

## **CHAPTER 3**

# **Comment Summaries and Responses**



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### **3.0 COMMENT SUMMARIES AND RESPONSES**

This chapter summarizes the comments NNSA received on the Draft SRS Pit Production EIS and provides NNSA's responses to those comments. As discussed in Chapter 1 of this CRD, NNSA received approximately 400 comment documents on the Draft EIS from Federal agencies; State and local governments; public and private organizations; and individuals.

#### **3.1 HOW NNSA CONSIDERED PUBLIC COMMENTS**

NNSA assessed and considered public comments on the Draft SRS Pit Production EIS, both individually and collectively. Some comments led to EIS modifications; others resulted in a response to answer or explain policy questions, to refer readers to information in the Final EIS, to answer technical questions, to explain technical issues, or to provide clarification. A number of comments provided valuable suggestions on improving the Draft EIS. As applicable, the responses in this CRD identify changes that NNSA made to the Draft EIS as a result of comments.

The following list highlights key aspects of NNSA's approach to recording, tracking, and responding to public comments on the Draft EIS:

- NNSA reviewed and considered comments received, including oral comments made during the public hearing, to identify, categorize, and summarize those comments. As comments were received, they were reviewed and "binned" into issue categories. Because binning was a continuous process during the public comment period, issue categories were expanded and augmented as necessary to ensure that comments were binned into a proper issue category. As shown in Chapter 2 of this CRD, comment documents have been annotated with sidebars and comment codes. These sidebars and codes provide the information that identifies where in this CRD the comments are addressed. In some cases, multiple comment codes were assigned to a comment to indicate that an identified comment was considered in multiple comment summaries and responses.
- After comment identification, NNSA grouped individual comments by categories and assigned each comment group to one or more subject matter experts to prepare the response.
- Comment summaries are intended to capture the substantive issue(s) raised by a comment for a specific issue. Comments grouped and summarized for response are, of necessity, paraphrased; NNSA made every effort to capture the essence of comments included in a comment summary. In some cases, NNSA used specific language from one or more commenters to develop a particular comment summary. This should not be interpreted to mean that NNSA considered any comment to be more or less important than other comments received relative to that comment summary; rather, NNSA felt that a comment's particular language was a reasonable articulation of many comments for a particular subject. In some cases, a commenter submitted a comment that was so unique that NNSA responded to it individually.

- In some instances, a comment and response are related to another comment and response. Instead of repeating this information, the comment response directs the reader to that related comment and response.
- Senior-level experts reviewed and revised each comment summary and response to ensure technical and scientific accuracy, clarity, and consistency, and to ensure the comment summary adequately reflected the comments in that issue category, and that the response addressed the comments. Additionally, comment responses were coordinated with representatives from other DOE/NNSA sites that were addressed in the comment.

In this process, NNSA has attempted to provide an accurate record of the comments received, as well as NNSA's responses to those comments. Chapter 1, Section 1.3, of this CRD describes the organization of this CRD and the tables provided to assist readers in tracking their comments, as appropriate, to the appropriate comment summary and response. Each commenter should readily be able to locate his or her comment and the summary response that addresses the comment.

### **3.2 ORGANIZATION OF COMMENT AND RESPONSE SUMMARIES**

The comment summaries and responses that follow are organized within issue categories, as shown in Chapter 1, Table CR-1, of this CRD. For example, issue category 1 contains comments related to the purpose and need for agency action. Depending on the comments that were received on the Draft SRS Pit Production EIS, some issue categories were further defined to address a specific topic within the same issue category, such as 1-c, which addresses pit lifetime. Further, some topics within an issue code contain many comment summaries and responses. For example, issue code 6-j contains specific comments related to waste management. Within this issue code there are 18 comment summaries and responses (6-j.1 through 6-j.18). Comment summaries and responses within issue codes are not presented in any particular order of importance.

In some instances, a similar topic is addressed in multiple comment summaries and responses. This occurred because such comments were intertwined, and the binning process captured these comments in multiple issue codes. While this resulted in some redundancy within some of the comment summaries, NNSA decided that redundancy was preferred to potentially omitting some comments. In those instances where similar topics are addressed in multiple summaries and responses, cross references are provided to the similar summary and response.

### 3.3 COMMENTS AND RESPONSES

#### **Issue Category 1: Purpose and Need**

- 1-a *A commenter states that the Draft EIS fails to establish purpose and need for a new facility to fabricate plutonium pits and whether SRS is the best site for such a facility.*

**Response:** As stated in Section 1.3 of this SRS Pit Production EIS, 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 [Public Law 116-92]; DoD 2018a, p. 62–63). NNSA’s current pit production capacity cannot meet this requirement.

Based on the *Final Report for the Plutonium Pit Production Analysis of Alternatives* (NNSA 2017) and the *Final Supplement Analysis of the Complex Transformation Supplemental Programmatic Environmental Impact Statement* (2019 SPEIS SA) (NNSA 2019a), NNSA determined that existing infrastructure and staffing shows that pit manufacturing could be carried out successfully at SRS. See Section 2.3.5 of the EIS for a discussion of why other DOE/NNSA sites were not considered further.

- 1-b *Commenters state that there is no need for new pits, primarily because there is a large number of existing pits in storage at Pantex and as components of existing nuclear weapons.*

**Response:** As stated in Section 1.3 of this SRS Pit Production EIS, 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. NNSA needs to establish additional pit production capability and capacity to (1) mitigate against the risk of plutonium aging (see Section 1.3.1); (2) produce pits with enhanced safety features to meet NNSA and DoD requirements (see Section 1.3.2); (3) respond to changes in deterrent requirements driven by growing threats from peer competitors (see Section 1.3.3); and (4) improve the resiliency, flexibility, and redundancy of the Nuclear Security Enterprise (see Section 1.3.4).

NNSA’s pit production mission was emphasized as a national security imperative by the 2018 Nuclear Posture Review (NPR), issued in February 2018 by the Office of the Secretary of Defense, and subsequent congressional statements of the policy of the United States. Contentions that there is no need for new pits are not consistent with Federal law, the 2018 NPR, and national policy.

1-c *Commenters state that existing pits have a lifetime significantly longer than that claimed by NNSA. In addition, commenters request specific answers related to the pit aging studies, including a JASON report issued in 2019 and a report to Congress as required by the FY 2018 Senate Energy and Water Development Appropriations Bill.*

**Response:** NNSA is continuing to conduct pit aging studies, and a complete assessment will take considerable time to arrive at an improved scientific understanding due to the complexity of the scientific question and the type of experiment required to acquire the data needed. Based on the current information, there is no conclusive evidence to rule out concerns of pit aging. Delaying pit production and discovering that pit aging is a concern would leave the Nation in a very difficult position with respect to the effectiveness of the deterrent and would jeopardize the ability to meet capacity requirements in a timely manner. The 2019 JASON letter report "...urge[s] that pit manufacturing be re-established as expeditiously as possible..." in addition to continuing the pit aging studies.

As stated in Section 1.3 of this SRS Pit Production EIS, 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. Pit lifetime is not the only factor driving the need for pit production. Pit production is required to (1) mitigate against the risk of plutonium aging; (2) produce pits with enhanced safety features to meet NNSA and DoD requirements; (3) respond to changes in deterrent requirements driven by growing threats from peer competitors; and (4) improve the resiliency, flexibility, and redundancy of the Nuclear Security Enterprise by not relying on a single production site. The deliberate, methodical replacement of older, existing plutonium pits with newly manufactured pits provides a risk mitigation against plutonium aging.

In April 2020, the NNSA Administrator submitted a report to Congress in response to the requirement in the FY 2018 appropriations bill.

1-d *Commenters state that NNSA did not have a justification for pit production at two sites. Some commenters feel that pit production at SRS would be redundant and unnecessary. Commenters also state that the requirement for two pit production sites is not included in law; only policy.*

**Response:** As stated in Section 1.3.4 of this SRS Pit Production EIS, using two pit production sites would improve the resiliency, flexibility, and redundancy of the Nuclear Security Enterprise by not relying on a single production site and is considered the best way to manage the cost, schedule, and risk of such a vital undertaking (DoD 2018b). According to NNSA testimony, "Even though this approach will require NNSA to fund activities at two sites, any interruption or delay to pit production in the future due to the lack of resiliency will have huge



cost increases across the entire Nuclear Security Enterprise” (DOE 2019a). A two-site pit production strategy, in which each site would eventually have the surge capability to produce 80 pits per year, would enable NNSA to meet national security requirements if one facility became unavailable.

NEPA evaluation of the Proposed Action does not mean that it will be implemented. It is a requirement, however, that any major Federal action must be evaluated in compliance with NEPA before it can move into an implementation phase. Therefore, since NNSA is considering the Proposed Action to refurbish the MFFF to produce pits, NNSA prepared this SRS Pit Production EIS.

1-e *Commenters state that NNSA should delay construction and operation of the SRPPF until the agency can use the lessons learned from expanded pit production at LANL.*

**Response:** As stated in Section 1.3 of this SRS Pit Production EIS, 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; DoD 2018a, p. 62–63). NNSA’s current pit production capacity cannot meet this requirement. There is uncertainty whether LANL alone can meet this requirement by 2030. Whether NNSA could potentially benefit from a delay in pit production at SRS is speculative. However, a delay in repurposing the MFFF would jeopardize compliance with the current legal requirement to achieve a production rate of 80 war reserve pits per year beginning during 2030.

1-f *Commenters question the need for enhanced safety features as a requirement in the purpose and need section of the SRS Pit Production EIS. They request additional details on these features in the Final EIS.*

**Response:** As discussed in Section 1.2.2 of this SRS Pit Production EIS, the President of the United States determines the size and composition of the U.S. nuclear weapons stockpile annually. The secretaries of Defense and Energy jointly prepare the Nuclear Weapons Stockpile Memorandum (NWSM), which includes the Nuclear Weapons Stockpile Plan (NWSP), as well as a long-range planning assessment. DoD prepares the NWSP based on military requirements and coordinates the development of the plan with NNSA concerning its ability to support this plan. The President approves the NWSM and NWSP, and the President and Congress approve funding for the NNSA to carry out the requirements of the NWSP and NWSM. Whether the NWSP and NWSM require weapons with enhanced safety features is beyond the scope of this EIS. The inclusion of enhanced safety features in newly manufactured pits is not the only driver for the reestablishment of pit production rates of 80 pits per year. It is a benefit of the new designs. As stated in previous comment responses, the pit production program is required by Federal law and to meet national security

requirements. NNSA's current pit production capacity cannot meet this requirement.

1-g *Commenters want more details on the specific warhead design that requires the proposed pit production and the reasons why pits must be produced.*

**Response:** As discussed in Section 1.2.2 of this SRS Pit Production EIS, the President of the United States determines the size and composition of the U.S. nuclear weapons stockpile annually. The secretaries of Defense and Energy jointly prepare the NWSM, which includes the NWSP, as well as a long-range planning assessment. DoD prepares the NWSP based on military requirements and coordinates the development of the plan with NNSA concerning its ability to support this plan. The President approves the NWSM and NWSP, and the President and Congress approve funding for the NNSA to carry out the requirements of the NWSP and NWSM.

The NWSM and NWSP are classified documents which specify the types and quantities of weapons required and set limits on the size and nature of stockpile changes that can be made without additional approval of the President. As such, the NWSM and NWSP are the basis for all NNSA stockpile support planning, and pit production requirements, including pits for various warhead designs, are derived from the NWSM and NWSP.

As described in Section 2.5 of this SRS Pit Production EIS, the SRPPF would be capable of manufacturing plutonium components and assembling pit types that support the enduring nuclear weapons stockpile, as well as any future newly designed pits. The potential environmental impacts presented in Chapter 4 of this EIS are independent of the specific pit type. No additional information on warhead design or pit type is necessary to assess the impacts of the Proposed Action.

NNSA's reasons for the need to expand plutonium pit production in the United States are driven by national policy and legal requirements. The underlying need and approach are to maintain a safe, secure, and reliable nuclear weapons stockpile. The decision on whether to expand pit production is not an agency decision; NNSA is only able to evaluate how best to implement Federal law and national security policy.

1-h *Commenters state that personnel at SRS are not experienced in pit production and therefore could repeat mistakes that occurred at the Rocky Flats Plant.*

**Response:** SRS has experience in the production and handling of plutonium ([https://www.srs.gov/general/pubs/srs\\_overview\\_flip/mobile/index.html#p=1](https://www.srs.gov/general/pubs/srs_overview_flip/mobile/index.html#p=1)). The site was established in 1950 and has extensive nuclear materials experience associated with nuclear materials production, chemical separations, and waste management. SRS also has recent experience in surplus plutonium disposition. NNSA and SRNS are currently working with experienced pit production experts

from the national laboratories to ensure that the lessons learned from Rocky Flats and ongoing operations at LANL are successfully applied at the SRPPF. Operators would undergo intensive and extensive training in plutonium operations. Work processes at SRPPF would be governed by strict plans and procedures to ensure safety, quality, and environmental protection. See Comment-Response 2-i for more information about lessons learned from Rocky Flats.

- 1-i *Commenters are concerned about the diversion of taxpayer funds to nuclear weapons facilities instead of cleaning up existing contamination from past weapons projects.*

**Response:** Neither DOE nor the NNSA establish Federal budget priorities, and budget priorities are beyond the scope of this EIS. Section 1.3 of this SRS Pit Production EIS states that 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). Cleanup of legacy wastes and contamination would continue in parallel with the Proposed Action.

## **Issue Category 2: National Security Policies**

- 2-a *Commenters state that pit production at SRS is a violation of the Nuclear Nonproliferation Treaty (NPT).*

**Response:** As described in Section 1.2.3 of this SRS Pit Production EIS, the United States continues to view the NPT as the cornerstone of the nuclear non-proliferation regime (DoD 2018a, p. 70). Article VI of the NPT obligates the parties “to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.” The United States takes this obligation seriously, and the President has emphasized both the long-term goal of eliminating nuclear weapons and the requirement that the United States have modern, flexible, and resilient nuclear capabilities that are safe and secure until such a time as nuclear weapons can prudently be eliminated from the world (DoD 2018a, p. V). It must be noted that the NPT does not provide any specific date for achieving the ultimate goal of nuclear disarmament nor does it preclude the maintenance of nuclear weapons until their disposition. For this SRS Pit Production EIS, speculation on the terms and conditions of a “zero level” U.S. stockpile goes beyond the bounds of the reasonably foreseeable future consistent with the 2018 NPR. The Proposed Action in this EIS, which would enable NNSA to maintain the safety, reliability, and performance of the U.S. nuclear weapons stockpile until the ultimate goals of the NPT are attained, is consistent with the NPT.

2-b

*Commenters state that the EIS should address the potential need to resume full-scale nuclear testing for novel warhead designs and how that would affect the moratorium on warhead testing.*

**Response:** For the past 23 consecutive years, the science-based Stockpile Stewardship Program has allowed DOE and DoD to certify the safety, reliability, and performance of the U.S. nuclear weapons stockpile to the President of the United States without the use of underground nuclear testing. Over that same time, DOE/NNSA has maintained the readiness to conduct an underground nuclear test, if required, to ensure the safety and effectiveness of the Nation's stockpile or if otherwise directed by the President. The 1993 Presidential Decision Directive-15 requires NNSA to maintain the capability to conduct a nuclear test within 24 to 36 months (NNSA 2008a). NNSA assumes that a test would be conducted only when the President has declared a national emergency or other similar contingency and only after any necessary waiver of applicable statutory and regulatory restrictions. NNSA maintains test readiness by exercising capabilities and workforce at the national security laboratories and the Nevada National Security Site (NNSS) through the Stockpile Stewardship Program. Test readiness is a product of a robust, technically challenging Stockpile Stewardship Program that exercises essential underground testing elements at the NNSS, such as mining, and investments in both the personnel and infrastructure of the nuclear security enterprise (NNSA 2019b).

NNSA's actions related to the Stockpile Stewardship Program and the maintenance of test readiness comply with all applicable laws and national security policies of the United States, including the recent 2018 NPR, which states:

“To remain postured to address challenges that may emerge, the United States needs the flexibility to hedge against future risks. Consequently, NNSA will explore approaches for rapid prototyping, develop options for modifying warheads to increase flexibility and responsiveness, examine the potential for retired warheads and components to augment the future hedge stockpile, and survey past and extant warhead designs to better understand what can be certified without resuming full-scale nuclear testing. An additional measure for needed flexibility is to reduce the time required to design, develop, and initially produce a warhead, from a decision to enter full-scale development. Along with its nuclear weapon development and production infrastructure, NNSA will maintain the capability to resume underground nuclear explosive testing if called upon to do so. The United States will not seek Senate ratification of the Comprehensive Nuclear Test Ban Treaty but will continue to observe a nuclear test moratorium that began in 1992. This posture was adopted with the understanding that the United States must

remain ready to resume nuclear testing, if necessary, to meet severe technological or geopolitical challenges.”

The current policy of the United States is to continue to observe the moratorium on nuclear testing. Any deviation from that policy is speculative and beyond the scope of this EIS.

2-c *Commenters state that implementation of the Proposed Action would increase the risk of nuclear weapons proliferation worldwide.*

**Response:** As stated in Section 1.3 of this SRS Pit Production EIS, 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. NNSA lacks discretion concerning whether to comply with Federal law or policy. Actions of other nations in response to U.S. law and policy are outside the scope of this EIS. See also Comment-Response 2-a for a discussion of the Nuclear Nonproliferation Treaty.

2-d *Commenters question how NNSA will test the safety and reliability of a warhead or a weapon using a new plutonium pit.*

**Response:** NNSA certifies the safety and reliability of the stockpile through the science-based Stockpile Stewardship Program, which was established to sustain the deterrent in the absence of nuclear explosive testing. That program has allowed DOE and DoD to certify the safety, security, and effectiveness of the U.S. nuclear weapons stockpile to the President without the use of nuclear explosive testing for the past 23 consecutive years. The status of the current stockpile is monitored through continuous, multi-layered assessments of the safety, security, and effectiveness of each U.S. nuclear weapon system.

2-e *Commenters state that they do not agree with the NPR, that it is only policy and not law, and that the President directed the preparation of the NPR as a call to a new arms race. Also, the NPR does not address the two-site approach.*

**Response:** As presented in Section 1.2.1 of this SRS Pit Production EIS, the NPR is a legislatively mandated, comprehensive review of the U.S. nuclear deterrence policy, strategy, and force posture. The 2018 NPR is the fourth such document that has been prepared—each eight years apart. (NPRs were prepared in 1994, 2002, and 2010.) With respect to the Proposed Action in this EIS (see Section 1.4), the 2018 NPR states that the United States will pursue initiatives to ensure the necessary capability, capacity, and responsiveness of the nuclear weapons infrastructure and the needed skills of the workforce, including providing the enduring capability and capacity to produce plutonium pits at a rate of no fewer than 80 pits per year beginning during 2030. See Comment-Response 1-d for a discussion of the two-site approach.

