Work scope details:

Title: Installation/Removal of Personnel Contamination Monitors

Work Scope Summary: - The work involves the installation and removal of personnel contamination monitors across multiple facilities. It includes the initial setup and calibration of the Canberra Argos-5B monitors.

Key Work Scope Components: - Installation of personnel contamination monitors - Removal of personnel contamination monitors - Initial setup of monitors - Calibration of Canberra Argos-5B monitors - Execution across multiple facilities

Relevant previous events and lessons learned:

Event Title	Event Summary	Lessons Learned	Reference link
Damage to Electrical Conduit during Removal Work Evolution	Electrical conduit was damaged while removing an outdated personnel contamination monitor and installing a replacement monitor (Argos-5) inside the AN Farm change trailer.	Ensure careful handling and assessment of existing infrastructure when removing and installing equipment to prevent damage.	Link
Contamination discovered while removing sealed source from MFC industrial waste water lift station monitor.	On November 1, 2011, contamination was discovered on the gloves of the technician and on the source housing after removing a sealed source from the Materials Fuel Complex industrial waste water lift station monitor. Subsequent surveys indicated contamination on the floor. The job was stopped, and further surveys were conducted.	Part of corrective actions include stopping work immediately upon discovering contamination and conducting thorough surveys to prevent further spread.	Link

Missing Hazards:

Hazard	Missing or Inadequate Mitigation in Current Work Control Document	Recommended Mitigation for Revision	Reference link	SBMS Link
Damage to existing infrastructure (e.g., electrical conduit) during removal or installation	No mention of infrastructure protection during radiological or lead work	Implement procedures for assessing and protecting infrastructure before and during work activities	Link	Link
Contamination during removal of monitors	No specific controls for contamination during monitor removal	Develop specific contamination control procedures for monitor removal	Link	Link

Error traps such as time pressures, distractive environment, and high workload	No mention of human error traps in current controls	Include training and procedural safeguards to mitigate human error traps	Link	Link
Improper calibration of monitors	No specific controls for monitor calibration	Establish calibration protocols and training for personnel responsible for monitor setup	Link	Link
High background radiation levels during monitor setup	No specific mention of background radiation levels during setup	Implement monitoring and mitigation strategies for high background radiation during setup	Link	Link
Inadequate use of Personal Protective Equipment (PPE)	General PPE requirements may not address specific hazards	Review and update PPE requirements to ensure adequacy for all identified hazards	Link	Link
Vague guidance and imprecise communications	No specific controls for communication clarity	Develop clear communication protocols and training to ensure precise guidance	Link	Link

Failure mode analysis:

Current control	Failure mode of the control	Effect of Failure	Cause of Failure	Recommended action
Written permits for the work activity	Permit not obtained or expired	Unauthorized work leading to safety hazards	Oversight or miscommunication	Implement a permit tracking system and ensure regular audits
Precautions, step warnings, Hold Points	Steps not followed or missed	Increased risk of accidents or equipment damage	Lack of training or awareness	Conduct regular training sessions and use checklists
Personal Protective Equipment (PPE)	PPE not used or inadequate	Increased risk of injury to personnel	Non-compliance or insufficient supply	Regular PPE audits and ensure availability of appropriate PPE
Work instructions	Instructions not followed	Incorrect installation or removal leading to equipment failure	Misunderstanding or lack of clarity	Simplify instructions and provide visual aids

ORNL subject area requirements	Non-compliance with requirements	Regulatory violations and potential fines	Lack of awareness or updates	Regular compliance training and updates on requirements
Group/individual responsibilities	Undefined roles	Confusion and inefficiency in task execution	Poor communication or planning	Clearly define roles and responsibilities in advance
Availability/location of materials, tools	Tools/materials not available	Delays in work completion	Poor inventory management	Implement a robust inventory management system
Previous experiences/lessons learned	Lessons not incorporated	Repeated mistakes and inefficiencies	Lack of documentation or review	Establish a lessons learned repository and review process
Response if work cannot be performed as planned	Inadequate contingency plans	Work stoppage or unsafe conditions	Lack of foresight or planning	Develop and communicate contingency plans
Potential error traps	Error traps not identified	Increased likelihood of errors	Lack of risk assessment	Conduct thorough risk assessments and error-proofing
Work Hand-off / Turnover	Poor hand-off communication	Misunderstandings and errors in task execution	Lack of standardized procedures	Implement standardized hand-off protocols
Stop Work: Unsafe act or condition	Failure to stop work	Continued unsafe conditions leading to accidents	Lack of empowerment or awareness	Empower workers to stop work and provide training on recognizing unsafe conditions
Emergency Response	Inadequate emergency response	Delayed response to emergencies	Lack of training or unclear procedures	Conduct regular emergency drills and update procedures