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**[6450-01-P]**

## **DEPARTMENT OF ENERGY**

### **Notice of Intent to Prepare a Supplemental Environmental Impact Statement for Disposition of Depleted Uranium Oxide Conversion Product Generated from DOE's Inventory of Depleted Uranium Hexafluoride**

**AGENCY:** U.S. Department of Energy.

**ACTION:** Notice of Intent.

**SUMMARY:** The U.S. Department of Energy (DOE) announces its intention to prepare a Supplemental Environmental Impact Statement (SEIS) for its proposal to disposition depleted uranium oxide (DUO<sub>x</sub>) conversion product from its depleted uranium hexafluoride (DUF<sub>6</sub>) conversion facilities at the Paducah, Kentucky, and Portsmouth, Ohio, sites at up to three offsite low-level waste disposal facilities. The *Draft Supplemental Environmental Impact Statement for Disposition of Depleted Uranium Oxide Conversion Product Generated from DOE's Inventory of Depleted Uranium Hexafluoride* (DOE/EIS-0359-S1; DOE/EIS-0360-S1) will analyze potential environmental impacts from the proposed action to identify a final disposition location or locations for the DUO<sub>x</sub> conversion product from both operating DUF<sub>6</sub> conversion facilities.

The proposed scope of the draft SEIS includes an analysis of potential environmental impacts from activities associated with the transportation to and disposition of depleted uranium oxide at three proposed disposition location alternatives: the DOE-owned low-level radioactive waste disposal facility at the Nevada National Security Site (NNSS) in Nye County, Nevada; the EnergySolutions, LLC (formerly known as Envirocare of Utah, Inc.) low-level waste disposal facility in Clive, Utah; and the newly identified location at the Waste Control Specialists, LLC (WCS) low-level waste disposal facility in Andrews, Texas.

**ADDRESSES:** Questions concerning the project or requests to be placed on the document distribution list can be sent to: Ms. Jaffet Ferrer-Torres, National Environmental Policy Act (NEPA) Document Manager, Office of Environmental Management, U.S. Department of Energy, EM-4.22, 1000 Independence Avenue SW, Washington, D.C. 20585; or to DUF6\_NEPA@em.doe.gov. Additional information regarding the SEIS is available at: <http://www.energy.gov/em/disposition-uranium-oxide-conversion-depleted-uranium-hexafluoride>.

**FOR FURTHER INFORMATION CONTACT:** For further information on DOE's DUF<sub>6</sub> long-term management and disposal program, please contact Ms. Jaffet Ferrer-Torres, U.S. Department of Energy at the above **ADDRESSES**.

For information on DOE's NEPA process, please contact Ms. Carol M. Borgstrom, Director, Office of NEPA Policy and Compliance, U.S. Department of Energy, 1000 Independence Avenue SW, Washington, DC 20585-0103; Telephone: (202) 586-4600, or leave a message at (800) 472-2756; or email at askNEPA@hq.doe.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Background**

The use of uranium as fuel for nuclear power plants or for military applications requires increasing the proportion of the uranium-235 isotope found in natural uranium. Industrial uranium enrichment in the United States began as part of atomic bomb development during World War II. Uranium enrichment for both civilian and military uses was continued by the U.S. Atomic Energy Commission and its successor agencies, including DOE. Uranium enrichment by gaseous diffusion was carried out at three locations: the Paducah Site in Kentucky, the Portsmouth Site in Ohio, and the East Tennessee Technology Park in Oak Ridge, Tennessee.

