

[6450-01-P]

DEPARTMENT OF ENERGY

Record of Decision for the Long-Term Management and Storage of Elemental Mercury and Designation of a Long-Term Management and Storage Facility under the Mercury Export Ban Act of 2008

AGENCY: Office of Environmental Management, U.S. Department of Energy.

ACTION: Record of decision and facility designation.

SUMMARY: The U.S. Department of Energy (DOE) is issuing this Record of Decision (ROD) for the long-term management and storage of elemental mercury to meet the purpose and need for agency action, which is to fulfill DOE's statutory responsibility for long-term management and storage of elemental mercury generated within the United States as required by the *Mercury Export Ban Act of 2008* and the *Frank R. Lautenberg Chemical Safety for the 21st Century Act* (together referred to herein as MEBA).

ADDRESSES: For copies of this ROD/MEBA Designation or the Mercury Storage SEIS-II, please contact Timothy Herald at U.S. Department of Energy, Office of Environmental Management, Office of Waste and Materials Management (EM-4.2), 1000 Independence Avenue, S.W., Washington, DC, 20585 or via email, *Timothy.Herald@em.doe.gov*. Electronic files can be accessed at *<https://www.energy.gov/nepa/listings/records-decision-rod>*.

FOR FURTHER INFORMATION CONTACT: For further information on the management and storage of elemental mercury, please contact Timothy Herald at *Timothy.Herald@em.doe.gov* or visit *<https://www.energy.gov/em/long-term-management-and-storage-elemental-mercury>*; by telephone: 240-243-8753. For general information on the Office of Environmental Management's *National Environmental Policy Act of 1969* (NEPA) process,

please contact Bill Ostrum, NEPA Compliance Officer for the Office of Environmental Management, via email *William.Ostrum@hq.doe.gov*.

SUPPLEMENTARY INFORMATION:

This ROD is issued for the *Long-Term Management and Storage of Elemental Mercury Supplemental Environmental Impact Statement* (DOE/EIS-0423-S2) (Mercury Storage SEIS-II), which evaluates the storage of up to 7,000 metric tons (7,700 tons) of elemental mercury in one or more existing facilities at alternative locations including a government facility at the Hawthorne Army Depot near Hawthorne, Nevada, and seven commercial candidate locations: Waste Control Specialists, LLC (WCS) near Andrews, Texas; Bethlehem Apparatus Company in Bethlehem, Pennsylvania; Perma-Fix Diversified Scientific Services, Inc., in Kingston, Tennessee; Veolia Environmental Services in Gum Springs, Arkansas; and Clean Harbors Environmental Services, with three alternative facilities in Pecatonica, Illinois; Greenbrier, Tennessee; and Tooele, Utah. This ROD announces DOE's decision to select WCS from its preferred alternative of selecting one or more of the existing commercial facilities evaluated in the SEIS-II. DOE is also issuing this document to designate a facility of the DOE for the long-term management and storage of elemental mercury generated within the United States in accordance with MEBA. In addition to the analysis in the Mercury Storage SEIS-II, DOE based its MEBA facility designation decision on a combination of factors including schedule, permitting, policy and technical considerations, as well as cost information (including information gained during an independent and competitive procurement process). DOE designates WCS as that facility in accordance with MEBA.

A. Background

The *Mercury Export Ban Act of 2008* (Pub. L. 110-414) and the 2016 *Frank R. Lautenberg Chemical Safety for the 21st Century Act* (Pub. L. 114-182) (together referred to herein as MEBA), address, among other things, the export and long-term management and storage of elemental mercury. MEBA prohibits the export of elemental mercury from the United States (U.S.) (with certain essential use exemptions). MEBA also directs the Secretary of the U.S. Department of Energy (DOE) to designate a facility or facilities of DOE for the long-term management and storage of elemental mercury generated within the U.S. (42 U.S.C. 6939f(a)(1)). MEBA further provides the Secretary of Energy with the authority to establish such terms, conditions, and procedures as are necessary to carry out this long-term management and storage function (42 U.S.C. 6939f(f)). Consistent with these statutory provisions, and based on longstanding authorities and practice, DOE construes the term “facility of DOE” to include a facility leased from a commercial entity or another Federal agency over which DOE provides an appropriate level of responsibility and control.¹

The primary sources of elemental mercury in the United States include mercury generated as a byproduct of the gold-mining process and mercury reclaimed from recycling and waste-recovery activities. In addition, the DOE National Nuclear Security Administration (NNSA) stores at the Oak Ridge Reservation in Tennessee approximately 1,200 metric tons (1,300 tons) of elemental mercury that was acquired in support of NNSA’s mission. As identified in the Mercury Storage SEIS-II, this NNSA elemental mercury is included in the

¹ DOE has further analyzed the meaning of “facility or facilities of the [DOE]” in a memo entitled The Meaning of “Facility or Facilities of the Department of Energy” in the Mercury Export Ban Act of 2008, in the Administrative Record.

SEIS-II (for analytical purposes), even though it is currently designated as a commodity and not waste.

In 2011, DOE prepared the *Final Long-Term Management and Storage of Elemental Mercury Environmental Impact Statement* (DOE/EIS-0423) (2011 Mercury Storage EIS) to evaluate seven candidate locations for a facility for management and storage of elemental mercury, as well as a No-Action Alternative. The locations included use of existing facilities, new facility construction, or both. The candidate locations evaluated in 2011 were the DOE Grand Junction Disposal site near Grand Junction, Colorado (new construction); DOE Hanford Site near Richland, Washington (new construction); Hawthorne Army Depot (HWAD) near Hawthorne, Nevada (modification of existing facilities); DOE Idaho National Laboratory near Idaho Falls, Idaho (new construction and modification of an existing facility); Kansas City Plant in Kansas City, Missouri (existing facility); DOE Savannah River Site near Aiken, South Carolina (new construction); and the Waste Control Specialists LLC (WCS) site near Andrews, Texas (new construction and an existing facility).

