ALISTO ENGINEERING GROUP

Issue 9

Safety Newsletter

September, 2013

This Month's Topic: Industrial Trucks and Equipment

Powered industrial truck accidents cause approximately 100 fatalities and 36,340 serious injuries in general industry and construction annually. It is estimated that 20-25% of the accidents are, at least in part, caused by inadequate training.

There are many types of powered industrial trucks. Each type presents different operating hazards. For example, a sit-down, counterbalanced high-lift rider truck is more likely than a motorized hand truck to be involved in a falling load accident because the sit-down rider truck can lift a load much higher than a hand truck. Workplace type and conditions are also factors in hazards commonly associated with powered industrial trucks.

Determining the best way to protect workers from injury largely depends on the type of truck operated and the worksite where it is being used.

General Heavy Equipment Operation (Applicable to ALL Heavy Equipment)

Key Engineering Controls and Work Practices

1. All vehicles must have:
    a. A service brake system, an emergency brake system, and a parking brake system
    b. Working headlights, tail lights, and brake lights
    c. An audible warning device (horn)
    d. Intact windshield with working windshield wipers
2. Ensure that all operators have been trained on the equipment they will use
3. Check vehicles at the beginning of each shift to ensure that the parts, equipment, and accessories are in safe operating condition. Repair or replace any defective parts or equipment prior to use
4. Do not operate vehicle in reverse with an obstructed rear view unless it has a reverse signal alarm capable of being heard above ambient noise levels or a signal observer indicates that it is safe to move
5. Vehicles loaded from the top (e.g., dump trucks) must have cab shields or canopies to protect the operator while loading
6. Ensure that vehicles used to transport workers have seats, with operable seat belts, firmly secured and adequate for the number of workers to be carried
7. Equipment should have roll-over protection and protection from falling debris hazards as needed
8. Prior to permitting construction equipment or vehicles onto an access roadway or grade, verify that the roadway or grade is constructed and maintained to safely accommodate the equipment and vehicles involved
9. Do not modify the equipment's capacity or safety features without the manufacturer's written approval
10. Where possible, do not allow debris collection work or other operations involving heavy equipment under overhead lines

Operation Specific Work Practices

Fueling

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

Material Falling From Vehicles

- Do not overload vehicles
- Ensure that loads are balanced and are fully contained within the vehicle. Trim loads, where necessary, to ensure loads do not extend beyond the sides or top of the vehicle
- Cover and secure loads before moving the vehicle

Discovery of Unknown Chemicals

If hazardous chemical containers are found or leaking materials are detected:

- Do not use spark-producing devices (e.g., engines, tools, electronic, and communications equipment) in the immediate area
- 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

Additional PPE

- Evaluate the need to revise protective clothing, respirator, and glove selection

Noise

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

Other Potential Hazards

Other potential environmental hazards that can be associated with operating industrial truck and heavy equipment:

- Heat stress
- Cold stress
- Sunburn
- Poisonous plants
- Animal/insect bites

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Motor Vehicle Operation - Trucks and Heavy Equipment

- Drivers shall comply with Vehicle Code regulations governing the driving of all trucks and heavy equipment, and the maximum weights, widths, heights and overhang of loads. Binders shall be used, and overhanging loads shall be protected by flags or lights, as required by CalTrans or local jurisdiction permits.
- Employees driving larger trucks (e.g., 10.001 gvw or greater), all trucks towing a trailer or heavy equipment shall, so far as possible, avoid restricting the normal flow of traffic by permitting traffic to overtake and pass through, using turnouts at railroad crossings, or pulling off and stopping on road shoulders. When reentering traffic, employees are fully responsible for entering safely.
- Employees shall maintain three points of contact when entering or exiting vehicles or equipment. Employees shall face the vehicle or equipment when climbing in or backing down.

Operator Training/Licensing Procedures

- Each Operator must successfully complete Operator Safety Training prior to operating a powered industrial truck. Trainees may only operate the Industrial Lift Equipment type they have been trained on and licensed to operate, or when under the direct supervision of persons who have the knowledge, training and experience to train operators and evaluate their competence.
- Training is conducted in a location where such Lift Truck operation does not endanger property, the trainee or others.
- The employer shall certify that each operator has been trained and evaluated as required by CAL OSHA standards. Certification shall include:
    - Name of operator
    - Date of training
    - Date of evaluation
    - Identity of person(s) performing the training or evaluation

EPA, OSHA, and DOT each have separate training rules, but there is often overlap among the various requirements. OSHA's goal is to reduce worker injury and illness. DOT requires all employees who handle or transport hazardous materials to receive general awareness, function-specific, and safety training. EPA training focuses on eliminating the release of pollutants and wastes, both on and off site. Either way, to prevent injury and damage resulting from misuse through operator safety training and following procedures for safe operations, equipment maintenance and awareness of the work environment is Alisto's top priority when working with industrial trucks and equipment.

References:

1. https://www.osha.gov/dte/library/pit/pit_q-a.html
2. https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9828
3. https://www.osha.gov/SLTC/etools/hurricane/heavy-equip.html
4. https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10686
5. https://www.osha.gov/SLTC/poweredindustrialtrucks/
6. University of California Berkeley - Forklift and Industrial Work Truck Safety Program http://www.ehs.berkeley.edu/images/ehs/healthsafety/forkliftprogram.pdf#faq
7. PG&E Code of Safety Practices Accident Prevention Rules
8. Photo credit: Kingrepair.com

Personal Protective Equipment

General PPE includes:

- Hard hat for overhead impact or electrical hazards
- Eye protection with side shields
- 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)
- ANSI-approved protective footwear
- Respiratory protection as necessary—N, R, or P95, filtering face pieces may be used for nuisance dusts (e.g., dried mud, dirt and silt) and mold (except mold remediation). Filters with a charcoal layer may be used for odors.

"Construction Managers need to implement as a best practice verifying all equipment operators have their proper certification(s) before work begins. The credentials need to be readily available at all times while onsite. Be aware of "line of Fire" hazards involved with industrial equipment and vehicles and take the proper mitigation steps to minimize potential for injuries."

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