

some of the low-activity waste would be transferred to the WTP's Low-Activity Waste Facility for vitrification before all of the plant's technical issues are resolved.

According to the GAO, ORP has taken several actions following the 2012 partial work stoppage to identify and address quality assurance problems at the WTP, but not all of the planned actions have been completed. An audit by ORP in 2013 resulted in several actions, including the implementation of a managed improvement plan by the WTP contractor, Bechtel International, to ensure that the plant could meet safety and quality requirements. That plan was to be completed by 2016, and while Bechtel reported that the plan had been fully implemented, the GAO said that some of the plan's corrective measures had not been carried out. The GAO based this finding on its review of contractor documents and interviews with quality assurance experts.

The GAO also said that ORP's actions have not ensured that all quality assurance problems at the WTP have been identified and that some previously identified problems are recurring. For example, the GAO noted that a 2016 report by the DOE's Office of Enterprise Assessment found quality assurance deficiencies that neither ORP nor Bechtel had identified at the time the work was conducted, including numerous

construction deficiencies, procurement and supplier deficiencies, engineering errors, maintenance issues, and materials with expired shelf lives. According to the GAO, the report findings are consistent with what it was told by ORP quality assurance experts, who said that not all quality assurance problems were identified in WTP structures, systems, and components, particularly those that were completed and installed prior to 2012.

In addition, the GAO said that some previously identified quality assurance problems have recurred in recent years, including computer software that does not meet requirements. The GAO noted that ORP has not used its authority to stop work if corrective measures do not prevent quality assurance problems from recurring. Without directing ORP to stop work until such problems are fixed and are prevented from recurring, the DOE may face future rework that could result in increased costs and schedule delays for the WTP, the GAO said.

Finally, the GAO found that ORP's Quality Assurance Division is not fully separate and independent from the WTP project's upper management. According to the GAO, this organizational structure has the potential to create a conflict of interest, as it sets management's goals of meeting cost and schedule targets against the divi-

sion's oversight responsibilities. GAO said that some findings by the Quality Assurance Division have been mischaracterized or downgraded by ORP upper management. The GAO noted that one quality assurance expert that it interviewed said that ORP's culture does not encourage staff to identify quality assurance problems or corrective measures that are ineffective.

To improve quality assurance at the WTP, the GAO recommended that the secretary of energy direct ORP to require Bechtel to determine the full extent to which problems exist in all WTP structures, systems, and components and to have ORP stop work in areas where quality assurance problems are recurring until it can verify that the problems are corrected and will not recur.

In the DOE's written response to the GAO report, Assistant Secretary for Environmental Management Anne White concurred with the GAO's recommendations and committed to implementing them. The GAO also recommended that the DOE revise ORP's organizational structure so that the quality assurance function is independent of upper management. White concurred in principle with this recommendation, saying that the DOE believes that the ORP's current quality assurance reporting relationship meets all

Continued on page 33



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