In 2013, DOE prepared the *Final Long-Term Management and Storage of Elemental Mercury Supplemental Environmental Impact Statement* (DOE/EIS-0423-S1) (2013 Mercury Storage SEIS) to evaluate three additional alternative locations, all in the vicinity of the Waste Isolation Pilot Plant near Carlsbad, New Mexico (all new construction). The 2013 Mercury Storage SEIS also updated some of the relevant analyses for alternatives presented in the 2011 Mercury Storage EIS.

For the 2011 Mercury Storage EIS and the 2013 Mercury Storage SEIS, DOE estimated that up to approximately 10,000 metric tons (11,000 tons) of elemental mercury would need to be managed and stored at the DOE-designated facility during a 40-year period assumed for

analysis purposes. In the 2011 Mercury Storage EIS and the 2013 Mercury Storage SEIS, DOE identified WCS as the preferred alternative.

On December 6, 2019, DOE issued a Record of Decision (ROD) to document its designation of the WCS site near Andrews, Texas, for the management and storage of up to 6,800 metric tons (7,480 tons) of elemental mercury in leased portions of existing buildings at the WCS site (84 FR 66890). The ROD was supported by DOE's *Supplement Analysis of the Final Long-Term Management and Storage of Elemental Mercury Environmental Impact Statement* (DOE/EIS-0423-SA-1), which evaluated changes in environmental conditions at WCS that had occurred since the initial analyses were completed in 2011 and 2013 and determined that the long-term management and storage of up to 6,800 metric tons of elemental mercury in existing buildings at the WCS site would not constitute a substantial change from the proposal evaluated in the 2011 Mercury Storage EIS and updated in the 2013 Mercury Storage SEIS. On December 23, 2019, DOE published a rule adding 10 CFR part 955, which established the fee for long-term management and storage of elemental mercury (84 FR 70402) (Fee Rule).

Two domestic generators of elemental mercury subsequently filed complaints in U.S. District Court challenging, among other things, the validity of the Fee Rule and the designation of WCS (*Coeur Rochester, Inc. v. Brouillette et al.*, Case No. 1:19-cv-03860-RJL [D.D.C. filed December 31, 2019] and *Nevada Gold Mines LLC v. Brouillette et al.*, Case No. 1:20-cv-00141-RJL [D.D.C. filed January 17, 2020]). As part of a settlement agreement, DOE withdrew the designation of WCS in an amended ROD on October 6, 2020 (85 FR 63105) and subsequently removed Part 955 (89 FR 33203).

On May 24, 2021, DOE issued a Notice of Intent in the *Federal Register* (86 FR 27838) notifying the public of DOE's intent to prepare a second *Long-Term Management and Storage of*

Elemental Mercury Supplemental Environmental Impact Statement (DOE/EIS-0423-S2)
(Mercury Storage SEIS-II).

On July 8, 2022, DOE published a Notice of Availability (NOA) in the *Federal Register* (87 FR 40830) of the Draft Mercury Storage SEIS-II, inviting public comment during the 45-day public comment period and announcing two virtual public hearings. The U.S. Environmental Protection Agency (EPA) published an NOA in the *Federal Register* on the same day, which officially began the 45-day comment period on the Draft Mercury Storage SEIS-II (87 FR 40838). In response to a request from the public, DOE extended the public comment period on the Draft Mercury Storage SEIS-II and issued a *Federal Register* notice on August 12, 2022 (87 FR 49817), announcing a 15-day extension. The public comment period ended on September 6, 2022.

The Draft Mercury Storage SEIS-II evaluated the management and storage of up to 7,000 metric tons (7,700 tons) of elemental mercury in one or more permitted, existing facilities at alternative locations including HWAD, a government facility near Hawthorne, Nevada, and seven commercial candidate locations: WCS; Bethlehem Apparatus Company in Bethlehem, Pennsylvania; Perma-Fix Diversified Scientific Services, Inc., in Kingston, Tennessee; Veolia Environmental Services in Gum Springs, Arkansas; and Clean Harbors Environmental Services, with three alternative facilities in Pecatonica, Illinois; Greenbrier, Tennessee; and Tooele, Utah. In the Draft Mercury Storage SEIS-II, DOE identified its preferred alternative to select one or more of the existing commercial facilities for long-term management and storage of elemental mercury.

On February 9, 2024, EPA published in the *Federal Register* an NOA for the Final Mercury Storage SEIS-II (89 FR 9147). The Final Mercury Storage SEIS-II addressed

comments received on the Draft Mercury Storage SEIS-II. Consistent with the Draft Mercury Storage SEIS-II, DOE identified its preferred alternative to select one or more of the existing commercial facilities for future designation as the long-term elemental mercury management and storage facility.

In parallel with the NEPA process, DOE conducted a competitive procurement action to identify a company that could provide (1) leased space for the long-term management and storage of elemental mercury generated in the United States and (2) the associated services necessary for the long-term management and storage of elemental mercury. Information gained during the procurement action has informed the MEBA designation of the long-term elemental mercury management and storage facility.

B. Purpose and Need for Agency Action

MEBA prohibits the export of elemental mercury from the United States (subject to certain essential use exemptions) and, as of October 14, 2008, prohibits a Federal agency from conveying, selling, or distributing to any other Federal agency, any state or local government agency, or any private individual or entity any elemental mercury under the control or jurisdiction of the Federal agency (with certain limited exceptions).

Section 5 of MEBA (42 U.S.C. 6939f(a)(1)) directs the Secretary of Energy to designate a facility or facilities of the DOE for the purpose of long-term management and storage of elemental mercury generated within the United States. In the Mercury Storage SEIS-II (Section 2.1.2), DOE estimated the storage capacity needed for the 40-year period used for analysis to be up to 7,000 metric tons (7,700 tons) of elemental mercury. Because the statutory milestone date for the designated facility to become operational (January 1, 2019, see 42 U.S.C. 6939f(a)(2))

has passed, DOE also identified a need to designate a facility and begin accepting elemental mercury as soon as practicable.