Since 2008, the United States has emphasized the need to eventually produce 80 pits per year. The joint DoD-DOE white paper, *National Security and Nuclear Weapons in the 21<sup>st</sup> Century*, cataloged the need and justification for pit production rates (DoD and DOE 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 produces not less than 80 war reserve plutonium pits during 2030 (50 U.S.C. § 2538a, as amended). (The 2018 NPR 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 (DoD 2018a p. 62). Additionally, in 2018, the *John S. McCain National Defense Authorization Act for Fiscal Year 2019* enacted as formal policy of the United States that LANL will produce a minimum of 30 pits per year for the national production mission and will implement surge efforts to exceed 30 pits per year to meet NPR and national policy (Public Law 115-232, Section 3120).

2-f *Commenters state that disposal of radioactive waste at the NNSA would violate the Ruby Valley Treaty.*

**Response:** The Western Shoshone have long claimed aboriginal title to approximately 24 million acres of land in Nevada, Idaho, California, and Utah. This claim is based on the Ruby Valley Treaty of 1863. The Western Shoshone assert the U.S. Government has not proven title to Western Shoshone lands occupied by others within their aboriginal territory, including the NNSA. This issue has come before numerous courts for adjudication, resulting in a ruling from the U.S. Supreme Court that the monetary award constituted final settlement for Western Shoshone land claims.

2-g *Commenters state that this proposal will start a new arms race.*

**Response:** NNSA is responsible for producing the pit quantities and pit types specified in the NWSM and NWSP and lacks discretion to select alternatives outside of Federal law and national policy and such alternatives, with the exception of the No-Action Alternative, are not considered in this EIS. As discussed in Comment-Response 2-a, the Proposed Action in this EIS, which would enable NNSA to maintain the safety, reliability, and performance of the U.S. nuclear weapons stockpile until the ultimate goals of the NPT are attained, is consistent with the NPT.

2-h *Commenters state that the Proposed Action is a “bait and switch” that turned a nuclear security and environmental management program into a nuclear weapons manufacturing program. They state that it is a theft of the public trust.*

**Response:** As stated in Section 1.3 of this SRS Pit Production EIS, 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. The Proposed Action would enable NNSA to comply with Federal law and national security requirements while potentially using an otherwise abandoned asset. See Comment Responses 1-i and 6-j.6 for additional discussion of DOE's environmental cleanup commitments.

2-i *Commenters state that the EIS should address lessons learned from plutonium pit production at the Rocky Flats Plant. They state that the differences between the processes used at Rocky Flats and those proposed for SRPPF need to be discussed and NNSA needs to describe how it would avoid the environmental problems that occurred at Rocky Flats. Commenters state that the biggest problems at Rocky Flats were the management of large volumes of aqueous mixed waste and plutonium fires.*

**Response:** Plutonium pit production at SRPPF would be different and much improved compared to what occurred at the Rocky Flats Plant. The differences and improvements include a number of factors such as: (1) much lower pit production levels (50 to 80 pits per year at SRPPF versus more than 1,000 pits per year at the Rocky Flats Plant); (2) newer facilities and technologies; (3) better and more controlled operational and management practices; (4) a heightened awareness of safety and environmental issues; (5) more stringent environmental and nuclear safety regulations; and (6) a higher level of oversight by regulators and independent oversight organizations. For these reasons, potential impacts from SRPPF operations are not similar to those associated with historical operations at the Rocky Flats Plant.

With regard to fires, the SRPPF would have increased safety margins, stronger structural components, firebreaks and automatic fire suppression systems, and more automatic alarms and process controls than comparable systems used at the Rocky Flats Plant more than 30 years ago. Specifically, with respect to filtration of process emissions, the SRPPF would have structural designs for fire containments, improved air filtration, and firebreaks to prevent, isolate, and limit the spread of potential fires through air filtration systems, thus minimizing potential releases to the environment. See Comment-Response 6-1.2 for a discussion on the potential impacts associated with fires at the SRPPF.

With regard to waste management, as described in Section 2.1.2.2 of this EIS, liquids would be neutralized and solidified for disposal as low-level radioactive waste (LLW) or transuranic (TRU) waste.<sup>1</sup> Section 4.9.1.2 of this EIS describes the annual volumes of mixed LLW (MLLW) expected during SRPPF operations, which represent a small percentage of the MLLW currently managed at SRS.

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<sup>1</sup> The WIPP facility is authorized to accept TRU waste that was generated from atomic energy defense activities. The TRU waste shipped from SRS and projected to be generated at SRPPF is, and would be, defense-related TRU waste. Throughout this SRS Pit Production EIS, the defense-related TRU waste from SRS and SRPPF is referred to as TRU waste.

### **Issue Category 3: EIS Alternatives**

3-a *Commenters state that the EIS must discuss the role of the Pantex Plant in pit reuse, refurbishment, and requalification, and explain why “all pit reuse” is not possible. Commenters state that pit reuse is much less expensive and environmentally damaging than the production of new pits. Commenters state that pit reuse is a reasonable alternative that should be considered in the EIS and would also help determine the needed rate of production of new pits. Commenters request that NNSA clarify what it means by “judicious reuse of existing pits” in Section 1.3.1 of the EIS. Commenters also state that NNSA must clarify the breakdown of produced pits by weapon systems (e.g., new weapons and refurbished weapons).*

**Response:** As related to pit production, the fundamental role of Pantex has not changed since the Complex Transformation SPEIS was prepared and the associated 2008 ROD was announced. Pantex stores pits, provides feedstock, conducts non-intrusive pit modification, and receives newly certified pits. NNSA notes that the pits stored at Pantex would provide the feedstock for pit production activities at SRS and there is no need for NNSA to produce any new plutonium; rather, NNSA is proposing to remanufacture existing, but aged, pits into new pits using the process described in Chapter 2 of this EIS. While judicious pit reuse is included as an element of the Proposed Action and could be less expensive, with less environment impact than the production of new pits, as discussed in Section 2.3.4 of this EIS, an alternative of “all pit reuse” would not meet national security requirements identified in Sections 1.1 and 1.2 of this EIS. Like the pits in the active stockpile, the pits stored at Pantex are aging and would not mitigate plutonium aging risks or enable NNSA to fully implement enhanced safety features to pits to meet national security requirements. Furthermore, failure to increase pit production would render NNSA in violation of Federal law that mandates specific pit production levels in the near future.

The term “judicious reuse of existing pits” reflects NNSA’s intent to reuse existing pits to the extent practicable to meet national security requirements. The national security requirements discussed in Sections 1.1 and 1.2 of this EIS account for judicious reuse of existing pits.

With regard to specific weapons systems, the President of the United States determines the size and composition of the U.S. nuclear weapons stockpile annually. The secretaries of Defense and Energy jointly prepare the NWSM, which includes the NWSP as well as a long-range planning assessment. DoD prepares the NWSP based on military requirements and coordinates the development of the NWSP with NNSA concerning its ability to support this plan. The President approves the NWSM and NWSP, and Congress and the President approve funding for the NNSA to carry out the requirements of the NWSP and NWSM. As discussed in Section 1.1 of this EIS, NNSA must implement a strategy to provide the enduring capability and capacity to produce not less than 80 pits per year beginning during 2030. NNSA is responsible for



producing the pit quantities and pit types specified in the NWSM and NWSP and lacks discretion to consider alternatives outside of national policy. The exact number and types of pits that would be produced is classified.

- 3-b *Commenters state that NNSA must analyze an alternative that foregoes new-design pits, in large part to not introduce uncertainties into a reliable, already extensively tested stockpile. Commenters ask how many newly produced pits would be needed in 2030 if not for new-design pits. Commenters state that NNSA should evaluate an alternative of no war reserve pit production at LANL, thus enabling LANL to only produce pits for R&D and training purposes.*

**Response:** With regard to specific weapons systems, the President of the United States determines the size and composition of the U.S. nuclear weapons stockpile annually. The secretaries of Defense and Energy jointly prepare the NWSM, which includes the NWSP as well as a long-range planning assessment. DoD prepares the NWSP based on military requirements and coordinates the development of the NWSP with NNSA concerning its ability to support this plan. The President approves the NWSM and NWSP, and the Congress and the President approve funding for the NNSA to carry out the requirements of the NWSP and NWSM. As discussed in Section 1.1 of this EIS, NNSA must implement a strategy to provide the enduring capability and capacity to produce no fewer than 80 pits per year beginning during 2030. NNSA is responsible for producing the pit quantities and pit types specified in the NWSM and NWSP and lacks discretion to consider alternatives outside of national policy. The exact number and types of pits that would be produced is classified. An alternative that foregoes new-design pits would not meet the national security requirements identified in Sections 1.1 and 1.2 of this EIS and therefore would not be reasonable.

As explained in the 2019 SPEIS SA (NNSA 2019a), to meet Federal law and national security requirements, NNSA is pursuing a two-prong approach to the production of plutonium pits—produce a minimum of 50 pits per year at SRS and a minimum of 30 pits per year at LANL. Alternatives regarding pit production at LANL, as proposed by the commenters, are beyond the scope of this EIS, which focuses on pit production at SRS.

- 3-c *Commenters question why the current capacity at LANL (20 pits per year) is “limited,” and suggest it is limited because of NNSA’s own failures. Commenters question whether LANL has been able to meet the 20-pits-per-year production goal, and if not, why not. Commenters question why the LANL PF-4 (plutonium) facility was closed from 2013 to 2016 and ask if it is back at full operation or not. Commenters question why NNSA does not prove it can produce 20 pits per year before expanding pit production to another site.*

**Response:** Under Federal law and national policy, NNSA must implement a strategy to provide the enduring capability and capacity to produce no fewer than 80 pits per year beginning during 2030 (50 U.S.C. § 2538a, as amended;

DoD 2018a, pp. 62–63). The current pit production capacity at LANL cannot meet this requirement and is therefore considered “limited.” Although specific production quantities are classified, the actual number of pits produced at LANL has been fewer than 20 per year. In 2013, LANL paused work on all fissile material operations in PF-4. The pause stemmed from self-reported procedural issues and resulted in management evaluation of work, identifying potential deficiencies in work processes and procedures, and mechanisms for continuous improvement. NNSA has implemented corrective actions. Full operations, including pit manufacturing, resumed at PF-4 in 2016. PF-4 is currently operational. The ability to produce 20 pits per year at this time is not a prerequisite for planning expansion of pit production to meet national security requirements.

3-d *Commenters state that NNSA must analyze alternatives that incorporate other uses of the MFFF, specifically, plutonium immobilization.*

**Response:** Section 1.3 of this SRS Pit Production EIS describes the purpose and need for agency action, which dictates the scope of the analysis and the reasonable alternatives. Alternatives that do not meet the purpose and need for agency action are not considered reasonable. Immobilization of plutonium would not meet the national security requirements identified in Sections 1.1 and 1.2 of this EIS and would not be a reasonable alternative. Except for the Proposed Action, no other uses of the MFFF would meet the purpose and need.

3-e *Commenters state that NNSA should evaluate an alternative to delay pit production at SRS. Commenters specifically suggest that NNSA evaluate: (1) war reserve pit production at SRS, delayed by 5 or 10 years to 2035 or 2040; and (2) war reserve pit production at SRS, delayed until an unspecified time, but utilizing a production rate of more than 80 pits per year.*

**Response:** As discussed in Section 1.1 of this SRS Pit Production EIS, 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 produces not less than 80 war reserve plutonium pits during 2030 (50 U.S.C. § 2538a, as amended). The 2018 NPR 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 (DoD 2018a, p. 62). 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 (DoD 2018a, pp. 62–63). The alternatives suggested by the commenters would not meet the purpose and need for agency action (EIS Section 1.3), and thus are not reasonable.

3-f *Commenters state that the No-Action Alternative needs to disclose LANL impacts. Commenters contend that these LANL impacts are not analyzed in the SRS Pit Production Draft EIS, nor have they been analyzed in any past or any*

*other present EIS. Commenters state that prior evaluations were not EISs, PEISs, or supplemental EISs or PEISs.*

**Response:** Under the No-Action Alternative, the existing MFFF would remain unused, and NNSA would utilize the capabilities currently being expanded at LANL to meet the Nation's long-term needs for pit manufacturing. DOE has evaluated the impacts of the expanded pit production capacity at LANL in several EISs, including the *Programmatic Environmental Impact Statement for Stockpile Stewardship and Management* (SSM PEIS) (DOE 1996), *Site-Wide Environmental Impact Statement for Continued Operation of the Los Alamos National Laboratory, Los Alamos, New Mexico* (1999 LANL SWEIS) (DOE 1999), *Complex Transformation Supplemental Programmatic Environmental Impact Statement* (Complex Transformation SPEIS) (NNSA 2008a), and *Site-Wide Environmental Impact Statement for Continued Operation of the Los Alamos National Laboratory, Los Alamos, New Mexico* (2008 LANL SWEIS) (NNSA 2008b). NNSA reviewed these EIS evaluations in the 2019 SPEIS SA (NNSA 2019a) and the *Supplement Analysis of the 2008 Site-Wide EIS for the Continued Operation of Los Alamos National Laboratory for Plutonium Operations* (2020 Final LANL SA) (NNSA 2020a) and determined that the proposal to produce a minimum of 30 pits per year at LANL and implementing surge efforts to exceed 30 pits per year was adequately addressed in the 2008 LANL SWEIS and other NEPA analysis, and no additional NEPA review was required. The potential impacts of the No-Action Alternative at LANL are adequately analyzed, well understood, and appropriately incorporated by reference into the SRS Pit Production EIS.

3-f.1 *Commenters state that the No-Action Alternative should not be linked to pit production at LANL. Rather, commenters contend that the No-Action Alternative should state that the existing MFFF would remain unused and no pit plant would be located at SRS.*

**Response:** NNSA agrees that, under the No-Action Alternative, the existing MFFF would remain unused and no pit production capability would be located at SRS. This SRS Pit Production EIS presents the impacts at SRS if the Proposed Action were implemented. However, independent of this EIS, NNSA would utilize the capabilities at LANL to meet the Nation's long-term needs for pit manufacturing. NNSA has re-evaluated the impacts of producing a minimum of 30 pits per year at LANL and implementing surge efforts to exceed 30 pits per year at LANL in the 2019 SPEIS SA (NNSA 2019a) and the 2020 Final LANL SA (NNSA 2020a), and those impacts are appropriately incorporated by reference into this SRS Pit Production EIS.

3-g *Commenters state that the EIS should discuss when the wrought process would be used to manufacture pits. Commenters question whether inclusion of the wrought process implies weaknesses/doubts with the cast process. Commenters*

*also question whether adding a second process would affect costs, staff training, and operational staffing.*

**Response:** As discussed in Section 2.1.5.1.2 of this SRS Pit Production EIS, if implemented, some gloveboxes would be modified to support the wrought process to supplement, not replace, the casting process. Because the wrought process could be used in the SRPPF, this EIS includes an analysis to evaluate the potential environmental impacts of that process. That analysis, which is included in Chapter 4 of this EIS, identifies and characterizes any notable changes in the potential environmental impacts between the casting and wrought processes. Inclusion of the wrought process analysis does not imply that NNSA lacks confidence in the cast process; rather, including the wrought process in the facility, and in the EIS analysis, provides NNSA with additional flexibility related to pit production. If implemented, the wrought process would be appropriately supported by trained workers. Costs associated with implementation of additional processes would not have a bearing on the analysis of potential environmental impacts and are beyond the scope of this EIS.

3-h *Commenters state that the EIS should analyze a Greenfield Pit Facility at SRS.*

**Response:** As discussed in Section 2.3.2 of this SRS Pit Production EIS, NNSA considered the alternative of building a new greenfield pit production facility at SRS. The mean acquisition cost of such a new facility was determined to be approximately \$1.8 billion more than the cost of repurposing the MFFF (NNSA 2017, Figure 6-2). Additionally, a new facility would introduce significant schedule risk compared to repurposing the MFFF. The operational date for a new facility was projected to be 2034, which would not support the purpose and need (NNSA 2017, Figure 7-1). Consequently, this alternative was eliminated from detailed analysis.

3-i *Commenters state that the EIS must analyze surge production of pits. Specifically, commenters state that NNSA must define/clarify the term “surge production” and provide details when surge production would occur or be needed. Commenters also question how costs would be impacted by the various pit production levels.*

**Response:** The EIS discusses “surge capacity,” which means any annual production above 50 war reserve pits per year at SRS. As discussed in Section 1.4 of this SRS Pit Production EIS, NNSA evaluates the potential environmental impacts of producing 50, 80, and 125 pits per year at SRS. This approach provides a conservative analysis and affords NNSA the flexibility of adapting to shifting requirements or changed circumstances in the future if SRS must produce more than 50 pits per year. For example, if pit production at LANL were paused for some reason, overall pit production requirements could be satisfied at SRS. This EIS also includes an analysis of producing 125 pits per year at SRS. That analysis affords NNSA greater flexibility if requirements were to change in the future. Costs associated with implementation of surge

capacity levels would not have a bearing on the analysis of potential environmental impacts and are beyond the scope of this EIS.

- 3-j *Commenters state that the MFFF construction was substandard and the EIS should analyze this issue. Commenters assert that there are numerous allegations over shoddy and potentially illegal activities related to the installation of various components in the MFFF. Commenters state that the EIS must seriously analyze the as-built quality of the MFFF and demonstrate that it indeed can be “repurposed” for expanded plutonium pit production. The EIS must include a full review of mixed-oxide-related construction, inspections, and certification of components.*

**Response:** As stated in Section 2.1.1 of this SRS Pit Production EIS, NNSA would verify that the existing MFFF structure would meet all relevant requirements for the pit production mission. The construction parameters associated with converting the MFFF into the SRPPF are based on conservatively estimated actions to ensure the facility would meet all relevant DOE requirements. Operational parameters have been estimated to reflect operation of a SRPPF that meets all relevant DOE and other regulatory requirements. NNSA would not operate the SRPPF unless it were safe and satisfies relevant DOE and other regulatory requirements.

#### **Issue Category 4: NEPA Process**

- 4-a *Commenters request an extension of the comment period on the Draft EIS.*

**Response:** The NOA for the Draft SRS Pit Production EIS was published in the *Federal Register* on April 3, 2020 (85 FR 18947), announcing a 45-day comment period that was scheduled to end on May 18, 2020. On April 23, 2020, in response to public comments requesting an extension of the comment period, NNSA extended the comment period on the Draft EIS by 15 days, until June 2, 2020. NNSA considered all late comments received.

- 4-a.1 *Commenters request an extension of the comment period on the Draft EIS, citing leaders in both houses of Congress who called for all comment periods to be extended indefinitely during the national COVID-19 emergency, and for public hearings to be scheduled after the national emergency is lifted.*

**Response:** On April 23, 2020, in response to public comments requesting an extension of the comment period, NNSA extended the comment period on the Draft SRS Pit Production EIS by 15 days, until June 2, 2020. NNSA considered all late comments received. NNSA was not able to extend the comment period indefinitely because critical national security missions, such as pit production, must move forward in order to meet DoD deliverables and requirements under Federal law. See Comment-Response 4-b regarding the public hearing process.

- 4-b *Commenters request that NNSA hold a public hearing in person. Commenters state that the online hearing was difficult to join and follow. Commenters state*

*that NNSA should delay the public hearing during the national COVID-19 emergency, and for public hearings to be scheduled after the national emergency is lifted. Commenters also state that holding a virtual public hearing limits access by low-income individuals.*

**Response:** In light of recent health concerns, NNSA elected to hold a virtual, online hearing (with telephone access) instead of an in-person hearing. This approach, in addition to reducing the risk of spreading COVID-19 at a large gathering: (1) allowed NNSA to reach a broader audience with the same presentation; (2) allowed nationwide participation in the hearing without the requisite travel costs; (3) has previously been implemented within DOE and other Federal agencies; and (4) is consistent with CEQ and/or DOE NEPA implementing procedures.

