

SPECIAL EDITION

● JUNE 2021

SAVANNAH RIVER NUCLEAR SOLUTIONS

SRNS Today



Major milestone for SRPPF

National Nuclear Security Administration
announces approval of Critical Decision 1



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Welcome

to the June 2021 Special Edition of

SRNS Today

Stuart MacVean
SRNS President and CEO

It's official – we're on our way toward establishing a facility to provide plutonium pits for the nation's nuclear deterrent!

The Savannah River Plutonium Processing Facility's Critical Decision 1 (CD-1) approval gives SRNS a lot to be proud of. This key milestone is the result of tremendous effort by Executive Vice President – NNSA Capital Projects Dave Olson and his team, working closely with our National Nuclear Security Administration (NNSA) customers and the multiple partners who contributed to the CD-1 submittal package. Since late 2018, when NNSA and the Department of Defense announced that the nation needs SRS to serve as one part of the two-site strategy for supplying plutonium pits for the nuclear deterrent, SRNS has been building an organization to rapidly and responsively plan to meet that need. From a group of about five employees in the project's earliest days, we have assembled a workforce of over 500 and still growing to develop the plans for the facility, along with plans for the program that will carry out the pit mission. The resulting giant package of documents earned SRNS kudos for its high quality.

With this many vital contributors, it would be impossible to list the name of every person who played a part in getting us to this important milestone. It truly was a team effort, and every member's effort made a difference.

This milestone is not just a win for SRNS and SRS, it's a win for the nation. Our military leaders have stressed the importance of restoring the nation's ability to produce plutonium pits to ensure the long-term effectiveness of the U.S. nuclear stockpile. The approval to move forward with design of SRPPF enables SRNS to take a huge step toward restoring that capability – one more way that we make the world safer.

Savannah River Nuclear Solutions, LLC, is a Fluor-led company whose members are Fluor Federal Services, Newport News Nuclear and Honeywell. Since August 2008, SRNS has been the management and operating contractor for the Savannah River Site, a Department of Energy-owned site near Aiken, South Carolina. The SRNS corporate and community offices are located in the renovated 1912 "Old Post Office" building in Aiken. The primary initiatives of SRNS are national security, clean energy and environmental stewardship. SRNS Today is published monthly by SRNS Corporate Communications to inform our employees and other stakeholders of the company's operational- and community-related activities. If you have questions or comments, please contact us at 803.952.6131 or visit our website.

www.savannahrivernuclearsolutions.com

On the cover
The Savannah River Plutonium Processing Facility (SRPPF) goes from "proposed" project to an approved project! National Nuclear Security Administration (NNSA) Savannah River Field Office Manager Jason Armstrong and SRNS President and CEO Stuart MacVean join Scott Cannon, Director of the NNSA Savannah River Project Management Office, as he peels "Proposed" off the SRPPF sign in celebration of achieving Critical Decision 1.