C. Proposed Action

As identified in the Mercury Storage SEIS-II, DOE proposed to designate one or more facilities for the long-term management and storage of elemental mercury in accordance with MEBA.

D. Alternatives

As described in Section 2.8 of the Mercury Storage SEIS-II, DOE considered but dismissed the following from detailed analysis:

- Storage-related alternatives and certain transportation methods eliminated in the 2011 Mercury Storage SEIS,
- Treatment and disposal options,
- Commercial facilities described in Section 2.2 of the Mercury Storage SEIS-II,
- Sites within the DOE complex that met its objective criteria for consideration as a reasonable alternative, but as described in Section 2.2.4 of the Mercury Storage SEIS-II, no reasonable alternatives were identified, and
- Construction of a new facility.

While previously addressed in the 2011 EIS and 2013 SEIS, new facility construction was an alternative that was considered but dismissed from further analysis in the Mercury Storage SEIS-II based on intervening developments. The primary reasons that new construction was not considered to be a reasonable alternative in the SEIS-II include:

- (1) Construction of a new facility generally would not meet the purpose and need for agency action because schedule delays associated with new construction would

further exacerbate the missed statutory deadline for the DOE-designated management and storage facility to be operational by January 1, 2019. When compared to using existing facilities, DOE estimates that construction of a new facility would add at least five years to the time needed for the facility to be ready for the long-term management and storage of elemental mercury, delaying DOE's receipt of elemental mercury even further beyond the deadline prescribed by Congress and subjecting DOE to additional financial liabilities under 42 U.S.C. 6939f(b)(1)(B)(iv), and

(2) In 2020, a petition was filed with EPA for a site-specific Determination of Equivalent Treatment that would convert elemental mercury to a stabilized mercury compound for land disposal at a permitted disposal facility in Beatty, Nevada. If approved, this approach could offer a permanent disposal solution for elemental mercury in the U.S. EPA's review of the petition was ongoing during preparation of the Mercury Storage SEIS-II and no decision on the petition has been issued. However, DOE believes there is a realistic possibility that an approved treatment and disposal method for elemental mercury will be available within 10 years. If such a treatment and disposal method were to become available, it would likely decrease both the length of time the designated MEBA facility would need to store elemental mercury and the quantity of mercury to be stored there at any given time. Use of an existing facility allows for greater managerial flexibility to accommodate a shorter storage duration and associated lower projected inventory of elemental mercury.

In addition to the No-Action Alternative, the Mercury Storage SEIS-II identified and evaluated the potential environmental impacts associated with implementation of the Proposed Action in existing facilities at the following reasonable alternative locations:

- Hawthorne Army Depot in Hawthorne, Nevada;
- WCS in Andrews County, Texas;
- Bethlehem Apparatus in Bethlehem, Pennsylvania;
- Perma-Fix Diversified Scientific Services, Inc., in Kingston, Tennessee;
- Veolia Environmental Services in Gum Springs, Arkansas; and
- Clean Harbors Environmental Services (facilities in Pecatonica, Illinois; Greenbrier, Tennessee; and Tooele, Utah).

In 2022, DOE issued a Request for Proposals which initiated a competitive procurement process soliciting bids from commercial facilities for long-term management and storage of elemental mercury.² DOE received two proposals. One of the proposals was subsequently withdrawn by the submitting entity. While DOE, in the Mercury Storage SEIS-II, analyzed all of the existing facilities listed above, after the solicitation, there were only two viable action alternatives - one commercial option – WCS and one non-commercial option – HWAD.

Section E describes, generally, the potential environmental impacts of all of the action alternatives. As reflected in the Mercury Storage SEIS-II, the impacts for the facilities are generally comparable. Where differences are notable, these are noted in Section E. Section E also includes additional information for WCS, as the selected alternative, to provide further comparative context.

E. Potential Environmental Impacts

As noted in the Mercury Storage SEIS-II, quantitative evaluation of potential environmental consequences under the No-Action Alternative would be highly speculative. The

² Elemental Mercury Long-Term Management and Storage Request for Proposal 89303320REM000081 (March 24, 2022), as amended (Request for Proposal).

SEIS-II qualitatively evaluates the potential environmental consequences of the various options that are available to entities under the No-Action Alternative (e.g., continued accumulation, storage at a permitted facility, or treatment and disposal in Canada). It is possible that some land, or land with more- or less-sensitive resources than those analyzed under the action alternatives, could be affected. Environmental consequences to land use and ownership, visual, geology, soils, ecological, and cultural and paleontological resource areas are dependent on the affected environment disturbed and amount of land disturbance that might occur. Potential environmental consequences to water resources would depend on the specific location and proximity to surface waterbodies and groundwater aquifers and the current use of these water resources. If elemental mercury were transported to a RCRA-permitted storage facility or to a treatment facility, the potential transportation-related consequences would not be markedly different than those predicted for the action alternatives.

Under the No-Action Alternative, the management and storage of elemental mercury may or may not be conducted in accordance with RCRA regulations. For example, long-term accumulation at ore processor sites has not necessarily been permitted for long-term storage. As such, there could be a heightened risk of facility accidents and inconsistent management and storage of elemental mercury containers. This could lead to potentially greater environmental consequences associated with air quality, occupational and public health and safety, and ecological resources. In contrast, if much of the excess elemental mercury remained at the generating facilities and was not transferred to a DOE long-term storage facility, it is reasonable to expect that environmental consequences associated with transportation would be somewhat less than those predicted to occur under the action alternatives. Although, these transportation consequences would eventually be realized if the accumulated elemental mercury were

eventually shipped offsite for storage, treatment, or disposal. If elemental mercury was transported to a RCRA-permitted treatment facility and then on to Canada for land disposal, transportation impacts would be similar to those predicted under the action alternatives. There would be no environmental consequences under the No-Action Alternative related to DOE storage at any of the candidate sites because a DOE elemental mercury storage facility(ies) would not be operated.

