Work scope details:

Title: Move and Stage CMs in RFTF Test Cave and 1st Floor

Work Scope Summary: - The task involves relocating and staging various components, specifically the MB spare and HB spare, within the RFTF test cave and first floor. This includes mounting these components on carts and moving them to designated slots, with the final step being the movement of the MB spare into the test cave.

Key Work Scope Components: - Mounting the MB spare on carts - Staging the HB spare - Moving the HB spare into the MB spare slot - Mounting carts on PPU08 and moving it into the HB slot - Moving the MB spare into the test cave

Relevant previous events and lessons learned:

Event Title	Event Summary	Lessons Learned	Reference link
Snow and Ice Obstruction	Due to snow build-up, melting, and refreezing, carts were semi-buried and partially frozen. Workers had difficulty moving the heavy carts, leading to muscle soreness in one staff member.	Ensure proper snow and ice management to prevent obstruction. Use appropriate equipment for moving heavy loads to avoid injury.	N/A
Electric Cart knocks off cover to controller box exposing electrical circuit	On July 3, 2023, a cart contacted an electrical enclosure, causing the door to fall off and expose bare conductors, posing an electrical hazard. The incident was reported, and the area was secured.	Ensure adequate clearance and control when operating carts near electrical enclosures. Implement safety checks and training to prevent similar incidents.	Link
Enhanced Transportation Cart II Strikes Gate	A material handler pulling a cart struck the facility gate, bending the cart's handle. The cart was stabilized, and a Nonconformance Report was generated.	Improve communication and visibility between handlers and spotters. Conduct thorough risk assessments before moving carts through narrow spaces.	Link

Missing Hazards:

Hazard	Missing or Inadequate Mitigation in Current Work Control Document	Recommended Mitigation for Revision	Reference link	SBMS Link
Electrical Hazard	No mention of electrical hazards or controls	Implement electrical safety protocols, provide protective equipment, and conduct regular training	SafetyCulture, OSHA Workbook, EHS VT	Link

Snow and Ice Obstruction	No controls for snow and ice hazards	Develop procedures for snow and ice removal, use deicers, and ensure safe walking surfaces	OSHA Winter Weather, OSHA Winter Weather Page, DOT CA	Link
Collision with Structures	No mention of collision hazards or controls	Implement hierarchy of controls, use PPE, and conduct risk assessments	OSHA Struck By, OSHA Fatal Four, OSHA Hierarchy of Controls	Link
Time Pressures and Distractive Environment	No controls for time pressures or distractive environments	Implement administrative controls, restrict access, and automate tasks where possible	Wikipedia Hierarchy, OSHA Hierarchy, CCOHS	Link
High Workload and Work Stress	No mention of workload or stress management	Implement stress management programs, prioritize tasks, and provide support resources	OSHA Safety Management, SOM Workplace Stress, Business and Disability	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	Lack of awareness or oversight	Implement a permit tracking system and conduct regular audits
Precautions, step warnings, Hold Points	Steps not followed or ignored	Increased risk of accidents or equipment damage	Inadequate training or communication	Enhance training programs and establish a checklist for critical steps
Personal Protective Equipment (PPE)	PPE not used or inadequate	Injury to personnel	Lack of enforcement or availability	Conduct PPE audits and ensure availability and compliance
Work instructions for information	Instructions not clear or not followed	Missteps in procedure leading to operational failure	Poor documentation or communication	Revise and simplify instructions, and conduct briefings before work
ORNL subject area requirements	Non-compliance with requirements	Regulatory non-compliance and potential fines	Lack of awareness or training	Regular compliance training and audits

Group/individual responsibilities	Roles not understood or executed	Confusion and inefficiency in task execution	Poor communication or unclear roles	Define roles clearly and conduct team briefings
Availability/location of materials, tools	Tools/materials not available when needed	Delays in work and potential safety risks	Poor planning or inventory management	Implement inventory management and pre-task checks
Response if work cannot be performed as planned	No contingency plan	Work stoppage or unsafe improvisation	Lack of planning	Develop and communicate contingency plans
Potential error traps	Error traps not identified or mitigated	Increased likelihood of human error	Inadequate risk assessment	Conduct thorough risk assessments and implement error-proofing measures
Manual Material Handling	Improper handling techniques	Injury or equipment damage	Lack of training or ergonomic design	Provide training and ergonomic equipment
Radiological Work Permit	Permit not obtained or followed	Exposure to radiation	Lack of awareness or procedural lapse	Strict permit control and radiation safety training