The online public hearing was held on April 30, 2020. The purpose of any public hearing is to allow the agency to present information about the Draft EIS and to allow the public to provide comments. The online hearing accomplished these dual purposes. To aid the public in joining and following the online hearing, NNSA provided tips to using the online format. NNSA also provided free technical support to the hearing audience and participants during the hearing to resolve any technical difficulties associated with the online hearing. Prior to the hearing, NNSA conducted multiple practice sessions using the online platform on a variety of computing systems to better ensure successful transmission and receipt of the online hearing. NNSA posted the presentation from the hearing on the NNSA NEPA Reading Room website so that individuals that were unable to participate in the hearing could obtain the information that was provided. In addition to providing oral comments during the online hearing, the public could submit written comments on the Draft EIS via email or the U.S. postal service. All comments received were equally considered by NNSA in preparing this Final SRS Pit Production EIS.

To address the possibility that some individuals did not have access to the Internet, the hearing was also accessible by telephone. Participants were able to hear the audio presentation and to provide oral comments. Notification of the hearing and how to participate were provided on the radio and in local newspapers.

4-c

*Commenters state that NNSA should delay the SRS Pit Production EIS process until the NEPA process for LANL plutonium pit production is completed so the public can have an understanding of the impacts of the current plutonium production site before going over the analysis for the new proposal at SRS.*

**Response:** NNSA disclosed the impacts of pit production at LANL in the 2008 LANL SWEIS (NNSA 2008b). The 2020 Final LANL SA (NNSA 2020a) was published for public review on March 10, 2020, for a 45-day public review process, which was scheduled to end on April 24, 2020. In response to public comments requesting an extension of the comment period, NNSA extended the

comment period on the Draft SA by 15 days, until May 9, 2020. The Draft LANL SA included a preliminary determination that the proposal to produce a minimum of 30 pits per year at LANL and implementing surge efforts to exceed 30 pits per year was adequately addressed in the 2008 LANL SWEIS and other NEPA analyses, and no additional NEPA review was required. Given that the comment period for the Draft SRS Pit Production EIS did not end until June 2, 2020, the availability of the LANL Draft SA provided the public with an opportunity to understand the impacts of the current plutonium production site (LANL) as it may relate to the SRS Pit Production EIS. The Final LANL SA also included the determination that no additional NEPA review was required (NNSA 2020a).

4-d *Commenters state that NNSA should make all EIS references publicly available.*

**Response:** Of the approximately 300 reference documents identified in Chapter 7, “References,” and in Appendices A and B of this SRS Pit Production EIS, all but 15 are accessible from the Internet at the web addresses provided. References that do not include a web address were provided by NNSA upon request, as was done in several instances. Some references are Official Use Only and are not available to the general public.

4-e *Commenters state that pit production and surplus plutonium disposition are interrelated and should be addressed in a national programmatic NEPA analysis. Commenters expressed concern that NNSA should disclose what the net gain or loss in plutonium will be at SRS from the interrelated programs, and also generally disclose where plutonium from SRS will go. Commenters also state that the sodium-cooled, plutonium-fueled reactor project at INL (Versatile Test Reactor [VTR]) is related and should also be considered in a NEPA analysis with pit production.*

**Response:** Section 1.3 of this SRS Pit Production EIS describes the purpose and need for agency action, which defines the scope of the analysis and the reasonable alternatives. The pit production program was analyzed as part of the Complex Transformation SPEIS. The potential environmental impacts of the surplus plutonium disposition program were analyzed in the *Final Surplus Plutonium Disposition Supplemental Environmental Impact Statement* (NNSA 2015). Although both programs involve plutonium and could use similar facilities, analyses and decisions related to the pit production program and surplus plutonium disposition program have independent utility, are not dependent, and would not prejudice each other.

This EIS acknowledges that the plutonium disposition program could potentially utilize pit production facilities. Section 2.5 of this EIS states:

“The current design of the SRPPF includes excess HC-2 space that NNSA could use to support other missions, including surplus plutonium disposition. The SRPPF would be designed to include a

pit disassembly capability (see Section 2.1.2 of this EIS), and excess space could be used for equipment for other processing steps. Therefore, SRPPF space and capabilities could be used to support the dilute and dispose process for plutonium disposition, or other NNSA missions.”

Chapter 5 of this EIS addresses the potential cumulative impacts associated with conducting surplus plutonium disposition operations in the SRPPF. Until a proposal is developed for the surplus plutonium disposition program, it would be speculative to estimate what the net gain or loss in plutonium would be at SRS from pit production and surplus plutonium disposition. NNSA is committed to dispositioning surplus plutonium at SRS and does not expect long-term retention of plutonium at SRS that is received as feedstock for the remanufacture of pits.

With regard to the VTR Project, the VTR Draft EIS has not been published and the VTR-specific impacts at SRS are not yet available. The Notice of Intent identified that SRS was being considered for the fabrication of the driver fuel for the VTR. Like the surplus plutonium disposition program, the VTR Project and the pit production program have independent utility, are not dependent, and would not prejudice each other.

4-f *Commenters state that NNSA should prepare a programmatic EIS (PEIS) on pit production for a variety of reasons, including:*

- *NNSA’s new plan for simultaneous pit production at two sites, separated by over 1,300 miles, is a programmatic alternative that the 2008 Complex Transformation SPEIS never considered;*
- *The Complex Transformation SPEIS is outdated;*
- *Expansion of plutonium pit production at LANL and the repurposing of the MFFF to produce plutonium pits at SRS are “connected, cumulative, and similar actions” under NEPA and should be addressed in a PEIS;*
- *Pit production activities involve not only SRS and LANL, but also NNSA’s Kansas City National Security Complex, Pantex Plant, Nevada National Security Site and the Sandia and Lawrence Livermore National Laboratories;*
- *The National Academy of Sciences has recommended that a PEIS be prepared;*
- *A new PEIS is needed to examine the need for expanded plutonium pit production;*



- *Locating pit production capacity at a new site that has never hosted this activity before;*
- *Transportation risks associated with plutonium and plutonium-contaminated wastes between NNSA/DOE sites;*

**Response:** NNSA prepared the 2019 SPEIS SA (NNSA 2019a) to determine whether the existing Complex Transformation SPEIS (NNSA 2008a) should be supplemented, a new environmental impact statement be prepared, or no further NEPA analysis is required prior to proceeding with its proposed action. That SA considered relevant new information and changed circumstances since publication of the Complex Transformation SPEIS. The Complex Transformation SPEIS considered how to configure facilities that hold Category I and Category II quantities of SNM across the Complex, including the three functional areas of plutonium, uranium operations, and weapons assembly/disassembly/high explosives in various ways. These alternatives were broadly categorized into a Distributed Centers of Excellence (DCE) Alternative, a Consolidated Centers of Excellence Alternative, and a Capability-Based Alternative. The Complex Transformation SPEIS also analyzed a No-Action Alternative.

With respect to plutonium operations and pit production, the Complex Transformation SPEIS evaluated an option for constructing a new pit production facility (“Greenfield”) to produce 125 pits per year at one of five site alternatives: LANL; SRS; Pantex; Y-12; and the NNSS. At LANL, the SPEIS also included an analysis of two distinct upgrades to existing facilities, one to support production of 125 pits per year, and one to support production of 50 to 80 pits per year. At SRS, the SPEIS also evaluated a pit production facility that would use the MFFF and PDCF infrastructure. Consequently, the Complex Transformation SPEIS analyzed the environmental impacts of pit production at both SRS and LANL, consistent with, and even significantly beyond, the current proposed action addressed in the 2019 SPEIS SA. In addition, the Complex Transformation SPEIS evaluated the impacts of pit production activities across the nuclear weapons complex, and the 2019 SPEIS SA also addressed these activities, as appropriate.

While NNSA did not specifically identify “simultaneous pit production at two sites” as a stated alternative in the Complex Transformation SPEIS, the environmental analysis in the SPEIS adequately considered the potential environmental impacts of such simultaneous production. The Complex Transformation SPEIS analyzed the same kinds of activities (i.e., pit production), with the same kinds of environmental consequences, at the same two sites that were being considered in the 2019 SPEIS SA, including the transportation of materials between sites. In addition, for all alternatives analyzed in the Complex Transformation SPEIS, if LANL was not the selected site for consolidated plutonium operations, there would have been many years

of overlapping production at two sites until a plutonium phase out at LANL could be achieved.

The 2019 SPEIS SA was specifically designed to comply with DOE NEPA implementing procedures at 10 CFR 1021.314(c) by evaluating a change to the DCE Alternative from the SPEIS to reflect two smaller pit production operations in recognition of the fact that the original DCE Alternative considered a much larger single-site pit production operation. Section 3.0 of the 2019 SPEIS SA confirms that the impacts of a Modified DCE Alternative are less than those previously analyzed or are not significantly greater than those previously analyzed (see specifically Table 3-3 of the 2019 SPEIS SA).

For all resource areas, the analyses in the 2019 SPEIS SA verify that the potential programmatic environmental impacts would not be different, or would not be significantly different, than impacts in existing NEPA analyses. Based on the results of the 2019 SPEIS SA, NNSA determined that the proposed action did not constitute a substantial change from actions analyzed previously, and there were no significant new circumstances or information relevant to environmental concerns.

NNSA agrees that expanding pit production at LANL and repurposing the MFFF are connected and similar actions. However, that does not mean that a new PEIS is required. The Complex Transformation SPEIS addressed the potential environmental impacts of expanding pit production at LANL and repurposing the MFFF. The issue addressed in the 2019 SPEIS SA was whether the existing Complex Transformation SPEIS should be supplemented, a new EIS should be prepared, or no further NEPA analysis is required prior to proceeding with its proposed action. In preparing the 2019 SPEIS SA, NNSA considered and addressed the potential environmental effects of the connected actions at LANL and SRS and decided that no further NEPA analysis was required. With regard to cumulative actions, this SRS Pit Production EIS analyzes cumulative impacts in Chapter 5, including cumulative actions associated with pit production at LANL.

4-g *Commenters state that NNSA should evaluate the end use of nuclear weapons.*

**Response:** The primary purpose of the Nation's nuclear weapons stockpile is to deter aggression and preserve peace (DoD 2018a, p. II). Nuclear weapons effectively serve as that deterrent. With regard to the potential detonation of a nuclear weapon against an adversary, such a use is speculative and beyond the scope of this EIS.

4-h *Commenters state that the EIS analyses should be specific to SRS and not rely on the 2008 Complex Transformation SPEIS. Commenters specifically state that the data in this EIS must be for 80 pits at a redesigned MFFF. Given that the MFFF is already partially built, commenters also state that NNSA must*

*demonstrate that it can pursue an impartial process without predetermination that leads to an objective decision to repurpose the MFFF.*

**Response:** The analyses in this EIS are specific to the Proposed Action to repurpose the MFFF to produce a minimum of 50 war reserve pits per year at SRS, with additional surge capacity, if needed, 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. Data for the EIS were specifically developed for repurposing the MFFF into the SRPPF and operating the SRPPF to produce 50, 80, and 125 pits per year. NNSA prepared this EIS in accordance with NEPA, using an unbiased process without a predetermined outcome.

4-i *Commenters state that scoping comments were not adequately addressed in the Draft EIS. Specifically, commenters ask how/where scoping comments were answered/addressed?*

**Response:** NNSA reviewed every scoping comment received about the SRS Pit Production EIS, combined individual comments, as appropriate, into summary comments, and used those comment summaries to develop/guide preparation of the Draft SRS Pit Production EIS. Table 1-1 of the Draft EIS presents a summary of the comments received. Although NNSA did not provide responses to the scoping comment summaries, NNSA's consideration of the scoping comments is contained within the content of the Draft EIS. For example, scoping comments suggested that "pits have credible lifetimes of at least 100 years and possibly as long as 150 years." NNSA specifically included Section 1.3.1, "Pit Aging and Pit Lifetime," in this EIS to address questions relative to this issue.

4-j *Commenters suggest that NNSA set up an automatic reply that acknowledges receipt of emailed comments when emailed.*

**Response:** When a comment was received via email, NNSA's email system automatically responded with an acknowledgement of receipt. Comments received prior to the public hearing date (April 30, 2020) received an automatic response that included information about the upcoming hearing. Comments received after the public hearing date received the acknowledgement with no additional information.

4-k *Commenters state that NNSA should prepare a PEIS on the entire weapons program. Commenters suggest that such a PEIS address both the Uranium Processing Facility and Extended Life Program facilities (Buildings 9215 and 92042E) and expanded plutonium pit production, which commenters state are the major actions associated with resumed U.S. industrial-scale nuclear weapons production.*

**Response:** Section 1.3 of this SRS Pit Production EIS describes the purpose and need for agency action, which defines the scope of the analysis and the reasonable alternatives. Alternatives that do not meet the purpose and need for agency action are not reasonable. While it is conceivable that a PEIS for the entire weapons program could be developed to meet the purpose and need for this EIS, NNSA does not have any proposals for other aspects of the Nuclear Security Enterprise; thus, a PEIS would be unnecessary and not useful. NNSA also notes that the Complex Transformation SPEIS was prepared specifically to evaluate the entire weapons program. See Comment-Response 4-f for additional information about the Complex Transformation SPEIS and the need for a new PEIS.

4-1 *Commenters state that NNSA needs to prepare an SRS SWEIS, and the absence of such a SWEIS is a violation of the DOE NEPA implementing regulations, which states: “As a matter of policy when not otherwise required, DOE shall prepare site-wide EISs for certain large, multiple-facility DOE sites; DOE may prepare EISs or EAs for other sites to assess the impacts of all or selected functions at those sites.”*

**Response:** In the past, DOE has considered the possibility of preparing a SWEIS for SRS, but has declined to do so because of the existence of broad-based EISs at the site, including the *Final Environmental Impact Statement, Waste Management Activities for Groundwater Protection Savannah River Plant, Aiken, South Carolina* (DOE/EIS-0120) (DOE 1987); *Savannah River Site Waste Management Final Environmental Impact Statement* (DOE/EIS-0217) (DOE 1995a); *Final Environmental Impact Statement, Interim Management of Nuclear Materials* (DOE/EIS-0220) (DOE 1995b); *Savannah River Site Spent Nuclear Fuel Management Environmental Impact Statement* (DOE/EIS-0279) (DOE 2000); *Environmental Impact Statement on the Construction and Operation of a Proposed Mixed Oxide Fuel Fabrication Facility at the Savannah River Site, South Carolina* (NUREG-1767) (NRC 2005a); and the *Final Surplus Plutonium Disposition Supplemental Environmental Impact Statement* (DOE/EIS-0283-S2) (NNSA 2015). Given these NEPA reviews, and the annual site environmental reports, DOE has previously concluded that a SWEIS would not facilitate future NEPA compliance efforts at SRS and is not required. Per the DOE NEPA implementing regulations (10 CFR Part 1021), sitewide EISs would be prepared as a matter of policy; they are not a regulatory requirement.

4-m *Commenters question what would happen if the pit production schedule is not met.*

**Response:** As discussed in Section 1.1 of this SRS Pit Production EIS, 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 produces not less than 80 war reserve plutonium pits during 2030 (50 U.S.C. § 2538a, as amended). If NNSA does

not meet that legal requirement, NNSA could be in violation of the law. If necessary, and as appropriate, NNSA would work with the Executive and Legislative branches of government to resolve such a situation.

- 4-n *Commenters state that a LANL SWEIS is needed to disclose the impacts of pit production at LANL. Commenters contend that the current state or condition of LANL's key facilities and the impacts of pit production at LANL are not adequately addressed in current environmental documentation.*

**Response:** Section 1.5 of this SRS Pit Production EIS discusses the relevant NEPA documents associated with this EIS. For preparation of this EIS, NNSA incorporates by reference and tiers from previous NEPA documents to succinctly present the analysis. Information from these documents provides a context for understanding the current status of LANL facilities and the potential environmental impacts associated with the No-Action Alternative. The 2020 Final LANL SA (NNSA 2020a) addressed whether a new LANL SWEIS should be prepared. See the response to Comment-Response 3-f.

#### **Issue Category 5: General Support or Opposition**

- 5-a *Commenters express opposition to pit production for a variety of reasons, including a lack of need, and concerns about weapons proliferation, policy differences, and environmental, safety, and health risks.*

**Response:** The commenters' opposition to pit production is noted.

- 5-b *Commenters express support for pit production for a variety of reasons, including a well-trained workforce at SRS, economic benefits to the area, support for the national defense mission, and acceptable environmental, safety, and health risks.*

**Response:** The commenters' support for pit production is noted.

- 5-c *Commenters disagree that NNSA can achieve the national security objective.*

**Response:** The commenters' opinions are noted.

#### **Issue Category 6: EIS Resource Analyses**

- 6-a NNSA received no comments related to land use and visual resources.

- 6-b.1 *Commenters state that NNSA should not focus only on capable faults for the seismic analysis of the SRPPF and that seismological observations show increasing evidence that large earthquakes can occur in the absence of "capable faults."*

**Response:** The seismic analysis in the SRS Pit Production EIS that addresses potential impacts at the SRPPF and associated facilities does not focus solely

on “capable faults.” In addition to the relatively active, 70-mile-distant Charleston seismic zone, the EIS evaluation of seismic potential in the area considered all known faults within the vicinity of SRS. Based on historical and ongoing seismic data gathering, large, potentially damaging earthquakes are unlikely to occur at the SRPPF. Unknown potential faults and seismic events cannot be quantified; however, known geologic conditions effectively contribute to the understanding of seismic potential at SRS, with added confidence through seismic design parameters for the SRPPF. If additional information were to become available, NNSA would evaluate the need to prepare further NEPA analysis. The Final SRS Pit Production EIS has been updated to provide this clarification.

6-b.2 *Commenters state that NNSA should have a probabilistic seismic hazard analysis (PSHA) for the evaluation of SRPPF since SRS is not immune from seismic concerns due to the Charleston seismic zone and the 1886 earthquake occurring there, as well as the earthquakes whose epicenters were located closer to SRS. Additionally, commenters stated that DOE’s expectation that the Atlantic Coastal Plain tectonic province will remain a low seismic activity area is “far too complacent.”*

**Response:** NNSA has conducted several SRS site-wide PSHAs in the past. A PSHA incorporates the source zone definition and ground motion prediction assessments required for a deterministic approach, but also considers the estimated rates of occurrence of earthquakes and explicitly incorporates the uncertainties in all parameters. This approach predicts the probability of exceeding a particular ground motion value at a location during a specified period of time. Using technical bases and data from the previous PSHAs, a systematic approach was used to develop SRS site-wide earthquake design criteria for various MFFF performance categories in support of an initiative to develop seismic design spectra using a PSHA approach with a deterministic historical check (CB&I AREVA 2015).

