



Electrical, Lockout/Tagout, and Maintenance Safety Guide

Category: Maintenance

Audience: Maintenance, electricians, service teams

Badge: LOTO

Electrical, 480V / 60Hz / 3-phase, stored energy, torch cleaning, wire cutting, and restart guidance for maintenance and service activities.

Important limitation: This document is a general planning aid only. It does not replace OSHA requirements, employer safety programs, equipment manuals, SDS review, qualified risk assessment, training, lockout/tagout procedures, PPE selection, or competent safety review.

Electrical Safety

- RAS systems require qualified review for 480V / 60Hz / 3-phase power, disconnects, grounding, bonding, electrical enclosures, and service access.
- Do not service energized equipment unless authorized under site electrical safety procedures.

Lockout/Tagout

- Use the employer energy-control procedure before servicing equipment where unexpected startup, release of stored energy, or exposure to hazardous energy could occur.
- Verify isolation before work begins.

Field Checklist

Item	Verified	Notes
Qualified person assigned		
Disconnect identified		
LOTO applied if required		
Stored energy released		
Zero energy verified		
Restart controlled		

Reference Basis

- OSHA 29 CFR 1910 Subpart Q - Welding, Cutting and Brazing.
- OSHA 29 CFR 1910.147 - Control of Hazardous Energy (Lockout/Tagout).

- NIOSH welding fume and manganese exposure resources.
- RAS equipment planning information for robotic arc welding systems using 480V / 60Hz / 3-phase power, RAS-500PR power supply, water-cooled torch packages, torch cleaning, and wire cutting stations.

Revision: RAS Safety Knowledge Base expanded safety resource set. Verify against current site-specific rules before use.