident cleanup and payment of damages to affected parties.

- **Concerns about impacts on the environment.** Chapter 4 contains analyses of potential impacts on the natural and manmade environment at the candidate sites evaluated. Impacts were evaluated for land use and visual resources; geology, soils, and geologic hazards; water resources; air quality and noise; ecological resources; cultural and paleontological resources; site infrastructure; waste management; occupational and public health and safety; ecological risk; socioeconomics; and environmental justice. Cumulative impacts and measures that could be used to mitigate adverse impacts are described in Chapter 4.

- **What are the economic benefits and concerns regarding construction and operation of the proposed mercury storage facility?** All of the site alternatives would likely have negligible socioeconomic impacts in terms of employment, population trends, and traffic. Although publicity regarding the DOE mercury storage facility(ies) may produce short-term impacts on local home sales and property values, long-term impacts are not expected. Socioeconomic impacts were analyzed in Chapter 4 for each of the alternatives, which are summarized in Chapter 2. The minority and low-income populations within 16 kilometers (10 miles) and 3.2 kilometers (2 miles) of the candidate mercury storage sites are described in Chapter 3, and Chapter 4 includes an analysis of potential environmental justice impacts.

- **DOE should consider impacts on American Indian interests and lifestyles.** Construction and operation of a mercury storage facility(ies) are expected to have little or no environmental, socioeconomic, or cultural resource impacts. Human health risks during normal operations would be negligible. Therefore, adverse impacts on American Indians are not expected. As described in the Cultural Resources sections of Chapter 4, if American Indian artifacts were discovered during construction, the land-disturbing activities would be suspended, and DOE would contact the appropriate tribal representative and State Historic Preservation Office.

- **DOE should have provided earlier notification of the public scoping meetings.** DOE's notification of public scoping meetings was in compliance with all NEPA requirements. In addition to *Federal Register* announcements, notification of the scoping meetings was provided in local newspapers and on the EIS website (*www.mercurystorageeis.com*). However, to further ensure prompt notification, DOE is mailing notices of the availability of this draft EIS, with comment submission and public hearing information, to all stakeholders on the *Mercury Storage EIS* mailing list. Public hearings will be held on this draft EIS.

How Can I Participate?

DOE is soliciting comments on this draft EIS during a 60-day public comment period, during which public hearings will be held to provide interested members of the public with opportunities to learn more about the content of this draft EIS, hear DOE representatives present a summary of the results of the EIS analyses, ask clarifying questions, and provide oral and written comments. The EIS website, www.mercurystorageeis.com, will further inform the public about this draft EIS, public hearings, comment submission, and other pertinent information.

Attend a Public Hearing

Public hearing dates, times, and locations will be announced in the *Federal Register*, in local newspapers, and on the EIS website (www.mercurystorageeis.com). Members of the public who have expressed interest and are on the DOE mailing list for this draft EIS will be notified by U.S. mail regarding hearing dates, times, and locations.

Visit a Reading Room

Review copies of the draft EIS and other pertinent information are available at the following reading rooms.

Colorado

Mesa County Library
530 Grand Avenue
Grand Junction, CO 81502-5019
(970) 243-4442

U.S. Department of Energy
Office of Legacy Management
2597 B ¾ Road
Grand Junction, CO 81503
(970) 248-6089

District of Columbia

U.S. Department of Energy
Freedom of Information
Reading Room
1000 Independence Avenue, SW
Room 1G-033
Washington, D.C. 20585
(202) 586-5955

Georgia

Augusta State University
Reese Library
2500 Walton Way
Augusta, GA 30904
(706) 737-1745

Savannah State University
Asa H. Gordon Library
2200 Tompkins Road
Savannah, GA 31404
(912) 356-2183

Idaho

U.S. Department of Energy
Public Reading Room
1776 Science Center Drive
Idaho Falls, ID 83402
(208) 526-0833

Missouri

Mid-Continent Public Library
Blue Ridge Branch
9253 Blue Ridge Boulevard
Kansas City, MO 64138
(816) 761-3382

