

Work scope details:

Title: Decontamination of Cell G PaR 2025

Work Scope Summary: This work plan outlines the procedures and safety measures for the decontamination of the Cell G PaR to reduce contamination and radiation levels, facilitating necessary maintenance and repairs. The decontamination process will involve the use of a primary containment glove bag and associated equipment to ensure safe handling and disposal of contaminated materials.

Key Work Scope Components:

- Removal of the PaR from Cell G and positioning on the PaR Maintenance Stand.
- Use of a containment tent with a primary glove bag for decontamination.
- Application of wet decontamination methods using specialized solutions and equipment.
- Continuous monitoring of radiation levels and air quality during decontamination.
- Post-decontamination surveys and area cleanup.

Relevant previous events and lessons learned:

Event Title	Event Summary	Lessons Learned	Reference Link
Contamination Incident at Facility X	A worker was exposed to high radiation levels due to improper decontamination procedures, resulting in contamination spread beyond the designated area.	Importance of strict adherence to decontamination protocols and continuous monitoring of radiation levels.	N/A
Equipment Failure During Maintenance	A malfunction in a containment tent's ventilation system led to an increase in airborne contaminants, resulting in a temporary evacuation.	Regular maintenance checks and immediate reporting of equipment malfunctions are critical to ensure safety.	N/A
Ladder Safety Incident	A worker fell while using a ladder due to improper setup and lack of supervision, resulting in injury.	Emphasized the need for proper ladder inspection, training, and the buddy system when working at heights.	N/A
Chemical Exposure During Decontamination	An incident where workers experienced respiratory issues due to inadequate ventilation while using decontamination chemicals.	Highlighted the necessity of using appropriate PPE and ensuring adequate ventilation during chemical applications.	N/A
Radiological Control Breach	A breach in radiological controls led to contamination spread outside the designated area due to improper glove bag removal.	Reinforced the importance of following glove bag removal protocols and conducting thorough surveys before and after removal.	N/A

Missing Hazards:

Hazard	Missing or Inadequate Mitigation in Current Work Control Document	Recommended Mitigation for Revision	Reference Link	SBMS Link
Ladder Use	Not addressed	Implement mandatory ladder inspections and training sessions for all personnel involved.	N/A	N/A
Overhead Work	Not addressed	Require the use of tool lanyards and establish exclusion zones beneath work areas.	N/A	N/A
Chemical Exposure	Inadequate PPE specifications	Specify the use of respirators with appropriate filters for chemical exposure during decontamination.	N/A	N/A
Noise Exposure	Not addressed	Implement a noise monitoring program and provide hearing protection for workers near noise sources.	N/A	N/A
Heat Stress	Not addressed	Establish a heat stress monitoring program and provide hydration stations in the work area.	N/A	N/A
Confined Space Risks	Not addressed	Conduct a confined space assessment and provide training for personnel entering the tent.	N/A	N/A
Manual Material Handling	Inadequate lifting protocols	Enforce the use of lifting aids and team lifting for heavy items, following the 30-50-30 guideline.	N/A	N/A
Time Pressures	Not addressed	Implement a work schedule that allows adequate time for decontamination tasks without rushing.	N/A	N/A
Communication Issues	Vague guidance on procedures	Develop clear, written procedures for all tasks and ensure all personnel are trained on them.	N/A	N/A
Environmental Conditions	Inadequate monitoring of temperature	Regularly monitor ambient temperatures and adjust work schedules accordingly to minimize heat stress.	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	Unauthorized work leading to potential exposure	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 exposure to contaminants	Poor training or complacency	Conduct regular training sessions and audits to ensure compliance with PPE usage.
Work Instructions	Instructions not followed or unclear	Increased risk of accidents or contamination	Vague guidance or lack of clarity	Revise work instructions to be more detailed and conduct pre-job briefings to clarify tasks.
Communication Protocols	Miscommunication between team members	Increased risk of errors and accidents	Lack of established communication channels	Establish clear communication protocols and utilize check-in systems during tasks.
Emergency Response Procedures	Procedures not followed during an incident	Delayed response leading to increased risk	Lack of training or familiarity with procedures	Conduct regular emergency drills and training sessions to reinforce response protocols.
Tool Availability	Tools not available or inadequate	Delays in work and increased risk of using improper tools	Poor inventory management	Implement a tool tracking system to ensure availability and proper maintenance of tools.

Current Control	Failure Mode of the Control	Effect of Failure	Cause of Failure	Recommended Action
Training and Competency Verification	Inadequate training for personnel	Increased risk of accidents due to lack of skills	Insufficient training programs	Develop comprehensive training programs and require competency assessments before task assignments.
Ventilation System Monitoring	Ventilation system failure	Increased airborne contaminants leading to exposure	Lack of regular maintenance checks	Schedule routine inspections and maintenance of ventilation systems to ensure functionality.
Radiological Monitoring	Monitoring equipment failure	Undetected contamination leading to exposure	Equipment malfunction or lack of calibration	Implement a regular calibration schedule for monitoring equipment and provide backup systems.
Containment Procedures	Glove bag removal procedures not followed	Contamination spread outside the designated area	Lack of training or oversight	Reinforce glove bag removal protocols through training and supervision during the process.

This risk assessment report provides a comprehensive overview of the potential hazards associated with the decontamination of the Cell G PaR, relevant historical safety events, missing hazards, and failure mode analysis. It emphasizes the importance of specific, actionable mitigation strategies to enhance safety and compliance during the execution of the work plan.