Final Mercury Management

Environmental Impact Statement

Volume I

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Defense Logistics Agency
Defense National Stockpile Center
Fort Belvoir, VA

FINAL MERCURY MANAGEMENT ENVIRONMENTAL IMPACT STATEMENT

Lead Agency: Defense Logistics Agency,
Defense National Stockpile Center

Cooperating Organizations

U.S. Department of Energy

U.S. Environmental Protection Agency
Office of Pollution Prevention and Toxics
Office of Federal Activities

Consulting Organizations

U.S. Department of Commerce

U.S. Department of Health and Human Services

U.S. Geological Survey

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LEAD AGENCY: Defense Logistics Agency, Defense National Stockpile Center

COOPERATING AGENCIES: U.S. Department of Energy, U.S. Environmental Protection Agency

TITLE OF THE PROPOSED ACTION: To select and implement an approach for the long-term (i.e., 40 years) management of the defense stockpile of elemental mercury, which is no longer needed for national defense.

POINT OF CONTACT: Information concerning the environmental impact statement can be obtained at the project Web site (www.mercuryeis.com), by calling 1-888-306-6682, or by writing to the Project Manager, ATTN: Project Manager, Mercury Management EIS, DNSC-E, Defense National Stockpile Center, 8725 John F. Kingman Road, Suite 3229, Ft. Belvoir, VA 22060-6223.

APPROVAL AUTHORITY: Defense Logistics Agency, Staff Director, Office of Environment and Safety

DOCUMENT DESIGNATION: Final Mercury Management Environmental Impact Statement (EIS)

AFFECTED JURISDICTIONS: Hawthorne, NV; New Haven, IN; Oak Ridge, TN; Romulus, NY; Somerville, NJ; Tooele, UT; and Warren, OH

ABSTRACT: The Defense National Stockpile Center is responsible for the disposition of stockpiled items declared excess to national defense needs. The United States Congress has determined that the U.S. Department of Defense no longer needs to maintain a stockpile of mercury due to the increased use of mercury substitutes and due to increases in the nation's secondary production (i.e., recovery/recycling). This excess commodity grade mercury was offered for sale in open competitions until 1994 when concerns over mercury accumulation in the global environment prompted the Defense National Stockpile Center to suspend sales. The Defense National Stockpile Center inventory of mercury (approximately 4,890 tons; 4,436 metric tons) is currently stored in enclosed warehouses at four sites in the United States. As custodian of the mercury, the Defense National Stockpile Center must decide on a strategy for long-term management of this material. In compliance with the National Environmental Policy Act and Defense Logistics Agency Regulation 1000.22, Environmental Considerations in Defense Logistics Agency Actions in the United States, the Defense National Stockpile Center has prepared the Final EIS to evaluate the environmental impacts of a range of reasonable alternatives for long-term management (i.e., 40 years) of the excess mercury. The alternatives are: (1) no action, i.e., maintaining storage at the four existing sites; (2) consolidation and storage at one of the current DNSC mercury storage sites or at one of three other candidate locations; and (3) sale of the mercury inventory. The agency's preferred alternative is consolidated storage. The Final EIS describes the potential environmental, human health, and socioeconomic impacts of these alternatives, together with cost considerations. Several treatment technologies were considered as possible alternatives for mercury management. Based on the immaturity of bulk mercury treatment technologies and the lack of an EPA-approved path forward for treatment and disposal of elemental mercury, this alternative is not considered viable and is not evaluated in detail in the EIS.

PUBLIC COMMENTS: In preparing this Final EIS, the Defense National Stockpile Center considered comments received during the scoping period (February 5, 2001, to June 30, 2001) and during the comment period on the Draft EIS (April 11, 2003, to July 18, 2003). Comments received on the Draft EIS after the close of the comment period were also considered.

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Table of Contents

List of Figures xix
List of Tables xx
List of Acronyms xxv
Units of Measure xxvii
Metric Conversion Chart and Metric Prefixes xxix

Executive Summary
ES.1 Introduction ES–1
ES.2 Background ES–2
ES.3 DNSC Mercury ES–2
ES.4 The Need to Safely Manage Mercury ES–4
ES.5 Alternatives Considered in the MM EIS ES–4
ES.5.1 Monitoring and Maintenance ES–6
ES.5.2 Transportation ES–6
ES.6 Impacts Summary and Comparisons ES–7
ES.7 Cost Comparison ES–9
ES.8 Cumulative Impacts ES–10
ES.9 Irreversible and Irretrievable Commitments of Resources ES–12
ES.10 Relationship Between Local Short-term Uses of the Environment and the Maintenance and Enhancement of Long-term Productivity ES–12
ES.11 Alternatives Considered but Eliminated from Detailed Study ES–12
ES.11.1 Storage Related Options ES–12
ES.11.2 Treatment and Storage ES–13
ES.11.3 Treatment and Disposal ES–13
ES.11.4 Sales Related Options ES–13
ES.11.5 Transportation Methods ES–13
ES.12 Organization of the Final MM EIS ES–14
ES.13 Public Participation ES–15
ES.13.1 Scoping Process ES–15
ES.13.2 Draft MM EIS Review Process ES–15
ES.13.3 Public Comments on the Draft MM EIS ES–16
ES.14 Additional Information ES–21

Chapter 1 Purpose of and Need for the Proposed Action
1.1 Proposed Action 1–1
1.2 Background 1–2
1.2.1 Authority to Buy and Sell Mercury 1–2
1.2.2 Mercury Sales 1–3
1.2.3 Mercury Storage 1–3
1.2.4 The Need to Safely Manage Mercury 1–4
1.3 Objectives of the Proposed Action 1–5
1.4 Scope of this Environmental Analysis 1–6
1.4.1 No Action Alternative 1–6
1.4.2 Consolidated Storage Alternative 1–6
1.4.3 Sales Alternative 1–8
1.4.4 Transportation 1–8

1.4.5 Decontamination and Decommissioning 1–8
1.5 Public Involvement in Developing the Scope 1–8
1.6 Public Review of the Draft MM EIS 1–11
1.6.1 Environmental Protection Agency Rating 1–11
1.6.2 Issues Raised During the Public Comment Period 1–11
1.6.3 Changes to the Final MM EIS 1–12
1.7 Relevant Program Documents 1–12
1.7.1 DNSC Mercury Management Activities 1–12
1.7.2 Depot Activities 1–12
1.7.3 DOE Y–12 Activities 1–13
1.7.4 Candidate Consolidated Storage Sites 1–14
1.8 Applicable Requirements and Coordination 1–16
1.9 Organization of this MM EIS 1–17
1.10 References 1–18