Nevada

Mineral County Library
First & "A" Street
Hawthorne, NV 89415
(775) 945-2778

New Mexico

Eunice Public Library
1039 10th Street
Eunice, NM 88231
(575) 394-2336

Oregon

Portland State University
Government Information
Branford Price Millar Library
1875 SW Park Avenue
Portland, OR 97201
(503) 725-5874

South Carolina

University of South Carolina–Aiken
Gregg-Graniteville Library
471 University Parkway
Aiken, SC 29801
(803) 641-3320

South Carolina State Library
1500 Senate Street
Columbia, SC 29211
(803) 734-8026

Texas

Andrews County Library
109 NW 1st Street
Andrews, TX 79714
(432) 523-9819

Washington

U.S. Department of Energy
Public Reading Room
Consolidated Information Center
2770 University Drive
Room 101L
Richland, WA 99352
(509) 372-7443

University of Washington
Suzzallo-Allen Library
Government Publications Division
Seattle, WA 98195
(206) 543-1937

Gonzaga University
Foley Center Library
101-L East 502 Boone
Spokane, WA 99258
(509) 313-5931

Go to the EIS Website

This draft EIS is available on the website, http://www.mercurystorageeis.com

Submit Comments

To submit written comments or request more information:

Email through the EIS website: www.mercurystorageeis.com
Fax toll-free: 1-877-274-5462

U.S. mail: Mr. David Levenstein, Document Manager
Office of Environmental Compliance (EM–41)
U.S. Department of Energy
Post Office Box 2612
Germantown, MD 20874

Watch for the Final EIS

When the final EIS is published, its availability will be announced in the *Federal Register*, in local newspapers, and via U.S. mail. This *Summary and Guide for Stakeholders*, as well as the full EIS, will be sent to those who request it in compact disk or print formats. It also will be available on the EIS website and for review in public reading rooms. Oral and written comments received during the public comment period will be considered equally in preparing the final EIS, and DOE responses will be presented in a comment response document that will be published as part of the final EIS.

Based on the final EIS and other considerations, DOE will announce a decision regarding future actions in a ROD to be published in the *Federal Register* no sooner than 30 days after the EPA Notice of Availability for the final EIS is published (see Figure 6). The ROD will describe the alternative selected for implementation and explain how environmental impacts will be avoided, minimized, or mitigated.

6. HELPFUL INFORMATION

In this section, the content and organization of the full EIS is described, the reader is directed to specific chapters and sections to find information on a series of topics, and a short acronym list is provided.

How This EIS is Organized

The main volume of the *Draft Mercury Storage EIS* consists of the following chapters and appendices:

- Chapter 1, Introduction and Purpose and Need for Agency Action, describes the proposed action, provides background information on the Mercury Export Ban Act of 2008, and describes the scope of this EIS and other relevant NEPA documents.

- Chapter 2, Facility Descriptions, Alternatives, and Comparison of Environmental Consequences, describes the existing and new mercury storage buildings analyzed in this EIS; the alternatives for management of the mercury, including the No Action Alternative; how the alternatives were developed; the activities that would take place under each alternative; and alternatives that initially were considered and subsequently eliminated from detailed study. This chapter also provides a summary of impacts of the alternatives and a description of DOE's Preferred Alternative.

- Chapter 3, Affected Environment, describes the potentially affected environments at the candidate sites and the approach taken in describing these affected environments. The level of detail presented for each resource (e.g., air quality, water resources) depends on the likelihood that the resource would be affected by mercury storage activities.

- Chapter 4, Environmental Consequences, describes the potential impacts on the affected environments (presented in Chapter 3) of the proposed mercury storage alternatives (described in Chapter 2), including cumulative impacts and unavoidable adverse impacts. It also discusses potential future closure activities, irreversible and irretrievable commitments of resources, and the relationship between short-term uses of the environment and long-term productivity.

- Chapter 5, Environmental Laws, Regulations, Permits, and Other Potentially Applicable Requirements, describes potentially applicable environmental and health and safety compliance and permit requirements and the status of consultations with Federal and state agencies and American Indian tribal governments.

- Chapters 6, 7, 8, and 9 are, respectively, the Glossary, List of Preparers, Distribution List, and Index.

