

LOADING/UNLOADING HAULING HEAVY EQUIPMENT



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Section:	28	Revision Number:	02
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I. OVERVIEW

- A. Hauling, unloading and unloading Heavy Equipment is one of the most important services required. It is important to be aware of the dangers involved, the rules and regulations required.
- B. The guiding principle of safe Heavy Hauling, Loading and Unloading equipment is to prevent:
1. Vehicle Accidents
 2. Loss of life
 3. Loss of load
 4. Damage to load
 5. Damage to vehicles and other property
 6. Issuance of citations/fines
 7. Higher insurance rates
 8. Out of service violations
 9. Interventions due to high CSA scores
- C. The Federal Motor Carrier Safety Administration has requirements concerning hauling heavy equipment, loading and unloading, and cargo securement. These can be found in both state and federal law regulations.
1. 49 CFR Part 355, Compatibility of state laws and regulations affecting interstate motor carrier operations
 2. 49 CFR Part 393, Protection against shifting and falling cargo.
 3. 49 CFR Part 658, Truck size weight, route designations- Length, width, and weight limitations.

II. RESPONSIBILITIES

- A. **Project Managers/Superintendents/ Foreman.** Project Management/ Superintendents are responsible for the overall implementation of the Loading/Unloading Heavy Equipment Hauling Policy and specifically the following duties:
1. Ensuring that the right equipment is selected for the job.
 2. Ensuring that the operators are adequately trained.
 3. Ensuring that communication between the operator and crewmembers is adequate to perform the anticipated functions safely.
 4. Coordinating and scheduling periodic maintenance of mobile and heavy equipment with the Equipment Department.
 5. Coordinating and obtaining all legal permits for heavy hauling

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B. Operators. Operators are responsible for safe operation of the equipment, to include but not limited to the following items:

1. Each operator shall be held responsible for those operations under their direct control.
2. Operators must have the physical ability to perform operating functions safely. When physically or mentally unfit the operator shall not engage in the operation of equipment.
3. Operators shall not engage in any practice, which will divert their attention while actively engaged in operating equipment.
4. Operators shall not operate equipment that they are unfamiliar with, or that they have not been trained on.
5. Conducting and documenting inspections.
6. Routine (daily) preventative maintenance.
7. Securing equipment at the end of their work shift.

C. Equipment Managers. The Equipment Department coordinates and interfaces with field operations personnel to ensure that equipment is maintained in a safe condition. Furthermore, the Equipment Department will conduct periodic inspections and audits to assure compliance with this program

D. Safety Managers. Safety Managers are responsible to support field operations personnel to ensure that safe work practices, materials and necessary training have been conducted. Safety Managers will conduct regular inspections and audits to assure compliance with this program

III. PROCEDURE

A. General Requirements

1. All equipment shall be maintained in safe working condition and shall be appropriate
2. All equipment shall be maintained in safe working condition and shall be appropriate and adequate for the intended use.
3. Only authorized personnel shall operate equipment.
4. Equipment maintenance is to be performed only by approved personnel. Prior to performing any service or repair work, all equipment shall be:
5. Stopped and positively secured against movement or operation,
6. Locked and tagged out-of-service, unless it is designed to be serviced while running.
7. While equipment is being serviced or repaired, the operator shall dismount until the service or repair is completed. The operator will then make a complete walk-around safety check before remounting.