Chapter 2 Alternatives for the Management of Mercury

2.1 Materials Analyzed in this Mercury Management Environmental Impact Statement 2–1
2.2 Alternatives Analyzed in this Mercury Management Environmental Impact Statement 2–1
2.2.1 Alternative 1: No Action—Continued Storage at Current Mercury Storage Locations. 2–2
2.2.1.1 New Haven Depot 2–4
2.2.1.2 Somerville Depot 2–4
2.2.1.3 Warren Depot 2–4
2.2.1.4 Y–12 2–4
2.2.2 Alternative 2: Consolidated Storage 2–9
2.2.2.1 Alternative 2A: Consolidated Storage at the New Haven Depot 2–11
2.2.2.2 Alternative 2B: Consolidated Storage at the Somerville Depot 2–11
2.2.2.3 Alternative 2C: Consolidated Storage at the Warren Depot 2–11
2.2.2.4 Alternative 2D: Consolidated Storage at the Hawthorne Army Depot 2–11
2.2.2.5 Alternative 2E: Consolidated Storage at the PEZ Lake Development 2–12
2.2.2.6 Alternative 2F: Consolidated Storage at the Utah Industrial Depot 2–13
2.2.3 Alternative 3: Sales of Mercury Inventory 2–14
2.2.3.1 Alternative 3A: Sale of Mercury at Maximum Allowable Market Rate 2–15
2.2.3.2 Alternative 3B: Sale of Mercury to Reduce Mercury Mining 2–16
2.2.4 Monitoring and Maintenance Requirements for All Alternatives 2–16
2.3 Preferred Alternative 2–17
2.4 Alternatives Considered but Eliminated from Detailed Study 2–17
2.4.1 Storage Related Options 2–17
2.4.2 Treatment and Storage 2–18
2.4.3 Treatment and Disposal 2–18
2.4.4 Sales Related Options 2–19
2.4.5 Transportation Methods Not Considered in Detail 2–20
2.5 Summary of Impacts and Costs 2–20
2.5.1 Summary of Impacts by Resource 2–23
2.5.1.1 Air Quality and Noise 2–23
2.5.1.2 Waste Management 2–26
2.5.1.3 Socioeconomics 2–28
2.5.1.4 Human Health and Ecological Risk from Normal Operations 2–30
2.5.1.5 Human Health and Ecological Risk from Facility Accidents 2–32
2.5.1.6 Transportation Risk 2–34

2.5.1.7 Water Resources 2–36
2.5.1.8 Land Use 2–38
2.5.1.9 Infrastructure 2–40
2.5.1.10 Environmental Justice 2–43
2.5.2 Summary of Costs 2–45
2.6 References 2–47

Chapter 3 Affected Environment
3.1 Approach to Defining the Affected Environment 3–1
3.2 New Haven Depot 3–3
3.2.1 Meteorology, Air Quality, and Noise 3–4
3.2.1.1 Meteorology 3–4
3.2.1.2 Air Quality 3–4
3.2.1.3 Noise 3–5
3.2.2 Waste Management 3–5
3.2.3 Socioeconomics 3–6
3.2.3.1 Regional Economic Characteristics 3–6
3.2.3.2 Population and Housing 3–6
3.2.3.3 Community Services 3–6
3.2.3.3.1 Education 3–6
3.2.3.3.2 Public Safety 3–7
3.2.3.3.3 Health Care 3–7
3.2.4 Human Health Risk 3–7
3.2.4.1 Health Effects Studies 3–7
3.2.4.2 Accident History 3–7
3.2.4.3 Emergency Preparedness 3–8
3.2.5 Geology and Soils 3–8
3.2.6 Water Resources 3–11
3.2.6.1 Surface Water 3–11
3.2.6.2 Groundwater 3–13
3.2.7 Ecological Resources 3–14
3.2.7.1 Nonsensitive Habitats and Species 3–15
3.2.7.2 Sensitive Habitats and Species 3–15
3.2.8 Cultural Resources 3–16
3.2.9 Land Use and Visual Resources 3–16
3.2.9.1 Land Use 3–16
3.2.9.2 Visual Resources 3–17
3.2.10 Infrastructure 3–17
3.2.10.1 Transportation 3–17
3.2.10.2 Electricity 3–18
3.2.10.3 Fuel 3–18
3.2.10.4 Water 3–18
3.2.10.5 Site Safety Services 3–18
3.2.11 Environmental Justice 3–18
3.3 Somerville Depot 3–20
3.3.1 Meteorology, Air Quality, and Noise 3–20
3.3.1.1 Meteorology 3–20
3.3.1.2 Air Quality 3–20
3.3.1.3 Noise 3–21

3.3.2 Waste Management ... 3–22
3.3.3 Socioeconomics ... 3–22
3.3.3.1 Regional Economic Characteristics ... 3–23
3.3.3.2 Population and Housing ... 3–23
3.3.3.3 Community Services ... 3–23
3.3.3.3.1 Education ... 3–23
3.3.3.3.2 Public Safety ... 3–23
3.3.3.3.3 Health Care ... 3–23
3.3.4 Human Health Risk ... 3–23
3.3.4.1 Health Effects Studies ... 3–23
3.3.4.2 Accident History ... 3–24
3.3.4.3 Emergency Preparedness ... 3–24
3.3.5 Geology and Soils ... 3–25
3.3.6 Water Resources ... 3–27
3.3.6.1 Surface Water ... 3–27
3.3.6.2 Groundwater ... 3–29
3.3.7 Ecological Resources ... 3–30
3.3.7.1 Nonsensitive Habitats and Species ... 3–31
3.3.7.2 Sensitive Habitats and Species ... 3–31
3.3.8 Cultural Resources ... 3–31
3.3.9 Land Use and Visual Resources ... 3–32
3.3.9.1 Land Use ... 3–32
3.3.9.2 Visual Resources ... 3–33
3.3.10 Infrastructure ... 3–33
3.3.10.1 Transportation ... 3–33
3.3.10.2 Electricity ... 3–33
3.3.10.3 Fuel ... 3–34
3.3.10.4 Water ... 3–34
3.3.10.5 Site Safety Services ... 3–34
3.3.11 Environmental Justice ... 3–34
3.4 Warren Depot ... 3–35
3.4.1 Meteorology, Air Quality, and Noise ... 3–36
3.4.1.1 Meteorology ... 3–36
3.4.1.2 Air Quality ... 3–36
3.4.1.3 Noise ... 3–37
3.4.2 Waste Management ... 3–37
3.4.3 Socioeconomics ... 3–38
3.4.3.1 Regional Economic Characteristics ... 3–38
3.4.3.2 Population and Housing ... 3–38
3.4.3.3 Community Services ... 3–38
3.4.3.3.1 Education ... 3–38
3.4.3.3.2 Public Safety ... 3–38
3.4.3.3.3 Health Care ... 3–39
3.4.4 Human Health Risk ... 3–39
3.4.4.1 Health Effects Studies ... 3–39
3.4.4.2 Accident History ... 3–39
3.4.4.3 Emergency Preparedness ... 3–40
3.4.5 Geology and Soils ... 3–40
3.4.6 Water Resources ... 3–43
3.4.6.1 Surface Water ... 3–43

3.4.6.2 Groundwater ... 3–45
3.4.7 Ecological Resources ... 3–47
3.4.7.1 Nonsensitive Habitats and Species ... 3–47
3.4.7.2 Sensitive Habitats and Species ... 3–47
3.4.8 Cultural Resources ... 3–47
3.4.9 Land Use and Visual Resources ... 3–48
3.4.9.1 Land Use ... 3–48
3.4.9.2 Visual Resources ... 3–48
3.4.10 Infrastructure ... 3–49
3.4.10.1 Transportation ... 3–49
3.4.10.2 Electricity ... 3–49
3.4.10.3 Fuel ... 3–49
3.4.10.4 Water ... 3–49
3.4.10.5 Site Safety Services ... 3–50
3.4.11 Environmental Justice ... 3–50
3.5 Y–12 ... 3–51
3.5.1 Meteorology, Air Quality, and Noise ... 3–52
3.5.1.1 Meteorology ... 3–52
3.5.1.2 Air Quality ... 3–52
3.5.1.3 Noise ... 3–54
3.5.2 Waste Management ... 3–55
3.5.3 Socioeconomics ... 3–56
3.5.3.1 Regional Economic Characteristics ... 3–56
3.5.3.2 Population and Housing ... 3–56
3.5.3.3 Community Services ... 3–56
3.5.3.3.1 Education ... 3–56
3.5.3.3.2 Public Safety ... 3–57
3.5.3.3.3 Health Care ... 3–57
3.5.4 Human Health Risk ... 3–57
3.5.4.1 Health Effects Studies ... 3–57
3.5.4.2 Accident History ... 3–58
3.5.4.3 Emergency Preparedness ... 3–58
3.5.5 Geology and Soils ... 3–59
3.5.6 Water Resources ... 3–60
3.5.6.1 Surface Water ... 3–60
3.5.6.2 Groundwater ... 3–63
3.5.7 Ecological Resources ... 3–64
3.5.7.1 Nonsensitive Habitats and Species ... 3–64
3.5.7.2 Sensitive Habitats and Species ... 3–65
3.5.8 Cultural Resources ... 3–67
3.5.9 Land Use and Visual Resources ... 3–68
3.5.9.1 Land Use ... 3–68
3.5.9.2 Visual Resources ... 3–68
3.5.10 Infrastructure ... 3–68
3.5.10.1 Transportation ... 3–69
3.5.10.2 Electricity ... 3–69
3.5.10.3 Fuel ... 3–69
3.5.10.4 Water ... 3–69
3.5.10.5 Site Safety Services ... 3–69
3.5.11 Environmental Justice ... 3–70