The following appendices include descriptions of methods used to estimate environmental impacts of the alternatives and the detailed information to support the impact analyses:

- Appendix A – The Mercury Export Ban Act of 2008, *Federal Register* Notices, and Other Public Notices
- Appendix B – Impact Assessment Methodology
- Appendix C – Storage Facility Construction and Operations Data
- Appendix D – Human Health and Ecological Risk Assessment Analysis
- Appendix E – Common and Scientific Names of Plant and Animal Species
- Appendix F – Cooperating Agency Agreements
- Appendix G – Contractor and Subcontractor National Environmental Policy Act Disclosure Statements

Finding Answers to Your Questions

If You Have A Question About…	*See:*
Affected environment	Chapter 3
Air quality and noise	Chapter 2, Section 2.7.1.4; Chapter 3, Sections 3.2.4, 3.3.4, 3.4.4, 3.5.4, 3.6.4, 3.7.4, 3.8.4, 3.9.4; Chapter 4, Sections 4.2.4, 4.3.4, 4.4.4, 4.5.4, 4.6.4, 4.7.4, 4.8.4, 4.9.4; Appendix B, Section B.5
Alternatives considered but eliminated from detailed analysis	Chapter 2, Section 2.6
Alternatives evaluated in this EIS	Chapter 2, Section 2.4
Applicable laws and regulations	Chapter 5; Appendix A, Section A.1
Comparison of impacts	Chapter 2, Section 2.7
Construction of new facilities	Chapter 2, Section 2.3.1; Appendix C, Section C.2.3
Cultural resources	Chapter 2, Section 2.7.1.6; Chapter 3, Sections 3.2.6, 3.3.6, 3.4.6, 3.5.6, 3.6.6, 3.7.6, 3.8.6, 3.9.6; Chapter 4, Sections 4.2.6, 4.3.6, 4.4.6, 4.5.6, 4.6.6, 4.7.6, 4.8.6, 4.9.6; Appendix B, Section B.7
Cumulative impacts	Chapter 2, Section 2.7.2; Chapter 4, Section 4.11; Appendix B, Section B.12
Decisions to be made	Chapter 1, Section 1.4
Ecological resources	Chapter 2, Section 2.7.1.5; Chapter 3, Sections 3.2.5, 3.3.5, 3.4.5, 3.5.5, 3.6.5, 3.7.5, 3.8.5, 3.9.5; Chapter 4, Sections 4.2.5, 4.3.5, 4.4.5, 4.5.5, 4.6.5, 4.7.5, 4.8.5, 4.9.5; Appendix B, Section B.6; Appendix E
Ecological impacts	Chapter 2, Section 2.7.1.10; Chapter 4, Sections 4.2.10, 4.3.10, 4.4.10, 4.5.10, 4.6.10, 4.7.10, 4.8.10, 4.9.10; Appendix D, Sections D.1.1.2, D.5, D.6.4.2, D.7.2
Environmental justice	Chapter 2, Section 2.7.1.12; Chapter 3, Sections 3.2.11, 3.3.11, 3.4.11, 3.5.11, 3.6.11, 3.7.11, 3.8.11, 3.9.11; Chapter 4, Sections 4.2.12, 4.3.12, 4.4.12, 4.5.12, 4.6.12, 4.7.12, 4.8.12, 4.9.12; Appendix B, Section B.11
Geology, soils, and geologic hazards	Chapter 2, Section 2.7.1.2; Chapter 3, Sections 3.2.2, 3.3.2, 3.4.2, 3.5.2, 3.6.2, 3.7.2, 3.8.2, 3.9.2; Chapter 4, Sections 4.2.2, 4.3.2, 4.4.2, 4.5.2, 4.6.2, 4.7.2, 4.8.2, 4.9.2; Appendix B, Section B.3
Human health effects	Chapter 2, Section 2.7.1.9; Chapter 4, Sections 4.2.9.1, 4.3.9.1, 4.4.9.1, 4.5.9.1, 4.6.9.1, 4.7.9.1, 4.8,9.1, 4.9.9.1; Appendix D, Sections D.1.1.2, D.3, D.4, D.6.4.1
Land use and visual resources	Chapter 2, Section 2.7.1.1; Chapter 3, Sections 3.2.1, 3.3.1, 3.4.1, 3.5.1, 3.6.1, 3.7.1, 3.8.1, 3.9.1; Chapter 4, Sections 4.2.1, 4.3.1, 4.4.1, 4.5.1, 4.6.1, 4.7.1, 4.8.1, 4.9.1; Appendix B, Section B.2

