

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 27, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: L. Lin and E.P. Richardson, Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending December 27, 2024

Defense Waste Processing Facility (DWPF): DWPF has struggled to maintain operability of the cameras and lights required for crane operations in the main process cell (MPC). There are ten cameras installed at strategic locations throughout the MPC that crane operators utilize to observe activities while remotely lifting cell covers and repairing or moving equipment. Currently, two of the ten cameras are in service with one of those unable to be turned off, resulting in one fully functional camera in the MPC. Two other cameras are available for limited service and six are out of service altogether. Five of eight lights are operable, though the bridge lights intermittently drop out while travelling south of laydown cell. The MPC camera and lighting material conditions significantly impact the ability of the crane operators to complete their assigned tasks and requires them to perform operations with less-than-ideal lighting and/or camera coverage. The primary MPC crane operating procedure requires a minimum of four fully operational cameras and monitors to ensure adequate visibility for safe operations. Due to the operational impacts of the repeated camera failures, DWPF management revised the procedure to allow operators to perform MPC crane operations with less than four fully operational cameras (no minimum stated) after obtaining the vitrification first line manager's concurrence. This proceduralized workaround places the crane operators and first line managers in an untenable situation where they must decide if they should proceed with an evolution without adequate camera coverage. DWPF management intends to replace all MPC cameras and both crane control panels by mid-2025, but current operating conditions and procedures are introducing risk that may warrant re-evaluation by facility management.

A DOE facility representative identified significant issues with DWPF's cold weather preparations. Facility procedures require DWPF personnel to complete cold weather preparations prior to October 15 each year and institute certain procedures based on the outdoor temperature. DOE concluded that DWPF was not protected from cold weather this year since significant portions of the facility are currently unprotected after the onset of freezing conditions. Contributing factors include poor timeliness, inadequate procedures, and ineffective implementation of the freeze protection program. More specifically, numerous door positions are not being tracked on rounds, some doors are unable to be closed due to obstructions, multiple areas of the facility (including the roof of the main process building) have not been walked-down, multiple heaters are non-functioning, certain requirements are not proceduralized (i.e. actions required when temperature drops to 25°F), insulation is damaged in many locations, and some heaters and lights are reported as energized without having power supplied to them. Additionally, significant issues with piping heat trace installation were noted. Multiple sections are de-energized and there is no program or round sheet that monitors heat trace status in the control room. Upon investigation DOE identified that one section of heat trace has been in a trouble or alarm condition for at least three years unbeknownst to operations. DWPF management is drafting a corrective action plan.