Heavy Equipment Hazards and Controls



Are you considering the following heavy-equipment-related hazards and safe work practices in your heavy equipment policies and programs? Whether you're creating a policy for the first time or reviewing and updating existing policies and procedures, use these recommendations as a guide for heavy equipment safety.

General Hazard Controls and Safe Work Practices

- All vehicles must have:
 - A service brake system, an emergency brake system, and a parking brake system
 - o Working headlights, tail lights, and brake lights
 - An audible warning device (horn)
 - Intact windshield with working windshield wipers
- All operators must be trained on the equipment they will use.
- Check vehicles at the beginning of each shift to ensure parts, equipment, and accessories are in safe operating condition. Repair or replace any defective parts or equipment prior to use.
- Vehicles loaded from the top (e.g., dump trucks) must have cab shields or canopies to protect the operator while loading.
- Ensure vehicles used to transport workers have seats with operable seat belts and enough for the number of workers to be carried.
- Equipment should have roll-over protection and protection from falling debris hazards as needed.
- Prior to permitting construction equipment or vehicles onto an access roadway or grade, verify the roadway or grade is constructed and maintained to safely accommodate the equipment and vehicles involved.
- Do not modify the equipment's capacity or safety features without manufacturer's written approval.
- Maintain a safe distance from overhead power lines.

General PPE Requirements

- 1. Hard hat for overhead impact or electrical hazards.
- 2. Eye protection with side shields.
- 3. Gloves chosen for job hazards expected (e.g., heavy-duty leather work gloves for handling debris with sharp edges and/or chemical protective gloves appropriate for chemicals potentially contacted).
- 4. ANSI-approved protective footwear.
- 5. Respiratory protection as necessary.

Forklifts and Powered Industrial Trucks

- 1. Use rough-terrain trucks where conditions warrant their use.
- 2. Ensure that forklifts/PITs are not modified without the written approval of the manufacturer.
- 3. Ensure dockboards/bridgeplates can withstand expected loads and are properly secured before the equipment is slowly and carefully driven over it.
- 4. When lifting personnel only use platforms approved by the manufacturer.

Material Falling from Vehicles

- 1. Do not overload vehicles
- 2. Ensure loads are balanced and fully contained within the vehicle.
- 3. Cover and secure loads before moving vehicle.

Silica, Nuisance Dust, Dried Mud, Silt

- 1. Stay upwind of or away from dust-generating activities, and those involving crystalline silica-containing materials like concrete, brick, tile, drywall, mortar, sand, or stone.
- Use water spray or mist to suppress dust generation, especially during operations that may create a lot of dust, such as cutting or sawing silicacontaining materials, jack hammering, impact drilling, using heavy equipment, and demolishing structures.
- 3. Avoid using compressed air for cleaning surfaces.
- 4. Sample worker exposures to silica during dust-generating activities.

Additional Personal Protective Equipment

- 1. At a minimum, use respirators with N, R, or P95 filters for work with crystalline silica-containing materials (e.g., concrete, brick, tile, mortar).
- 2. The use of N, R, or P100 filters may provide additional protection. Higher levels of respiratory protection may be needed for some operations (e.g., cutting concrete, sandblasting, mixing concrete).
- 3. N, R, or P95 respirators may be used for nuisance dusts (e.g., dried mud, dirt, or silt) and mold (except mold remediation). Filters with a charcoal layer may be used for odors.

Noise

- 1. Use heavy equipment with enclosed, temperature-controlled cabs, when available
- 2. Place generators, compressors, and other noisy equipment at a distance or behind a barrier when possible

Fueling

- 1. Ensure ignition sources at least 25 feet away from fueling areas.
- 2. Prohibit smoking in fueling areas.
- 3. Ensure that vehicles are attended while being fueled.

Chemical Exposure

Have a plan if hazardous chemical containers are found or leaking materials are detected:

- 1. Do not use spark-producing devices (e.g., engines, tools, electronic, and communications equipment) in the immediate area.
- 2. Take self-protective measures (i.e., move to a safe distance upwind) and contact hazardous material response personnel for evaluation/removal before continuing work in the area.

Traffic Control

- 1. Develop and use a site plan that provides traffic flow details.
- 2. Use flaggers, traffic cones, and/or highway channeling devices.
- 3. Use flaggers, standard road signs (e.g., "work zone ahead"), or message boards to warn approaching vehicles of work area.
- 4. Give motorists plenty of warning of upcoming work zones; check for location specific requirements.
- 5. Ensure work zone is well lit, but control glare.