For the Proposed Action, the Mercury Storage SEIS-II evaluated the use of existing facilities at each of the alternative site locations for long-term management and storage of elemental mercury. In addition to operations of the facilities for long-term management and storage of elemental mercury, the analysis also included the assessment of potential impacts from the transportation of the elemental mercury from its origin sites to the long-term management and storage locations via truck. The analysis of potential environmental impacts included an evaluation of the following environmental resource areas: land use and ownership, and visual resources; geology and soils; water resources; air quality and noise; ecological resources; cultural resources; site infrastructure; waste management; occupational and public health and safety; ecological risk; socioeconomics; and environmental justice.

Land use and ownership, and visual resources. No impacts on land use or visual resources would be expected for any of the alternative sites. If DOE were to designate an action alternative(s), it would obtain a leasehold interest or other form of property interest in that facility and would ensure that any such interest would afford DOE an appropriate level of responsibility and control over the facility. Such responsibility and control would include exercising the authority necessary to ensure that the facility is managed and operated in

compliance with MEBA and other applicable legal requirements and through contractual provisions.

Additional time would be required to implement the HWAD alternative because of preparatory activities that would be required, including modifications or upgrades of multiple buildings, real estate transactions, and regulatory permitting that would not be required for the existing, permitted commercial facilities. DOE estimates the time required to complete the activities to allow receipt of elemental mercury at HWAD for long-term management and storage would be at least five years from the date that DOE designated HWAD for such use. Whereas, WCS would be capable of expeditiously accepting elemental mercury for long-term management and storage.

Geology, soils, and geologic hazards. Except for the HWAD site, no impacts to geology and soils are expected because no new construction or soil disturbance would be required. At HWAD, external modifications would require trenching for installation of needed utilities and other systems and services, resulting in negligible-to-minor impacts to previously disturbed, surrounding soils. This would also include the upgrade or addition of access roads to the modified buildings at HWAD. The area surrounding HWAD is one of high seismic activity. As discussed in the 2011 Mercury Storage EIS, while the Hawthorne, Nevada, area has historically experienced numerous earthquakes and significant ground shaking, no depot facilities have suffered damage due to earthquakes over the 60-plus years of operations. Updated USGS earthquake hazard data recharacterize the PGA at HWAD as 0.62 g (USGS 2021b). This is the upper end of the range for the sites evaluated in the Mercury Storage SEIS-II (0.05–0.62 g). There would be no new construction at the WCS site and no additional impacts to geology and

soils. The seismicity of the WCS region is on the lower end of the range of the alternative sites evaluated in the Mercury Storage SEIS-II.

Water resources. Storage of elemental mercury at any of the alternative sites would increase water use for sanitary purposes by up to 16,000 gallons per year. The increased water use would directly correlate to the number of additional personnel required during operations. No impacts to groundwater or surface water would be expected. None of the alternative sites are located within a designated 100-year regulated floodplain. The use of structural controls at the WCS Container Storage Building, such as concrete sealed floors and containment berms inside the building, would prevent release of mercury outside of the building and thus protect surface water and groundwater from potential impacts.

Air quality and noise. Impacts to air quality at each alternative site would be negligible. The transportation of elemental mercury from existing storage sites and generators over a 40-year period would release relatively small quantities of air pollutants and greenhouse gases (GHGs). The Mercury Storage SEIS-II also evaluated the social cost associated with these GHG emissions. An average of 13 truck trips per year would be required to transport the 7,000 metric tons of elemental mercury to a storage location(s). Total GHG emissions in carbon dioxide equivalent for the 40-year analysis period would be between 592 tons and 4,312 tons dependent on the facility location and whether or not pre-storage treatment³ is undertaken. The GHGs associated with WCS would be between 1,161 tons and 3,477 tons. Noise created by mercury storage operations, including transportation, would be indiscernible from existing noise levels.

³ The Mercury Storage SEIS-II evaluates transportation related impacts if elemental mercury is transported for pre-storage treatment and then transported to the designated management and storage facility, as well as impacts if the elemental mercury is only transported to the designated facility.

Ecological resources. No impacts on terrestrial resources, aquatic resources, wetlands, and threatened or endangered and other protected species would be expected for any of the alternative sites because of the use of existing buildings, which would require minimal-to-no external modifications. Because no external modifications would be expected at WCS, there would be no impacts to terrestrial, aquatic, or threatened or endangered species.

Cultural resources. Except for HWAD, there are no known prehistoric or historic cultural resources at any of the alternative site locations, and any potential unknown sites would not be impacted since elemental mercury storage would occur within existing structures with no new construction or surface disturbance planned. At HWAD, the Group 110 design storehouses that are proposed for elemental mercury storage are historic architectural properties that are part of a larger historic district, as are many of the structures at HWAD. None of the Group 110 structures would be impacted under the Proposed Action other than by proposed building modifications. These modifications would be coordinated with the Nevada State Historic Preservation Office (SHPO). If HWAD were considered for designation, DOE would further consult with the Nevada SHPO on the proposed storage building modifications to determine the potential impacts on those structures eligible for listing on the *National Register of Historic Places* and potential mitigation measures, as appropriate. The consultation process would need to be completed prior to construction activities involving the facilities at HWAD.⁴ Therefore, the key activities related to cultural resources that would need to be completed prior to any construction activities at HWAD would include: (1) designation of HWAD for long-term management and storage of elemental mercury, (2) detailed design of all modifications to specific HWAD buildings and infrastructure, and (3) closure of the consultation process with the

⁴ The consultation process under Section 106 of the *National Historic Preservation Act* can be found at: <https://www.ecfr.gov/current/title-36/chapter-VIII/part-800/subpart-B>.

Nevada SHPO. Because WCS would use an existing, permitted building and not require any external modifications, there would be no impacts to cultural resources.

