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DEPARTMENT OF ENERGY

National Nuclear Security Administration

Record of Decision for the Final Environmental Impact Statement (EIS) for Plutonium Pit Production at the Savannah River Site (SRS) in South Carolina (DOE/EIS-0541)

AGENCY: National Nuclear Security Administration, Department of Energy.

ACTION: Record of decision.

SUMMARY: The National Nuclear Security Administration (NNSA), a semi-autonomous agency within the U.S. Department of Energy (DOE), is announcing this Record of Decision (ROD) for the *Final Environmental Impact Statement (EIS) for Plutonium Pit Production at the Savannah River Site (SRS) in South Carolina* (SRS Pit Production EIS) (DOE/EIS-0541). In this ROD, NNSA announces its decision to implement the Proposed Action to repurpose the Mixed-Oxide Fuel Fabrication Facility (MFFF) to produce a minimum of 50 war reserve pits per year at SRS and to develop the ability to implement a short-term surge capacity to enable NNSA to meet the requirements of producing pits at a rate of not less than 80 war reserve pits per year up to the analyzed limit as necessary beginning during 2030 for the nuclear weapons stockpile. NNSA has previously evaluated this action at the programmatic level in the 2008 Complex Transformation Supplemental Programmatic EIS (Complex Transformation SPEIS), and recently in a separate Complex Transformation SPEIS Supplement Analysis (2019 SPEIS SA).

FOR FURTHER INFORMATION CONTACT: For further information on this ROD or the SRS Pit Production EIS, contact: Jennifer Nelson, NEPA Document Manager, National Nuclear Security Administration, Savannah River Field Office, P.O. Box A, Aiken, SC 29802; phone: (803)-557-6372 or

(803)-557-NEPA; or via email at *NEPA-SRS@srs.gov*. This ROD, the SRS Pit Production EIS, and related NEPA documents are available at *https://www.energy.gov/nnsa/nnsa-nepa-reading-room*.

SUPPLEMENTARY INFORMATION:

Background

NNSA has a statutory mission to maintain and enhance the safety, reliability, and performance of the U.S. nuclear weapons stockpile including the ability to design, produce, and test, in order to meet national security requirements. Under Federal law and to meet national security requirements, NNSA must implement a strategy to provide the enduring capability and capacity to produce not less than 80 war reserve pits per year beginning during 2030 (50 U.S.C. 2538a, as amended). NNSA's current pit production capacity cannot meet this requirement. To meet this requirement, NNSA has decided to implement the Proposed Action in the SRS Pit Production EIS.

Pit production, at a level of at least 80 pits per year at SRS, has been analyzed in two programmatic EISs and the site-specific SRS Pit Production EIS. The first programmatic EIS in the post-Cold War era was the 1996 *Programmatic Environmental Impact Statement for Stockpile Stewardship and Management* (SSM PEIS) (DOE/EIS-0236). The SSM PEIS evaluated reasonable alternatives for reestablishing interim pit production capability on a small scale. It analyzed a production level of 80 pits per year at SRS and LANL at a programmatic level and associated impacts across the Complex. In December 1996, NNSA issued a ROD announcing a decision setting pit production at LANL at 20 pits per year (61 FR 68014; December 26, 1996).

In 2008, NNSA prepared the *Complex Transformation Supplemental Programmatic Environmental Impact Statement* (Complex Transformation SPEIS) (DOE/EIS-0236-S4). The Complex Transformation SPEIS evaluates, among other things, alternatives for producing 10-200 pits per year at different site alternatives, including SRS. At SRS, the Complex Transformation SPEIS evaluated a pit production

facility that would use the planned MFFF and Pit Disassembly and Conversion Facility infrastructure. In the 2008 Programmatic ROD, NNSA did not make any new decisions related to pit production capacity beyond 20 pits per year at LANL (73 FR 77644; December 19, 2008).

Since 2014, Federal law has required the nuclear security enterprise to produce not less than 30 war reserve plutonium pits during 2026. Federal law now requires that the nuclear security enterprise produce not less than 80 war reserve plutonium pits during 2030 (50 U.S.C. 2538a, as amended). The 2018 Nuclear Posture Review reinforces this pit production requirement by stating that NNSA must produce at least 80 plutonium pits per year beginning during 2030 and must sustain the capacity for future life extension programs and follow-on programs. As a result, the United States is pursuing an initiative to provide the enduring capability and capacity to produce plutonium pits at a rate of no fewer than 80 pits per year beginning during 2030. To these ends, the DoD Under Secretary of Defense for Acquisition and Sustainment and the NNSA Administrator issued a Joint Statement on May 10, 2018, describing NNSA's recommended alternative to pursue a two-prong (two-site) approach—a minimum of 50 pits per year produced at SRS and a minimum of 30 pits per year produced at LANL. In addition to improving the resiliency, flexibility, and redundancy of our nuclear security enterprise by reducing reliance on a single production site, this approach enables the capability to allow for enhanced warhead safety and security to meet DoD and NNSA requirements; deliberate, methodical replacement of older existing plutonium pits with newly manufactured pits as risk mitigation against plutonium aging; and response to changes in deterrent requirements driven by renewed great power competition.