If You Have A Question About…	*See:*
Mercury	Chapter 1, Sections 1.1, 1.3.1; Appendix D, Section D.3
Mitigation measures	Chapter 4, Section 4.12
No Action Alternative	Chapter 2, Section 2.4.1, 2.7.1; Chapter 3, Section 3.9; Chapter 4, Section 4.2
Occupational and public health and safety	Chapter 2, Section 2.7.1.9; Chapter 3, Sections 3.2.9, 3.3.9, 3.4.9, 3.5.9, 3.6.9, 3.7.9, 3.8.9, 3.9.9; Chapter 4, Sections 4.2.9, 4.3.9, 4.4.9, 4.5.9, 4.6.9, 4.7.9, 4.8.9, 4.9.9
Operations of facilities	Chapter 2, Section 2.3.2; Appendix C, Section C.2.4
Preferred Alternative	Chapter 2, Section 2.5
Public involvement	Chapter 1, Section 1.6
Purpose and need for agency action	Chapter 1, Section 1.2
Scope of this EIS	Chapter 1, Section 1.5
Site infrastructure	Chapter 2, Section 2.7.1.7; Chapter 3, Sections 3.2.7, 3.3.7, 3.4.7, 3.5.7, 3.6.7, 3.7.7, 3.8.7, 3.9.7; Chapter 4, Sections 4.2.7, 4.3.7, 4.4.7, 4.5.7, 4.6.7, 4.7.7, 4.8.7, 4.9.7; Appendix B, Section B.8
Socioeconomics	Chapter 2, Section 2.7.1.11; Chapter 3, Sections 3.2.10, 3.3.10, 3.4.10, 3.5.10, 3.6.10, 3.7.10, 3.8.10, 3.9.10; Chapter 4, Sections 4.2.11, 4.3.11, 4.4.11, 4.5.11, 4.6.11, 4.7.11, 4.8.11, 4.9.11; Appendix B, Section B.10
Transportation	Chapter 2, Section 2.6.3, 2.7.1.9; Chapter 3, Sections 3.2.7.1, 3.2.9.3, 3.2.10.3, 3.3.7.1, 3.3.9.3, 3.3.10.3, 3.4.7.1, 3.4.9.3, 3.4.10.3, 3.5.7.1, 3.5.9.3, 3.5.10.3, 3.6.7.1, 3.6.9.3, 3.6.10.3, 3.7.7.1, 3.7.9.3, 3.7.10.3, 3.8.7.1, 3.8.9.3, 3.8.10.3, 3.9.7.1, 3.9.9.3, 3.9.10.3; Chapter 4, Sections 4.2.9.3, 4.3.9.3, 4.4.9.3, 4.5.9.3, 4.6.9.3, 4.7.9.3, 4.8.9.3, 4.9.9.3; Appendix C, Section C.1; Appendix D, Section D.2.7
Waste management	Chapter 2, Section 2.7.1.8; Chapter 3, Sections 3.2.8, 3.3.8, 3.4.8, 3.5.8, 3.6.8, 3.7.8, 3.8.8, 3.9.8; Chapter 4, Sections 4.2.8, 4.3.8, 4.4.8, 4.5.8, 4.6.8, 4.7.8, 4.8.8, 4.8.9; Appendix B, Section B.9
Water resources	Chapter 2, Section 2.7.1.3; Chapter 3, Sections 3.2.3, 3.3.3, 3.4.3, 3.5.3, 3.6.3, 3.7.3, 3.8.3, 3.9.3; Chapter 4, Sections 4.2.3, 4.3.3, 4.4.3, 4.5.3, 4.6.3, 4.7.3, 4.8.3, 4.9.3; Appendix B, Section B.4

Acronyms and Abbreviations

DOE – U.S. Department of Energy

EIS – environmental impact statement

EPA – U.S. Environmental Protection Agency

Mercury Storage EIS – *Draft Long-Term Management and Storage of Elemental Mercury Environmental Impact Statement*