Site infrastructure. The frequency of elemental mercury shipments is projected to be small (average of 13 per year) compared with baseline truck traffic; therefore, existing road systems would be adequate for supporting the transfer of elemental mercury. All of the alternative sites have sufficient utility capacity to support elemental mercury storage. Because most of the sites are existing, permitted, operating facilities, the incremental increase in utility requirements would be small. At HWAD, additional utility services would have to be extended to the designated storage buildings, as needed, including electricity, heating, water, and communications even though the service capacity on site is sufficient. Additionally, access roads would have to be upgraded and/or constructed, as appropriate. The average of approximately 13 shipments per year of elemental mercury would represent an increase of about 0.5 percent to current shipments to the WCS site and there would be no appreciable increase in utility use at WCS.

Waste management. The operation of an elemental mercury storage facility would be expected to generate a quantity of hazardous waste that is commensurate with the amount of elemental mercury stored at the facility. The estimate of hazardous waste generation was based on the analysis in the 2011 Mercury Storage EIS, which assumed some degree of repackaging of potential leaking containers as well as a larger amount (10,000 MT) of elemental mercury. This is an extremely conservative estimate and is bounding for any of the alternative sites because the elemental mercury containers would not be routinely opened at the storage facility, leaking containers are expected to be a rare event, and the projected maximum storage capacity is now 7,000 MT. Assuming a capacity of 7,000 metric tons of elemental mercury, the Mercury Storage

SEIS-II conservatively estimated that up to 637, 55-gallon drums of hazardous waste could be generated over the 40-year analytical period (about 16, 55-gallon drums per year).

Approximately 16,000 gallons of sanitary wastewater would be expected to be generated per year from elemental mercury management and storage operations. Considering that WCS likely would not increase staff to support this effort, there would be no, or limited, increase in sanitary wastewater impacts for the Proposed Action.

Occupational and public health and safety. The Mercury Storage SEIS-II presented potential impacts for normal operations, facility accidents, and transportation. Normal operations would involve the receipt and long-term management and storage of elemental mercury. Exposures could arise during normal operating conditions from small amounts of mercury vapor accumulating in the storage areas. The estimated consequences to involved workers, noninvolved workers, or members of the public are anticipated to be negligible. Facility accidents could include elemental mercury spills inside or outside the storage building. The SEIS-II concluded that the potential risks (considering accident probability and potential consequences) to workers and the offsite public would range between negligible and low for these spills. The highest potential consequences would be associated with the beyond-design-basis earthquake that, theoretically, could cause a total building collapse. In this extremely unlikely event, members of the public around the Bethlehem Apparatus and Clean Harbors Greenbrier sites could be within 330 feet of the storage buildings and could be exposed to potentially lethal concentrations. However, the probability of a beyond-design-basis earthquake in these areas is extremely unlikely, as the peak ground acceleration (*g*) for Bethlehem, Pennsylvania, and Greenbrier, Tennessee, is only 0.10 *g* and 0.14 *g*, respectively, indicating areas of relatively low seismic activity. Additionally, these members of the public likely would

evacuate from the area immediately, resulting in a reduction of the potential severity level to the low range. Residents and other members of the public at other alternative sites would be farther away from the facilities and not subject to the higher potential consequences of a beyond-design-basis earthquake. As mentioned above for geology and soils, the seismicity of the region around WCS is even lower (0.08 g) and a beyond-design-basis earthquake that resulted in the collapse of the Container Storage Building is even more unlikely. Additionally, the closest public access to the WCS site is about 0.62 miles and accident risks to members of the public would be negligible-to-low.

For transportation health and safety, the transportation risks under all alternative sites are a function of the number of miles driven and the nature of the accident (fire or no fire). The various potential accident scenarios evaluated in the Mercury Storage SEIS-II would result in risks that range from negligible to low. Transportation of 7,000 MT of elemental mercury over 40 years to WCS would require about 627,000 miles of truck shipments. Compared to other alternatives, this is near the middle of the range (315,118 to 1,079,301 miles).

Ecological risks. Consequences, and hence risks, would be negligible to all ecological receptors except if there were a fire that accompanied an accident. Without fire, the primary risk is inhalation of mercury vapor, which is an insignificant pathway for exposure to ecological receptors. Some ecological receptors (e.g., sediment-dwelling biota, soil invertebrates, American robin, river otter, and plants) could have low risks under some specific accident scenarios with a fire. Under a very specific scenario involving a fire, coincident with rain, sediment-dwelling biota could be subject to moderate risks. These risks are a function of the total shipment miles and therefore, the ecological risks from transportation of elemental mercury to WCS would be mid-range for all alternatives evaluated in the Mercury Storage SEIS-II.

Socioeconomics. There would be negligible impacts on socioeconomic conditions, including overall employment population trends, available housing, and other community services in the regions of influence associated with all alternative sites, including WCS.

Environmental justice. While there may be individual minority or low-income families living relatively near some of the alternative site locations, the sites are (or would be, in the case of HWAD) permitted by their respective states under RCRA for the storage of hazardous waste. The Proposed Action would not increase the human health risk beyond that approved as part of the RCRA permitting process. Implementing the Proposed Action would result in negligible offsite human health and ecological risks from mercury emissions during normal operations and most accidents. Potentially high mercury concentrations could occur in the event of a beyond-design-basis earthquake for some sites (Bethlehem Apparatus and Clean Harbors Greenbrier). Considering the probability of such an event, the potential risks associated with this extremely unlikely scenario are considered low. Implementing the Proposed Action at WCS would result in negligible offsite human health and ecological risks to both individuals and communities from mercury emissions during normal operations and accidents. Therefore, there would be no disproportionate and adverse effects on communities with environmental justice concerns under the Proposed Action at WCS.

Cumulative impacts. Considering the negligible-to-low potential impacts of the Proposed Action, the potential contribution of the Proposed Action to the cumulative impacts to the region of each alternative site was shown to be negligible, including WCS. Cumulative impacts for the WCS Region of Influence, including potential interim storage of up to 40,000 MTUs (metric tons of uranium) of commercial spent nuclear fuel, were determined to be either small or moderate for

the following resource areas: land use, geology and soils, groundwater, air quality, noise, and visual resources.