3.6 Hawthorne Army Depot 3–71
3.6.1 Meteorology, Air Quality, and Noise 3–71
3.6.1.1 Meteorology 3–71
3.6.1.2 Air Quality 3–72
3.6.1.3 Noise 3–72
3.6.2 Waste Management 3–73
3.6.3 Socioeconomics 3–74
3.6.3.1 Regional Economic Characteristics 3–74
3.6.3.2 Population and Housing 3–74
3.6.3.3 Community Services 3–74
3.6.3.3.1 Education 3–74
3.6.3.3.2 Public Safety 3–75
3.6.3.3.3 Health Care 3–75
3.6.4 Human Health Risk 3–75
3.6.4.1 Health Effects Studies 3–75
3.6.4.2 Accident History 3–75
3.6.4.3 Emergency Preparedness 3–75
3.6.5 Geology and Soils 3–76
3.6.6 Water Resources 3–78
3.6.6.1 Surface Water 3–78
3.6.6.2 Groundwater 3–80
3.6.7 Ecological Resources 3–81
3.6.7.1 Nonsensitive Habitats and Species 3–81
3.6.7.2 Sensitive Habitats and Species 3–82
3.6.8 Cultural Resources 3–83
3.6.9 Land Use and Visual Resources 3–85
3.6.9.1 Land Use 3–85
3.6.9.2 Visual Resources 3–85
3.6.10 Infrastructure 3–85
3.6.10.1 Transportation 3–85
3.6.10.2 Electricity 3–86
3.6.10.3 Fuel 3–86
3.6.10.4 Water 3–86
3.6.10.5 Site Safety Services 3–86
3.6.11 Environmental Justice 3–87
3.7 PEZ Lake Development 3–88
3.7.1 Meteorology, Air Quality, and Noise 3–88
3.7.1.1 Meteorology 3–88
3.7.1.2 Air Quality 3–89
3.7.1.3 Noise 3–89
3.7.2 Waste Management 3–90
3.7.3 Socioeconomics 3–91
3.7.3.1 Regional Economic Characteristics 3–91
3.7.3.2 Population and Housing 3–91
3.7.3.3 Community Services 3–91
3.7.3.3.1 Education 3–91
3.7.3.3.2 Public Safety 3–91
3.7.3.3.3 Health Care 3–92
3.7.4 Human Health Risk 3–92
3.7.4.1 Health Effects Studies 3–92

3.7.4.2 Accident History ... 3–93
3.7.4.3 Emergency Preparedness ... 3–93
3.7.5 Geology and Soils ... 3–93
3.7.6 Water Resources ... 3–96
3.7.6.1 Surface Water ... 3–96
3.7.6.2 Groundwater ... 3–98
3.7.7 Ecological Resources ... 3–99
3.7.7.1 Nonsensitive Habitats and Species ... 3–99
3.7.7.2 Sensitive Habitats and Species ... 3–100
3.7.8 Cultural Resources ... 3–100
3.7.9 Land Use and Visual Resources ... 3–101
3.7.9.1 Land Use ... 3–101
3.7.9.2 Visual Resources ... 3–102
3.7.10 Infrastructure ... 3–102
3.7.10.1 Transportation ... 3–103
3.7.10.2 Electricity ... 3–103
3.7.10.3 Fuel ... 3–103
3.7.10.4 Water ... 3–103
3.7.10.5 Site Safety Services ... 3–103
3.7.11 Environmental Justice ... 3–104
3.8 Utah Industrial Depot ... 3–105
3.8.1 Meteorology, Air Quality, and Noise ... 3–105
3.8.1.1 Meteorology ... 3–105
3.8.1.2 Air Quality ... 3–105
3.8.1.3 Noise ... 3–106
3.8.2 Waste Management ... 3–107
3.8.3 Socioeconomics ... 3–107
3.8.3.1 Regional Economic Characteristics ... 3–108
3.8.3.2 Population and Housing ... 3–108
3.8.3.3 Community Services ... 3–108
3.8.3.3.1 Education ... 3–108
3.8.3.3.2 Public Safety ... 3–108
3.8.3.3.3 Health Care ... 3–108
3.8.4 Human Health Risk ... 3–108
3.8.4.1 Health Effects Studies ... 3–108
3.8.4.2 Accident History ... 3–109
3.8.4.3 Emergency Preparedness ... 3–109
3.8.5 Geology and Soils ... 3–109
3.8.6 Water Resources ... 3–112
3.8.6.1 Surface Water ... 3–112
3.8.6.2 Groundwater ... 3–114
3.8.7 Ecological Resources ... 3–116
3.8.7.1 Nonsensitive Habitats and Species ... 3–116
3.8.7.2 Sensitive Habitats and Species ... 3–116
3.8.8 Cultural Resources ... 3–117
3.8.9 Land Use and Visual Resources ... 3–117
3.8.9.1 Land Use ... 3–117
3.8.9.2 Visual Resources ... 3–118
3.8.10 Infrastructure ... 3–118
3.8.10.1 Transportation ... 3–118

3.8.10.2 Electricity ... 3–119
3.8.10.3 Fuel ... 3–119
3.8.10.4 Water ... 3–119
3.8.10.5 Site Safety Services ... 3–119
3.8.11 Environmental Justice ... 3–119
3.9 References ... 3–121

Chapter 4 Environmental Consequences

4.1 Introduction ... 4–1
4.2 Alternative 1: No Action–Continued Storage at Current Locations ... 4–6
4.2.1 New Haven Depot ... 4–7
4.2.1.1 Meteorology, Air Quality, and Noise ... 4–7
4.2.1.2 Waste Management ... 4–7
4.2.1.3 Socioeconomics ... 4–8
4.2.1.4 Human Health and Ecological Risk from Normal Operations ... 4–8
4.2.1.5 Human Health and Ecological Risk from Facility Accidents ... 4–9
4.2.1.6 Transportation ... 4–14
4.2.1.7 Geology and Soils ... 4–14
4.2.1.8 Water Resources ... 4–14
4.2.1.9 Ecological Resources ... 4–15
4.2.1.10 Cultural Resources ... 4–15
4.2.1.11 Land Use and Visual Resources ... 4–15
4.2.1.12 Infrastructure ... 4–16
4.2.1.13 Environmental Justice ... 4–16
4.2.2 Somerville Depot ... 4–16
4.2.2.1 Meteorology, Air Quality, and Noise ... 4–16
4.2.2.2 Waste Management ... 4–17
4.2.2.3 Socioeconomics ... 4–17
4.2.2.4 Human Health and Ecological Risk from Normal Operations ... 4–17
4.2.2.5 Human Health and Ecological Risks from Facility Accidents ... 4–18
4.2.2.6 Transportation ... 4–18
4.2.2.7 Geology and Soils ... 4–19
4.2.2.8 Water Resources ... 4–19
4.2.2.9 Ecological Resources ... 4–19
4.2.2.10 Cultural Resources ... 4–20
4.2.2.11 Land Use and Visual Resources ... 4–20
4.2.2.12 Infrastructure ... 4–20
4.2.2.13 Environmental Justice ... 4–20
4.2.3 Warren Depot ... 4–20
4.2.3.1 Meteorology, Air Quality, and Noise ... 4–20
4.2.3.2 Waste Management ... 4–21
4.2.3.3 Socioeconomics ... 4–22
4.2.3.4 Human Health and Ecological Risk from Normal Operations ... 4–22
4.2.3.5 Human Health and Ecological Risk from Facility Accidents ... 4–23
4.2.3.6 Transportation ... 4–23
4.2.3.7 Geology and Soils ... 4–23
4.2.3.8 Water Resources ... 4–23
4.2.3.9 Ecological Resources ... 4–24
4.2.3.10 Cultural Resources ... 4–24

