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Safety Guidelines 2024
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Personnel Safety and Operational Security
Effective Date: March 2024

1. Personal Protective Equipment (PPE) Requirements

All personnel operating or maintaining equipment must wear appropriate personal protective equipment. Minimum PPE requirements vary by operation type and environmental conditions.

1.1 Standard PPE for Maintenance Operations

When performing maintenance tasks, the following PPE is mandatory:

- Safety glasses with side shields (ANSI Z87.1 certified)
- Steel-toed boots (ASTM F2413 compliant)
- Hearing protection when noise levels exceed 85 dBA
- Cut-resistant gloves (ANSI Level A4 minimum) when handling sharp components
- High-visibility vest in areas with vehicle traffic

Additional PPE may be required based on specific task hazards identified in job safety analysis.

1.2 Cold Weather Operations PPE

During winter operations or in cold environments (below 32°F/0°C), additional protection is required:

- Insulated gloves that maintain dexterity (do not compromise safety)
- Cold weather headwear that fits under hard hat
- Layered clothing system to prevent hypothermia
- Anti-slip boot traction devices in icy conditions
- Face protection if wind chill is below -20°F

See Winter Operations Procedures manual for complete cold weather safety protocols.

2. Hazardous Material Handling

Many maintenance procedures involve hazardous materials including fuels, solvents, and chemical agents. Proper handling procedures must be followed to prevent exposure and environmental contamination.

2.1 Fuel Handling Safety

When working with fuels and petroleum products:

- Ensure adequate ventilation to prevent vapor accumulation
- Eliminate all ignition sources within 50 feet of fueling operations
- Use proper grounding to prevent static discharge
- Have appropriate fire extinguisher (Class B) readily available
- Wear chemical-resistant gloves and eye protection
- Use drip pans to capture spills - do not allow ground contamination

In case of fuel spill exceeding 1 gallon, immediately notify environmental compliance officer and initiate spill response procedures per Section 2.4.

2.2 Battery Maintenance Safety

Lead-acid batteries present both chemical and electrical hazards:

- Wear face shield and acid-resistant apron when servicing batteries
- Remove all jewelry and metal objects before working near batteries
- Use insulated tools to prevent short circuits
- Ensure proper ventilation - hydrogen gas accumulation is explosive
- Neutralize acid spills immediately with sodium bicarbonate solution
- Never check charge by shorting terminals - use proper voltmeter

Battery charging areas must have emergency eyewash station within 25 feet.

3. Lockout/Tagout Procedures

All equipment maintenance requires proper energy isolation using lockout/tagout (LOTO) procedures to prevent accidental startup or energy release.

3.1 LOTO Implementation Steps

Mandatory lockout/tagout sequence:

1. Notify all affected personnel of impending shutdown
2. Identify all energy sources (electrical, hydraulic, pneumatic, thermal)
3. Shut down equipment using normal stop procedures
4. Isolate each energy source using approved disconnect method
5. Apply individual padlock and danger tag to each isolation point
6. Attempt to start equipment to verify effective isolation
7. Dissipate or restrain residual energy (bleed pressure, discharge capacitors, block suspended loads)

Only the person who applied the lock may remove it. Group lockout requires coordinator assignment per Section 3.3.