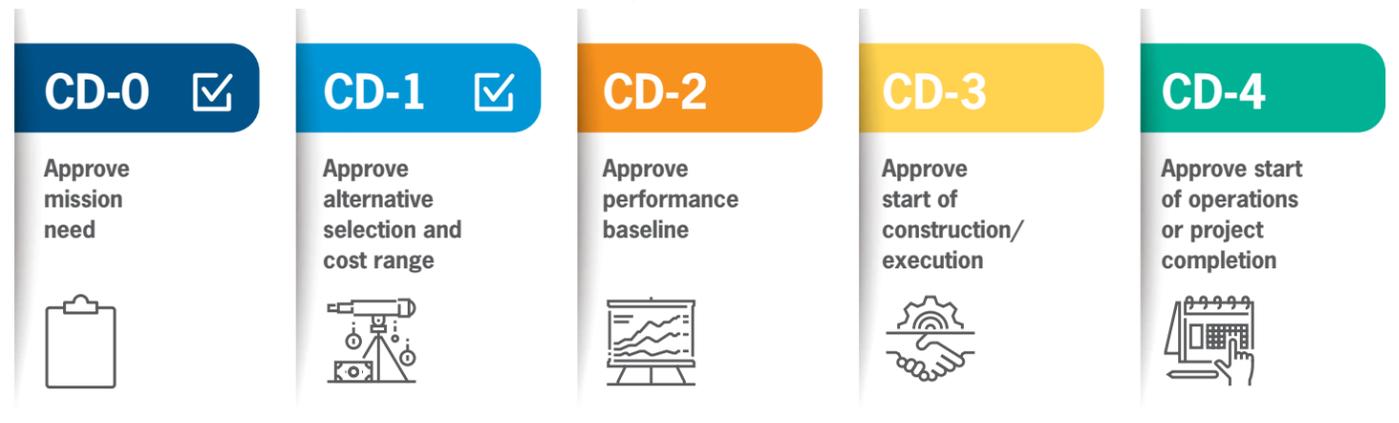
Savannah River
NUCLEAR SOLUTIONSSM

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COMMON ACRONYMS: Savannah River Nuclear Solutions (SRNS) • Savannah River Site (SRS) • Department of Energy (DOE) National Nuclear Security Administration (NNSA) • Savannah River Plutonium Processing Facility (SRPPF)

Critical Decision points

for DOE Capital Projects per DOE Order 413.3B



TODAY



THE FUTURE



SRPPF advantages

An already-existing, Hazard Category-2 structure

- 400,000 square feet of available Hazard Category-2 space
- Interior walls of reinforced concrete for personnel shielding and durability for 50-year facility design life

Supporting facilities, including office, assembly, and fabrication space

Existing SRS services and infrastructure

SRS world-class safety and security culture

SRS experience, including:

- Plutonium processing
- Meeting Department of Defense schedules and requirements
- 24/7 operations

SRNS' experienced project and operations team and disciplined Conduct of Operations



WATCH THE VIDEO:

Now available on the SRS YouTube channel, search "SRPPF CD-1 - Approved to Proceed"

NNSA announces CD-1 approval

SRNS has achieved a key milestone in the plans to produce plutonium pits for the nation’s nuclear deterrent.

DOE/NNSA has announced approval of Critical Decision 1 (CD-1) for SRPPF. DOE’s Order 413.3B defines the process for the acquisition of capital assets with a series of Critical Decisions. The process begins with CD-0, which approves the mission need, and continues through CD-4, project completion. CD-1 marks the completion of the project approval definition phase and the conceptual design.

Approval of CD-1 came after review of SRNS’ extensive package of documents outlining the conceptual design and numerous other project and program plans for the facility. A member of one of the teams reviewing the package noted that the comprehensive collection of documents was the best CD-1 submittal they had ever reviewed.

All told, the package included over 4,500 separate documents, for 3.17 gigabytes of data. SRNS was supported in its preparation of the package by a team that includes Savannah River National Laboratory, Los Alamos National Laboratory, Lawrence Livermore National

Laboratory, Merrick, Fluor, and Sandia National Laboratories’ Physical Security Center of Excellence.

“Completing the conceptual design and other documents has been a massive undertaking,” said Dave Olson, SRNS Executive Vice President - NNSA Capital Projects, “But this is what the Savannah River Site does. This Site has a 70-year history of stepping up to meet the nation’s national security needs, and today the nation urgently needs to rebuild its pit production capability. Now we are eager to move forward with the next steps for meeting that need.”

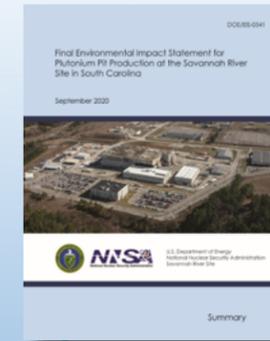
In 2018, NNSA announced that repurposing the Mixed Oxide (MOX) Fuel Fabrication Facility as SRPPF would be part of its proposed two-site strategy for meeting pit production requirements defined by the Department of Defense to support the maintenance of the U.S. nuclear deterrent. Plutonium pits are an essential component to nuclear weapons.

In addition to SRPPF, NNSA’s two-site approach includes use of Los Alamos National Laboratory for future pit production. This two-site strategy provides an effective, responsive, and resilient nuclear weapons infrastructure with the flexibility to adapt to shifting national security requirements.