4.2.3.11 Land Use and Visual Resources 4–24
4.2.3.12 Infrastructure 4–24
4.2.3.13 Environmental Justice 4–25
4.2.4 U.S. Department of Energy's Y–12 National Security Complex 4–25
4.2.4.1 Meteorology, Air Quality, and Noise 4–25
4.2.4.2 Waste Management 4–25
4.2.4.3 Socioeconomics 4–26
4.2.4.4 Human Health and Ecological Risk from Normal Operations 4–26
4.2.4.5 Human Health and Ecological Risk from Facility Accidents 4–27
4.2.4.6 Transportation 4–27
4.2.4.7 Geology and Soils 4–27
4.2.4.8 Water Resources 4–27
4.2.4.9 Ecological Resources 4–28
4.2.4.10 Cultural Resources 4–28
4.2.4.11 Land Use and Visual Resources 4–28
4.2.4.12 Infrastructure 4–28
4.2.4.13 Environmental Justice 4–29
4.2.5 Other Sites 4–29
4.3 Alternative 2: Consolidated Storage 4–29
4.3.1 Meteorology, Air Quality, and Noise 4–30
4.3.2 Waste Management 4–31
4.3.3 Socioeconomics 4–33
4.3.4 Human Health and Ecological Risk from Normal Operations 4–33
4.3.5 Human Health and Ecological Risk from Facility Accidents 4–34
4.3.6 Transportation 4–37
4.3.7 Geology and Soils 4–45
4.3.8 Water Resources 4–46
4.3.9 Ecological Resources 4–47
4.3.10 Cultural Resources 4–47
4.3.11 Land Use and Visual Resources 4–47
4.3.12 Infrastructure 4–48
4.3.13 Environmental Justice 4–50
4.4 Alternative 3A: Sale of Mercury at the Maximum Allowable Market Rate 4–50
4.4.1 Meteorology, Air Quality, and Noise 4–50
4.4.2 Waste Management 4–51
4.4.3 Socioeconomics 4–52
4.4.4 Human Health and Ecological Risk from Normal Operations 4–52
4.4.5 Human Health and Ecological Risk from Facility Accidents 4–52
4.4.6 Transportation 4–52
4.4.7 Geology and Soils 4–57
4.4.8 Water Resources 4–57
4.4.9 Ecological Resources 4–58
4.4.10 Cultural Resources 4–58
4.4.11 Land Use and Visual Resources 4–58
4.4.12 Infrastructure 4–59
4.4.13 Environmental Justice 4–59
4.5 Alternative 3B: Sales to Reduce Mercury Mining 4–59
4.5.1 Impacts on Existing Storage Locations 4–60
4.5.1.1 Meteorology, Air Quality, and Noise 4–60
4.5.1.2 Waste Management 4–60

4.5.1.3 Socioeconomics ... 4–60
4.5.1.4 Human Health and Ecological Risk from Normal Operations ... 4–61
4.5.1.5 Human Health and Ecological Risk from Facility Accidents ... 4–61
4.5.1.6 Transportation ... 4–61
4.5.1.7 Geology and Soils ... 4–61
4.5.1.8 Water Resources ... 4–61
4.5.1.9 Ecological Resources ... 4–62
4.5.1.10 Cultural Resources ... 4–62
4.5.1.11 Land Use and Visual Resources ... 4–62
4.5.1.12 Infrastructure ... 4–62
4.5.1.13 Environmental Justice ... 4–63
4.5.2 Impacts on Mining ... 4–63
4.5.2.1 Domestic Mine Production ... 4–63
4.5.2.2 Impacts on World Mercury Mining ... 4–63
4.5.2.3 Impacts on Artisanal Gold Mining ... 4–64
4.5.3 Impacts at a Mercury Mining Company ... 4–64
4.5.4 Impacts at Mercury Users' Locations ... 4–64
4.6 Decontamination and Decommissioning ... 4–65
4.7 Cumulative Impacts ... 4–66
4.7.1 Methodology and Analytical Baseline ... 4–66
4.7.2 Potential Cumulative Actions ... 4–67
4.7.3 Cumulative Impacts by Site ... 4–67
4.7.3.1 New Haven Depot ... 4–68
4.7.3.1.1 Air Quality ... 4–69
4.7.3.1.2 Waste Management ... 4–69
4.7.3.1.3 Human Health Risk ... 4–69
4.7.3.1.4 Transportation Infrastructure ... 4–70
4.7.3.1.5 Employment, Site Infrastructure, and Land Use ... 4–70
4.7.3.2 Somerville Depot ... 4–71
4.7.3.2.1 Air Quality ... 4–71
4.7.3.2.2 Waste Management ... 4–71
4.7.3.2.3 Human Health Risk ... 4–72
4.7.3.2.4 Transportation Infrastructure ... 4–72
4.7.3.2.5 Employment, Site Infrastructure, and Land Use ... 4–73
4.7.3.3 Warren Depot ... 4–73
4.7.3.3.1 Air Quality ... 4–74
4.7.3.3.2 Waste Management ... 4–74
4.7.3.3.3 Human Health Risk ... 4–75
4.7.3.3.4 Transportation Infrastructure ... 4–75
4.7.3.3.5 Employment, Site Infrastructure, and Land Use ... 4–75
4.7.3.4 Y–12 ... 4–76
4.7.3.4.1 Air Quality ... 4–76
4.7.3.4.2 Waste Management ... 4–76
4.7.3.4.3 Human Health Risk ... 4–77
4.7.3.4.4 Transportation Infrastructure ... 4–78
4.7.3.4.5 Employment, Site Infrastructure, and Land Use ... 4–78
4.7.3.5 Hawthorne Army Depot ... 4–79
4.7.3.5.1 Air Quality ... 4–79
4.7.3.5.2 Waste Management ... 4–79
4.7.3.5.3 Human Health Risk ... 4–80

4.7.3.5.4 Transportation Infrastructure 4–80
4.7.3.5.5 Employment, Site Infrastructure, and Land Use 4–81
4.7.3.6 PEZ Lake Development 4–81
4.7.3.6.1 Air Quality 4–82
4.7.3.6.2 Waste Management 4–82
4.7.3.6.3 Human Health Risk 4–83
4.7.3.6.4 Transportation Infrastructure 4–83
4.7.3.6.5 Employment, Site Infrastructure, and Land Use 4–83
4.7.3.7 Utah Industrial Depot 4–83
4.7.3.7.1 Air Quality 4–84
4.7.3.7.2 Waste Management 4–85
4.7.3.7.3 Human Health Risk 4–86
4.7.3.7.4 Transportation Infrastructure 4–86
4.7.3.7.5 Employment, Site Infrastructure, and Land Use 4–86
4.7.4 Regional and Global 4–87
4.7.4.1 Mercury Concentrations 4–87
4.7.4.2 Transportation 4–87
4.7.4.3 Ozone Depletion and Global Warming 4–88
4.7.4.4 Human Health Risk 4–88
4.7.4.5 Biodiversity 4–88
4.8 Irreversible and Irretrievable Commitments of Resources 4–89
4.8.1 Land Use 4–89
4.8.2 Materials 4–89
4.8.3 Energy 4–89
4.8.4 Waste 4–89
4.9 Relationship Between Local Short-term Uses of the Environment and the Maintenance and Enhancement of Long-term Productivity 4–90
4.10 References 4–90