DUF<sub>6</sub> results from the uranium enrichment process. The DUF<sub>6</sub> that remains after enrichment typically contains 0.2 percent to 0.4 percent uranium-235 and has been stored as a solid in large metal cylinders at the gaseous diffusion uranium enrichment facilities. The DUF<sub>6</sub> must be converted into a more stable form for disposal. The conversion

process results in DUO<sub>x</sub> and aqueous hydrogen fluoride<sup>1</sup> (HF). DOE's existing inventory has over 760,000 metric tons (MT) (1 MT =1,000 kilograms, approximately 2,205 pounds) of DUF<sub>6</sub>. Approximately 54,000 MT, or 7% of this total, has already been converted at the end of calendar year 2015. DUF<sub>6</sub> is stored as a solid in steel cylinders that each hold approximately 10 to 14 MT of material. These cylinders are stacked two layers high in outdoor areas known as "yards." The Paducah Site has approximately 44,000 DUF<sub>6</sub> cylinders, and the Portsmouth Site has approximately 19,000 DUF<sub>6</sub> cylinders, for a total of about 63,000 cylinders. All DUF<sub>6</sub> cylinders produced at facilities in Tennessee were previously transported to the Portsmouth Site. Operating at planned capacity, the conversion plants would produce approximately 10,800 MT (11,900 tons) of DUO<sub>x</sub> annually at Portsmouth and 14,300 MT (15,800 tons) of DUO<sub>x</sub> annually at Paducah. The duration to convert the inventory of DUF<sub>6</sub> to DUO<sub>x</sub> is expected to be 18 years for the Portsmouth DUF<sub>6</sub> inventory and 25 years for Paducah's larger DUF<sub>6</sub> inventory.

### **Relationship to Existing NEPA Analyses**

This SEIS represents the third phase of an environmental review process being used to evaluate and implement the DUF<sub>6</sub> long-term management program. As a first step and pursuant to Council on Environmental Quality (CEQ) and DOE NEPA implementing regulations at 40 CFR Parts 1500-1508 and 10 CFR Part 1021, respectively, DOE evaluated potential broad management options for its DUF<sub>6</sub> inventory in the *Programmatic Environmental Impact Statement for Alternative Strategies for the Long-Term Management*

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<sup>1</sup> The HF produced during conversion will be recycled into commercial product.

*and Use of Depleted Uranium Hexafluoride (DUF<sub>6</sub> PEIS)* (DOE/EIS–0269) issued in April 1999 (64 FR 19999; April 23, 1999). In the DUF<sub>6</sub> PEIS Record of Decision (ROD) (64 FR 43358; August 10, 1999), DOE decided to promptly convert the DUF<sub>6</sub> inventory to a more stable uranium oxide form and stated that it would use the depleted uranium oxide as much as possible and store the remaining depleted uranium oxide for potential future uses or disposal, as necessary. DOE did not select specific sites for the conversion facilities or disposal at that time, but reserved that decision for subsequent NEPA review.

In June 2004, DOE issued two EISs for construction and operation of DUF<sub>6</sub> conversion facilities and other actions at its Paducah, Kentucky and Portsmouth, Ohio sites (69 FR 34161; June 18, 2004). Both the *Final Environmental Impact Statement for Construction and Operation of a Depleted Uranium Hexafluoride Conversion Facility at the Paducah, Kentucky Site* (DOE/EIS–0359) and the *Final Environmental Impact Statement for Construction and Operation of a Depleted Uranium Hexafluoride Conversion Facility at the Portsmouth, Ohio Site* (DOE/EIS–0360) were prepared as a second phase of the environmental review process to evaluate and implement DOE’s DUF<sub>6</sub> long-term management program. These EISs evaluated the potential environmental impacts of transportation and disposition of depleted uranium oxide at two potential off-site locations: at the DOE-owned low-level radioactive waste disposal facility at the Nevada Test Site (now known as NNSS), and at Envirocare of Utah, Inc. (now known as EnergySolutions, LLC), a commercial low-level waste disposal facility in Clive, Utah. RODs were published for both of these EISs on July 27, 2004 (69 FR 44649, 69 FR 44654). However, DOE deferred a

decision on the transportation and disposition of the conversion product and committed to addressing that action at a later date.