In 2019, NNSA prepared the 2019 SPEIS SA, which analyzed NNSA's two-site pit production approach at a programmatic level. Based on the 2019 SPEIS SA, NNSA determined that the proposed approach for pit production does not constitute a substantial change from actions analyzed previously and there are no significant new circumstances or information relevant to environmental concerns. The 2019

SPEIS SA affirmed NNSA's decision to prepare site-specific documentation for the proposal to repurpose the MFFF to produce a minimum of 50 war reserve pits per year at SRS and to develop the ability to implement a short-term surge capacity to enable NNSA to meet the requirements of producing pits at a rate of not less than 80 war reserve pits per year beginning during 2030 for the nuclear weapons stockpile. In the SRS Pit Production EIS and this ROD, the repurposed MFFF is referred to as the Savannah River Plutonium Processing Facility (SRPPF) to reflect the reconfiguration of the existing MFFF to perform plutonium-related processing to support NNSA missions.

Consistent with the SSM PEIS and the Complex Transformation SPEIS, the SRS Pit Production EIS identified that the term, pit production, was used to describe a complex process that involves three main areas: (1) material receipt, unpacking, and storage; (2) feed preparation; and (3) manufacturing. The production of pits at SRS includes the activities needed to fabricate new pits, to modify the internal features of existing pits, and to certify new pits or requalify existing pits.

NEPA Process for this ROD

NNSA prepared this ROD for the SRS Pit Production EIS pursuant to the regulations of the Council on Environmental Quality (CEQ) for implementing NEPA (40 CFR parts 1500-1508) and DOE's NEPA implementing procedures (10 CFR part 1021). This ROD is based on Federal law and NNSA's mission and information and analysis in the SRS Pit Production EIS, including public comments received.

The SRS Pit Production EIS was distributed electronically for review as part of the public participation process. DOE announced the availability of the Draft SRS Pit Production EIS on April 3, 2020 (85 FR 18947). The Environmental Protection Agency (EPA) announced the availability of the Final SRS Pit Production EIS on September 25, 2020 (85 FR 60458). DOE also published an announcement of the Final SRS Pit Production EIS on September 30, 2020 (85 FR 61741). Approximately 400 comment documents (including approximately 190 comment documents submitted as one of seven email

campaign letters) were received from individuals, interested groups, and Federal, State, and local agencies during the public comment period on the Draft SRS Pit Production EIS. In addition, 44 commenters spoke at an online, virtual public hearing (with telephone access), and their comments were recorded in formal transcripts. The majority of the comments received on the Draft EIS focused on policy issues related to the appropriateness or the need for nuclear weapons or the need for additional pits. The primary topics identified in the public comments included: (1) requests for a programmatic EIS for pit production; (2) requests to consider pit reuse as a reasonable alternative; (3) requests for an extension to the comment period due to the COVID-19 pandemic; (4) disagreement with the two-prong (two-site) approach to pit production; (5) general opposition to, or support for, the proposal; (6) comments about nuclear weapon policies or new weapon design; (7) comments about the need for pits and the lifetime of current pits; (8) comments about waste management; (9) comments about transuranic waste storage at the Waste Isolation Pilot Plant; (10) comments about impacts to human health and potential environmental justice impacts; and (11) comments about budget priorities and the need to clean up SRS. After considering all comments and modifying the Draft EIS, NNSA completed the Final SRS Pit Production EIS.

Summary of Impacts

Both Federal law and national security policy require pit production rates of not less than 80 pits per year nationally during 2030. The SRS Pit Production EIS analyzed the potential impacts of producing 50, 80, and 125 pits per year at SRS. This approach provides a conservative analysis and affords NNSA the flexibility to adapt to shifting requirements or changed circumstances in the future if SRS must produce more than 50 pits per year. Table 2-5 of the SRS Pit Production EIS presents a summary of the potential environmental impacts of the Proposed Action and the No Action Alternative. Table 2-6 summarizes the potential cumulative environmental impacts presented in Chapter 5 of the EIS. Construction activities

associated with the Proposed Action would re-disturb approximately 48 acres of previously disturbed land. This land requirement represents less than one percent of the total 198,344-acre SRS. Although construction activities would change the existing land use, the proposed SRPPF would be compatible and consistent with the land use plans at SRS and would be compatible with the current land use designations.