F. Environmentally Preferable Alternative

Under the Proposed Action, the potential impacts of continuing to operate the existing, permitted, commercial storage facilities would be similar regardless of the location. Transportation of mercury to any of the existing facilities would be comparable, resulting in negligible-to-low human health risks from transportation accidents. Greenhouse gas emissions from transportation of mercury would be relatively low for all of the alternatives. However, the emissions are lower for HWAD than most of the commercial alternatives, if no pre-storage treatment is assumed. If there were pre-storage treatment, then the emissions for HWAD are larger than most of the commercial alternatives. For HWAD, required modifications to the Group 110 design storehouses and the new or upgraded infrastructure at the site would result in higher potential impacts than at existing, permitted, commercial storage facilities. These modifications would also require consultation with the Nevada SHPO prior to any construction actions because the proposed buildings are potentially eligible for listing on the *National Register of Historic Places*. Therefore, management and storage of elemental mercury at an existing, permitted, commercial storage facility would be the environmentally preferable alternative.

Under the No-Action Alternative, DOE would not consolidate, manage, and store elemental mercury. However, the No-Action Alternative could include transportation to and from various locations, as described in Section 4.2.9.4 of the Mercury Storage SEIS-II, and therefore would not be significantly different than the transportation impacts under the action alternatives. Under the No-Action Alternative, mercury could be stored indefinitely at multiple non-DOE locations (some of which are currently not permitted); therefore, an impact of the No-

Action Alternative, other than DOE being non-compliant with Federal statutes, would be widely dispersed storage of mercury in uncertain conditions. Taking this into consideration, the No-Action Alternative would not be the environmentally preferable alternative.

G. Comments Received on the Final Mercury Storage SEIS-II

During the development of the Final SEIS-II, DOE considered the alternatives, information, analyses, and objections submitted by Federal, State, Tribal, and local governments and public commenters.

DOE received comment letters from Coeur and from the Environmental Protection Agency after publishing the Final Mercury Storage SEIS-II. DOE considered these comments in preparation of this ROD.

H. NEPA Decision

This NEPA decision is consistent with the preferred alternative, which is to designate one or more of the existing commercial facilities evaluated in the Final Mercury Storage SEIS-II. As identified in Section E, Potential Environmental Impacts, the impacts presented in the Mercury Storage SEIS-II for the WCS site were the same or lower than most of the other existing, permitted, commercial storage facility sites analyzed in the SEIS-II. The environmental impacts are generally expected to be less than those at the HWAD site, and designation of the WCS site is expected to allow for the long-term management and storage of elemental mercury years earlier than if HWAD were utilized. The No Action Alternative would not fulfill DOE's statutory obligations.

Based on consideration of the analysis in the Mercury Storage SEIS-II as well as other considerations detailed below in Section J, DOE has decided to select WCS for designation as

the facility for long-term management and storage of elemental mercury. The additional basis for the MEBA designation decision is included in Section J, below.

I. Mitigation

The Mercury Storage SEIS-II determined that potential environmental impacts associated with DOE's long-term management and storage of 7,000 metric tons (7,700 tons) of elemental mercury would generally be negligible-to-low and that the storage and management of elemental mercury would be subject to regulatory oversight by permitting agencies, including compliance with RCRA. Many features of WCS are designed to meet applicable permitting standards or to otherwise avoid harm to the environment. The WCS storage facility is located on a 13,500-acre tract of private land with no human residents within 3.4 miles. SEIS-II (Sections 3.3.1.1, 3.3.11). The facility design includes concrete sealed floors with a reinforced concrete foundation, and bermed container storage areas that provide protection from the external environment and isolation from other storage areas in the event of a leaking source. SEIS-II (Sections 4.4.3.1, 2.3.2). WCS also features numerous safety and accident response systems, including a fire suppression system, an exhaust-fan-ventilated storage area, a mercury vapor monitor, and a full emergency response organization that includes capabilities for radiological, hazardous materials, fire, and medical incidents. SEIS-II (Sections 2.3.2; 3.3.9.2). Based upon the limited potential for adverse environmental impacts identified in the SEIS-II, the robust design and accident response features of WCS, terms and conditions of the proposed contract (see Section J), and applicable regulatory and statutory requirements, the selected alternative incorporates all practicable means to avoid or minimize environmental harm.

J. Designation Decision Under MEBA

As explained in more detail above, the alternatives analyzed in detail in the SEIS-II included an existing Federal facility (HWAD) and commercial facilities at various locations (WCS; Bethlehem Apparatus; Perma-Fix Diversified Scientific Services; Veolia Environmental Services; and Clean Harbors Environmental Services).

During the NEPA process, DOE also considered and dismissed numerous other alternatives. The alternative of constructing a new facility was dismissed from detailed analysis in the SEIS-II because it would add at least five years to the timeline for DOE's designated MEBA facility to become operational and ready to receive elemental mercury, when compared to the designation of an existing, permitted facility. New construction would also introduce uncertainty in the timeline for having a fully operational MEBA facility, as schedule delays in the construction and/or RCRA permitting process or other issues outside DOE's control might prevent a newly constructed facility from becoming operational for significantly more than five years. A newly constructed facility would therefore not meet DOE's need to begin accepting elemental mercury as soon as practicable. DOE also considered the possibility of repurposing an existing facility on DOE property. However, DOE was unable to identify any such facility that met certain minimum criteria for future use as the designated MEBA facility.⁵

In parallel with the most recent NEPA evaluation, DOE conducted an independent and competitive procurement process to evaluate a contractor(s) that could provide DOE both a leasehold interest in, and the services associated with, a long-term elemental mercury

