

Work scope details:

Title: Deshazo No Fly Zone Reprogramming

Work Scope Summary: - The task involves reprogramming and calibrating the sensors and no fly zone of a 30-ton crane located on the northside. This includes the necessary labor and equipment to access and adjust the crane's control systems.

Key Work Scope Components: - Reprogramming crane sensors - Calibrating no fly zone settings - Utilizing a man lift for access - Opening and working within a control box - Providing all necessary labor for the task

Relevant previous events and lessons learned:

Event Title	Event Summary	Lessons Learned	Reference link
Manlift Malfunction during RH Crane Repair	While Crane Repair Services technicians were replacing the rails on the 140/25-ton Remote Handled (RH) Bay crane, the Haulotte manlift, Model HB62, came in contact with the de-energized crane conductor bars. The manlift bucket was lowered and placed in a safe configuration. An event critique was initiated.	Training deficiencies and equipment handling protocols need improvement to prevent contact with crane conductor bars.	Link
Crane Load Comes in Contact with Section of Manlift during Hoisting & Rigging Operations at TTC Construction Site Involving Subcontractor	While an articulating manlift was operating with two workers in the elevated basket, a suspended load from a nearby crane contacted the base section of the manlift, causing a gouge and minor damage. No personnel injuries occurred, but operations were suspended for investigation.	Importance of communication and awareness during operations to prevent equipment contact and damage.	Link
Crane-related deaths and injuries in U.S. industry	OSHA and BLS reported incidents involving miscalibrated or malfunctioning anti-collision sensors, improper safety zone setups, and failures in operator training. Despite technology adoption, errors in sensor calibration or ignored warnings led to fatalities and injuries.	Regular calibration and adherence to safety protocols are crucial to prevent accidents.	Link
NSC report on crane safety hazards	A 2020 NSC report surveyed crane operators and inspectors, revealing that lack of proper calibration or sensor tech contributed to workplace deaths and injuries. Multiple injuries were related to sensor failures and procedural errors during reprogramming and calibration.	Ensuring proper calibration and procedural adherence can mitigate risks associated with crane operations.	Link

NSC analysis on crane sensor programming	The National Safety Council highlighted instances where improper use or programming of crane sensors led to serious accidents, involving falls, dropped loads, or working outside safe zones. Most accidents resulted from system failures or procedural oversights.	Proper use and programming of sensors are essential to avoid accidents and ensure safety.	Link
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Missing Hazards:

Hazard	Missing or Inadequate Mitigation in Current Work Control Document	Recommended Mitigation for Revision	Reference link	SBMS Link
Manlift Malfunction	No mention of manlift malfunction preparedness	Develop emergency preparedness procedures for manlift failures, including immediate actions and post-emergency protocols	Industrial Manlifts	Link
Crane Load Contact	No specific controls for crane load contact hazards	Implement crane safety measures, including tag lines and signaling protocols	High Speed Training	Link
Miscalibrated Sensors	Lack of sensor calibration procedures	Establish regular calibration checks and maintenance schedules for sensors	Prime Auto Glass Utah	Link
Improper Sensor Programming	No guidelines for sensor programming	Develop programming protocols and training for sensor operations	OSHA Hierarchy of Controls	Link
Lack of Proper Calibration	No procedures for calibration verification	Implement a calibration verification process for critical equipment	Wikipedia	Link
Pinch Points, Cuts, and Scrapes	No specific mention of pinch point hazards	Conduct assessments for pinch point risks and implement AUTO principle for safety	All Safety Consulting	Link

Overhead Crane Movement	No specific controls for overhead crane movement	Develop protocols for managing overhead crane hazards, including collision avoidance	Base Articles	Link
Fall from Height	Existing controls may be inadequate for specific scenarios	Enhance fall protection measures, including guardrails, platforms, and fall restraint systems	HSE Blog	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 invalid	Unauthorized work leading to safety hazards	Lack of awareness or oversight	Ensure all permits are reviewed and approved before work begins
Personal Protective Equipment (PPE)	PPE not used or inadequate	Increased risk of injury	Non-compliance or insufficient PPE	Conduct PPE checks and ensure availability of appropriate PPE
Work instructions & safety procedures	Instructions not followed	Unsafe work practices leading to accidents	Lack of training or oversight	Provide thorough training and supervision
Hoisting and Rigging inspections	Missed or incomplete inspections	Equipment failure during operation	Negligence or oversight	Implement a strict inspection schedule and checklist
Fall Protection Equipment	Equipment failure or misuse	Fall-related injuries	Inadequate training or equipment failure	Regular training and equipment checks
Lockout/Tagout (LTV) procedures	Failure to isolate energy sources	Unexpected equipment activation	Incomplete LTV process	Strict adherence to LTV procedures with verification
Traffic control barriers	Barriers not used or improperly placed	Accidents due to uncontrolled traffic	Lack of planning or oversight	Plan and implement effective traffic control measures
Machine guarding	Guards not in place or ineffective	Injuries from moving parts	Removal or failure of guards	Regular checks and maintenance of guards

Emergency response plan	Lack of or ineffective response	Increased severity of incidents	Inadequate planning or training	Develop and train staff on a comprehensive emergency response plan
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