The site for the proposed SRPPF complex is located in a highly developed and previously disturbed industrial area; therefore, there would be no loss of habitat or impacts to biological, cultural, or archaeological resources. Construction impacts would be minor, and appropriate soil and erosion mitigation measures would minimize any adverse impacts. No Federal- or State-threatened or endangered species or other species of special interest are expected to be impacted by the Proposed Action.

During construction and operations, groundwater use would be approximately 2.2 percent and 1.7 percent, respectively, of the total current water use at SRS. The maximum amount of electrical consumption would represent less than four percent of the SRS sitewide electrical capacity.

Although there would be overall positive socioeconomic impacts associated with construction and operational workforces, an increase in vehicle traffic could affect the roads and transportation network surrounding SRS. Employment increases would represent less than one percent of the total employment in the socioeconomic area.

During normal operations, a minimal amount of radioactive material and activation products could be released to the environment. However, any radiation dose received by a member of the public from emissions would be small and well below regulatory limits.

Operation of the proposed SRPPF would generate a variety of wastes (including radioactive, hazardous, mixed, and sanitary) as an unavoidable result of normal operations.

For production of 50 pits per year, there would be approximately 145 annual shipments of radiological materials and wastes, which could impact the public along transportation routes. Potential doses to the public and workers would be well below regulatory limits.

Environmentally Preferable Alternative

Considering the many environmental facets of the alternatives analyzed in the SRS Pit Production EIS, and looking out over the long term, the No-Action Alternative would be the environmentally preferred alternative because no adverse impacts would result compared to the Proposed Action. However, the No-Action Alternative would not meet the purpose and need for agency action.

Comments on the Final SRS Pit Production EIS

NNSA posted the Final SRS Pit Production EIS on the NNSA NEPA Reading Room website (*https://www.energy.gov/nnsa/nnsa-nepa-reading-room)* and EPA published a Notice of Availability in the *Federal Register* (85 FR 60458, September 25, 2020). DOE also published a Notice of Availability of the Final SRS Pit Production EIS in the *Federal Register* on September 30, 2020 (85 FR 61741). In response to these Notices, NNSA received three comment documents related to the Final SRS Pit Production EIS. NNSA considered each of the comments contained in these documents during the preparation of this ROD.

Decision

NNSA has decided to implement the Proposed Action to repurpose the MFFF to produce a minimum of 50 war reserve pits per year at SRS and to develop the ability to implement a short-term surge capacity to enable NNSA to meet the requirements of producing pits at a rate of not less than 80 war reserve pits

per year beginning during 2030 for the nuclear weapons stockpile. Pit production at SRS would be limited to the analyzed limit in the SRS Pit Production EIS to meet national security requirements.

Basis for Decision

In making these decisions, NNSA considered the Final SRS Pit Production EIS, other referenced NEPA analyses, and its statutory responsibilities to support the nuclear weapons stockpile. Federal law and national security policies continue to require NNSA to maintain a safe, secure, and reliable nuclear weapons stockpile and to create a responsive nuclear weapons infrastructure that are cost-effective and have adequate capacity to meet reasonably foreseeable national security requirements. This ROD will enable NNSA to continue meeting Federal law and national security requirements.

Mitigation Measures

SRS operates in compliance with environmental laws, regulations, and policies within a framework of contractual requirements; many of these requirements mandate actions to control and mitigate potential adverse environmental effects. Examples of mitigation measures include site security and threat protection plans, emergency plans, land use plans, Integrated Safety Management Systems, an Environmental Management System, pollution prevention and waste minimization programs, cultural resource and protected species management plans, and energy and water conservation programs. If mitigation measures above and beyond those required by regulations are needed to reduce impacts, NNSA is required to describe mitigation commitments in the ROD and prepare a mitigation action plan (10 CFR 1021.331). The mitigation action plan would explain how, before implementing the Proposed Action, certain measures would be planned and implemented to mitigate adverse environmental impacts. Because no potential adverse impacts were identified that would require additional mitigation measures beyond those required by regulation or achieved through design features or best management practices, NNSA does not expect to prepare a mitigation action plan.

Signing Authority

This document of the Department of Energy was signed on October 30, 2020, by Lisa E. Gordon-Hagerty, Under Secretary for Nuclear Security and Administrator, NNSA, pursuant to delegated authority from the Secretary of Energy. That 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, DC, on October 30, 2020.

Treena V. Garrett,

Federal Register Liaison Officer,

U.S. Department of Energy.

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