

## **Work scope details:**

**Title:** 7930 High Bay Crane Repair/Modernization

**Work Scope Summary:** This work plan outlines the modernization of the 7930 High Bay Crane, involving the removal of outdated components and the installation of new systems. The project includes demolition, installation, lifting operations, electrical tie-ins, and functional testing.

### **Key Work Scope Components:**

- Demolition of existing motors, brake systems, controls, wiring, and electrical components.
- Installation of new motors, brake systems, controls, wiring, and electrical components.
- Lifting new parts and equipment to the 3rd floor and removing parts/waste to the 1st floor.
- Electrical tie-in to facility power and replacement of the crane disconnect.
- Functional testing of the crane post-installation.

## **Relevant previous events and lessons learned:**

Event Title	Event Summary	Lessons Learned	Reference Link
Crane Collapse Incident at XYZ Facility	A crane collapsed during a lifting operation due to improper rigging and overloading.	Importance of adhering to lift plans and ensuring proper training for rigging personnel.	<a href="#">OSHA Crane Safety</a>
Electrical Shock Incident	An employee received an electrical shock while working on crane electrical systems due to inadequate lockout/tagout procedures.	Emphasized the need for strict adherence to lockout/tagout protocols and training for all personnel involved.	<a href="#">OSHA Lock out/Tagout</a>
Asbestos Exposure at ABC Site	Workers were exposed to asbestos during the removal of old electrical components without proper PPE.	Highlighted the necessity of asbestos training and the use of appropriate PPE when dealing with asbestos-containing materials.	<a href="#">EPA Asbestos</a>
Fall from Height Incident	A worker fell from a ladder while accessing elevated equipment due to lack of fall protection measures.	Reinforced the importance of fall protection training and the use of safety harnesses when working at heights.	<a href="#">OSHA Fall Protection</a>
Equipment Malfunction During Maintenance	A malfunction occurred during crane maintenance due to inadequate inspection of equipment prior to use.	Stressed the importance of thorough pre-use inspections and maintenance checks on all equipment.	<a href="#">OSHA Equipment Safety</a>

## **Missing Hazards:**

Hazard	Missing or Inadequate Mitigation in Current Work Control Document	Recommended Mitigation for Revision	Reference Link	SBMS Link
Asbestos Exposure	Not addressed	Implement mandatory asbestos awareness training and ensure PPE is available and used.	<a href="#">EPA Asbestos</a>	N/A
Electrical Hazards	Inadequate lockout/tagout procedures mentioned	Ensure all personnel are trained in lockout/tagout procedures and utilize L/T/V permits.	<a href="#">OSHA Lock out/Tagout</a>	N/A
Fall Hazards	Not adequately addressed	Require fall protection harnesses and training for all personnel working at heights.	<a href="#">OSHA Fall Protection</a>	N/A
Manual Material Handling	Inadequate guidelines for lifting	Implement specific weight limits and ergonomic training for manual handling tasks.	<a href="#">NIOSH Lifting Guidelines</a>	N/A
Hoisting and Rigging	Lack of detailed lift plans	Develop and review detailed lift plans for all hoisting operations, including load limits.	<a href="#">OSHA Hoisting and Rigging</a>	N/A
Noise Exposure	Not addressed	Conduct noise assessments and provide hearing protection as needed.	<a href="#">OSHA Noise</a>	N/A
Confined Space Entry	Not addressed	Ensure confined space entry procedures are in place if applicable during electrical work.	<a href="#">OSHA Confined Spaces</a>	N/A
Tool Safety	Inadequate tool safety measures	Ensure all tools are inspected and maintained regularly, and provide training on proper use.	<a href="#">OSHA Hand and Power Tools</a>	N/A

## Failure mode analysis:

<b>Current Control</b>	<b>Failure Mode of the Control</b>	<b>Effect of Failure</b>	<b>Cause of Failure</b>	<b>Recommended Action</b>
Lockout/Tagout Procedures	Permit not obtained or expired	Potential for accidental energization of equipment	Lack of awareness or oversight	Implement a checklist for permit verification before work begins.
PPE Requirements	PPE not used or inadequate	Increased risk of injury from electrical or mechanical hazards	Complacency or lack of training	Conduct regular training sessions and audits to ensure compliance with PPE usage.
Lift Plans	Lift plan not followed	Risk of load drop or equipment damage	Poor communication or oversight	Require sign-off from a qualified rigger on all lift plans before execution.
Training Programs	Inadequate training for personnel	Increased likelihood of accidents due to lack of knowledge	Insufficient training resources	Develop a comprehensive training program and schedule regular refresher courses.
Communication Protocols	Poor communication among team members	Increased risk of accidents due to misunderstandings	Lack of established protocols	Implement a communication plan that includes regular safety briefings and check-ins.
Emergency Response Procedures	Emergency procedures not known or practiced	Delayed response to incidents	Lack of drills or training	Schedule regular emergency response drills and ensure all personnel are familiar with procedures.

<b>Current Control</b>	<b>Failure Mode of the Control</b>	<b>Effect of Failure</b>	<b>Cause of Failure</b>	<b>Recommended Action</b>
Equipment Inspection	Tools not inspected prior to use	Increased risk of tool failure or accidents	Inconsistent inspection protocols	Establish a mandatory pre-use inspection checklist for all tools and equipment.
Waste Disposal Procedures	Improper disposal of hazardous waste	Environmental contamination and regulatory violations	Lack of awareness or training	Provide training on waste disposal procedures and ensure proper containers are available.
Radiological Controls	Failure to monitor radiation levels	Potential exposure to harmful radiation	Inadequate monitoring equipment or procedures	Ensure proper dosimetry and monitoring equipment is available and functional.
Fall Protection Measures	Fall protection not utilized	Increased risk of falls and serious injury	Complacency or lack of equipment	Conduct regular inspections of fall protection equipment and training on its use.