⁵ These criteria included that the facility: must not create a significant conflict with any existing DOE site mission and not interfere with future mission compatibility; must be suitable for mercury storage with the capability and flexibility for operational expansion, if necessary; must be capable of complying with RCRA permitting requirements, including siting requirements; must have supporting infrastructure and a capability or potential capability for flooring that would support mercury loadings; must be compatible with local and regional land use plans if used for mercury storage, and new construction would be feasible, as may be required; must be accessible to major transportation routes; and must have sufficient information on hand to adequately characterize the site. SEIS-II (Section 2.2.4).

management and storage facility (LTEMFSF) meeting DOE specifications and subject to DOE's technical direction. As part of that process, a Request for Information/Sources Sought notice was published on October 14, 2020, a synopsis was posted September 21, 2021, and the Request for Proposals (RFP) was issued March 24, 2022. Two timely proposals were received by the due date of June 1, 2022. One of the proposals was later withdrawn, but through this procurement process, DOE identified one commercial facility that responded to the RFP. DOE evaluated its response and determined that it met the lowest evaluated price and met or exceeded the acceptability standards for non-cost factors in accordance with 48 CFR 15.101-2. The facility was WCS. The owners of the other facilities analyzed as commercial alternatives in the SEIS-II did not compete in the procurement process.

DOE hereby designates as the LTEMFSF pursuant to MEBA, WCS in Andrews County, Texas. In addition to the reasons discussed previously under Section H, NEPA Decision, the decision to designate WCS as the LTEMFSF is based on the following considerations.

First, of the alternatives evaluated, the designation of WCS allows for the most expeditious and certain timeline for DOE to have an LTEMFSF operational and ready to accept elemental mercury, consistent with MEBA's fundamental objective of providing a safe option for storing domestic elemental mercury at a facility or facilities of the DOE. Congress initially charged DOE to designate a LTEMFSF that would be operational by January 1, 2013, and later extended that deadline to January 1, 2019. Pub. L. 110-414, 122 Stat. 4344 (Oct. 14, 2008); Pub. L. 114-182, 130 Stat. 478 (June 22, 2016). Although those milestone dates have passed, Congress has not extended the date by which the LTEMFSF must be operational. DOE therefore identified a need to designate an LTEMFSF facility and begin accepting elemental mercury as soon as practicable. WCS is an established, existing, permitted waste facility capable of

expeditiously accepting elemental mercury for long-term management and storage. In contrast, selecting HWAD, a facility that requires significant modifications and development processes, time-consuming real estate transactions, and a waste permit, or constructing a new facility, would both (1) extend the timeline for having an operational storage facility, and (2) create additional uncertainty in that timeline. In a best-case scenario, selecting HWAD or constructing a new facility would likely result in elemental mercury continuing to be stored for at least five years longer in widely dispersed storage locations in uncertain conditions instead of in a DOE-controlled LTEMSEF.

Furthermore, issues outside DOE's control could arise during the planning, budgeting, construction, and/or permitting processes that prevent HWAD or a new facility from becoming fully operational for much longer than five years. For example, due to statutory prohibitions on the use of Department of Defense ("DoD") installations for the storage of toxic or hazardous materials not owned by the DoD, 10 U.S.C. 2692, the relevant portion of HWAD would likely need to be purchased by or otherwise transferred to DOE before non-DoD elemental mercury could be stored at the facility. An acquisition or administrative transfer process would require actions by multiple Federal agencies, including the Department of the Army and the General Services Administration, and the timing and decision making of those agencies is outside DOE's control. The additional time required to build a new facility or modify an existing facility like HWAD would cause DOE to fall significantly further behind the statutory deadline for a DOE-designated LTEMSEF to be operational. MEBA imposed financial consequences on DOE for missing the January 1, 2019, deadline, such that the longer it takes for DOE to have an operational LTEMSEF, the greater the amount of private mercury storage costs that are borne by

DOE, and indirectly, by the United States.⁶ Selecting WCS as the designated LTEMFSF brings DOE into compliance with MEBA's directives as soon as practicable, avoids introducing uncertainty in the timeline for when the LTEMFSF will become operational and capable of accepting elemental mercury, and minimizes DOE's financial responsibility for the ongoing storage of elemental mercury by generators pending the availability of the LTEMFSF.

Second, leasing space for management and storage at WCS provides DOE managerial flexibility to adjust to evolving circumstances as it conducts its management and storage obligations pursuant to MEBA. Based on currently available information, DOE believes there is a realistic possibility that an approved treatment and disposal method for elemental mercury in the United States will be available within 10 years. An approved treatment and disposal method would likely decrease both the length of time the designated MEBA facility would need to store elemental mercury and the quantity of elemental mercury to be stored. Given the uncertainty in how long the LTEMFSF will be needed, designating WCS enables DOE to evaluate the impact of any forthcoming treatment and disposal option or other statutory or regulatory changes that may affect the expected storage duration or capacity, without making the larger commitments of capital and administrative resources necessary to purchase, construct, or significantly modify a federally owned facility.

Additionally, because there is a realistic possibility that a treatment and disposal method for domestic elemental mercury will be available within 10 years, and because it will take at least 5 years after designation for HWAD or a newly constructed facility to be ready to receive

⁶ Because the LTEMFSF was not operational by January 1, 2019, MEBA compels DOE to subtract the costs to mercury generators of temporarily accumulating certain elemental mercury after that date from DOE's future fee assessments to those generators. 42 U.S.C. 6939f(b)(1)(B)(iv). The more time that passes after January 1, 2019, and before the LTEMFSF is operational and accepts custody of elemental mercury, the greater the amount DOE will need to subtract from its future fee assessments to mercury generators, resulting in correspondingly greater costs to the United States.