Although numerous geotechnical studies support the conclusion that the Atlantic Coastal Plain tectonic province is likely to remain a low seismic activity province, for SRS, the deterministic spectrum is represented by a repeat of the 1886 Charleston earthquake. Using this spectrum, the site-wide analysis demonstrated that previous PSHAs are applicable to site-specific subsurface conditions at the MFFF and were used as design bases for MFFF seismic design (CB&I AREVA 2015). Consequently, another PSHA specific to the MFFF (repurposed as the SRPPF) is not necessary. The SRS seismic spectra continue to also be generally bounded by previous U.S. Nuclear Regulatory Commission (NRC) requirements used to design the MFFF; therefore, the facility remains structurally suitable to withstand expected seismic events.

In the design process for the SRPPF, NNSA is continually evaluating potential seismic hazards based on the best available information. For example, as discussed in Sections 3.2.3.2 and 4.11.1.1 of this SRS Pit Production EIS,

NNSA has evaluated recent U.S. Geological Survey (USGS) seismic hazard information and concluded that NNSA's seismic hazard evaluations account for this information.

- 6-c.1 *The EPA requests that NNSA address potential radiological impacts to groundwater and surface water with statements about planned monitoring and sampling for radionuclides and provide a diagram showing the locations of the monitoring and sampling points.*

**Response:** Section 3.3, "Water Resources," of this SRS Pit Production EIS briefly discusses existing surface water and groundwater monitoring and sampling done at SRS. The discussion applies a "graded approach" to preparing the EIS; that is, providing greater detail for resource areas with greater potential to be impacted by the Proposed Action. The Proposed Action in this case is not expected to result in any changes to SRS' existing surface water and groundwater monitoring or sampling programs. As described in Section 4.9, "Waste Management," of this EIS, wastewater produced during construction of the Proposed Action would be limited to water from concrete production and cleanup and sewage from the workforce. Adverse impacts would not be expected. During operations, the Proposed Action would involve no direct discharges of water or wastewater to the ground or to surface waters. The only wastewaters expected during operations are sanitary wastewater (sewage) that would be piped to the existing Central Sanitary Wastewater Treatment Facility for treatment and small quantities of liquids potentially containing low levels of radionuclides that would be routed to the existing ETF for treatment. Both of these treatment facilities discharge treated wastewater under NPDES permits and are subject to existing monitoring and sampling requirements of those permits. NNSA expects that the Proposed Action would not result in changes to these permit conditions.

It should be noted that SRS prepares and releases annual environmental reports, referenced in the EIS, that describe SRS's programs for monitoring and sampling of both surface water and groundwater resources. The environmental reports describe the programs (e.g., where samples are collected and the parameters or constituents for which samples are analyzed) and the results of the monitoring and sampling efforts. The reports also provide diagrams depicting where samples are routinely collected. This Final EIS was updated to reflect the recently published 2018 annual site environmental report.

- 6-c.2 *Commenters state that chemical or nuclear wastes should not be allowed to flow into the surrounding watershed.*

**Response:** Section 3.3.1 of this SRS Pit Production EIS provides information about the existing surface water environment at and around SRS, including locations of existing contamination. Section 3.3.2 of this EIS provides information about the existing groundwater environment at SRS, including existing contamination plumes. Section 4.3.1.2 of this EIS identifies the

potential impacts to surface and groundwater from operations of the SRPPF and states that there would be no direct discharges of water or wastewater to the environment from the proposed SRPPF complex.

- 6-d.1 *Commenters state that NNSA should discuss climate change and the potential impacts that climate change and weather events could have on the construction and operations of the SRPPF. Commenters also state that the EIS should address impacts to infrastructure from weather events driven by climate change, including loss of the electrical grid.*

**Response:** Section 3.4.1 of this SRS Pit Production EIS provides the baseline environmental information for meteorological conditions using historical data through 2019. It includes a discussion of annual rainfall, wind direction distribution, and the statistical occurrences of extreme weather events, such as tornadoes and hurricanes. With regard to potential impacts on operations associated with climate change and weather events, as discussed in Appendix B, Section B.3.1, of this EIS, the accident analysis for the SRPPF considered natural phenomena initiators, such as earthquakes, high winds, floods, lightning, and wildfires. Section 3.4.3 of this EIS provides a discussion of the baseline conditions related to global climate change. Section 5.3.1 of this EIS also presents an evaluation of the potential for impacts to the SRPPF from extreme weather events associated with global climate change.

As described in Section 2.1.3 of this EIS, normal electrical power would be supplied to the SRPPF by two independent, offsite power supplies. An uninterruptible power supply and backup diesel generators would provide power for critical systems. This arrangement would ensure continued operation of critical systems during any interruption of offsite power.

- 6-d.2 *The EPA recommends that the NNSA address potential radiological impacts with a statement about planned environmental monitoring and sampling for radionuclides in Section 4.4.1. The NNSA should provide a diagram showing the location of the radionuclide National Emission Standard for Hazardous Air Pollutant compliant monitor.*

**Response:** Section 3.4.2.2, “Radiological Air Emissions” of this SRS Pit Production EIS discusses existing air monitoring and sampling for radionuclides at SRS. As described in Section 4.4.1, “Air Quality,” only nonradiological air emissions would be expected during construction of the Proposed Action. During operations, the Proposed Action would involve minimal radiological emissions that would be controlled at the process stacks. NNSA expects that the Proposed Action would result in monitoring and sampling requirements of the National Emission Standard for Hazardous Air Pollutant (NESHAP) regulation, similar to the existing SRS program. The NESHAP requirements would be incorporated in the Proposed Action operating permit conditions.



Section 4.4.1 has been revised to reflect the planned environmental monitoring and sampling for the Proposed Action.

It should be noted that SRS prepares and releases annual site environmental reports, referenced in the EIS, that describe SRS's programs for monitoring and sampling of air for radionuclides. These environmental reports describe the programs (e.g., where samples are collected and the parameters or constituents for which samples are analyzed) and the results of the monitoring and sampling efforts. The reports also provide diagrams depicting where samples are routinely collected for onsite and offsite environmental surveillance. Individual process stack emissions data and location are provided in tabular format. This Final EIS was updated to reflect the recently published 2018 annual site environmental report.

6-e NNSA received no comments related to ecological resources.

6-f NNSA received no comments related to cultural and paleontological resources at SRS. See Comment-Response 2-f for more NNSA's response to a comment regarding the Ruby Valley Treaty.

6-g *A commenter identified an issue with parking around the site and wanted the EIS to evaluate an alternative for remote parking.*

**Response:** Section 2.1.1 of the SRS Pit Production EIS identifies the proposed parking areas within F Area and the SRPPF complex. These areas would support the projected numbers of construction and operations personnel without relying on remote parking.

6-h.1 *Commenters request that site-specific documentation between LANL and SRS be provided to compare availability of community resources and housing between the two sites.*

**Response:** Sections 3.8.1.3 and 3.8.1.4 of the SRS Pit Production EIS describe socioeconomic resources in the Central Savannah River Area, including availability of community resources and housing. NNSA discusses the socioeconomic resources surrounding LANL in the 2019 SPEIS SA (NNSA 2019a), the 2020 Final LANL SA (NNSA 2020a), and the 2008 LANL SWEIS (NNSA 2008b). The availability of these documents provides the public with the ability to adequately compare the resources between SRS and LANL.

6-h.2 *Commenters are concerned about the lack of plutonium-handling experience in the current workforce. Commenters state that it will take a monumental effort to educate staff/workforce on plutonium handling. Commenters request more specific information on the skill mix of the anticipated workforce and the numbers associated with each skill. In addition, commenters want to know how NNSA will address the problem regarding the lack of plutonium-handling experience in the workforce.*

**Response:** NNSA and SRNS have appropriate plans and procedures in place to train the necessary personnel within the proposed schedule. Training would be intensive and extensive and would ensure workers are properly trained to operate equipment such that they themselves, other workers, the public, and the environment are protected. See also Comment-Response 1-h.

6-h.3 *Commenters state that the EIS fails to calculate the lifecycle environmental liability, costs of contamination, and the costs of healthcare. Commenters request that the EIS provide a cost analysis and calculate the sustainability of costs in the future.*

**Response:** Cost, schedule, technical viability, worker and public safety, environmental impacts, security, and the ability to carry out international agreements are among the factors that decisionmakers may consider when selecting an alternative for implementation. This SRS Pit Production EIS provides decisionmakers with information on the potential environmental impacts of each alternative and will inform the decisionmakers' selection of an alternative for implementation. NNSA notes the commenter's statement regarding the funding priorities of the U.S. Government. The President of the United States and Congress are responsible for determining the funding level for government programs. Costs would not have a bearing on the analysis of potential environmental impacts and are beyond the scope of this EIS.

6-h.4 *A commenter states concern that the SRS will experience the same socioeconomic highs and lows as the V.C. Summer Nuclear Generating Station.*

**Response:** The commenter's opinion about socioeconomic highs and lows are noted. This EIS presents an analysis of the potential socioeconomic impacts based on the best information available.

6-h.5 *A commenter states that the SRS must not be considered for pit production just because the MFFF already exists. Commenter also believes that the issue of jobs or contracts must not be the main motivator to bring plutonium pit production to the SRS.*

**Response:** As noted in Chapter 1 of this SRS Pit Production EIS, NNSA will base its decision on the environmental impacts of the Proposed Action as well as other factors, such as legal requirements, national security requirements, cost, schedule considerations, and safeguards and security concerns.

6-h.6 *A commenter requests that reference document SRNS 2020 be provided to the public as well as additional information on how peak construction workforce was calculated. The commenter also states that a small number of jobs are now involved in planning for the pit plant. If a larger number of jobs for construction and operation do not materialize, there will be little impact to SRS employment, as the pit jobs are speculative.*

**Response:** The referenced document, SRNS 2020, is “Data Call Responses Supporting the SRS Pit Production EIS.” The peak construction workforce was estimated by subject matter experts based on pre-conceptual design information for the SRPPF. Of the approximately 300 reference documents identified in Chapter 7, “References,” and Appendices A and B of this SRS Pit Production EIS, all but 15 are accessible from the Internet at the web addresses provided. References that do not include a web address will be provided upon request to NNSA, as was done in this specific instance.

The commenter’s opinion about SRS employment is noted.

6-i.1

*A commenter states that New Mexico bears a disproportionate burden of public health and environmental risks related to nuclear energy. A commenter states that the SRS Pit Production EIS fails to demonstrate the impacts to minority and low-income populations in New Mexico. A commenter notes that environmental justice deficiencies in the EIS include:*

- *Failure to identify and discuss vulnerable populations in New Mexico;*
- *Failure to identify and evaluate the cumulative history of adverse human health and environmental effects on New Mexico’s vulnerable populations;*
- *Failure to evaluate release scenarios from the Proposed Action, such as transportation accidents, that might adversely affect vulnerable populations in New Mexico; and*
- *Repeated, yet unsubstantiated, assertions that cumulative environmental impacts from the Proposed Action would be either not notable or not expected.*

*The commenter states that these deficiencies must be corrected by preparation of a proper risk assessment that evaluates all potential release scenarios that quantify incident-specific and cumulative impacts to vulnerable populations in New Mexico.*

**Response:** Section 4.12 of this SRS Pit Production EIS discusses potential impacts from the transportation of plutonium materials between other locations (e.g., LANL, Pantex, WIPP) and SRS. Table 4-27 in that section presents the potential transportation impacts associated with transporting plutonium materials between other locations and the SRS in tabular form. As shown in Table 4-27, essentially zero LCFs to the crew and population along the route would be expected annually from incident-free transport, and essentially zero LCFs to the population would be expected from an accident annually. The risks from incident-free transport of radioactive waste and materials off site over long distances (hundreds to thousands of miles) are very small.

Chapter 5 of this EIS presents the analysis of cumulative impacts of the Proposed Action, including cumulative actions associated with pit production at LANL.

An analysis of potential impacts of pit production activities on minority and low-income populations at LANL is presented in the 2008 Complex Transformation SPEIS (NNSA 2008a) and the 2019 SPEIS SA (NNSA 2019a), which evaluated potential environmental impacts of pit production at both SRS and LANL. Additionally, NNSA evaluated potential environmental justice impacts from pit production at LANL in the 2008 LANL SWEIS (NNSA 2008b) and 2020 Final LANL SA (NNSA 2020a).

6-i.2

*Commenters state that the environmental justice analysis does not take into account downwind communities (e.g., Barnwell, South Carolina, and the Shell Bluff community) or communities close to the fence line. Commenters state that the environmental justice analysis did not adequately portray the potential impacts on minority and low-income populations. Commenters state that pit production will produce impacts to human health, fire, accidents, chemical and nuclear waste streams, climate change, air, water, and land that would impact areas largely comprised of minority and low-income population. Commenters suggest that the EIS specifically outline measures that will be taken to minimize impacts especially to those environmental justice populations.*

**Response:** Consistent with DOE practices and guidelines, this SRS Pit Production EIS analyzed potential impacts on the potentially affected population within 50 miles of the SRS. Barnwell County and the Shell Bluff community are within 50 miles of the SRS and are included in the analysis. No populations reside within the 5-mile radius of the SRS facilities analyzed.

Table 2-4 of this EIS summarizes the environmental impacts presented in Chapter 4 of this EIS, and Table 2-5 summarizes the cumulative environmental impacts presented in Chapter 5 of this EIS. Based on the analysis of impacts presented in Chapter 4, there would be no high and adverse impacts from construction and operation activities at SRS. Accordingly, there would be no disproportionately high and adverse impacts on minority or low-income populations.

In terms of human health, Section 4.10 of this EIS states that the potential radiological impacts to the public from SRPPF normal operations would be less than regulatory limits. The annual radiation dose to the offsite MEI would be several orders of magnitude below the limit of 10 millirem per year set by both the EPA (40 CFR Part 61) and DOE (DOE Order 458.1) for airborne releases of radioactivity. The risk of an LCF to the MEI from operations would be negligible. The projected number of LCFs to the population within 50 miles would be essentially zero. Accordingly, there would be no disproportionately high and adverse impacts on minority or low-income populations.

Section 4.13 of this EIS presents design features, best management practices (BMPs), and mitigation measures. 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 BMPs, NNSA does not expect to prepare a mitigation action plan. A combination of design features and BMPs would be implemented to avoid or reduce potential environmental impacts that could result from implementing the Proposed Action.

6-j.1 *Commenters note the TRU waste generation rates described for the Proposed Action are greater, on a “per pit produced” basis, than generation rates estimated for pit production at LANL. Some commenters ask why americium-241 was being recovered at LANL.*

**Response:** Estimates of TRU waste generation presented in this SRS Pit Production EIS are greater on a “per pit produced” basis than historical quantities at LANL and estimates presented in the LANL SA for pit production. This is primarily attributed to conservative estimates for TRU waste generation in this EIS and some differences in the material recovery process at each site. Additionally, this Final EIS reflects a reduction in the estimated generation of TRU waste from SRPPF to better reflect the current expectations. A specific example of the conservatism follows.

As described in Section 2.1.2.2 of this EIS, plutonium feed in the form of pits must be purified using pyrochemical techniques to recover the purified plutonium. That process also leaves plutonium-bearing residues—such as uranium, americium-241, and neptunium-237. Recovery of americium-241 at LANL is done to support a current testing need and this highly radioactive element is therefore not included in the LANL TRU waste stream. NNSA does not expect to recover americium-241 in aqueous recovery at the SRPPF. The Final EIS has been revised to reflect the reduction in TRU waste estimates. The reduced TRU waste estimates still include appropriate conservatism to ensure that potential impacts are not underestimated.

6-j.2 *Commenters express concern over a Proposed Action that would bring more plutonium into SRS when 12 metric tons of surplus plutonium is already stored at the site as a result of the mixed-oxide project being stopped. Commenters state that DOE does not have an adequate cradle-to-grave plan for this material. Commenters also state that more plutonium could be stranded at SRS if the pit production project were terminated once started due to changes in policy or plans or as a result of an accident.*

**Response:** Plutonium is managed at SRS for a variety of reasons. Two primary projects at SRS that would involve plutonium are the existing Surplus Plutonium Disposition program and the Proposed Action for pit production. Section 5.2.1 of this SRS Pit Production EIS defines the reasonably foreseeable actions associated with the Surplus Plutonium Disposition Program and identifies the amounts of plutonium that are part of the program. At this time, NNSA has not made a formal decision on the disposition of the full 34 metric tons of surplus plutonium (the amount of surplus plutonium that was slated to be disposed of using the MFFF). Chapter 5 of this SRS Pit Production EIS discusses disposition of this surplus plutonium as a “current and reasonably foreseeable future action” that could have cumulative impacts with those of the Proposed Action. As discussed in Section 5.2.1 of this EIS, if the SRPPF is developed as described for the Proposed Action, it would have excess space that NNSA could use to support other missions, including disposition of surplus plutonium. As stated in Section 5.2.1, NNSA intends to evaluate the use of the dilute and dispose process for the 34 metric tons of surplus plutonium intended for disposition at the MFFF.

For SRPPF operations, all plutonium would be tracked in the material control and accountability program. Feedstock for pit production would be shipped to SRS when required to produce pits. Plutonium within SRPPF would include feedstock, pits in a variety of process stages, and waste. All plutonium associated with SRPPF would have a pathway out of South Carolina, either as a plutonium pit or a waste with an approved disposition path.

6-j.3

(a)

*The New Mexico Environment Department (NMED) states that NNSA failed to disclose or discuss actions taken to differentiate between definitions of waste volumes in the NMED WIPP Hazardous Waste Facility Permit and waste volume calculation methodology in the WIPP Land Withdrawal Act (LWA). NMED also states that NNSA did not identify that the resulting modification to the WIPP Permit was appealed. NMED further states that the Draft EIS used the modified volume tracking criteria to calculate estimated shipments and emplacement in WIPP, but notes that if the permit modification is overturned as a result of the appeal, the TRU waste shipped from SRS for emplacement at WIPP would constitute a greater percentage of the LWA volume than was evaluated. NMED requests that NNSA make available periodic (i.e., quarterly) updates of the volumetric contributions planned for WIPP from SRS and all other DOE/NNSA sites.*

**Response:** The purpose of this SRS Pit Production EIS is to evaluate the potential environmental consequences of producing plutonium pits to meet national security requirements. This EIS evaluates the relevant NEPA-related activities associated with transportation, waste management, and ancillary support (e.g., staging and testing) for the pit production mission at SRS. The approximate volume estimates of TRU waste that could be generated and the

estimated increase in shipments presented in the EIS represent conservative estimates for the purposes of identifying environmental consequences.

The DOE Carlsbad Field Office (CBFO) tracks the volume of TRU waste disposed at the WIPP facility using proven quality assurance procedures to ensure it does not exceed the total TRU waste volume capacity limit of 6.2 million cubic feet (175,564 cubic meters), in accordance with the WIPP LWA.

This EIS describes a conservatively bounding estimated production rate, waste generation rate, and associated increase in shipments for evaluating environmental consequences. As part of further refinement of the SRPPF design, the Final EIS has been revised to reflect a reduction in the expected amount of TRU waste that could be generated under the Proposed Action. Additionally, the Final EIS has been revised to acknowledge the pending legal appeal.

CBFO collects annual TRU waste inventory estimates from generator sites and prepares an inventory report. Increasing or modifying the coordination between NMED and CBFO is outside the scope of this EIS.