Repurposing the unfinished MOX facility as SRPPF allows NNSA to make use of an existing Hazard Category-2 structure, which was designed to rigorous nuclear safety and security standards, including interior walls of reinforced concrete to provide personnel shielding. It also provides numerous supporting facilities, including office, assembly, and fabrication space; construction facilities; and existing SRS services and infrastructure, such as security, electrical, fire protection, and emergency response. Repurposing the facility requires decommissioning and removal of MOX equipment and commodities, internal modifications and installation of plutonium processing and infrastructure support equipment directly associated with the pit production mission.

The CD-1 cost estimate for SRPPF is \$6.9 - \$11.1 billion, with an overall project completion range of 2032-2035. The CD-1 cost estimate and project completion date ranges are preliminary estimates that will be refined as the project conceptual design is matured to the 90% design level required to achieve CD-2 (approval of the performance baseline). Consistent with industry best practices and DOE policy, NNSA will set the performance cost and schedule baseline at CD-2, which is expected in FY 2024.

NNSA and SRNS will continue to review this project to improve the fidelity of the current price estimate and schedule.

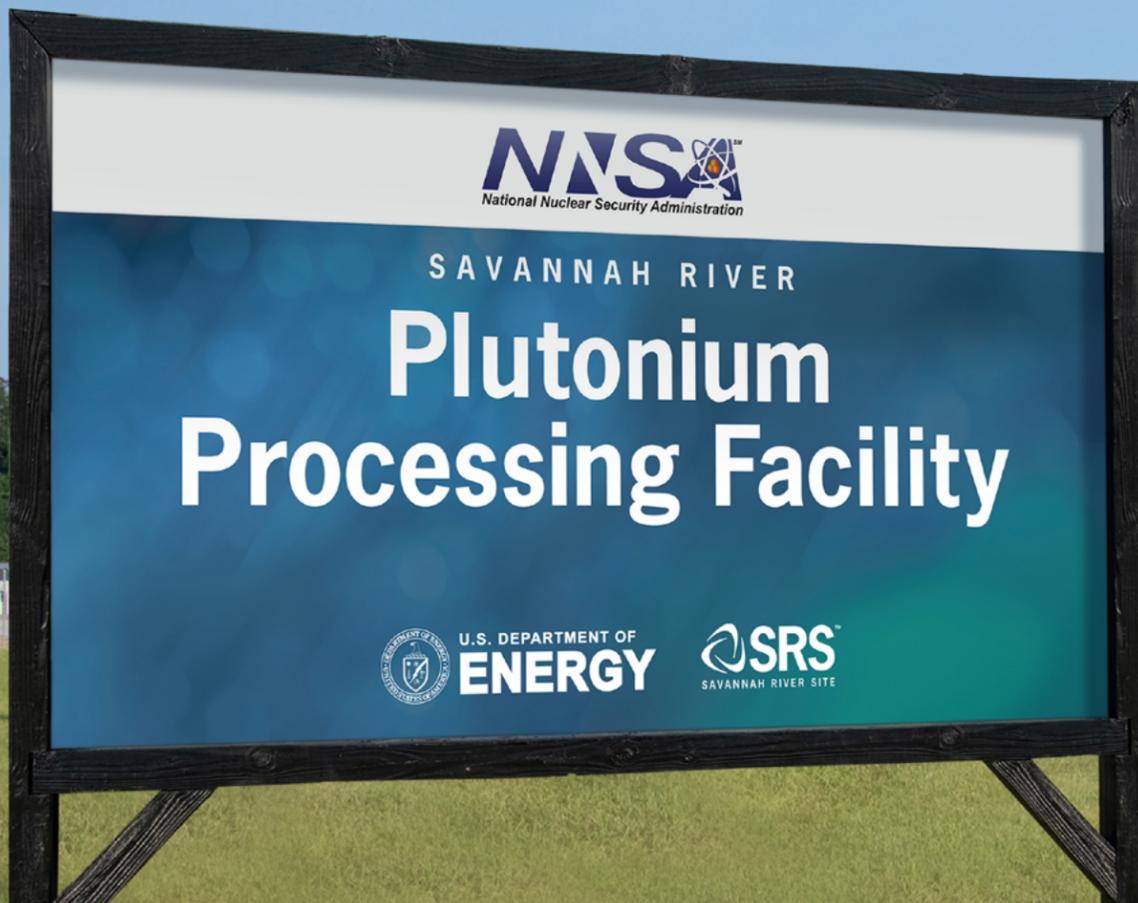


SRPPF IS SUBJECT to the National Environmental Policy Act, which requires that potential environmental impacts be considered before a government agency decides to undertake an action. That evaluation was completed for SRPPF in November 2020, with

the publication of the Record of Decision announcing the NNSA’s decision to implement the Proposed Action to repurpose the MOX Fuel Fabrication Facility to produce war reserve pits.

The evaluation process included a public comment period in 2019 to guide the drafting of a detailed Environmental Impact Statement (EIS), followed by another public comment period after the Draft EIS was published in April 2020. Following consideration of the comments received, and the resulting changes to the Draft EIS, the Final EIS was published in September 2020, and formed the basis for the Record of Decision.

Congratulations!



APPROVED TO PROCEED!



Dave Olson, SRNS Executive Vice President - NNSA Capital Projects, speaks at a January 2020 all-hands meeting with SRPPF and MOX Termination team members.



Dave Olson

DAVE OLSON returned to SRS in late 2018 to establish SRNS' plutonium pit production program, including building the team that led development of the SRPPF conceptual design and CD-1 submittal.

As SRNS Executive Vice President - NNSA Capital Projects, he has responsibility for executing the SRPPF project and SRNS' other current NNSA capital projects: the Tritium Finishing Facility and the Surplus Plutonium Disposition project. In addition, he leads the MOX Project termination activities and the Plutonium Modernization Program, which