In 2007, DOE prepared a draft Supplement Analysis (SA), in accordance with DOE NEPA implementing regulations at 10 CFR 1021.314, in order to determine whether there were substantial changes to the proposal or significant new circumstances or information relevant to environmental concerns that require preparation of a Supplemental EIS to decide disposition locations committed to in the 2004 RODs. DOE made the *Draft Supplement Analysis for Location(s) to Dispose of Depleted Uranium Oxide Conversion Product Generated from DOE's Inventory of Depleted Uranium Hexafluoride* (DOE/EIS-0359-SA-1 and DOE/EIS-0360-SA-1) publicly available on April 3, 2007 (72 FR 15869). The comments received associated with the scope of the draft SA suggested consideration of WCS's Andrews, Texas, site as a reasonable alternative, which will be considered in this SEIS. DOE determined that more time was needed to allow for resolution of regulatory questions at the disposal sites and did not issue a final SA.

In August 2014, the WCS facility near Andrews, Texas, was granted a license amendment by the Nuclear Regulatory Commission that would allow disposal of bulk uranium. As a result, DOE assumes, for purposes of planning, that WCS may be a new reasonable alternative as a disposal site for depleted uranium oxide conversion product. After due consideration of the existing DOE NEPA analyses summarized above, and any changes in the disposition activities currently being considered, DOE determined in March 2016 that a Supplemental EIS is warranted given that there are substantial changes

to the proposal (in this case, a new alternative disposal site is under consideration), or potentially significant new circumstances or information relevant to environmental concerns given the time lapse since the 2004 EISs.

### **Purpose and Need for Agency Action**

The purpose and need for this action is to dispose of  $\text{DUO}_x$  that results from converting DOE's  $\text{DUF}_6$  inventory to a more stable chemical form. This need follows directly from the decisions presented in the 2004 RODs for construction and operation of  $\text{DUF}_6$  conversion facilities and other NEPA actions at its Paducah, Kentucky and Portsmouth, Ohio sites, that deferred DOE's decision related to the transportation to and disposal of depleted uranium oxide at potential off-site facilities.

### **Alternatives Considered**

The proposed scope of the draft SEIS includes an analysis of the potential impacts from three action alternatives and the No Action alternative (in accordance with 40 CFR 1502.14). Under the No Action alternative, transportation to and disposal of the conversion product at an offsite low-level waste disposal facility would not occur and refilled cylinders of  $\text{DUO}_x$  conversion product would remain at the  $\text{DUF}_6$  conversion facility sites at DOE's Paducah and Portsmouth sites. The SEIS will also analyze and compare the potential impacts from three action alternatives that include transportation to and disposal of  $\text{DUO}_x$  at three proposed alternative locations, including government-owned and privately-owned facilities: (1) the DOE-owned Area 5 waste disposal facility at the NNSS; (2) the EnergySolutions LLC, low-level waste disposal facility in Clive,

Utah; and (3) the newly identified location at the WCS federal low-level waste disposal facility in Andrews, Texas.

The SEIS analysis will include a review of available environmental data and information; comparative analyses of potential environmental and human health and safety impacts of DUO<sub>x</sub> disposal at the three alternative locations (including updated information for the two offsite disposal locations previously identified and studied in the 2004 EISs); analyses of the potential environmental impacts of transporting DUO<sub>x</sub> by rail or truck to each alternative site; and an evaluation of the No Action alternative.

### **Identification of Environmental Issues**

The SEIS will examine potential public health and safety effects and environmental impacts from the proposed action. This notice is intended to inform agencies and the public of DOE's proposal. Although the following is not intended to be all inclusive or to imply any predetermination of impacts, these general categories of impacts will be considered in the SEIS: land use; geology, soils, and geologic hazards, including seismicity; water resources (surface water and groundwater); biological resources; protected, threatened and endangered species, including species of special concern; human health and safety (both routine operations and potential accidents); air quality; noise; cultural and historic resources; waste management; environmental justice; and socioeconomics.

### **Public Participation in the SEIS Process**

A public scoping process is optional for DOE Supplemental EISs (10 CFR 1021.311(f)), and there will be none for this project. However, DOE will provide opportunities for public review and comment, including public hearings, on the draft SEIS.

### **SEIS Preparation and Schedule**

DOE expects to issue the draft SEIS in 2016.

Issued at Washington, DC on August 19, 2016

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Frank Marcinowski

Acting Assistant Secretary for  
Environmental Management

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