(b)

*Commenters question how the various sources of TRU waste were taken into consideration in evaluating the disposal of TRU waste from SRS and LANL pit production. Commenters state that the combined TRU waste sources would stress the capacity of WIPP. Other commenters question the EIS assumption that WIPP would be available for the entire 50-year life evaluated for the pit production facilities. Commenters state that NNSA must analyze the possibility of not having WIPP available for disposition of TRU waste.*

Chapter 5 of this SRS Pit Production EIS evaluates potential impacts from all TRU waste generators, including those from proposed pit production at SRS and LANL. As described in Section 5.3.4 of this EIS, DOE routinely collects projected inventories of TRU waste from DOE activities and presents the data in an annual transuranic waste inventory report. The Draft EIS used the 2018 report, which uses 2017 data; the Final EIS has been updated with the 2018 data. The 2019 report can be viewed at [https://wipp.energy.gov/Library/TRUwaste/DOE-TRU-19-3425\\_R0\\_FINAL.pdf](https://wipp.energy.gov/Library/TRUwaste/DOE-TRU-19-3425_R0_FINAL.pdf)).

The WIPP total TRU waste volume disposed of is closely tracked to ensure compliance and that WIPP fully meets its intended mission for the disposal of TRU waste resulting from atomic energy defense activities. The projected TRU waste inventory estimates are updated annually. Based on past WIPP experience, potential TRU waste streams have an inherent uncertainty, and final inventory volume estimates can differ significantly from those initially projected. Moreover, the DOE Office of Environmental Management and NNSA priorities are fully aligned and will be in compliance with the WIPP

statutory total TRU waste volume capacity limit. The “future” TRU waste projection in this EIS includes 50 years of conservative TRU waste generation estimates from the proposed SRS and LANL pit production operations, assuming WIPP is operational beyond year 2050. In a 2019 WIPP Draft Strategic Plan, DOE indicates that the WIPP facility is planning for an operational lifetime through at least 2050 (CBFO 2019).

NNSA acknowledges that additional regulatory approval is required to revise the existing WIPP facility operational lifecycle. Consistent with that position, NNSA has analyzed the environmental consequences of disposing of SRPPF-generated TRU waste at WIPP over the planned 50-year life of the SRPPF. NNSA would work with NMED to comply with permitting requirements.

6-j.4 *NMED comments that NNSA failed to disclose or discuss the November 2019 Settlement between DOE and the State of Idaho, which allocates 55 percent of all TRU waste shipments received at WIPP for waste from the Idaho National Laboratory (INL). NMED expresses concern over the impact of that settlement on DOE’s prioritization of shipments and emplacement of TRU waste in WIPP. NMED expresses concern that TRU waste from pit production could delay WIPP’s receipt of remedial legacy waste from sites around the DOE complex, including LANL, which could require that such waste be stored at those sites.*

**Response:** NNSA agrees that the Draft EIS did not include a discussion of the Idaho 2019 Supplemental Agreement, which addresses deadlines and commitments made in a 1995 Settlement Agreement between DOE and the State of Idaho. The 2019 Supplemental Agreement reaffirms DOE’s commitments made in 1995 and does not have a bearing on potential environmental impacts analyzed in this EIS. CBFO would continue to coordinate with all sites on an annual basis to prepare a shipping plan to prioritize TRU waste shipments to WIPP. CBFO would determine the priority and planned throughput based on funding, compliance orders or settlement agreements, site needs, and site capability to provide shippable (compliant) TRU waste. Currently, the priority is INL, LANL, and Sandia National Laboratories (SNL). Even though INL is allocated 55 percent of the shipments, CBFO continues to provide support and transportation resources to meet the shipping capability of LANL and SNL and would continue to ensure LANL and SNL remain an overall focus and priority. It is worth noting that since 1995, INL has removed approximately 90 percent of its TRU waste covered by the 1995 Settlement Agreement. By 2030, when the SRPPF would potentially begin shipping TRU waste to WIPP, there should not be a significant amount of legacy TRU waste, if any, remaining to be shipped from Idaho. The disposition of legacy TRU waste from sites around the complex will be effectively managed to support shipments of TRU waste from sites to ensure that TRU waste will not be stored at generator sites for longer than needed time frames to coordinate shipping and final disposal at WIPP. The WIPP facility and transportation fleet provides operational flexibility to process variable shipments per week and has and can effectively manage shippable TRU waste from across the complex. As



discussed in Section 5.3.4 of this EIS, the volume of TRU waste already disposed of at WIPP, in combination with the total quantities currently identified for future disposition at WIPP, does not exceed the LWA's capacity limit. The DOE Office of Environmental Management anticipates having adequate capacity within the WIPP Land Withdrawal Act volume capacity limit to accept WIPP-bound TRU waste inventory estimates currently intended for disposal at WIPP and potential future TRU waste inventory estimates. The "future" TRU waste projection in this evaluation includes 50 years of TRU waste generation from the proposed SRS and LANL pit production operations.

6-j.5 *Some commenters note that TRU waste from the Proposed Action must meet all existing permits, laws, and acceptance criteria for WIPP and suggested that WIPP's mission, permitting requirements, and agreements, including the Consultation and Cooperation (C&C) Agreement, which is not even mentioned in the EIS, do not include waste from the new pit production.*

**Response:** NNSA agrees that TRU waste generated from the Proposed Action must meet permit and agreement requirements as well as the WIPP waste acceptance criteria before it is shipped to WIPP. WIPP is not precluded from accepting and disposing of pit production TRU waste. In fact, significant amounts of the waste already in WIPP came from pit production operations; for example, much of the waste originating at the Rocky Flats Plant would be classified as coming from pit production actions, and TRU waste resulting from pit production activities at LANL has been shipped to WIPP for disposal. Existing permits, laws, and acceptance criteria for WIPP and specifically the C&C Agreement were described in the WIPP SEIS (DOE 1997), which is addressed in Section 1.5.4 of the SRS Pit Production EIS.

The pit production TRU waste from the SRPPF can be disposed of at WIPP if it is TRU waste from defense-related activities, as determined and confirmed by acceptable knowledge and nondestructive assay. In addition, the characterization process at the site must pass a TRU waste certification audit, verifying that the TRU waste stream complies with the WIPP waste acceptance criteria. The C&C Agreement adopted the TRU waste volume limits from the 1981 DOE Record of Decision (46 FR 9162, January 1981). The WIPP LWA established a total TRU waste volume capacity limit of 6.2 million cubic feet, and the C&C Agreement limited remote-handled TRU waste to 7,080 cubic meters (250,000 cubic feet). Because the pit production TRU waste would be contact-handled TRU waste, the remote-handled TRU waste limit in the C&C Agreement would not apply to the TRU waste discussed in this EIS.

6-j.6 *Several commenters express general concern about management of chemical waste and LLW at SRS, noting that the site has been on EPA's "Superfund" list since 1989 and often described existing LLW disposal practices as using unacceptable open, unlined trenches. Comments identify specific concern for risk to the aquifer under the SRS property as a result of waste disposal practices, noting that the commercial Barnwell Disposal Facility for LLW,*

*located just outside SRS, has similar issues, and the EIS does not include the analysis of their risks. Commenters state that new pit production should not be allowed until past chemical and nuclear waste problems are corrected and that new waste quantities must not adversely impact closure and cleanup action schedules of the SRS Federal Facility Agreement (FFA) or jeopardize onsite disposal capacity. Commenters request that the EIS identify which of the SRS LLW disposal facilities would be used for LLW from the Proposed Action and ask if trenches are covered during operations to prevent rainwater intrusion. Commenters also request that the EIS analyze cumulative impacts of the Proposed Action in conjunction with leaking uncontained wastes.*

**Response:** As discussed in Section 3.3.2.2 of this SRS Pit Production EIS, past waste management practices at SRS have resulted in instances of groundwater contamination that are now being addressed and monitored. As stated in Section 3.9.7 of this EIS, hundreds of surface sites have undergone, or are undergoing, investigation, evaluation, and cleanup actions. These remedial or cleanup actions are being conducted pursuant to the 1993 FFA, a tri-party agreement among DOE, EPA, and the South Carolina Department of Health and Environmental Control (see Section 5.2.1 of this EIS), which stemmed, in part, from SRS being placed on the National Priorities List. NNSA and SRS are committed to meeting the requirements of the FFA, and the Proposed Action would not change that commitment. With regard to the analysis of risks from these past waste management actions, Chapter 3 of this EIS describes the current environment in the region of influence and thus includes the current status of sensitive resources (e.g., water, air, land use, ecological) in the region. As identified in Section 5.2.1 of this EIS, the FFA has established a comprehensive remediation strategy that coordinates administrative and public participation requirements. By its very nature, the process evaluates risk to human health and to the environment and presents findings that are open to public review and comment.

For comments requesting how each of the existing SRS LLW disposal operations would be used for waste from pit production, as described in Section 3.9.3.3 of this EIS, SRS uses several different disposal techniques that provide a hierarchy of disposal options based on the waste form and the level of radiological contamination. The different disposal techniques use measures such as stormwater collection sumps, stormwater runoff covers, and in-place grouting to minimize rainwater intrusion. The evaluation of cumulative impacts in Chapter 5 of this EIS includes a discussion of the remediation actions being performed under the FFA as well as a discussion of waste management impacts from all sources.

6-j.7

*A commenter warns that there are ongoing objections to New Mexico being regarded as a national nuclear wasteland in terms of plutonium disposal.*

**Response:** NNSA acknowledges the comment. The purpose of this SRS Pit Production EIS is to evaluate the potential environmental impacts of

constructing and operating the SRPPF to produce plutonium pits. CBFO would continue to ensure that WIPP operations meet commitments in agreements with the State of New Mexico, comply with requirements set in permits, and coordinate with other stakeholders to help minimize adverse impacts.

6-j.8 *Commenters state that SRS efforts should focus on cleaning up nuclear and chemical waste, and even expanding that mission, before considering new operations and, further, that the proposed pit production could distract efforts and divert money from the cleanup mission and dealing with legacy wastes. The EIS should discuss the Proposed Action's impacts to the SRS clean-up budget and schedule, and to the overall DOE clean-up budget.*

**Response:** The cleanup mission and dealing with legacy waste are ongoing operations at SRS that would not be affected by the Proposed Action. The President of the United States and Congress determine Federal budget requirements and priorities. It is beyond the scope of this EIS to address Federal budget authorizations and appropriations. See Comment-Response 6-j.6 for a discussion about commitments related to the SRS FFA. As reported in Comment-Response 1-i, cleanup of legacy wastes and contamination would continue in parallel with the Proposed Action.

6-j.9 *A commenter requests the EIS include detailed information on how pit waste would be managed and treated for indefinite storage at SRS until a suitable Federal repository becomes available. Another commenter notes that because SRS has not handled cleanup from the nuclear era, the Proposed Action should not be considered until a high-level radioactive waste (HLW) repository is available.*

**Response:** The Proposed Action would not generate any HLW. Section 3.9.1 of this SRS Pit Production EIS discusses the management of HLW at SRS. Section 4.9 of this EIS presents the potential environmental impacts of managing SRPPF-generated wastes.

6-j.10 *Commenters request more detail on the components of projected waste streams. Some of the specific request include:*

- *Concern for tritium and beryllium and for the solvents used in removing americium-241, and*
- *Whether the waste produced from the wrought process involves the use of more lubricants and solvents than the casting process and increases the volume of mixed TRU and mixed LLW.*

Plutonium pits and/or feedstock with tritium contamination is not expected at SRPPF. Tritium contaminated (plutonium) feed material would be identified at Pantex (during packaging operations) and would be shipped to LANL for processing/material disposition. NNSA agrees that beryllium is of special interest because inhalation of dust and particles can cause adverse health effects.

Beryllium may be present in the pits to be disassembled. However, as described in Section 2.1.2.2 of this SRS Pit Production EIS, the disassembly operations would be performed in gloveboxes and are expected to only generate non-respirable size pieces of beryllium waste. Such waste is included in the estimates of LLW and TRU waste described in Section 4.9.1.2 of this EIS. Further, Section 4.10.1.2 of this EIS describes worker health precautions taken as a result of the presence of beryllium.

As stated in Section 2.1.2.2 of this EIS, plutonium from pit recovery operations must be purified using pyrochemical recovery techniques, which (in addition to purified plutonium) produce residues containing plutonium as well as its radioactive decay products (uranium, americium-241, and neptunium-237). NNSA expects to use an aqueous recovery system to recover plutonium from these residues. The solvent involved in these recovery processes would be water and acid solutions. The production process would solidify any of the liquids that could be destined for waste streams; therefore, there would be no liquid TRU waste streams from SRPPF operations. If the aqueous recovery system is not used or not available, there would be more TRU waste generated (see Comment-Response 6-j.1).

With regard to the wrought process, waste types and quantities would be very similar for the casting and wrought processes (see Section 4.9.2 of this EIS). The wrought process would involve the use of rollers and hydraulic presses not used in the casting process. There would be lubricants and hydraulic fluids internal to that wrought process equipment; under normal operating conditions, those fluids would not make a significant contribution to projected waste streams. Use of solvents would not be expected.

6-j.11 *A commenter requests DOE to acknowledge that it is also regulated by the Resource Conservation and Recovery Act (RCRA)*

**Response:** As described in Section 3.9 of this SRS Pit Production EIS, mixed TRU waste, MLLW, and hazardous waste generated at SRS are subject to RCRA regulations. Waste from the Proposed Action would be managed along with wastes from other SRS operations. DOE radioactive wastes that also qualify as hazardous waste (i.e., mixed TRU waste, MLLW) are fully subject to Federal and State regulations implemented under RCRA. Table 4-31 of the SRS Pit Production EIS includes RCRA as being applicable to the Proposed Action.

6-j.12 *Commenters express concern over whether WIPP would be available for disposal of TRU waste for the entire lifespan of the Proposed Action. Specific questions/comments include:*

- *Would DOE cease plutonium pit production if disposal is not available?*

- *The EIS should provide environmental analysis of a scenario including WIPP's closure before the Proposed Action completes its lifespan.*
- *Evaluating a less-than-50-year timeframe for WIPP must include consideration of alternatives other than WIPP for storage and disposal of TRU waste from the SRS pit production.*

**Response:** WIPP is currently the only facility in the United States authorized for the disposal of TRU waste. In a 2019 WIPP Draft Strategic Plan, DOE indicates that the WIPP facility is planning for an operational lifetime through at least 2050 (CBFO 2019). NNSA has analyzed the environmental consequences of disposing of SRPPF-generated TRU waste at WIPP over the planned 50-year life of the SRPPF. This assumption is based on adequate disposal space availability for TRU waste at WIPP. NNSA acknowledges that additional regulatory actions would be required to facilitate longer-term disposal operations at WIPP; however, those actions would not affect the evaluation of potential environmental impacts in this EIS.

6-j.13

*A commenter requests more information about how the SRPPF would be cleaned up at the end of its life. Specifically, DOE should provide an independent verification for the cleanup with public comment and involvement.*

**Response:** Section 4.14 of this SRS Pit Production EIS provides an overview of the decontamination and decommissioning (D&D) actions that would be taken at the end of the project's life. Since a detailed assessment of facilities would not be conducted until the SRPPF reaches its end of life, a description of D&D activities at this time has limited detail. However, as stated in Section 4.14 of this EIS, "Decontamination would be conducted in accordance with all applicable regulations and requirements and in a manner that would minimize potential impacts to the health and safety of workers, the general public, and the environment." If regulations and requirements applicable at the end-of-life timeframe require independent verification and public comment and involvement, they would be incorporated into the action.

6-j.14

*A commenter expresses concerns over the long-term impacts and costs of disposal facilities for radioactive wastes with long half-lives. The ability to safely store such material for that period of time, have appropriately trained custodians watch the waste, and pay for that effort is difficult to imagine.*

**Response:** NNSA's permitting and environmental reviews include evaluating long-term operations and monitoring of waste disposal facilities. DOE evaluated the impacts of disposing of TRU waste in the *Waste Isolation Pilot Plant Disposal Phase Final Supplemental Environmental Impact Statement* (DOE 1997). As long as the waste from SRPPF operations (e.g., LLW, TRU) meets the waste acceptance criteria and is within the legally authorized total TRU waste volume capacity limit for the WIPP facility, the potential long-term impacts of that disposal have already been considered. Costs of waste disposal

would not have a bearing on the analysis of potential environmental impacts and are beyond the scope of this EIS.

6-j.15

*A commenter expresses concern about SRS possibly using the EnergySolutions commercial LLW disposal facility in Barnwell, South Carolina. The commenter asks that DOE confirm it would not use the facility for disposal of waste from the SRPPF because its disposal space is limited and reserved for waste generated by the Atlantic Compact States.*

**Response:** As described in EIS Section 3.9.3.3, LLW generated at SRS generally goes to one of the onsite disposal facilities. It is expected that LLW from the SRPPF would follow that same course of action. If at some point it was decided that LLW from the SRPPF needed to go to a commercial facility, it is expected that the same process used for MLLW would be used. That is, the waste would be managed under contract with a commercial enterprise that was able to demonstrate adequate capacity and compliance with applicable permitting and regulatory requirements. NNSA does not anticipate using the EnergySolutions facility in Barnwell for LLW disposal.

6-j.16

*Commenters request information about the generation and management of TRU waste from the SRPPF. Specifics questions/comments include:*

- *Does WIPP have the ability to receive the anticipated volume of waste annually from SRPPF and other generators?*
- *There should not be long-term storage of TRU waste at SRS.*
- *Why is a large amount of TRU waste storage capacity planned for the SRPPF?*
- *How would the TRU waste be packaged, stored, and removed?*
- *What DOE group would be responsible for funding and performing waste management activities, and would the costs be included in the yearly operational costs for the SRPPF?*

**Response:** Section 4.9.1.2 of this SRS Pit Production EIS discusses the ability of WIPP to receive expected future shipments of SRS TRU waste. NNSA has determined that shipments of TRU waste from SRS under the Proposed Action would represent increases in total shipments over current planning; however, these increased levels would be similar to previous years of large shipment numbers to WIPP.

Section 4.9.1.2 of this EIS states that TRU waste generated from pit production would be managed (i.e., packaged, prepared for shipment, and shipped), to the extent practical, from within the SRPPF to minimize impacts to existing SRS functions. The amount of TRU waste storage capacity that would be located within the Protected Area is primarily for contingency in the event that

shipments to the WIPP facility were ever curtailed again to ensure safe operations. Without any such curtailment, current plans are to transport waste to WIPP on a regular basis, only using staging areas to accumulate waste between shipments and to accommodate any surges in waste production that might occur. The SRPPF would be an NNSA operation and NNSA would be responsible for the management of waste generated by the facility as well as for funding of the operations.

See Comment-Response 6-o.1 for a discussion of the cumulative impacts to WIPP from reasonably foreseeable actions involving TRU waste.

6-j.17 *A commenter requests additional information about the availability of the Effluent Treatment Facility (ETF) to support the Proposed Action. The commenter notes that EIS Section 4.9.1.2 indicates liquid waste from SRPPF would be sent to the ETF. A number of SRS sources send LLW to the ETF, but a primary source is from SRS management of HLW tanks, which should be completed before the end of the 50-year operating life of the SRPPF. The commenter asks if the ETF would continue to be available for aqueous waste from the SRPPF or if another treatment system would be used.*

**Response:** It would be speculative to predict how the ETF would be used and by whom during the next 50 years. However, if the SRS program operating the ETF were ever to reach a point where the feasibility of maintaining the facility in an operational condition was in question, NNSA would either work with SRS and provide additional support to keep needed capabilities available or develop replacement capabilities.