Chapter 5 Environmental Regulations, Permits, and Consultations

5.1 Laws, Regulations, and Executive Orders 5–1
5.1.1 Air Quality and Noise 5–3
5.1.2 Water Resources 5–4
5.1.3 Waste Management, Pollution Prevention, and Conservation 5–5
5.1.4 Biotic Resources 5–7
5.1.5 Cultural Resources 5–8
5.1.6 Worker Safety and Health 5–9
5.1.7 Transportation 5–10
5.1.8 Emergency Response 5–11
5.1.9 Other Statutes, Executives Orders, and Guidance 5–11
5.2 Permits 5–14
5.2.1 Mercury Storage 5–14
5.2.2 Mercury Sales 5–15
5.3 Consultations 5–15
5.3.1 Ecological Resources 5–15
5.3.2 Cultural Resources Consultations 5–19
5.3.3 Native American Consultations 5–20
5.4 References 5–22

Chapter 6 Glossary 6–1

Chapter 7 List of Preparers 7–1

Chapter 8 Distribution List 8–1

Chapter 9 Index 9–1

Appendix A *Federal Register* Notices
A.1 Notice of Intent A–1
A.2 Management of Excess Mercury; Expressions of Interest; Alternative Locations for the Long Term Storage of Mercury A–5
A.3 Notice of Public Scoping Meetings A–9
A.4 Notice of Availability of a Draft Environmental Impact Statement – Defense Logistics Agency A–12
A.5 Environmental Impact Statements; Notice of Availability – Environmental Protection Agency A–15

Appendix B Contractor Disclosure Statement B–1

Appendix C Facility and Activity Data
C.1 References C–12

Appendix D Cost Analysis
D.1 Introduction D–1
D.2 Mercury Usage in the United States D–1
D.3 U.S. Mercury Market History D–3
D.4 Management Alternatives D–7
D.4.1 Alternative 1—No Action D–7
D.4.2 Consolidated Storage Alternatives D–9
D.4.2.1 Alternative 2A—Consolidated Storage at the New Haven Depot D–12
D.4.2.2 Alternative 2B—Consolidated Storage at the Somerville Depot D–13
D.4.2.3 Alternative 2C—Consolidated Storage at the Warren Depot D–14
D.4.2.4 Alternative 2D—Consolidated Storage at the Hawthorne Army Depot D–15
D.4.2.5 Alternative 2E—Consolidated Storage at PEZ Lake Development D–16
D.4.2.6 Alternative 2F—Consolidated Storage at the Utah Industrial Depot D–17
D.4.3 Sales Alternatives D–18
D.4.3.1 Alternative 3A—Sale at the Maximum Allowable Market Rate D–18
D.4.3.2 Alternative 3B—Sale of Mercury Inventory to Mining Company D–19
D.5 Conclusion D–19
D.6 References D–20

Appendix E Impact Assessment Methods

E.1 Air Quality E–1
E.1.1 Description of Affected Resources E–1
E.1.2 Description of Impact Assessment E–3
E.2 Noise E–4
E.2.1 Description of Affected Resources E–4
E.2.2 Description of Impact Assessment E–5
E.3 Waste Management E–5
E.3.1 Description of Affected Resources E–5
E.3.2 Description of Impact Assessment E–6
E.4 Socioeconomics E–6
E.4.1 Description of Affected Resources E–6
E.4.2 Description of Impact Assessment E–6
E.5 Risk E–8
E.5.1 Facility Accident Risks E–8
E.5.1.1 Description of Affected Resources E–8
E.5.1.2 Description of Impact Assessment E–9
E.5.2 Transportation Risks E–9
E.5.2.1 Description of Affected Resources E–9
E.5.2.2 Description of Impact Assessment E–9
E.5.3 Human Health Risks E–11
E.5.3.1 Description of Affected Resources E–12
E.5.3.2 Description of Impact Assessment E–13
E.5.4 Ecological Risks E–14
E.5.4.1 Ecological Risk During Normal Operations E–15
E.5.4.1.1 Description of Affected Resources E–15
E.5.4.1.2 Description of Impact Assessment E–15
E.5.4.2 Ecological Risk as a Result of Facility Accidents E–15
E.5.4.2.1 Description of Affected Resources E–16
E.5.4.2.2 Description of Impact Assessment E–16
E.5.4.3 Ecological Risk as a Result of Transportation Accidents E–17
E.5.4.3.1 Description of Affected Resources E–17
E.5.4.3.2 Description of Impact Assessment E–17
E.6 Geology and Soils E–17
E.6.1 Description of Affected Resources E–17
E.6.2 Description of Impact Assessment E–18
E.7 Water Resources E–20
E.7.1 Description of Affected Resources E–20
E.7.2 Description of Impact Assessment E–20
E.7.2.1 Water Use and Availability E–21
E.7.2.2 Water Quality E–21
E.7.2.3 Waterways and Floodplains E–23
E.8 Ecological Resources E–23
E.8.1 Description of Affected Resources E–23
E.8.2 Description of Impact Assessment E–23
E.8.3 Nonsensitive Habitat Impacts E–24
E.8.4 Sensitive Habitat Impacts E–25
E.9 Cultural Resources E–25
E.9.1 Description of Affected Resources E–25
E.9.2 Description of Impact Assessment E–25

E.10 Land Use and Visual Resources E–26
E.10.1 Land Use E–26
E.10.1.1 Description of Affected Resources E–26
E.10.1.2 Description of Impact Assessment E–26
E.10.2 Visual Resources E–27
E.10.2.1 Description of Affected Resources E–27
E.10.2.2 Description of Impact Assessment E–27
E.11 Infrastructure E–28
E.11.1 Description of Affected Resources E–28
E.11.2 Description of Impact Assessment E–28
E.12 Environmental Justice E–29
E.12.1 Description of Affected Resources E–30
E.12.2 Description of Impact Assessment E–31
E.13 Cumulative Impacts E–31
E.14 Cost Analysis Methodology E–33
E.15 References E–33

Appendix F Construction of a New Mercury Storage Building

F.1 Facility Characteristics F–1
F.2 Potential Environmental Impacts F–4
F.2.1 Meteorology, Air Quality, and Noise F–4
F.2.2 Waste Management F–4
F.2.3 Socioeconomics F–5
F.2.4 Health and Safety F–5
F.2.5 Geology and Soils F–5
F.2.6 Water Resources F–6
F.2.7 Ecological Resources F–6
F.2.8 Cultural Resources F–7
F.2.9 Land Use and Visual Resources F–7
F.2.10 Infrastructure F–7
F.2.11 Environmental Justice F–8
F.3 References F–8

Appendix G Environmental Justice Analysis

G.1 Introduction G–1
G.2 Definitions G–1
G.2.1 Minority Individuals and Populations G–1
G.2.2 Low-Income Populations and Individuals G–3
G.2.3 Disproportionately High and Adverse Human Health Effects G–3
G.2.4 Disproportionately High and Adverse Human Environmental Effects G–3
G.3 Methodology G–3
G.4 Environmental Justice Analysis G–4
G.5 Candidate Storage Sites G–4
G.5.1 New Haven Depot G–4
G.5.2 Somerville Depot G–5
G.5.3 Warren Depot G–7
G.5.4 Y–12 ..... G–8
G.5.5 Hawthorne Army Depot G–9

