GAO Highlights

Highlights of GAO-22-104772, a report to congressional committees

June 2022

HANFORD CLEANUP

DOE Has Opportunities to Better Ensure Effective Startup and Sustained Low-Activity Waste Operations

Why GAO Did This Study

DOE created the DFLAW program to treat part of the least radioactive portion of the 54 million gallons of radioactive liquid waste held in 177 aging and leak-prone underground storage tanks at the Hanford Site in Washington State. DOE estimates that the DFLAW program will cost $8.3 billion when complete and begin treating waste in December 2023. DOE is currently in negotiations with the contractor on a possible contract extension for certain DFLAW facilities that may require additional work.

Senate Report 116–236 accompanying S. 4049, the National Defense Authorization Act for Fiscal Year 2021, includes a provision for GAO to review the DFLAW program. Among other things, GAO's report describes the status of facilities needed to start DFLAW operations and examines the challenges DOE faces in starting and sustaining DFLAW operations. GAO reviewed agency documents and DFLAW program data from December 2020 through May 2021; analyzed DOE documents on DFLAW starting and operating challenges and risks, including DOE plans to manage them; and interviewed DOE officials.

What GAO Recommends

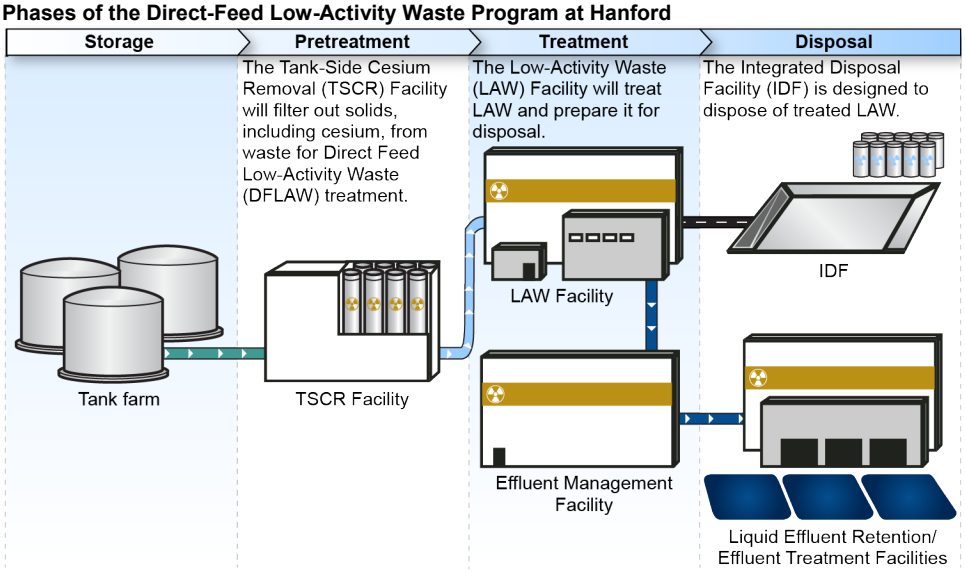
GAO is making four recommendations, including that DOE ensures that existing challenges and problems in facilities, systems, and components related to DFLAW are resolved by the end of hot commissioning and the start of normal operations. DOE agreed with GAO's recommendations and stated that it is taking steps to implement them by December 31, 2022.

View GAO-22-104772. For more information, contact Nathan Anderson at (202) 512-3841 or AndersonN@gao.gov.

What GAO Found

Facilities needed to start Direct-Feed Low-Activity Waste (DFLAW) operations—including pretreatment, treatment, and disposal facilities—are mostly complete, according to Department of Energy (DOE) documents (see fig.). DOE started pretreating tank waste at Hanford in early 2022 to build up a supply of waste feed for DFLAW operations, projected to start in 2023. Furthermore, DOE officials stated that the safety documentation required to start DFLAW operations is complete.

Phases of the Direct-Feed Low-Activity Waste Program at Hanford



Source: GAO analysis of DOE documents. | GAO-22-104772

DOE faces several challenges to starting and sustaining DFLAW operations. For example, according to DOE risk management documents, there is a high risk of inadequate availability of replacement parts and operating supplies for certain facilities, which will likely delay the DFLAW program schedule and increase costs. In addition, some equipment is likely to be obsolete by the time DFLAW facilities are operational, which would potentially delay the DFLAW program schedule and increase cost. According to DOE risk planning documents, several significant challenges may not be resolved by the end of hot commissioning using actual radioactive waste, and the start of normal DFLAW operations.

DOE's quality assurance program requires that problems with the quality of the work must include a determination of the extent to which adequate operating conditions exist. According to a 2020 DOE review, the contractor may not be aware of all known conditions and potential cost impacts. DOE officials stated that if the contractor has not fully addressed challenges before DFLAW operations are scheduled to begin, the costs may not be covered by the current contract. DOE is in negotiations with the contractor for a contract extension. Resolving challenges and problems by the end of hot commissioning and the start of normal operations will ensure that the costs to resolve challenges and problems do not fall on DOE.