6-j.18 *A commenter asks if the Waste Solidification Building would be part of the pit production project. The comment indicates the Waste Solidification Building was constructed as part of the failed mixed-oxide project and asks if there would be any use of this building in handling TRU or other nuclear or chemical wastes.*

**Response:** The Waste Solidification Building was planned as an element of the mixed-oxide facility; it would not be required for the SRPPF.

6-k.1 *Commenters state that there have been notable past safety incidences related to pit production at Rocky Flats and LANL that could occur at SRS, which lacks the experience to conduct pit production. Commenters also state that historical major contamination incidents related to safety failures at SRS cannot be ignored.*

**Response:** This SRS Pit Production EIS presents the potential impacts to human health for both normal operations and accidents. Safety is a paramount issue for DOE/NNSA, and NNSA employs a robust safety program to ensure operations at NNSA facilities and sites are safely conducted. Any existing contamination at SRS is represented in the affected environment described in Chapter 3 of the SRS Pit Production EIS to establish a baseline upon which

potential impacts of the proposed action are evaluated. Past safety and accident incidences are beyond the scope of this EIS. Section 4.11 of this EIS includes analyses of potential accident scenarios involving SRPPF operations. See also Comment-Response 1-h.

- 6-k.2 *Commenters state that DOE has accumulated a disastrous record regarding the Energy Employees Occupational Illness Compensation Program Act of 2000 (EEOICPA) when nuclear workers make lawful claims. Commenters state that nuclear workers have been denied claims because DOE is unable to verify employment, has lost or destroyed personnel records, or has incomplete personnel assignment records.*

**Response:** The disposition of claims under the EEOICPA is not within the scope of this EIS.

- 6-k.3 *Commenters state that the EIS health analysis must include site workers, first responders, and communities near SRS, including Barnwell, South Carolina, and Shell Bluff, Georgia, which contain communities of primarily low-income and historically disadvantaged people of color.*

**Response:** As shown in Sections 4.10 and 4.11 of this SRS Pit Production EIS, potential impacts to human health are presented for both normal operations and accidents. The analysis considers both site workers and the offsite public, including communities in Barnwell County in South Carolina and Shell Bluff, Georgia (noted as Burke County in the EIS). Section 4.8.2 of this EIS addresses potential impacts to low-income and minority populations. See also Comment-Response 6-i.2.

First responders face similar risks as involved workers—they could be acutely injured or killed by physical effects of an accident and could be exposed to high doses of radiation. First responders at NNSA/DOE facilities receive additional radiation training beyond that of typical emergency response personnel to prepare them for working in and around facilities that contain nuclear materials. Section 4.11.1.3 of this EIS has been revised to address potential impacts to first responders.

- 6-k.4 *Commenters state that the analyses in the EIS must address the health risk of waste streams and plutonium management (including criticality risks) to the most vulnerable—that is, to pregnant women, fetuses, children, and the elderly—rather than the standard, less vulnerable “Reference Man.”*

**Response:** This SRS Pit Production EIS was prepared in accordance with applicable DOE guidance, including, *Recommendations for the Preparation of Environmental Assessments and Environmental Impact Statements, Second Edition* (DOE 2004). DOE guidance for human health impacts states that a “sliding-scale approach” should be applied when characterizing human health effects. The guidance also states that estimates of potential health effects from



chemical or radiological exposure should include “members of the general public.” Consistent with that guidance, NNSA evaluates the potential human health impacts on an “average member of the general public.” If the analysis shows that potential human health impacts may be significant to the average member of the general public, NNSA may decide to further analyze human health impacts on a more vulnerable segment of the population. In the case of this EIS, the potential impacts to human health did not warrant a more detailed human health analysis. For example, the dose to the MEI (a hypothetical member of the public located at the closest site boundary) from production of 80 pits per year was estimated to be approximately  $8.0 \times 10^{-7}$  mrem/year. Such a dose is approximately 0.000008 percent of the regulatory dose limit of 10 mrem/year. This dose to the MEI is so small that a more detailed analysis of other segments of the population is unwarranted.

See Comment-Response 6-1.5 for a discussion of potential criticality risks.

6-1 *Commenters ask how the list of accidents was determined. Commenters question how risks and fatalities were calculated. Commenters express concern about accident impacts on resources in the surrounding area, including waterways.*

**Response:** Sections B.3 and B.4 in Appendix B of this SRS Pit Production EIS describe the process NNSA used to identify the accidents analyzed for the SRPPF in this EIS. As explained in those sections, NNSA considered fires, spills, criticality and explosion events, site-specific externally initiated events, and natural phenomena with a desired end goal to analyze a spectrum of accidents, including high-consequence/low-probability accidents and low-consequence/high-probability accidents.

As explained in Section B.3.2 of this EIS, the potential impacts of accidental radiological releases associated with the accident scenarios were determined using the MELCOR Accident Consequence Code Systems (MACCS) computer code. MACCS is a DOE/NRC sponsored computer code that has been widely used in support of probabilistic risk assessments for the nuclear power industry and in support of safety and NEPA documentation for facilities throughout the DOE complex. MACCS models the consequences of an accident that releases a plume of radioactive materials to the atmosphere. For this EIS, NNSA estimated the potential radiological impacts for three receptors: (1) the MEI at the SRS boundary; (2) the offsite population within 50 miles of the proposed SRPPF; and (3) a noninvolved worker at 1,000 meters (3,281 feet) from the accident location. The doses were converted to latent cancer fatalities (LCFs) using the factor of 0.0006 LCF per person-rem for members of the public and workers. The EIS also analyzed potential impacts from hazardous chemical accidents (see Sections B.3.2.3 and B.4.2 of this EIS). Tables B-4, B-5, and B-6 show the potential impacts of accidents; as shown on those tables, potential impacts offsite would be very small.

6-1.1 *Commenters state that the analysis of intentional destructive acts is inadequate. Commenters state that it is strange that the classified appendix concluded that the potential impacts of intentional destructive acts could exceed the “accident impacts analyzed in the [Complex Transformation] SPEIS” and then NNSA “concluded that the classified appendix analysis is reasonable and adequate to represent the Proposed Action in this EIS and does not need to be revised.” Commenters question whether any real analysis was done to begin with, and how NNSA could find this “reasonable and adequate.” Other commenters state that the analysis should include impacts associated with dirty bomb and improvised nuclear devices from theft of pit production nuclear materials. Commenters also questioned whether the threat analysis considered potential cyber attacks.*

**Response:** The analysis of intentional destructive acts was prepared for the 2008 Complex Transformation SPEIS, which included an analysis of pit production at SRS. In preparing this SRS Pit Production EIS, NNSA reviewed the classified appendix that was prepared for the Complex Transformation SPEIS to address intentional destructive acts. Based on that review, NNSA concluded that the classified appendix analysis is reasonable and adequate to represent the Proposed Action in this EIS and does not need to be revised (NNSA 2019c). The analysis of intentional destructive acts in that classified appendix is a detailed analysis that remains valid today.

The fact that the potential impacts from an intentional destructive act could exceed the accident impacts analyzed in this EIS reflects the potential seriousness of an intentional destructive act. The EIS has been updated to clarify that the potential impacts from an intentional destructive act could exceed those associated with the accident scenarios analyzed in this EIS.

Cyber attacks are not expected to result in physical forces or conditions that could result in impacts greater than those from direct physical attacks and already defined in the accident impacts analysis.

6-1.2 *Commenters state that the EIS must discuss plutonium fires similar to those that occurred at Rocky Flats.*

**Response:** Fire is always a concern when working with any pyrophoric material such as plutonium. The lessons learned from the 1969 and other Rocky Flats plutonium fires have been used to improve design characteristics and operating procedures in all DOE nuclear facilities, including the SRPPF. Thus, a similar sequence of events that led to these fires would not be possible under current designs because of built-in barriers that would restrict the initiation of such an event or that would prevent the propagation of such a fire (DOE 1999, Section G.4.1.2). Nonetheless, Appendix B of this EIS describes the accident scenarios that were analyzed for this EIS, including the Fire in a Single Fire Zone scenario.

6-1.3 *Commenters state that the EIS needs to discuss the impacts of a nuclear accident (including a plutonium fire similar to that which occurred at Rocky Flats) at the SRPPF on the operation of Plant Vogtle and on front-line workers and downwind communities.*

**Response:** During the licensing process for Vogtle Units 3 and 4, the license applicant and the NRC evaluated the potential impact of SRS facilities on Plant Vogtle. Both evaluations reached similar conclusions (Southern Company n.d., Section 2.2.3.4; NRC 2009, Section 2.2.3.4):

“The hazard due to the release of radioactive material from either VEGP Units 1 and 2 or the facilities at SRS, as a result of normal operations or an unanticipated event, would not threaten safety of the new units. Smoke detectors, radiation detectors, and associated control equipment are installed at various plant locations as necessary to provide the appropriate operation of the systems. ... The habitability systems for the AP1000 are capable of maintaining the main control room environment suitable for prolong occupancy throughout the duration of the postulated accidents that require protection from external fire, smoke and airborne radioactivity. ... In addition, safety related structures, systems, and components for the AP1000 have been designed to withstand the effects of radiological events and the consequential releases which would bound the contamination from a release from either of these potential sources.”

Therefore, the impacts on Plant Vogtle from an accident at the SRPPF would be within NRC guidance limits.

See Comment-Response 6-1.2 regarding the potential for plutonium fires similar to those that occurred at Rocky Flats in 1969 and at other times.

See Comment-Response 6-1.7 regarding the impacts of potential SRPPF accidents on front-line workers and downwind communities.

6-1.4 *Commenters state that the EIS must discuss the risk of wildfires on SRPPF.*

**Response:** The U.S. Forest Service-Savannah River maintains a comprehensive wildland fire program, with a year-round initial attack capability of dedicated firefighting forces and equipment to protect natural resources and site improvements from wildland fire and smoke either from SRS or from fires that threaten SRS, and to suppress any forest fires that do occur at SRS.

The NRC’s Final Safety Evaluation Report on the MFFF (NUREG-1821, Section 5.1.6.1) (NRC 2005b) states the following about the potential for forest fires to impact the MFFF (which would be repurposed as the SRPPF):

“The design basis for external fire was assumed to be a forest fire near the [MFFF] .... The plant exterior is designed to withstand a fire duration of at least 2 hours .... This is considered by the staff to be adequate, based on the availability of an onsite fire brigade and the fuel loading provided by natural growth around the building. The PSSCs [principal structures, systems, and components] identified to provide protection against the external fire are the MFFF building structure, the emergency generator building structure, the emergency control room air-conditioning system, and the waste transfer line. The safety functions of the PSSCs are to withstand the effects of the external fire, to provide protection for internal SSCs, and to ensure habitable conditions for operators as necessary. The staff concludes that the applicant’s selection of the design basis external fire is an acceptable strategy for meeting the performance requirements of 10 CFR 70.61.”

Section 2.1.2.2 of this SRS Pit Production EIS states that the:

“building ventilation system would include high efficiency particulate air (HEPA) filters and would be designed to maintain confinement, thus precluding the spread of airborne radioactive particulates or hazardous chemicals within the facility or to the outside environment. Both intake and exhaust air would be filtered, and exhaust gases would be monitored for radioactivity.”

Thus, any smoke and/or ash brought into the SRPPF would be filtered prior to being supplied to the habitable areas.

To better understand the risk to firefighters and the public that a forest fire on SRS-contaminated grounds could pose, Viner (et al. 2018) simulated various potential fires on SRS and predicted the potential resulting radiological doses. The study found that the risks associated with wildfires at these locations would not be expected to cause doses above the level of concern to either responding personnel or the offsite public. SRPPF operators would be protected by the walls and ventilation system; therefore, it can be assumed that the dose to SRPPF operators from a wildfire would be even less of a concern.

6-1.5 *Commenters state that risk of criticality is not discussed and also state that there is insufficient staffing of fully qualified and experienced criticality safety engineers to support the site’s current and planned SRPPF operations.*

**Response:** Section 4.11.1 of this SRS Pit Production EIS analyzes an inadvertent criticality as one of the accident scenarios and presents potential impacts to workers and the offsite public.

Annually the NNSA assesses the nuclear criticality safety programs at each DOE facility. NNSA assigns one of three ratings to each facility's program: Green—meets or exceeds expectations, Yellow—adequate but needs improvement, and Red—does not meet expectations. The January 2020 assessment (NNSA 2020b) found that for the three-year evaluation period (i.e., fiscal year [FY]17, FY18, and FY19), the SRNS program's overall performance was rated Green, and that the criticality safety staffing met target levels.

6-1.6 *Commenters state that the EIS should fully analyze seismic concerns and possible mitigation strategies to lower public risks from future plutonium pit production. The commenters also expressed concern regarding the ability of the diesel generators to provide power for the duration of a seismic event.*

**Response:** As described in this SRS Pit Production EIS, Appendix B, the EIS accident analysis scenarios include an extremely unlikely, bounding seismic event (i.e., earthquake). Based on its review of the MFFF license application, the NRC staff concluded that the “selection of the design basis earthquake satisfies the performance requirements of 10 CFR 70.61” (NRC 2005b, p. 5-13). Since it will be housed in the MFFF structure, the NRC staff's conclusion is also applicable to the SRPPF. Further, Section 3.2.3 of this EIS concluded that earthquakes capable of producing structural damage are not likely to originate in the vicinity of SRS. Nevertheless, the Appendix B analysis assumed that the walls of the SRPPF collapsed, which results in a loss of confinement and the unfiltered release of radioactive material. The calculated doses and risks for this postulated seismic scenario are provided in Appendix B and Section 4.11 of this EIS.

As stated in Section 3.2.3 of this EIS, the USGS recorded six less powerful earthquakes (i.e., with Richter magnitudes between 2.0 and 3.0) as having occurred on or near SRS during recent years. Earthquakes of this magnitude are generally not felt by humans but do register on seismic instruments and typically would result in little to no structural damage at SRS.

As stated in Section 4.7.1.2 of this EIS, the SRPPF is provided with backup diesel generators that would be designed to start and operate associated safety-related equipment necessary to mitigate an accident. The diesel generators could operate indefinitely because fuel would be delivered to the site by truck as needed.

6-1.7 *Commenters state that the EIS accident analysis must include doses and risks to site workers, first responders, and communities near SRS, including Barnwell County in South Carolina and Shell Bluff, Georgia.*

**Response:** As described in this SRS Pit Production EIS, Appendix B, NNSA calculated accident doses and risks to the MEI, the 50-mile surrounding population, and a noninvolved worker. The MEI was assumed to be located at the SRS site boundary. Since all communities near SRS would be located farther away than the assumed MEI, the individual doses would be less than the doses calculated and reported for the MEI. Additionally, the 50-mile population doses and risks provided in Appendix B include all the individuals located in the communities near SRS. Finally, as described in Section 3.11 of this EIS, SRS provides communities with information about what to do in the event of a serious incident or emergency. For example, a publicly available SRS brochure (DOE 2019b) describes emergency plans prepared by officials of the states of Georgia and South Carolina, local governments, and SRS for each emergency planning zone.

Appendix B also presents the calculated doses and risks to noninvolved site workers located near the SRPPF, i.e., within 1,000 meters (3,281 feet). As stated in *Recommendations for Analyzing Accidents Under the National Environmental Policy Act* (DOE 2002) for involved workers, “Fatal or serious non-fatal injuries may be expected because of a worker’s close proximity to the accident.” Because it may not be feasible to meaningfully model involved worker exposures (DOE 2002), they were not included in Appendix B.

Section 4.11.1.3 of this EIS has been revised to address potential impacts to first responders. Exposures to first responders would be determined by the U.S. Environmental Protection Agency’s (EPA’s) emergency worker protective action guides (EPA 2017, Section 3). The below table summarizes EPA’s first responder protective action guides for life and property saving activities.

Guideline	Activity	Condition
5 rem (50 mSv)	All occupational exposures	All reasonably achievable actions have been taken to minimize dose.
10 rem (100 mSv) <sup>a</sup>	Protecting critical infrastructure necessary for public welfare (e.g., a power plant)	Exceeding 5 rem (50 mSv) unavoidable and all appropriate actions taken to reduce dose. Monitoring available to project or measure dose.
25 rem (250 mSv) <sup>b</sup>	Lifesaving or protection of large populations	Exceeding 5 rem (50 mSv) unavoidable and all appropriate actions taken to reduce dose. Monitoring available to project or measure dose.
>25 rem (>250 mSv)	Lifesaving or protection of large populations	All conditions above and only for people fully aware of the risks involved.

a For potential doses >5 rem (50 mSv), medical monitoring programs should be considered.  
 b In the case of a very large incident, incident commanders may need to consider raising the property and lifesaving emergency worker guidelines to prevent further loss of life and massive spread of destruction.

Source: EPA 2017, Table 3-1

6-1.8 *Commenters state that the EIS must address the impacts to the SRPPF of accidents and radionuclide releases from the F-Canyon and 235-F Building D&D.*

**Response:** In the past, F-Canyon was used to chemically separate uranium, plutonium, and fission products from irradiated fuel and target assemblies. The separated uranium and plutonium were transferred to other DOE facilities for further processing and final use. F-Canyon has been deactivated, and all radioactive materials have been removed. There are no current plans to restart F-Canyon. (CB&I AREVA 2017, Section 1.3.2.4.1.2)

Building 235-F has had several production missions throughout its operational life. In 2006, the storage vaults for nuclear materials were emptied and Building 235-F was placed in a surveillance and maintenance mode. However, a significant quantity of plutonium-238 residual contamination remained within the building. In May 2012 the DNFSB identified the need to execute actions that can reduce the hazards associated with the residual contamination within Building 235-F. The DNFSB indicated that the unmitigated consequences of a seismically induced, full-facility fire at Building 235-F are greater than 27,000 rem to the collocated worker at 100 meters. Although the SRPPF is located farther than 100 meters from Building 235-F and its workers would be indoors, shielded from the passing plume, the SRPPF workers could receive a significant dose from such an accident. However, in response to the DNFSB, Building 235-F is currently undergoing deactivation work intended to reduce the available material-at-risk in order to reduce accident consequences to facility workers. The Building 235-F risk reduction project would be completed well before the SRPPF began operations in 2030 (planned for completion by 2025).

6-m.1 *Commenters state that NNSA failed to quantify the risk, impacts, and costs associated with the emplacement of SRS wastes at WIPP. The State of New Mexico states that DOE should address payments for infrastructure upgrades to New Mexico highways. Other commenters state that the EIS needs to address the transportation of radioactive wastes and feedstock (plutonium and uranium) from the various NNSA sites, including Pantex.*

**Response:** The potential impacts of TRU waste disposal at WIPP are addressed in WIPP-specific NEPA documents and have been referenced by this Final EIS as necessary.

