Work scope details:

Title: Preapproved Work Plan for 2519 Air Compressor 2

Work Scope Summary: - The work package focuses on performing routine maintenance and troubleshooting activities on the 2519 Air Compressor 2. This includes basic repairs and parts replacement for various components such as valves, piping systems, pressure vessels, and electrical systems. The work is limited to routine tasks and excludes any non-routine maintenance activities.

Key Work Scope Components: - Millwright tasks: Valve and actuator repair, coolant system maintenance, cooling system repairs, filter and air end replacement. - Pipefitter and welding tasks: Valve and gasket repair, piping and fitting repairs, pressure vessel and relief valve maintenance, pump and instrumentation replacement. - Electrician tasks: Voltage readings, power issue troubleshooting, electrical maintenance, wiring and component replacement, ARC flash maintenance, motor and drive repairs. - I&C tasks: Instrumentation calibration and repair, control system troubleshooting. - Laborer tasks: General cleanup and material handling. - Boilermaker tasks: Pressure vessel repairs and maintenance. - Painter tasks: Coating removal and application on various components. - Carpenter tasks: Scaffolding erection and concrete structure repair. - Insulator tasks: Insulation abatement and replacement, including handling various insulation materials.

Relevant previous events and lessons learned:

Event Title	Event Summary	Lessons Learned	Reference link
Maintenance Supervisor Electrocuted	On August 20, 2014, a maintenance supervisor was electrocuted while troubleshooting an energized component inside an explosion-proof enclosure.	Wear properly rated electrical gloves, perform lock-out/tag-out procedures, use non-contact voltage testers, and develop a written safety plan before electrical work.	Link
MO-039 (222-S) HVAC Unit Troubleshooting	Refrigerant Equipment Service personnel worked on the wrong HVAC unit due to a work package error, leading to a fact-finding meeting.	Ensure work scope is clearly understood, identify hazards, and verify correct equipment before starting work.	Link
RF Separator Shock Incident	An SME received a shock while troubleshooting a high-power RF separator, resulting in temporary loss of consciousness and electrical burns.	Not explicitly provided, but implies the importance of safety precautions and proper PPE when working with high-power equipment.	No URL provided
Arc-Flash Event During Breaker Troubleshooting	On September 23, 2009, an arc-flash occurred during breaker troubleshooting, causing burns to an employee due to a misalignment and lack of PPE.	Not explicitly provided, but suggests the importance of wearing arc-flash PPE and adhering to the scope of work.	No URL provided

Missing Hazards:

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

Mechanical Hazards	Not listed	Ensure guards are in place, functional safety interlocking devices, warning signs, safe-holding safeguarding, use hand-feeding tools, follow manufacturer's manual	N/A	Link
Ergonomic Conditions	Not listed	Conduct exposure assessment, evaluate workstations, diversify activities, provide special tools, implement stretch breaks, worker rotation	N/A	Link
Electrical Shock	Not listed	Implement electrical safety standards, provide training on electrical hazards, ensure proper PPE usage	OSHA Electrical Safety	Link
Arc Flash	Not listed	Conduct arc flash risk assessments, provide appropriate PPE, implement safe work practices	N/A	Link
Incorrect Equipment Handling	Not listed	Provide training on proper equipment handling, use appropriate handling tools, implement safety protocols	Material Handling Hazards	Link
Slippery or Uneven Surfaces	Not listed	Implement slip-resistant surfaces, ensure proper footwear, maintain good housekeeping	Slips, Trips, Falls Prevention	Link
Fall Hazards	Not listed	Implement fall protection systems, conduct risk assessments, provide training on fall prevention	OSHA Fall Protection	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 regular audits
Personal Protective Equipment (PPE)	PPE not used or inadequate	Increased risk of injury or exposure	Insufficient training or availability	Conduct regular PPE training and ensure availability
Work instructions & safety procedures	Instructions not followed	Increased risk of accidents or errors	Inadequate training or supervision	Reinforce training and supervision, conduct regular reviews
Engineering Controls (e.g., Glovebox, Ventilation)	Controls not functioning or bypassed	Exposure to hazardous materials	Equipment failure or improper use	Regular maintenance and monitoring of engineering controls
Administrative Controls (e.g., Training, Procedures)	Procedures not followed or outdated	Increased risk of incidents	Lack of updates or enforcement	Regularly update procedures and conduct compliance checks
Safety Harness/Fall Protection	Equipment failure or improper use	Risk of falls and injuries	Lack of inspection or training	Regular inspections and training on proper use
Fire Extinguisher	Not available or not functional	Inability to control fire, leading to damage	Lack of maintenance or checks	Regular checks and maintenance of fire safety equipment
Exposure Assessment	Inaccurate assessment or ignored results	Uncontrolled exposure to hazards	Inadequate assessment methods	Implement robust assessment protocols and follow-up actions