is developing the plans for using the SRPPF to carry out the plutonium pit production mission.

His 23 years of plutonium experience began with his tenure as an operations first line supervisor at SRS, continuing through assignments as project engineer, operations support manager, operations manager, engineering manager and ultimately, President of Washington Savannah River Company. He directed the successful startup or restart of nine nuclear facilities and projects in plutonium and uranium processing.

Other assignments during Olson's 39 years of nuclear operations/nuclear facility engineering experience include serving as Fluor Government Group's Global Government Services Chief Nuclear Officer.

The team

Starting with only five people in 2018 and growing to a workforce of more than 500 today, SRNS' SRPPF team members were key to SRPPF achieving the Critical Decision-1 (CD-1) approval milestone. Through tremendous effort and many long hours, SRPPF and MOX Termination team members produced a high-quality CD-1 submittal package consisting of more than 4,500 separate documents including: conceptual design, multiple management execution plans, safety and security analyses, integrated schedule, cost estimate, and other scope alternatives for consideration. NNSA used these documents to conduct its formal independent review of the project.

With CD-1 approval, SRPPF is no longer "proposed." The conceptual design is accepted, the preliminary estimate for the schedule range is announced, and employees are now working on a formal project. This milestone brings SRS a giant step closer to producing the plutonium pits necessary for the nation's nuclear deterrent, meeting a critical national security need.

SRNS was supported by a stellar team in the conceptual design of the SRPPF:

- SRNS is responsible for the overall project management, design integration, design authority, nuclear safety, and criticality safety.
- Fluor Corporation is designing the balance-of-plant systems for the production process, such as electrical, plumbing, and ventilation.
- Merrick and Company, an external firm that has assisted Los Alamos National Laboratory with the design of their plutonium confinement systems (gloveboxes), is providing the same service for SRPPF.
- The Physical Security Center of Excellence (PSCOE) at Sandia National Labs is designing the Perimeter Intrusion Detection and Assessment System (PIDAS).

A look inside



SRPPF Deputy Project Director Rachel Faub (left) and Project Manager April Cox discuss plans for SRPPF, as they walk through the structure that will be repurposed for the pit production mission.

INNOVATION • DEFENSE

NONPROLIFERATION • ENVIRONMENT

SRNS



Savannah River Nuclear Solutions

We make the world **safer.**