The estimated TRU waste generation rates and projected shipping rates to WIPP included in the Draft EIS were conservative and used to evaluate the potential environmental impacts of the Proposed Action. The Final EIS reflects a reduction in the estimated generation rates for TRU waste and the associated number of shipments to WIPP. The related incident-free and accident impacts have been revised accordingly. These estimated shipping rates are not necessarily the future shipping rates that would be determined by CBFO based on funding; compliance or legal agreements; and CBFO priorities for INL,

LANL, and SNL and the rest of the DOE complex. CBFO would continue to work with the generator sites to establish the TRU waste shipping priorities and throughput.

NNSA agrees that the roads and highways in New Mexico are an important infrastructure for the safety of New Mexico citizens and all citizens along the routes; however, funding for improved infrastructure is outside the scope of this EIS.

Section 4.12.1 of this EIS addresses the potential impacts associated with the transportation actions required to support the Proposed Action (e.g., feedstock, completed pits, wastes).

6-m.2

*Commenters state that it is critical that the packaging and transport regulations and emergency response protocols described in Section 3.12 of the Draft EIS are followed to the greatest extent possible in order to protect water sources and water supply systems from accidental releases of radioactive materials. Commenters also stated that NNSA should provide advance notice for state regulatory consideration and approval for any offsite shipments of nuclear waste.*

**Response:** The *TRU Waste Transportation Plan* (DOE 2016) describes the requirements, commitments, roles and responsibilities, route selection, training requirements, transportation operations, emergency considerations, security, and communications that DOE follows. In addition, this plan incorporates the protocols DOE established with The Western Governors' Association, the Southern States Energy Board, and the Council of State Governments' Midwestern Office.

WIPP transportation drivers, Transportation Emergency Response program, robust design and fabrication of shipping packages (e.g., TRUPACT-II), and first-responder training comply with the requirements. The WIPP Transportation Program is, and will continue to be, exemplary and protective of human health and the environment, which includes protection of water sources and water supply systems.

The WIPP Transportation Program and driver qualification requirements are robust, and the program complies with packaging and transportation regulations and U.S. Department of Transportation (USDOT) requirements and has one of the safest driving records across the nation. WIPP has an outreach transportation emergency response program and training along the WIPP routes. WIPP has trained more than 36,000 emergency response professionals along WIPP routes since 1988. The training courses sponsored by the DOE focus on all emergency responders who may potentially respond to accidents involving WIPP waste shipments. Training classes cover incident command, caring for accident victims (both on scene and in the hospital), guarding the



public welfare, protecting the environment, and ensuring the safety of responders.

Transportation casks used to transport TRU waste to WIPP are NRC-certified Type B casks. Type B casks must meet stringent NRC design, fabrication, operation, and maintenance requirements. Designs for the Type B casks must withstand normal transportation conditions, such as exposure to high and low temperatures, varying external pressures, and impact from debris. In addition, NRC certification requires Type B casks to withstand a series of rigorous tests under hypothetical accident scenarios without failing.

The notification of state and local officials would be implemented in compliance with regulations governing the transportation of radiological materials. The requirements for advanced notification of shipments are described in Section 7.2 of the *TRU Waste Transportation Plan*. Advanced notifications include an annual notification of planned shipments, 14-day notice for use of a shipment corridor, distribution of an eight-week rolling schedule to States and tribal representatives, and en-route notifications.

6-m.3 *Commenters request clarification on the number of TRU waste shipments for different TRU waste streams currently being made to the WIPP from SRS. They requested clarification on how these TRU waste streams would overlap for the duration of the proposed SRPPF operations. Waste streams include TRU waste from general SRS operations, TRU waste from surplus plutonium disposition activities, and legacy TRU waste.*

**Response:** Section 3.9.2 of this SRS Pit Production EIS identifies the current status of TRU waste management at SRS and disposal operations at WIPP. Section 4.9.1 and Table 4-13 of this EIS include projections of TRU waste generation associated with the Proposed Action. For this Final EIS, NNSA reduced the projections to reflect refinements in the SRPPF design. According to current planning, legacy waste and plutonium disposition waste shipments would be completed well before the forecasted completion of SRPPF operations.

Table 4-25 of this Final EIS presents the estimated number of annual TRU waste shipments, revised to reflect up-to-date SRPPF TRU waste generation rates. As described in Section 4.9.1.2 of this EIS, the TRU waste generated by the SRPPF would be contact-handled TRU waste.

6-n NNSA received no comments related to contamination.

6-o.1 *Commenters request information regarding the priority under which TRU waste would go to WIPP and whether the waste capacity mandated for WIPP under the LWA would support waste from the Proposed Action. Commenters ask if TRU waste from SRPPF operations would cause waste from other facilities to be “bumped,” and state that impacts to the scheduling of TRU waste*

*receipts at WIPP and to its capacity limit must be reviewed. Other commenters state that WIPP would not have capacity to support the Proposed Action if the past approach to measuring waste volume is used. Commenters state that the manner in which the EIS evaluates impacts to WIPP's capacity is not bounding or conservative. Commenters state that the EIS needs to address long-term storage of TRU waste due to WIPP's insufficient capacity. Comments express the need for a PEIS or SRS EIS to analyze impacts to adhering to the WIPP capacity limit and changing the limit, as well as reasonable alternatives for storage and disposal of TRU waste.*

**Response:** As part of WIPP's normal operations, DOE routinely reviews potential impacts to scheduling of TRU waste receipts at WIPP and its total TRU waste volume capacity limit. With regard to waste receipts, the CBFO coordinates with all sites on an annual basis to prepare a shipping plan that establishes the year's plans and priorities for TRU waste shipments to WIPP. CBFO determines the priority and planned throughput based on funding, compliance orders or settlement agreements, site needs, and site capability to provide shippable (compliant) TRU waste. This process would continue into the future and would, at the appropriate time, incorporate TRU waste from SRPPF operations into the planning. See Comment-Response 6-j.4 regarding priorities of shipments to WIPP. See Comment-Response 6-j.3 regarding CBFO's tracking of the volume of TRU waste disposed of at the WIPP facility.

Regarding comments about the nature of the volume numbers being tracked, as stated in Section 5.3.4 of this SRS Pit Production EIS, a 2018 modification to WIPP's RCRA permit with the State of New Mexico<sup>2</sup> clarified that waste volumes tracked against the LWA capacity would be the volume of TRU waste inside containers, while the volume of TRU waste tracked against the permit would be based on the volume of the outer container. In effect, the change in numbers being tracked against the LWA capacity has the net effect of decreasing the volume of TRU waste already disposed of while increasing the amount of unused disposal capacity. This change, formalized in a State of New Mexico approval of a permit modification request, is consistent with the intent and language of the LWA. Section 5.3.4, Table 5-4, in this EIS demonstrates that the volume of TRU waste already disposed of at WIPP in combination with the total quantities currently identified for future disposition at WIPP would not exceed the LWA's total TRU waste volume capacity limit. The "future" TRU waste projection in the evaluation in this EIS includes 50 years of waste generation from the proposed SRS and LANL pit production operations.

See Comment-Response 6-j.12 for a discussion of availability of WIPP for TRU waste disposal. At this time, no decision has been made to extend the operational period or the WIPP LWA capacity limit for WIPP, which would

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<sup>2</sup> WIPP's RCRA permit is available online at [https://wipp.energy.gov/Library/Information\\_Repository\\_A/Searchable\\_Permit\\_May2020\\_NMED\\_Incorporated.pdf](https://wipp.energy.gov/Library/Information_Repository_A/Searchable_Permit_May2020_NMED_Incorporated.pdf)

require Congressional action. DOE will satisfy all regulatory requirements and preparation of appropriate NEPA documentation.

6-o.2 *Commenters question why old data from the 2015 SPD SEIS document not related to plutonium processing into pits is being used. Commenters request NNSA to explain why that document is cited, why it is relevant, and why no new and pertinent data on the health impacts and waste generation of the pit plant are included.*

**Response:** As discussed in Chapter 5 of this SRS Pit Production EIS, cumulative impacts are assessed by combining the effects of the Proposed Action with the effects of other past, present, and reasonably foreseeable future actions in the region of influence. Surplus plutonium disposition is one of the actions considered in that cumulative analysis. To date, NNSA has not formulated a definitive proposal for the surplus plutonium disposition program. Consequently, the best available information regarding potential impacts associated with surplus plutonium disposition is in the 2015 SPD EIS. Furthermore, the cumulative impacts analysis in the SPD EIS includes the past, present, and reasonably foreseeable future actions in the SRS vicinity as of 2015. By referencing the SPD EIS analyses, the SRS Pit Production EIS analysis can focus on those actions that have arisen since 2015.

Chapter 4 of this SRS Pit Production EIS contains new and pertinent data on the health impacts and waste generation of the SRPPF; the cumulative impacts analysis in Chapter 5 of this EIS is based on those data.

6-o.3 *Commenters state that the SRS region is unduly burdened by the presence of radioactive risks from facilities such as those at SRS, nearby low-level waste disposal facilities, and nuclear power plants in the area. Commenters state that this burden creates unacceptable radioactive risks, which have resulted in contamination and adverse health effects to surrounding communities, including low-income and minority populations.*

**Response:** As discussed in Chapter 5 of this SRS Pit Production EIS, cumulative impacts are assessed by combining the effects of the Proposed Action with the effects of other past, present, and reasonably foreseeable future actions in the region of influence. The analysis in Chapter 5 considers the nuclear-related facilities in the area and provides an analysis of the combined impacts on human health, waste management, and environmental justice. See also Comment-Responses 6-i.2 and 6-k.3.

6-p.1 *Commenters state that the EIS should provide more detail on the specific processes used to purify plutonium to support a full evaluation of the potential environmental impacts from that process. Some of the specific questions include:*

- *Would aqueous or nonaqueous recovery processes be used?*

- *Where in the SRPPF would the various processes occur?*
- *How would beryllium be removed from the stored pits and what happens to the beryllium after removal?*
- *Provide a more detailed description of the specific equipment that would be used in the processes.*

**Response:** As presented in Section 2.1.2 of this SRS Pit Production EIS, descriptions of the pit production process are largely based on information in the functional and operational requirements document (NNSA 2019c) that supports the CD-1 package expected to be submitted by SRNS to NNSA near the end of calendar year 2020. The pit production process would be very similar to the process currently used at the LANL Plutonium Facility. NNSA believes that the descriptions in Section 2.1.2 of this EIS provide an adequate level of detail to offer a level of understanding for the various processes without divulging sensitive information. The potential impacts (e.g., emissions, waste generation, worker dose, accidents) rely on pit production experience at LANL and engineering design input from SRPPF and subject matter experts around the Complex. The information in this EIS is based on the best available information and is consistent with CEQ regulations, which require agencies to integrate the NEPA process into early planning (40 CFR 1500.5[a]). It is expected that design details would change as the project matures through the design process and into construction and operation; however, this EIS provides an accurate representation of the Proposed Action and the potential impacts that could occur if the proposal were implemented.

Section 2.1.2.2 of this EIS describes the three nonaqueous plutonium purification processes that could be used. The specific nonaqueous purification process or combination of processes would depend on the specific plutonium feedstock, although all three would be available in the process line. The residues that result from the purification process would then be subjected to an aqueous recovery process to recover the plutonium as opposed to sending it to the TRU waste stream. Therefore, both aqueous and nonaqueous processes are included in the SRPPF design and in the EIS impact analysis.

NNSA has considered the internal configuration of the SRPPF and the optimization of glovebox locations during the evaluation of potential impacts (e.g., worker dose, accident scenarios); however, the specific details associated with the facility layout include sensitive information, which precludes public release.

As identified in Section 2.1.2.2, beryllium may be a component in both pit disassembly and assembly operations. Pits would be disassembled using mechanical, thermal, or chemical means, depending on the specific pit design. Any beryllium that results from the disassembly of a pit would not be reused and would be disposed of as LLW or TRU waste, depending on its radiological characteristics.

6-p.2 *Commenters request that the EIS fully define the role that Y-12 would play in operation of the SRPPF.*

**Response:** Section 1.5.2 of this SRS Pit Production EIS provides a synopsis of relevant NEPA documents, including the Y-12 SWEIS. In that section, the EIS states, “Y-12 supports the pit production mission by providing any required uranium to the pit production facility.” The potential impacts of the action to process uranium are addressed in the 2011 Y-12 SWEIS (NNSA 2011). Section 4.12.1.2 of this EIS addresses potential impacts associated with transportation of enriched uranium (see Table 2-3 of this EIS) to and from Y-12 and the SRPPF.

6-p.3 *Commenters urge NNSA not to produce any new plutonium.*

**Response:** NNSA does not propose to produce any new plutonium as part of the Proposed Action. All plutonium used as feedstock in the SRPPF would be from either existing pits or from small quantities of plutonium from other locations, such as SRS, LANL, and Pantex.

6-p.4 *Commenters question the role of the DNFSB in the construction and operation of SRPPF.*

**Response:** The DNFSB’s mission is to provide independent analysis, advice, and recommendations to the Secretary of Energy to inform the Secretary, in the role of the Secretary as operator and regulator of DOE defense nuclear facilities, in providing adequate protection of public health and safety at such defense nuclear facilities. NNSA expects that DNFSB would continue in that role because the SRPPF is a defense nuclear facility.

6-p.5 *Commenters state that imposing a plutonium pit production program on the community is in violation of the U.S. 1982 Nuclear Waste Policy Act (NWPA). Specifically, the commenters stated:*

- *The Act provides for a U.S geologic repository for high-level radioactive waste by the mid-1990s.*
- *The Act provides that state governments are authorized to veto a national government decision to place a waste repository within their borders unless both houses of Congress vote to override the state veto.*
- *SRS was never studied, tested, or certified to be a long-term nuclear repository. Yet the waste created there, the waste brought there from other U.S. sites, and the waste that is received there from international sites remains there.*

- *SRS already contains roughly 12 metric tons of surplus plutonium. The government has, in effect, created a nuclear waste repository at SRS in violation of the NWPA.*

**Response:** The NWPA, as amended (42 U.S.C. § 10101, et seq.) establishes the Federal Government's responsibility for the disposal of spent nuclear fuel and high-level radioactive waste. Congress amended the original 1982 NWPA in 1987 and identified the Yucca Mountain site in Nye County, Nevada, as the only site for study as a potential location for a geologic repository. Section 3.9 of this SRS Pit Production EIS identifies that the Proposed Action would not generate HLW. The NWPA does not apply to the development and operation of a pit production facility. Section 4.9.1.2 of this EIS addresses disposal of wastes resulting from operation of the SRPPF.

6-p.6 *Commenters request information about the plutonium pit radiographic capabilities that will be in the SRPPF.*

**Response:** The SRPPF would include a radiography system that would be adequately shielded, with appropriate safety interlocks, to ensure worker safety of both those personnel performing the radiographic operations and personnel outside of the area.

6-p.7 *Commenters request information about whether SRPPF will include hydrotesting.*

**Response:** Hydrotests are conducted as part of the Stockpile Stewardship Program to maintain and enhance the safety, reliability, and performance of the U.S. nuclear weapons stockpile. The need for hydrotests is independent of pit production. There are no plans to conduct hydrotests at SRS.

6-p.8 *Commenters ask about the assumed lifetime for SRPPF and if its life could be extended beyond that time and at what point the facility will be decommissioned.*

**Response:** As described in Section 2.1.1 of this SRS Pit Production EIS, the SRPPF would have a 50-year facility design life. Any extension of operations beyond that term would need to be evaluated in the future and is speculative at this time, and, thus, are beyond the scope of this EIS. Decisions related to decommissioning and disposition of the SRPPF at the end of its lifetime would be evaluated based on the technical options available at that future time. See Comment-Response 6-j.13 for information on D&D.

6-p.9 *Commenters state that the NRC will have no role in pit production, and question why NRC is even mentioned in the EIS. Commenters specifically question whether NNSA intends to enlist the NRC to document the status of construction and if it complied with NRC regulations and NRC license conditions at the time the MFFF was terminated. Commenters also question whether NNSA will*

*describe all the construction problems that were faced and that remained at the time of MFFF project termination.*

**Response:** Section 2.1.1 of this SRS Pit Production EIS states, “The MFFF was designed to safety and security standards (including seismic performance category 3+ to meet NRC requirements), with walls of reinforced concrete (NNSA 2017, p. A-29).” This fact is included in this EIS to inform the public of the construction requirements to which the facility was built. There are instances where NRC evaluation of information submitted by the license applicant for the MFFF is the best information available for this EIS. For example, the seismic design for the MFFF and its adequacy for the SRPPF is discussed in Comment-Responses 6-b.2 and 6-l.6. Issues such as compliance with NRC regulations, NRC license conditions, and any prior construction issues are beyond the scope of the EIS. What is relevant is the following statement: “The facility is being verified to meet all relevant DOE requirements for the pit production mission,” which is stated in Section 2.1.1 of this EIS.

The NRC has relevant responsibilities for the transportation of radiological materials, as described in this EIS. As noted in Section 3.12.2.1, the USDOT and NRC have primary responsibility for Federal regulations governing the transport of commercial radioactive materials. In addition, DOE works with USDOT and the NRC in developing requirements and standards for radioactive materials transportation.

The NRC regulates the packaging and transportation of radioactive material for its licensees, including commercial shippers of radioactive materials. In addition, under an agreement with USDOT, the NRC sets the standards for packages containing fissile materials and Type B packages. DOE, through its management directives, orders, and contractual agreements, ensures the protection of public health and safety by imposing on its transportation activities standards that meet those of USDOT and NRC.

6-p.10 *Commenters question why the Modern Pit Facility (MPF) NEPA document is not mentioned in the EIS and asks what lessons hold from that process, which was terminated.*

**Response:** DOE cancelled the MPF Project in 2006 after publication of the MPF Draft EIS. Any relevant information from the MPF Project regarding whether to proceed with a pit production facility and where such a facility would be located was included, as appropriate, in the 2008 Complex Transformation SPEIS. This SRS Pit Production EIS refers to the 2008 document rather than the 2006 MPF Draft EIS.

6-p.11 *A commenter requested additional information regarding planning assumptions about waste management. Specifically:*

- *Does the statement in Section 2.5 about most waste operations occurring on nights and weekends include the activities associated with the management of waste in the waste storage areas and the preparation of waste shipments or only the waste activities within the 226-F building?*
- *Will any of the liquid TRU waste streams, which would be solidified as part of SRPPF operations, be mixed TRU waste?*

**Response:** Management of waste in the waste storage areas and the preparation of waste shipments would be conducted on day shifts outside the 226-F building. The waste activities within the 226-F building would be conducted on the night shift to minimize interference with the production process. As far as liquid TRU waste, the SRPPF operations would not generate any liquid TRU waste, mixed or otherwise. All TRU waste generated at SRPPF would be in a solid form. While some of that TRU waste could exhibit hazardous characteristics and be considered mixed TRU waste, it would all be handled under the same procedures and processes, with the exception of labeling, as required under RCRA. Section 2.5 of the Final EIS was revised to provide clarification.