MOU – Memorandum of Understanding

NEPA – National Environmental Policy Act of 1969

RCRA – Resource Conservation and Recovery Act

ROD – Record of Decision

ROI – region of influence

the Act – Mercury Export Ban Act of 2008

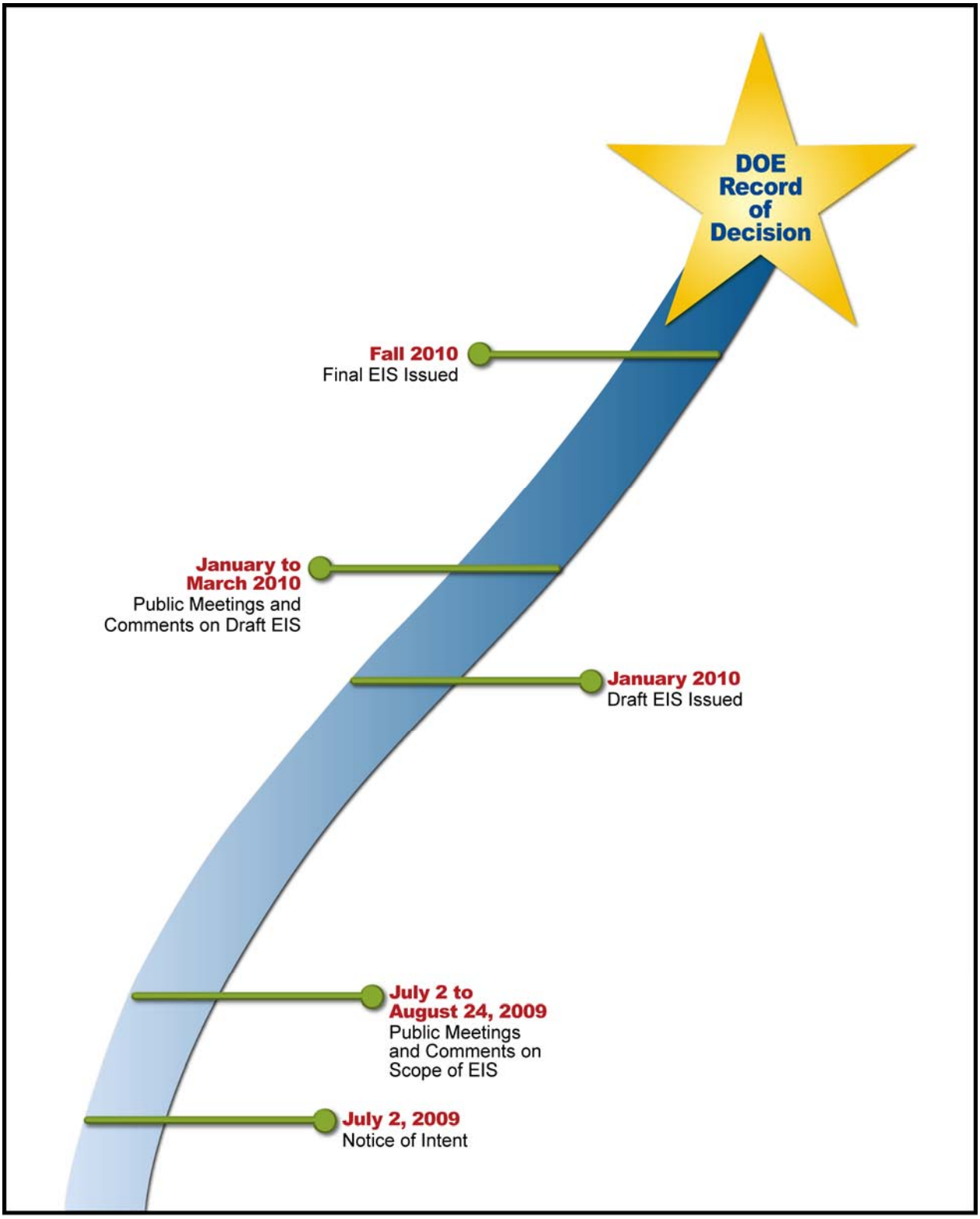


Figure 6. The Mercury Storage Environmental Impact Statement Timeline