G.5.6 PEZ Lake Development G–10
G.5.7 Utah Industrial Depot G–12
G.6 Impacts of the Alternatives On Minorities and Low-Income Populations....G–13
G.7 References....G–14

Appendix H Cooperating Agency Agreement
H.1 U.S. Department of Energy....H–1
H.2 U.S. Environmental Protection Agency H–7

Appendix I Consultations
I.1 DNSC Consultation Correspondence.... I–1
I.2 Federal, State, and Native American Consultation Correspondence.... I–51

List of Figures

Figure ES–1. Locations of Current Mercury Storage Sites and Non-DNSC Candidate Consolidated Storage Sites....ES–3
Figure ES–2. Alternatives for the Management of DNSC Excess Mercury Inventory....ES–5

Figure 1–1. Locations of Current Mercury Storage Sites and Non-DNSC Candidate Consolidated Storage Sites.... 1–2
Figure 1–2. The Mercury Cycle.... 1–5
Figure 1–3. Alternatives for the Management of DNSC Excess Mercury Inventory.... 1–7

Figure 2–1. Typical Mercury Storage Flask Dimensions.... 2–2
Figure 2–2. New Haven Depot Site Layout.... 2–5
Figure 2–3. Somerville Depot Site Layout 2–6
Figure 2–4. Warren Depot Site Layout.... 2–7
Figure 2–5. U.S. Department of Energy's Y–12 National Security Complex Area.... 2–8
Figure 2–6. Hawthorne Army Depot Site Layout.... 2–12
Figure 2–7. PEZ Lake Development Site Layout 2–13
Figure 2–8. Utah Industrial Depot Site Layout.... 2–14

Figure 3–1. Surface Water Features at the New Haven Depot, Indiana.... 3–12
Figure 3–2. Populations Residing in Allen County, Indiana, in 1990 and 2000.... 3–19
Figure 3–3. Percent Populations Living Within 10 Miles of the New Haven Depot in 2000.... 3–19
Figure 3–4. Surface Water Features at the Somerville Depot, New Jersey.... 3–28
Figure 3–5. Populations Residing in Somerset County, New Jersey, in 1990 and 2000 3–34
Figure 3–6. Percent Populations Living Within 10 Miles of the Somerville Depot in 2000 3–35
Figure 3–7. Surface Water Features at the Warren Depot, Ohio 3–44
Figure 3–8. Populations Residing in Trumbull County, Ohio, in 1990 and 2000 3–50
Figure 3–9. Percent Populations Living Within 10 Miles of the Warren Depot in 2000.... 3–51
Figure 3–10. Surface Water Features at the U.S. Department of Energy's Y–12 National Security Complex Area, Tennessee.... 3–61
Figure 3–11. Populations Residing in Anderson County, Tennessee, in 1990 and 2000 3–70
Figure 3–12. Percent Populations Living Within 10 Miles of Y–12 in 2000 3–71

Figure 3–13. Surface Water Features at the Hawthorne Army Depot, Nevada 3–79
Figure 3–14. Populations Residing in Mineral County, Nevada, in 1990 and 2000..... 3–87
Figure 3–15. Percent Populations Living Within 10 Miles of the Hawthorne Army Depot in 2000..... 3–88
Figure 3–16. Surface Water Features at the PEZ Lake Development, New York 3–97
Figure 3–17. Populations Residing in Seneca County, New York, in 1990 and 2000..... 3–104
Figure 3–18. Percent Populations Living Within 10 Miles of the Seneca Army Depot in 2000 3–104
Figure 3–19. Surface Water Features at the Utah Industrial Depot, Utah..... 3–113
Figure 3–20. Populations Residing in Tooele County, Utah, in 1990 and 2000..... 3–120
Figure 3–21. Percent Populations Living Within 10 Miles of the Utah Industrial Depot in 2000..... 3–120

Figure 4–1. Risk (Frequency and Consequence) Ranking Matrix 4–4

Figure D–1. Mercury Cycle in the United States.....D–1
Figure D–2. Domestic Use of Mercury D–2
Figure D–3. Sources of Mercury, 1971 through 1997.....D–4
Figure D–4. Demand Mirrors Supply.....D–5
Figure D–5. Price Relates Inversely to Supply.....D–5
Figure D–6. Industry Cross-Section D–6
Figure D–7. Secondary Production D–6

Figure F–1. Exterior of Mercury Storage Building..... F–1
Figure F–2. Typical Mercury Storage Layout..... F–2

Figure G–1. Locations of Current Mercury Storage Sites and Non-DNSC Candidate Consolidated Storage Sites.....G–2
Figure G–2. Populations Residing in Allen County, Indiana, in 1990 and 2000.....G–4
Figure G–3. Percent Populations Living Within 10 Miles of the New Haven Depot in 2000.....G–5
Figure G–4. Populations Residing in Somerset County, New Jersey, in 1990 and 2000 .....G–6
Figure G–5. Percent Populations Living Within 10 Miles of the Somerville Depot in 2000 .....G–6
Figure G–6. Populations Residing in Trumbull County, Ohio, in 1990 and 2000 .....G–7
Figure G–7. Percent Populations Living Within 10 Miles of the Warren Depot in 2000.....G–8
Figure G–8. Populations Residing in Anderson County, Tennessee, in 1990 and 2000 .....G–8
Figure G–9. Percent Populations Living Within 10 Miles of Y–12 in 2000 .....G–9
Figure G–10. Populations Residing in Mineral County, Nevada, in 1990 and 2000.....G–9
Figure G–11. Percent Populations Living Within 10 Miles of the Hawthorne Army Depot in 2000.....G–10
Figure G–12. Populations Residing in Seneca County, New York, in 1990 and 2000.....G–11
Figure G–13. Percent Populations Living Within 10 Miles of the Seneca Army Depot in 2000 .....G–11
Figure G–14. Populations Residing in Tooele County, Utah, in 1990 and 2000.....G–12
Figure G–15. Percent Populations Living Within 10 Miles of the Utah Industrial Depot in 2000.....G–13

List of Tables

Table ES–1. Impact Categories and Definitions ES–7
Table ES–2. Risk Categories and Definitions.....ES–7
Table ES–3. Comparison of the Impacts of Mercury Management Alternatives ES–8
Table ES–4. Summary of Cumulative Impacts and Risks at Potential Mercury Management Locations ES–10

Table 1–1. Stockpile Sales of Mercury 1–3
Table 1–2. DNSC Mercury Stockpile 1–4

Table 2–1. Impact Categories and Definitions 2–20
Table 2–2. Risk Categories and Definitions 2–21
Table 2–3. Comparison of the Impacts of Mercury Management Alternatives 2–22
Table 2–4. Summary of Impacts—Air Quality and Noise 2–25
Table 2–5. Summary of Impacts—Waste Management 2–27
Table 2–6. Summary of Impacts—Socioeconomics 2–29
Table 2–7. Summary of Impacts—Human Health and Ecological Risk from Normal Operations 2–31
Table 2–8. Summary of Impacts—Human Health and Ecological Risk from Facility Accidents 2–33
Table 2–9. Summary of Impacts—Transportation Risk 2–35
Table 2–10. Summary of Impacts—Water Resources 2–37
Table 2–11. Summary of Impacts—Land Use 2–39
Table 2–12. Summary of Impacts—Infrastructure 2–41
Table 2–13. Summary of Impacts—Environmental Justice 2–44
Table 2–14. Costs of the Mercury Management Alternatives ($) 2–46