6-p.12

*EPA states that testing the effectiveness of the SRS emergency response plan is important and requires a commitment from multiple organizations. The Draft EIS states, in part, that offsite State, local, and private organizations that support the SRS emergency response plan may be invited to participate in exercises at least once every three years. Within a three-year period, modifications to facility standard operating procedures in addition to personnel turnover have the potential to affect the preparedness of the facility and coordination with the surrounding communities. The EPA recommends that offsite organizations participate in SRS exercises on a more frequent basis (i.e., biennial), as a best practice.*

**Response:** SRS believes that it is able to meet the best practice discussed by the EPA to provide offsite interfaces the opportunity to participate in an exercise more frequently than once every 3 years. Currently, the SRS Emergency Response Plan is reviewed and updated annually. Substantive changes are coordinated and communicated with the offsite interfaces. Emergency Planning Hazards Analysis updates are provided to offsite interfaces as well. Offsite interfaces are invited to participate in an exercise no less than every three years. Typically, offsite interfaces are invited to participate on an annual basis. Additionally, SRS participates in the annual Hurricane preparedness drill with the offsite interfaces. This issue is not relevant to the analysis of potential environmental impacts in the SRS Pit Production EIS.



6-p.13 *A commenter states that the Draft EIS cites costly changes in the weapons delivery systems that use uranium instead of plutonium but fails to address similar changes in connection with the production of new plutonium pits.*

**Response:** Section 2.3 of this SRS Pit Production EIS discusses alternatives to the Proposed Action that were considered but eliminated from detailed study. Specifically, Section 2.3.3 of this EIS discusses the alternative of replacing plutonium pits with new pits that would use little or no plutonium (i.e., using HEU instead of plutonium) for the sole reason of not building a long-term, assured pit production facility. This alternative was deemed to be not feasible for a variety of reasons, not just because of the costs of changes to weapons delivery systems. Section 2.3.3 also addresses the potential for resumption of underground nuclear testing that could be associated with that type of design change. Additionally, this alternative would not support the purpose and need for agency action as described in Section 1.3.

### **Issue Category 7: Miscellaneous**

NNSA received no comments related to this category.

### **Issue Category 8: Out of Scope**

8-a *Commenters submitted comments that are irrelevant to the analysis of environmental impacts in the EIS and/or express opinions regarding nuclear war (or war in general). Some of the specific topics raised by commenters include:*

- *Commercial advertising unrelated to SRPPF,*
- *Renouncement of citizenship,*
- *Historical information about the use of a nuclear weapon, and*
- *Disagreement with the Nation's nuclear weapons strategy.*

**Response:** These comments did not address any specific issues associated with the analysis in this SRS Pit Production EIS and therefore are considered out of scope.

8-b *Commenters request that DOE grant the necessary authority to form an advisory board to offer advice and make recommendations concerning issues affecting NNSA programs at SRS.*

**Response:** This SRS Pit Production EIS evaluates the potential impacts of the proposal to refurbish 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. While NNSA could consider the request in the future, this

comment has no bearing on potential environmental impacts and is outside the scope of this EIS.

- 8-c *Commenters state that the National Academy of Sciences recommended that DOE prepare a PEIS on the Surplus Plutonium Disposition program.*

**Response:** The SPD Program is separate and distinct from the pit production proposal analyzed in this SRS Pit Production EIS and has independent utility. Therefore, comments and/or recommendations related to NEPA review of the SPD Program are outside the scope of this EIS. Chapter 5 of this EIS includes an analysis of the potential cumulative impacts that could be associated with SPD. See Comment-Response 4-f regarding a programmatic NEPA review of the pit production program.

- 8-d *Commenters request an investigation into potential waste, fraud, abuse, and mismanagement associated with the MFFF prior to cancellation. They request that this investigation proceed before development of the SRPPF.*

**Response:** An investigation of any potential contract issues associated with the design and construction of the MFFF is outside the scope of this EIS. As stated in Section 2.1.1 of this EIS, the facility is being verified to meet all relevant DOE requirements for the pit production mission.

- 8-e *Commenters question the adequacy of the Complex Transformation SPEIS SA. Some commenters submitted comments on the LANL SWEIS SA.*

**Response:** The adequacy of the Complex Transformation SPEIS SA is outside the scope of this SRS Pit Production EIS. Comments related to the LANL SWEIS SA were provided to the NNSA team at LANL to address as part of the comment-response process for that document; however, those comments are outside the scope of this SRS Pit Production EIS. See Comment-Response 4-f for more discussion on the need for a Programmatic EIS.

- 8-f *Commenters state that NNSA should use the money planned for pit production to clean up sites and fund oversight programs.*

**Response:** The President of the United States and Congress determine Federal budget requirements and priorities. It is beyond the scope of this EIS to address Federal budget authorizations/appropriations.

- 8-g *Commenters question the impact of COVID-19 on planning for the SRPPF and ask how an epidemic would impact future operation.*

**Response:** NNSA has continued to successfully carry out its national security requirements during the COVID-19 pandemic. It would be speculative to discuss how an unknown future pandemic could impact future operations.

8-h *Commenters state that the SRPPF action is likely to far exceed the planned budget and not make its aggressive schedule.*

**Response:** NNSA acknowledges the commenters' opinion; however, this does not alter NNSA's NEPA responsibilities and is outside the scope of this EIS.

### 3.4 REFERENCES

- 10 CFR Part 1021. "National Environmental Policy Act Implementing Procedures." Energy. U.S. Department of Energy. *Code of Federal Regulations*. Available online: <https://www.ecfr.gov/cgi-bin/text-idx?SID=7badeb153b53b77d8297172e1d76d083&mc=true&node=pt10.4.1021&rgn=div5>
- 40 CFR Part 61. "National Emission Standards for Hazardous Air Pollutants." Protection of Environment. Environmental Protection Agency. *Code of Federal Regulations*. Available online: <https://www.ecfr.gov/cgi-bin/text-idx?SID=cefcdea2e5e7fe3f063ee5191daef5f&mc=true&node=pt40.10.61&rgn=div5>
- 40 CFR Part 1500. "Purpose, Policy, and Mandate." Protection of Environment. Council on Environmental Quality. *Code of Federal Regulations*. Available online: <https://www.ecfr.gov/cgi-bin/text-idx?SID=7badeb153b53b77d8297172e1d76d083&mc=true&node=pt40.37.1500&rgn=div5>
- 46 FR 9162. "Waste Isolation Pilot Plant Record of Decision," Federal Register. Department of Energy. January 1981. Available online: [https://s3.amazonaws.com/archives.federalregister.gov/issue\\_slice/1981/1/28/9161-9164.pdf#page=2](https://s3.amazonaws.com/archives.federalregister.gov/issue_slice/1981/1/28/9161-9164.pdf#page=2)
- 85 FR 18947. "Notice of Availability of Draft Environmental Impact Statement for Plutonium Pit Production at the Savannah River Site in South Carolina and Announcement of Public Hearing," *Federal Register*. Department of Energy. National Nuclear Security Administration. April 3, 2020. Available online: <https://www.govinfo.gov/content/pkg/FR-2020-04-03/pdf/2020-06557.pdf>
- 42 U.S.C. § 10101, "Definitions," *Nuclear Waste Policy Act*. Available online: [https://uscode.house.gov/view.xhtml?req=\(title:42%20section:10101%20edition:prelim\)](https://uscode.house.gov/view.xhtml?req=(title:42%20section:10101%20edition:prelim)) (accessed July 1, 2020).
- 50 U.S.C. § 2538a, "Advice to President and Congress Regarding Safety, Security, and Reliability of United States Nuclear Weapons Stockpile," *Atomic Energy Defense Act*. Available online: <https://uscode.house.gov/view.xhtml?path=/prelim@title50/chapter42&edition=prelim> (accessed October 28, 2019).

- CB&I AREVA MOX Services, LLC 2015. *Mixed Oxide Fuel Fabrication Facility License Application*. (REDACTED). January.
- CB&I AREVA MOX Services, LLC 2017. *Mixed Oxide Fuel Fabrication Facility, License Application*. Docket No. 070-03098. (REDACTED). January.
- CBFO (Carlsbad Field Office) 2019. *U.S. Department of Energy Carlsbad Field Office Strategic Plan 2019–2014*. DOE/CBFO-19-3605. Revision 0. Final Draft for Stakeholder Input. August. Available online: [https://wipp.energy.gov/pdfs/DOE-CBFO-19-3605\\_CBFO%20Strategic%20Plan%202019-2023-Rev%200-DRAFT%20A.pdf](https://wipp.energy.gov/pdfs/DOE-CBFO-19-3605_CBFO%20Strategic%20Plan%202019-2023-Rev%200-DRAFT%20A.pdf) (accessed October 21, 2019).
- DoD (U.S. Department of Defense) 2018a. *Nuclear Posture Review*. Office of the Secretary of Defense. February. Available online: <https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF> (accessed July 23, 2019).
- DoD (U.S. Department of Defense) 2018b. “Joint Statement from Ellen M. Lord and Lisa E. Gordon-Hagerty on the Recapitalization of Plutonium Pit Production.” May 10. Available online: <https://www.energy.gov/nsa/articles/joint-statement-ellen-m-lord-and-lisa-e-gordon-hagerty-recapitalization-plutonium-pit> (accessed July 23, 2019).
- DoD and DOE (U.S. Department of Defense and U.S. Department of Energy) 2008. *Nuclear Weapons in 21st Century U.S. National Security*. Report by a Joint working Group of AAAS, the American Physical Society, and the Center for Strategic and International Studies. December. <https://www.aps.org/policy/reports/popa-reports/upload/nuclear-weapons.PDF> (accessed July 24, 2019).
- DOE (U.S. Department of Energy) 1987. *Final Environmental Impact Statement, Waste Management Activities for Groundwater Protection Savannah River Plant, Aiken, South Carolina*. DOE/EIS-0120. June. Available online: <https://www.energy.gov/nepa/downloads/eis-0120-final-environmental-impact-statement> (accessed July 1, 2020).
- DOE (U.S. Department of Energy) 1995a. *Savannah River Site Waste Management Final Environmental Impact Statement*. DOE/EIS-0217. Savannah River Site, Aiken, South Carolina. Available online: <https://www.energy.gov/sites/prod/files/2019/07/f65/final-eis-0220-interim-management-srs-1995-10.pdf> (accessed July 1, 2020).
- DOE (U.S. Department of Energy) 1995b. *Final Environmental Impact Statement, Interim Management of Nuclear Materials*. DOE/EIS-0220. Savannah River Operations Office, Aiken, South Carolina. Available online: <https://www.energy.gov/sites/prod/files/2020/02/f72/final-eis-0217-srs-waste-management-1995-07-vol-1.pdf> (accessed July 1, 2020).

- DOE (U.S. Department of Energy) 1996. *Programmatic Environmental Impact Statement for Stockpile Stewardship and Management*. DOE/EIS-0236. July 10. Available online: <https://www.energy.gov/nepa/listings/eis-0236-documents-available-download?page=1> (accessed January 9, 2020).
- DOE (U.S. Department of Energy) 1997. *Waste Isolation Pilot Plant Disposal Phase Final Supplemental Environmental Impact Statement*. DOE/EIS-0026-S2. Carlsbad Area Office, Carlsbad, New Mexico. September. Available online: <https://www.energy.gov/nepa/downloads/eis-0026-s2-final-supplemental-environmental-impact-statement> (accessed July 23, 2019).
- DOE (U.S. Department of Energy) 1999. *Site-Wide Environmental Impact Statement for the Continued Operation of the Los Alamos National Laboratory, Los Alamos, New Mexico*. DOE/EIS-0238. Albuquerque Operations Office. January 1. Available online: <https://www.energy.gov/nepa/downloads/eis-0238-site-wide-environmental-impact-statement> (accessed July 23, 2019).
- DOE (U.S. Department of Energy) 2000. *Savannah River Site, Spent Nuclear Fuel Management Final Environmental Impact Statement*. DOE/EIS-0279. March. Available online: <https://www.energy.gov/nepa/downloads/eis-0279-final-environmental-impact-statement> (accessed November 21, 2019).
- DOE (U.S. Department of Energy) 2002. *Recommendations for Analyzing Accidents Under the National Environmental Policy Act*. Office of NEPA Policy and Compliance. July. Available online: [https://www.energy.gov/sites/prod/files/nepapub/nepa\\_documents/RedDont/G-DOE-AccidentAnalysis.pdf](https://www.energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-DOE-AccidentAnalysis.pdf) (accessed July 1, 2020).
- DOE (U.S. Department of Energy) 2004. *Recommendations for the Preparation of Environmental Assessments and Environmental Impact Statements, Second Edition*. Office of NEPA Policy and Compliance. December. Available online: [https://www.energy.gov/sites/prod/files/nepapub/nepa\\_documents/RedDont/G-DOE-greenbook.pdf](https://www.energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-DOE-greenbook.pdf) (accessed July 1, 2020).
- DOE (U.S. Department of Energy) 2016. *TRU Waste Transportation Plan*. DOE/CBFO-98-3103, Revision 4. December. Available online: [https://wipp.energy.gov/library/TRUwaste/DOE-CBFO-98-3103\\_Rev\\_4.pdf](https://wipp.energy.gov/library/TRUwaste/DOE-CBFO-98-3103_Rev_4.pdf) (accessed August 5, 2019).
- DOE (U.S. Department of Energy) 2019a. “Testimony Statement of the Honorable Lisa E. Gordon-Hagerty Under Secretary for Nuclear Security and Administrator of the National Nuclear Security Administration, U.S. Department of Energy, Before the Subcommittee on Strategic Forces, Senate Committee on Armed Services.” May 8.
- DOE (U.S. Department of Energy) 2019b. *Savannah River Site Community Preparedness Information*. Available online: [https://www.srs.gov/general/pubs/srs\\_cmnty\\_prep.pdf](https://www.srs.gov/general/pubs/srs_cmnty_prep.pdf) (accessed August 9, 2019).

- DOE Order 458.1, “Radiation Protection of the Public and the Environment.” Approved February 11, 2011, Change 3, January 15, 2013. Available online: <https://www.directives.doe.gov/directives-documents/400-series/0458.1-BOrder/@@images/file> (accessed September 17, 2019).
- EPA (U.S. Environmental Protection Agency) 2017. *PAG Manual, Protective Action Guides and Planning Guidance for Radiological Incidents*. EPA-400/R-17/001. Office of Radiation and Indoor Air. January. Available online: [https://www.epa.gov/sites/production/files/2017-01/documents/epa\\_pag\\_manual\\_final\\_revisions\\_01-11-2017\\_cover\\_disclaimer\\_8.pdf](https://www.epa.gov/sites/production/files/2017-01/documents/epa_pag_manual_final_revisions_01-11-2017_cover_disclaimer_8.pdf) (accessed November 29, 2019).
- NNSA (National Nuclear Security Administration) 2008a. *Final Complex Transformation Supplemental Programmatic Environmental Impact Statement*. DOE/EIS-0236-S4. October 24. U.S. Department of Energy. Available online: <https://www.energy.gov/nepa/downloads/eis-0236-s4-final-supplemental-programmatic-environmental-impact-statement> (accessed July 24, 2019).
- NNSA (National Nuclear Security Administration) 2008b. *Final Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico*. DOE/EIS-0380. May. U.S. Department of Energy. Available online: <https://www.energy.gov/nepa/downloads/eis-0380-final-site-wide-environmental-impact-statement> (accessed July 23, 2019).
- NNSA (National Nuclear Security Administration) 2011. *Final Site-Wide Environmental Impact Statement for the Y-12 National Security Complex*. DOE/EIS-0387. U.S. Department of Energy. February. Available online: <https://www.energy.gov/nepa/downloads/eis-0387-final-site-wide-environmental-impact-statement> (accessed July 23, 2019).
- NNSA (National Nuclear Security Administration) 2015. *Final Surplus Plutonium Disposition Supplemental Environmental Impact Statement*. DOE/EIS-0283-S2. U.S. Department of Energy, Office of Material Management and Minimization and Office of Environmental Management. April. Available online: <https://www.energy.gov/nepa/downloads/eis-0283-s2-final-supplemental-environmental-impact-statement> (accessed July 24, 2019).
- NNSA (National Nuclear Security Administration) 2017. *Final Report for the Plutonium Pit Production Analysis of Alternatives*. U.S. Department of Energy. October. .
- NNSA (National Nuclear Security Administration) 2019a. *Final Supplement Analysis of the Complex Transformation Supplemental Programmatic Environmental Impact Statement*. DOE/EIS-0236-S4-SA-02. December. U.S. Department of Energy. Available online: <https://www.energy.gov/nepa/downloads/doeeis-0236-s4-sa-02-draft-supplement-analysis>

- NNSA (National Nuclear Security Administration) 2019b. *Fiscal Year 2020 Stockpile Stewardship and Management Plan—Biennial Plan Summary: Report to Congress*. U.S. Department of Energy. July 2019. Available online: <https://www.energy.gov/nnsa/downloads/stockpile-stewardship-and-management-plan-ssmp> (accessed June 1, 2020).
- NNSA (National Nuclear Security Administration) 2019c. Email reference for intentional destructive acts. G. Pyles, NNSA Plutonium Program Office (NA-191), to J. Rivers, dated October 29, 2019.
- NNSA (National Nuclear Security Administration) 2020a. *Final Supplement Analysis of the 2008 Site-Wide Environmental Impact Statement for the Continued Operation of Los Alamos National Laboratory for Plutonium Operations*. DOE/EIS-0380-SA-06. August. Available online: <https://www.energy.gov/nepa/downloads/doeeis-0380-sa-06-final-supplement-analysis> (accessed September 1, 2020).
- NNSA (National Nuclear Security Administration) 2020b. *2019 Annual Metrics Report to the Defense Nuclear Facilities Safety Board; Nuclear Criticality Safety Programs*. U.S. Department of Energy. January. Available online: <https://ehss.energy.gov/deprep/2020/TB20J15A.PDF>
- NRC (U.S. Nuclear Regulatory Commission) 2005a. *Environmental Impact Statement on the Construction and Operation of a Proposed Mixed Oxide Fuel Fabrication Facility at the Savannah River Site, South Carolina*. NUREG-1767. January. Available online: <https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1767/> (accessed July 24, 2019).
- NRC (U.S. Nuclear Regulatory Commission) 2005b. *Final Safety Evaluation Report on the Construction Authorization Request for the Mixed Oxide Fuel Fabrication Facility at the Savannah River Site, South Carolina*. NUREG-1821. Office of Nuclear Material Safety and Safeguards. March. Available online: <https://www.nrc.gov/docs/ML0509/ML050960447.pdf> (accessed July 1, 2020).
- NRC (U.S. Nuclear Regulatory Commission) 2009. *Safety Evaluation Report for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant (VEGP) ESP Site*. NUREG-1923. Office of New Reactors. July. Available online: <https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1923/> (accessed July 1, 2020).
- Southern Company. n.d. *Vogtle Electric Generating Plant (VEGP), Units 3 and 4, Updated Final Safety Analysis Report*. Section 2.2.3.4, “Radiological Hazards.” Revision 4. Available online: <https://www.nrc.gov/docs/ML1817/ML18179A268.pdf> (accessed July 1, 2020).

Viner, B.J.; Jannik, T.; Hepworth, A.; Adetona, O.; Naeher, L.; Eddy, T.; Doman, E.; Blake, J. 2018. “Predicted Cumulative Dose to Firefighters and the Offsite Public from Natural and Anthropogenic Radionuclides in Smoke from Wildland Fires at the Savannah River Site, South Carolina USA.” *Journal of Environmental Radioactivity*. Volume 182, pp. 1–11. February. Available online: <https://sti.srs.gov/fulltext/SRNL-STI-2017-00689.pdf> (accessed July 1, 2020).