

Work scope details:

Title: Line Repairs at Tank Pit 2 and Tank Pit 6

Work Scope Summary: This work involves performing line repairs at Tank Pit 2 and Tank Pit 6 within a Limited Access Area (LAA) at Building 7920. The task includes identifying leaking lines, conducting leak testing post-repair, and safely moving shield blocks as per established protocols.

Key Work Scope Components:

- Identification and repair of leaking lines in Tank Pit 2 and Tank Pit 6
- Movement of Tank Pit shield blocks following specified procedures
- Leak testing with assistance from 7920 Operations personnel
- Use of specialized tools and equipment for accessing and repairing lines

Relevant previous events and lessons learned:

Event Title	Event Summary	Lessons Learned	Reference Link
Equipment Failure During Maintenance	A maintenance team experienced a failure of a hydraulic lift while performing overhead work, resulting in a near-miss incident.	Ensure all lifting equipment is inspected and certified prior to use. Implement a double-check system for equipment readiness.	OSHA Equipment Safety
Fall Incident from Elevated Work	A worker fell from an unguarded edge while performing maintenance work above an open pit, leading to serious injuries.	Always install guardrails or use personal fall arrest systems when working at heights. Conduct thorough pre-work safety briefings.	OSHA Fall Protection
Chemical Exposure Incident	A worker was exposed to a hazardous chemical due to inadequate PPE while loosening stuck bolts.	Ensure proper PPE is worn at all times, and provide training on chemical hazards and safety data sheets (SDS).	OSHA Chemical Safety
Radiological Contamination Event	A contamination incident occurred due to improper monitoring and failure to follow radiological work permits.	Strict adherence to radiological work permits and continuous monitoring of radiation levels is essential to prevent contamination.	NRC Radiological Safety
Tool Malfunction During Operations	A power tool malfunctioned during use, causing injury to the operator.	Regular maintenance and inspection of tools before use can prevent malfunctions. Implement a tool check-out system.	ANSI Tool Safety

Missing Hazards:

Hazard	Missing or Inadequate Mitigation in Current Work Control Document	Recommended Mitigation for Revision	Reference Link	SBMS Link
Overhead Work	Not addressed	Implement mandatory use of fall protection systems (guardrails or harnesses) when working above open pits.	OSHA Fall Protection	N/A
Chemical Exposure	Inadequate PPE specification	Specify the use of chemical-resistant gloves and goggles for all chemical handling tasks.	OSHA Chemical Safety	N/A
Radiological Monitoring	Not addressed	Ensure continuous dosimetry monitoring and training on responding to radiological alarms.	NRC Radiological Safety	N/A
Ergonomic Risks	Not addressed	Conduct ergonomic assessments and implement tool design improvements to reduce contact stress and repetitive motion injuries.	N/A	N/A
Manual Material Handling	Inadequate guidance	Provide specific training on proper lifting techniques and use of mechanical aids for heavy lifting tasks.	OSHA Manual Handling	N/A
Tool Safety	Not addressed	Implement a tool inspection checklist and ensure all tools are certified before use.	ANSI Tool Safety	N/A
Confined Space Entry	Not addressed	Conduct a confined space entry assessment and provide necessary training and equipment for safe entry.	OSHA Confined Spaces	N/A
Communication Failures	Not addressed	Establish clear communication protocols and ensure all team members are briefed on work plans and safety measures.	N/A	N/A

Failure mode analysis:

Current Control	Failure Mode of the Control	Effect of Failure	Cause of Failure	Recommended Action
Radiological Work Permit	Permit not obtained or expired	Potential exposure to radiation and contamination	Lack of awareness or oversight	Implement a checklist to verify permit status before work begins.
PPE Requirements	PPE not used or inadequate	Increased risk of injury or exposure	Poor enforcement or training	Conduct regular audits to ensure compliance with PPE requirements.
Work Instructions	Instructions not followed	Increased risk of accidents or errors	Lack of clarity or training	Review and simplify work instructions; provide hands-on training.
Communication Protocols	Miscommunication among team members	Increased risk of accidents due to lack of coordination	Informal communication methods	Establish formal communication channels and regular safety briefings.
Emergency Response Procedures	Procedures not followed	Delayed response to incidents	Lack of training or drills	Conduct regular emergency response drills and training sessions.
Tool Availability	Tools not available or inadequate	Delays in work and increased risk of using improper tools	Poor inventory management	Implement a tool check-out system and maintain an inventory log.
Training and Competency Verification	Inadequate training for workers	Increased risk of accidents and injuries	Lack of training programs	Develop and implement comprehensive training programs for all workers.

Current Control	Failure Mode of the Control	Effect of Failure	Cause of Failure	Recommended Action
Equipment Inspection	Equipment not inspected before use	Increased risk of equipment failure	Negligence in inspection protocols	Establish a mandatory inspection checklist for all equipment prior to use.