Table 3–1. Resources Evaluated and Regions of Influence for the Affected Environment 3–3
Table 3–2. New Haven Depot-Wide Infrastructure Characteristics 3–17
Table 3–3. New Jersey Maximum Allowable Noise Levels from Industrial and Commercial Activities (Decibels) 3–22
Table 3–4. Threatened and Endangered Species, Species of Concern, and Sensitive Species Occurring in the Vicinity of the Somerville Depot 3–31
Table 3–5. Somerville Depot-Wide Infrastructure Characteristics 3–33
Table 3–6. Warren Depot-Wide Infrastructure Characteristics 3–49
Table 3–7. Modeled Ambient Air Concentrations from Oak Ridge Reservation Sources in 1998 and Regional Ambient Monitored Concentrations in 2000 3–53
Table 3–8. City of Oak Ridge Maximum Allowable Noise Levels Applicable to the Oak Ridge Reservation 3–55
Table 3–9. Threatened and Endangered Species, Species of Concern, and Sensitive Species Occurring in the Vicinity of the Oak Ridge Reservation (not including the Clinch River) 3–65
Table 3–10. Y–12 National Security Complex Infrastructure Characteristics 3–68
Table 3–11. Threatened and Endangered Species, Species of Concern, and Sensitive Species Occurring in the Vicinity of the Hawthorne Army Depot 3–84
Table 3–12. Hawthorne Army Depot-Wide Infrastructure Characteristics 3–86
Table 3–13. PEZ Lake Development-Wide Infrastructure Characteristics 3–102
Table 3–14. Threatened and Endangered Species and Species of Special Concern Occurring in the Vicinity of the Utah Industrial Depot 3–117
Table 3–15. Utah Industrial Depot-Wide Infrastructure Characteristics 3–118

Table 4–1. Impact Categories and Definitions 4–2
Table 4–2. Frequency Categories 4–2
Table 4–3. Human Health and Ecological Risk Categories and Definitions 4–3
Table 4–4. Comparison of the Impacts of Mercury Management Alternatives 4–5
Table 4–5. Accidents Evaluated for the No Action Alternative and Postulated Consequences for Human Inhalation 4–11
Table 4–6. Exposure Concentrations, Consequence Levels for Human and Ecological Receptors Exposed to Mercury Due to Onsite Forklift Fire 4–12

Table 4–7. Consolidated Storage Alternatives 4–29
Table 4–8. Estimated Additional Traffic at the Current Mercury Storage Locations Associated with Shipping to the Consolidated Storage Location 4–30
Table 4–9. Transportation Requirements Contributing to Air Quality and Noise Impacts Under the Consolidated Storage Alternative 4–31
Table 4–10. Potential Waste Management Impacts Under the Consolidated Storage Alternative 4–32
Table 4–11. Labor Requirements Under the Consolidated Storage Alternative 4–33
Table 4–12. Maximum Estimated Mercury Exposures Associated with Normal Operations Under the Consolidated Storage Alternative 4–34
Table 4–13. Accidents Evaluated for the Consolidated Storage Alternative and Postulated Consequences for Human Inhalation 4–35
Table 4–14. Risk Levels for Exposure of Ecological Receptors to Mercury After an Onsite Forklift Fire 4–36
Table 4–15. Transportation Requirements Under the Consolidated Storage Alternative 4–37
Table 4–16. Exposure Point Concentrations for Soil Deposition During Offsite Truck and Rail Fires (Chronic Health Effects) 4–38
Table 4–17. Exposure Point Concentrations in Air for Offsite Truck and Rail Fires (Acute Health Effects) 4–38
Table 4–18. Exposure Point Concentrations in Air for Offsite Truck and Rail Spills Without Fire (Acute Health Effects) 4–39
Table 4–19. Exposure Concentrations, Consequence Levels for Ecological Receptors Exposed to Mercury from a Truck Fire 4–39
Table 4–20. Risk Levels for Exposure of Ecological Receptors to Mercury after a Truck Fire 4–41
Table 4–21. Exposure Concentrations, Consequence Levels for Ecological Receptors Exposed to Mercury from a Railcar Fire 4–42
Table 4–22. Risk Levels for Exposure of Ecological Receptors to Mercury after a Railcar Fire 4–44
Table 4–23. Storage Space Requirements at Each Location Under the Consolidated Storage Alternative 4–48
Table 4–24. Electrical Consumption Under the Consolidated Storage Alternative (MWh/yr) 4–48
Table 4–25. Fuel Consumption Under the Consolidated Storage Alternative 4–49
Table 4–26. Water Consumption Under the Consolidated Storage Alternative (gal/yr) 4–49
Table 4–27. Summed Accident Frequencies for Delivery of Mercury from the Storage Facility to Foreign End Users (yr) 4–53
Table 4–28. Exposure Point Concentrations in Air for Offsite Truck and Railcar Fires (Acute Health Effects) 4–55
Table 4–29. Exposure Point Concentrations in Air for Offsite Truck and Rail Spills Without Fire (Acute Health Effects) 4–55
Table 4–30. Risk Levels for Exposure of Ecological Receptors to Mercury After a Truck Fire 4–56
Table 4–31. Sites That Would Be Decontaminated and Decommissioned During the 40-Year Period of Analysis by Alternative 4–65
Table 4–32. Actions That May Contribute to Cumulative Impacts 4–68
Table 4–33. Cumulative Waste Generation at the New Haven Depot Over a 40-Year Period 4–69
Table 4–34. Maximum Cumulative Employment, Site Infrastructure, and Land Use Requirements at the New Haven Depot 4–70
Table 4–35. Cumulative Waste Generation at the Somerville Depot Over a 40-Year Period 4–72
Table 4–36. Maximum Cumulative Employment, Site Infrastructure, and Land Use Requirements at the Somerville Depot 4–73
Table 4–37. Cumulative Waste Generation at the Warren Depot Over a 40-Year Period 4–74
Table 4–38. Maximum Cumulative Employment, Site Infrastructure, and Land Use Requirements at the Warren Depot 4–76

Table 4–39. Cumulative Waste Generation at Y–12 Over a 40-Year Period 4–77
Table 4–40. Cumulative Impacts to the Public from Exposure to Hazardous Materials at the Y–12 Site Boundary 4–77
Table 4–41. Cumulative Impacts to Workers from Exposure to Hazardous Materials on the Y–12 Site 4–78
Table 4–42. Maximum Cumulative Employment, Site Infrastructure, and Land Use Requirements at Y–12 4–79
Table 4–43. Cumulative Waste Generation at the Hawthorne Army Depot Over a 40-Year Period 4–80
Table 4–44. Maximum Cumulative Employment, Site Infrastructure, and Land Use Requirements at the Hawthorne Army Depot 4–81
Table 4–45. Cumulative Waste Generation at the PEZ Lake Development/Former Seneca Army Depot Over a 40-Year Period 4–82
Table 4–46. Maximum Cumulative Employment, Site Infrastructure, and Land Use Requirements at the PEZ Lake Development/Former Seneca Army Depot 4–84
Table 4–47. Cumulative Waste Generation at the Utah Industrial Depot Over a 40-Year Period 4–85
Table 4–48. Maximum Cumulative Employment, Site Infrastructure, and Land Use Requirements at the Utah Industrial Depot 4–87

Table 5–1. Federal Environmental Statutes, Executive Orders, and Guidance 5–1
Table 5–2. Summary of Consultations 5–17

Table C–1. Information on the No Action and Consolidated Storage Alternatives for Existing Storage Facilities C–2
Table C–2. Information on the Consolidated Storage Alternative for Additional Candidate Sites C–9
Table C–3. Information for the Sales Alternatives C–12