elemental mercury, investing resources to modify or construct a facility that may only be used for 5 years is not cost effective or a prudent investment of resources. DOE has prepared a relative cost comparison workbook based on a 2007 EPA report that demonstrates that, in the short-term (e.g., about 10 years), management and storage of elemental mercury at an existing, permitted, commercial facility like WCS is likely to be less expensive than any of the previously evaluated alternatives requiring capital improvements (DOE-New, DOE-Existing/Retrofit, and Hawthorne/Retrofit). Other factors not reflected in DOE's cost comparison workbook also weigh in favor of selecting WCS. The workbook does not include administrative burdens associated with a federally funded project and DOE's acquisition of real property, which would likely be required to establish an LTEMSEF at HWAD (see 10 U.S.C. 2692) or for construction of a new facility. Selecting WCS avoids these costs to DOE and other Federal agencies. The cost comparison workbook also does not reflect the fact that MEBA, as amended, makes DOE indirectly financially responsible for the costs of storing certain elemental mercury accumulated by mercury generators after January 1, 2019, by requiring DOE to subtract these costs from its future MEBA fee assessments to these generators. 42 U.S.C. 6939f(b)(1)(B)(iv). These indirect costs to DOE, in the form of foregone future fee assessments, increase the longer it takes DOE's designated LTEMSEF to become operational. Selecting an existing, permitted facility like WCS minimizes these costs.

Third, DOE's selection of WCS as the Secretary's designated LTEMSEF satisfies the requirement of MEBA that "the Secretary of Energy shall designate a facility or facilities of the Department of Energy for the purpose of long-term management and storage of elemental mercury generated within the United States." MEBA section 5(a)(1) (42 U.S.C. 6939f(a)(1)). MEBA does not define the phrase, "facility or facilities of the Department of Energy[.]" but it

does state that “[t]he Secretary is authorized to establish such terms, conditions, and procedures as are necessary to carry out this section.” DOE construes the phrase “facility or facilities of the Department of Energy” to include a facility leased from a commercial entity or another Federal agency, over which DOE provides an appropriate level of responsibility and control. This construction is consistent with MEBA’s plain language and DOE’s operational history. Certain comments on the Draft SEIS-II asserted that “facility or facilities of the Department of Energy” could only mean one or more facilities owned by DOE or owned and operated by DOE. However, MEBA does not expressly require the designated facility to be owned by DOE or even by the U.S. government. Similarly, MEBA does not mandate that DOE employees operate the designated facility and does not prohibit DOE from using qualified contractors in connection with the facility. The phrase “facility or facilities of the Department of Energy” encompasses facilities leased by DOE and subject to an appropriate level of DOE responsibility and control. This structure provides DOE flexibility to select a facility that best serves the various requirements and purposes of MEBA and the fiscal and mission responsibilities of DOE, regardless of ownership.

DOE has determined that the lease and contract with WCS, developed through DOE’s competitive procurement process, will provide DOE a leasehold interest in WCS property and an appropriate level of responsibility and control over the property such that it will become a “facility or facilities of the Department of Energy” within the meaning of MEBA Section 5(a)(1). By entering into the lease and contract DOE can ensure that the LTEMSEF is managed and operated in compliance with MEBA and other applicable legal requirements, including those addressing the protection of human health and the environment. For example, as set forth in the RFP, among other control measures, DOE will ensure that the designated facility: (1) complies

with all applicable local, state, and Federal regulations including all applicable RCRA requirements; (2) employs a fully enclosed, weather-protected structure that complies with all applicable building, fire, and life safety codes and standards; (3) meets RCRA and Department of Transportation-compliant performance measures covering, among other things, receiving, handling, container storage, and security; (4) satisfies applicable local, state, and Federal regulatory requirements for recordkeeping and reporting; and (5) submits operating records, inventories, and other reports to DOE for periodic review. In addition to contractually imposed oversight, the arrangement between DOE and WCS will involve DOE entering into a lease agreement covering the premises where the operations will occur. The lease will require, among other things, the premises to be used exclusively for DOE elemental mercury management and storage, consistent with contract provisions governing operations at the premises, and will grant DOE access to the premises.⁷ Awarding the contract to WCS will formally conclude DOE's independent and competitive procurement process, which was conducted in compliance with applicable Federal Acquisition Regulations.⁸

Therefore, DOE has selected WCS for designation as the LTEMSEF under MEBA. As identified in Section E, Potential Environmental Impacts, the impacts presented in the Mercury Storage SEIS-II for the WCS site were comparable to the other action alternatives. This MEBA decision is consistent with the preferred alternative in the Final Mercury Storage SEIS-II and the NEPA decision in this ROD.

Although this document satisfies DOE's obligation to designate a facility or facilities of the DOE for the purpose of long-term management and storage of elemental mercury generated

⁷ Request for Proposals, Section J.5.

⁸ The selection of WCS is also consistent with the Federal Government's general policy of using commercial services and capabilities when they are sufficient to meet the mission needs. See, e.g. FAR Part 12.

within the United States, MEBA Section 5(b) (42 U.S.C. 6939f(b)) also requires DOE to assess and collect a fee at the time that elemental mercury is delivered to the designated facility. As explained in responses to comments on the Draft SEIS-II, after publication of this document, DOE intends to focus on issuing a rule to establish the fee. At this time, however, DOE remains unable to accept elemental mercury from generators at a facility of the Department of Energy for long-term management and storage. DOE acknowledges that the temporary storage provisions of MEBA Section 5(g)(2) (42 U.S.C. 6939f(g)(2)) remain in effect until DOE is able to accept elemental mercury shipments at the designated facility or facilities, which will generally require applying DOE's future fee rule to assess a fee pursuant to MEBA Section 5(b).

Signing Authority

This document of the Department of Energy was signed on November 21, 2024, by Candice Trummell, Senior Advisor for Environmental Management, pursuant to delegated authority from the Secretary of Energy. The document with the original signature and date is maintained by DOE. For administrative purposes only, and in compliance with requirements of the Office of the Federal Register, the undersigned DOE Federal Register Liaison Officer has been authorized to sign and submit the document in electronic format for publication, as an official document of the Department of Energy. This administrative process in no way alters the legal effect of this document upon publication in the *Federal Register*.

Signed in Washington, D.C. on November 21, 2024.



Candice Trummell
Senior Advisor for Environmental Management