Work scope details:

Title: Lighting Upgrades at Building 3525 Glove Maintenance Room (GMR)

Work Scope Summary: - This work plan involves upgrading the lighting system in the Glove Maintenance Room (GMR) at Building 3525. The current ballast-driven lighting, which may contain PCBs, will be replaced with LED lighting to improve illumination. The GMR is a High Contamination/Airborne Area, necessitating respiratory protection for entry. The task will require multiple entries into the GMR by craft personnel until the new lighting is fully installed. Safety measures such as Lock/Tag/Verify will be implemented to manage the lighting circuits and the Second Level crane system during the task. Coordination with Building Supervision and the Electrical Task Leader is required when suspending lighting circuits.

Key Work Scope Components: - Replacement of ballast-driven lighting with LED lighting - Management of potential PCB hazards - Implementation of respiratory protection due to high contamination/airborne risks - Use of Lock/Tag/Verify for safety during circuit and crane system management - Coordination with Building Supervision and Electrical Task Leader

Relevant previous events and lessons learned:

Event Title	Event Summary	Lessons Learned	Reference link
PCB Leaks in Schools	Leaking and ruptures of PCB-containing fluorescent light ballasts in schools required emergency remediation due to PCB exposure. This involved removal and cleanup of leaking ballasts, relocation of students, and environmental decontamination. The EPA has documented such incidents, emphasizing the risk of postponing lighting upgrades.		EPA PCB Advisory
PCB Contamination in Schools	A 2016 study estimated that thousands of U.S. school buildings contained materials with PCBs, leading to lawsuits and emergency renovations. These incidents resulted in extensive remediation efforts, legal action, and closures.		PCB Lawsuit Information
PCB Exposure in Manufacturing	PCB leaks and hazardous exposures during PCB manufacturing and maintenance have led to worker health issues and regulatory interventions. Incidents involved accidental exposure and environmental contamination.		PCB Manufacturing Impact

Missing Hazards:

Hazard	Missing or Inadequate Mitigation in Current Work Control Document	Recommended Mitigation for Revision	Reference link	SBMS Link

PCB Exposure	Not addressed	Implement PCB abatement activities, promote safety and health measures for workers, and ensure proper disposal of PCB-containing materials.	EPA PCB Abatement, ATSDR PCB Exposure, UNITAR PCB Safety	Link
High Contamination/Airborne Area	Not addressed	Implement airborne precautions, use proper air filtration, and prevent transmission of contaminants.	OSHA Hazard Prevention, NCBI Airborne Precautions, Camfil Air Filtration	Link
Sharp Edges/Broken Glass	Not addressed	Implement safe handling procedures for sharp objects, use protective equipment, and conduct risk assessments.	CCOHS Sharp Blades, UNM Sharp Objects SOP, Safety Notes Risk Assessment	Link
Time Pressures and High Workload	Not addressed	Implement workload management strategies, provide training on time management, and ensure adequate staffing levels.	Wikipedia Potential, Merriam-Webster Potential, Cambridge Dictionary Potential	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 incorrect	Unauthorized work leading to safety hazards	Miscommunication or oversight in permit process	Ensure thorough review and approval of permits before work begins
Personal Protective Equipment (PPE)	PPE not used or inadequate	Exposure to high contamination/airborne risks	Lack of awareness or availability of proper PPE	Conduct PPE training and ensure availability of required equipment
Work instructions & safety procedures	Instructions not followed or incomplete	Increased risk of accidents or exposure	Inadequate training or unclear instructions	Provide detailed work instructions and conduct pre-job briefings
ORNL subject area requirements	Non-compliance with safety standards	Regulatory violations and increased risk	Lack of understanding or oversight	Regular audits and compliance checks

Lock/Tag/Verify for lighting circuits	Failure to implement Lock/Tag/Verify	Electrical hazards and potential injuries	Negligence or lack of training	Mandatory training on Lock/Tag/Verify procedures
Coordination with Building Supervision and Electrical Task Leader	Poor coordination leading to unsafe conditions	Delays and increased risk during circuit management	Miscommunication or lack of planning	Establish clear communication protocols and regular coordination meetings
Management of potential PCB hazards	PCB exposure due to improper handling	Health risks and environmental contamination	Lack of awareness or improper disposal methods	Training on PCB handling and disposal procedures
Respiratory protection due to high contamination/airborne risks	Inadequate respiratory protection	Respiratory health issues	Incorrect PPE selection or usage	Ensure proper fit testing and selection of respiratory protection