Table D–1. Estimated United States Market D–3
Table D–2. No Action Costs ($) D–7
Table D–3. Detailed No Action Costs for Years 1 to 39 ..... D–8
Table D–4. Detailed No Action Costs for the Last Year of Storage D–8
Table D–5. Consolidation Costs (Transportation by Truck) ($) D–11
Table D–6. Consolidation Costs (Transportation by Rail) ($) D–11
Table D–7. Detailed Costs for Consolidation at the New Haven Depot D–12
Table D–8. Detailed Costs for Consolidation at the Somerville Depot D–13
Table D–9. Detailed Costs for Consolidation at the Warren Depot D–14
Table D–10. Detailed Costs for Consolidation at the Hawthorne Army Depot D–15
Table D–11. Detailed Costs for Consolidation at PEZ Lake Development D–16
Table D–12. Detailed Costs for Consolidation at the Utah Industrial Depot D–17
Table D–13. Summary Costs for the Sales Alternatives D–18
Table D–14. Storage Costs Until Mercury is Sold ($) D–19
Table D–15. Summary Costs ($) D–19

Table E–1. Ambient Air Quality Standards E–2
Table E–2. Impact Assessment Protocol for Air Quality E–4
Table E–3. Impact Assessment Protocol for Noise E–5
Table E–4. Impact Assessment Protocol for Waste Management E–6
Table E–5. Impact Assessment Protocol for Socioeconomics E–7
Table E–6. Impact Assessment Protocol for Transportation E–10
Table E–7. Impact Assessment Protocol for Human Health Risk E–12

Table E–8. Ecological Screening Values for Mercury in Soil and Surface Water E–15
Table E–9. Impact Assessment Protocol for Ecological Risk E–16
Table E–10. Impact Assessment Protocol for Geology and Soils E–18
Table E–11. The Modified Mercalli Intensity Scale of 1931, with Generalized Correlations to Magnitude, Earthquake Classification, and Peak Ground Acceleration E–19
Table E–12. Impact Assessment Protocol for Water Use and Availability E–21
Table E–13. Impact Assessment Protocol for Water Quality E–22
Table E–14. Impact Assessment Protocol for Ecological Resources E–24
Table E–15. Impact Assessment Protocol for Cultural Resources E–26
Table E–16. Impact Assessment Protocol for Land Use and Visual Resources E–27
Table E–17. Impact Assessment Protocol for Infrastructure E–28
Table E–18. Impact Assessment Protocol for Environmental Justice E–29
Table E–19. Selected Indicators of Cumulative Impact E–32
Table E–20. Other Present and Reasonably Foreseeable Actions Considered in the Cumulative Impact Assessment E–32

Table F–1. Resource Estimate for Construction of a 200,000-Square Foot Mercury Storage Building F–2
Table F–2. Labor Estimate for Construction of a 200,000-Square Foot Mercury Storage Building F–3

List of Acronyms

ATSDR	Agency for Toxic Substances and Disease Registry
BLM	Bureau of Land Management
BRAC	U.S. Army Base Realignment and Closure
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
D&D	decontamination and decommissioning
DLA	Defense Logistics Agency
DNSC	Defense National Stockpile Center
DoD	U.S. Department of Defense
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
EA	environmental assessment
ECDC	East Carbon Development Corporation
EIS	environmental impact statement
EO	Executive order
EPA	U.S. Environmental Protection Agency
EPC	exposure point concentration
FONSI	Finding of No Significant Impact
FTE	full-time equivalent
HQ	Hazard Quotient
ISC	Installation Spill Contingency
MM EIS	*Mercury Management Environmental Impact Statement*
MMI	Modified Mercali Intensity
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NIOSH	National Institute for Occupational Safety and Health
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
ORR	Oak Ridge Reservation
OSHA	Occupational Safety and Health Administration
PM_{10}	particulate matter less than or equal to 10 microns in diameter
PSD	prevention of significant deterioration
RCRA	Resource Conservation and Recovery Act
ROD	Records of Decision
ROI	region of influence

SHPO	State Historic Preservation Officer
SPCC	Spill Prevention Control and Countermeasures
SWPPP	Storm Water Pollution Prevention Plan
USFWS	U.S. Department of the Interior, Fish and Wildlife Service
U.S.C.	United States Code
USGS	U.S. Geological Survey
VRM	Visual Resource Management
Y–12	U.S. Department of Energy's Y–12 National Security Complex.

Units of Measure

°C	degrees Celsius (Centigrade)
°F	degrees Fahrenheit
µg	microgram
46°26'07"	46 degrees, 26 minutes, 7 seconds
cm	centimeter
dB	decibel
dBA	decibel, A-weighted
ft	foot
ft^2	square foot
ft^3	cubic foot
g	gram
g	gravitational acceleration
gal	gallon
ha	hectare
hr	hour (in compound units)
in	inch
kg	kilogram
km	kilometer
km^2	square kilometers
kV	kilovolt
kVa	kilovolt-ampere
KWh	kilowatt-hour
l	liter
lb	pound
m	meter
m^2	square meter
m^3	cubic meter
mg	milligram
mi	mile
min	minute
mph	miles per hour
MW	megawatt
MWe	megawatt electric
MWh	megawatt-hour
pH	hydrogen ion concentration
$PM_{2.5}$	particulate matter less than or equal to 2.5 µm in diameter
PM_{10}	particulate matter less than or equal to 10 µm in diameter

s	second
ton	short ton
yd	yard
yd^3	cubic yard
yr	year (in compound units)

Metric Conversion Chart

To Convert Into Metric			To Convert Out of Metric		
If You Know	**Multiply By**	**To Get**	**If You Know**	**Multiply By**	**To Get**
Length					
inches	2.54	centimeters	centimeters	0.3937	inches
feet	30.48	centimeters	centimeters	0.0328	feet
feet	0.3048	meters	meters	3.281	feet
yards	0.9144	meters	meters	1.0936	yards
miles	1.60934	kilometers	kilometers	0.6214	miles
Area					
sq. inches	6.4516	sq. centimeters	sq. centimeters	0.155	sq. inches
sq. feet	0.092903	sq. meters	sq. meters	10.7639	sq. feet
sq. yards	0.8361	sq. meters	sq. meters	1.196	sq. yards
acres	0.40469	hectares	hectares	2.471	acres
sq. miles	2.58999	sq. kilometers	sq. kilometers	0.3861	sq. miles
Volume					
fluid ounces	29.574	milliliters	milliliters	0.0338	fluid ounces
gallons	3.7854	liters	liters	0.26417	gallons
cubic feet	0.028317	cubic meters	cubic meters	35.315	cubic feet
cubic yards	0.76455	cubic meters	cubic meters	1.308	cubic yards
Weight					
ounces	28.3495	grams	grams	0.03527	ounces
pounds	0.45360	kilograms	kilograms	2.2046	pounds
short tons	0.90718	metric tons	metric tons	1.1023	short tons
Temperature					
Fahrenheit	Subtract 32 then multiply by 5/9ths	Celsius	Celsius	Multiply by 9/5ths, then add 32	Fahrenheit

Metric Prefixes

Prefix	Symbol	Multiplication Factor
exa-	E	1 000 000 000 000 000 000 = 10^{18}
peta-	P	1 000 000 000 000 000 = 10^{15}
tera-	T	1 000 000 000 000 = 10^{12}
giga-	G	1 000 000 000 = 10^{9}
mega-	M	1 000 000 = 10^{6}
kilo-	k	1 000 = 10^{3}
hecto-	h	100 = 10^{2}
deka-	da	10 = 10^{1}
deci-	d	0.1 = 10^{-1}
centi-	c	0.01 = 10^{-2}
milli-	m	0.001 = 10^{-3}
micro-	µ	0.000 001 = 10^{-6}
nano-	n	0.000 000 001 = 10^{-9}
pico-	p	0.000 000 000 001= 10^{-12}
femto-	f	0.000 000 000 000 001 = 10^{-15}
atto-	a	0.000 000 000 000 000 001= 10^{-18}