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8. Equipment operators will document pre-shift safety inspections of their equipment, and any conditions that effect safe operation of the piece of equipment will be corrected prior to its continued use. H2 ENTERPRISES personnel must inspect equipment when it arrives on a project and before use. Subcontractors are expected to use their own forms.
9. Equipment shall not be operated unless all required safety devices (seat belt, horn, backup alarm, brakes, warning lights, etc.) are in place and functioning properly.
10. All equipment and motor vehicles with an obstructed view to the rear shall be equipped with an automatic back-up alarm that can be heard above and distinguished from associated background noise levels.
11. All off-road earthmoving equipment such as loaders, dozers, scrapers, motor graders, rock trucks, tractors, rollers and compactors shall be equipped with seat belts and roll-overprotective structures (ROPS).
12. Mobile equipment shall not be left unattended (i.e. operator is more than 25-feet from the unit) unless it is parked with ground engaging tools lowered, and brakes set.
13. Equipment parked at night next to roadway traffic shall be at least 40' from the edge of oil. Equipment parked in these locations should be lighted, barricaded or otherwise clearly marked.
14. Personnel shall not be transported or ride on equipment or vehicles that are not equipped with seats for passengers.
15. All employees working around heavy or mobile equipment should wear class 2 reflective vests, at a minimum.
16. Hard hats are not required to be worn in an enclosed cab. Operators must wear their hard hat anytime they exit the cab and unprotected cabs. Safety Glasses, Steel Toe Boots, Reflective Vests and Gloves are always required. Additional PPE may be required for certain tasks.
17. When fueling equipment or vehicles with gasoline or liquefied petroleum gas (LPG) the engine shall be shut down.
18. All equipment and vehicles shall be equipped with appropriate fire extinguisher. The minimum fire extinguisher size shall be 5 lbs. ABC type fire extinguisher.
19. Haul roads shall be designed, constructed and maintained for safe operation consistent with the type of haulage equipment in use. Standard traffic control signs shall be used where necessary.
20. Equipment that is moved or transported on or from the site must be loaded and secured to prevent movement. All transported equipment should be cleaned of mud, rocks, and debris accumulated from the site.

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21. Equipment, pickups and passenger vehicles not necessary for performing the work should be parked well away from the work area to reduce congestion and incidents of loss.
22. Equipment wheels must be chocked when parking on an incline.
23. Equipment operated at night must have a functioning beacon and lights on during operation.
24. Careless, reckless or otherwise unsafe operation of equipment may result in disciplinary action up to and including discharge.
25. No vehicle shall be driven at a speed greater than is reasonable and proper. Vehicles shall be operated with due regard for weather, traffic, intersections, width and character of the roadway, type of motor vehicle, and any other existing conditions

B. Heavy Haul Operations

1. Vehicles shall not be operated at speeds which will endanger the driver or traffic. Heavy Haul vehicles shall be under positive control during all periods of operation. When descending grades, the vehicles shall be kept in gear.
2. Unstable Loads: Loads on vehicles shall be secured against displacement.
3. Tire Repair: Except for emergency field repairs, a safety tire rack, cage, or equivalent protection shall be used when inflating truck or equipment tires after mounting on a rim, if such tires depend upon a locking ring or similar device to hold them on the rim.
4. Parking Brakes: Whenever the equipment is parked, the parking brake shall be set. Equipment parked on inclines shall have the wheels chocked and the parking brake set or be otherwise prevented from moving by effective mechanical means.
5. Scissor points on all front-end loaders which constitute a hazard to the operator shall be adequately guarded.
6. A loader shall not travel without adequate visibility for the driver and stability of the equipment.
7. No loading device shall be left unattended until the load or bucket is lowered to the ground, unless proper precautions such as blocking are taken to prevent accidental lowering.
8. All high lift trucks (e.g., forklifts), industrial trucks, and rider trucks used on a construction site shall conform with the applicable orders in 29 CFR 1296 Subpart O and shall meet the following requirements:
9. If a load is lifted by two or more trucks working in unison, the proportion of the total load carried by any one truck shall not exceed its capacity.
10. Steering or spinner knobs shall not be attached to the steering wheel unless the steering mechanism is of a type that prevents road reactions from causing the

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steering hand wheel to spin. The steering knob shall be mounted within the periphery of the wheel.

11. Loading buckets, scoops, blades or similar attachments on haulage vehicles shall not be used as work platforms or to elevate or transport employees.
12. All vehicles in use shall be checked at the beginning of each shift to assure that the following parts, equipment, and accessories are in safe operating condition and free of apparent damage that could cause failure while in use:
 - a) Service brakes, including trailer brake connections;
 - b) Parking system (hand brake);
 - c) Emergency stopping system (brake);
 - d) Tires;
 - e) Horn;
 - f) Steering mechanism;
 - g) Coupling devices;
 - h) Seat belts
 - i) Operating controls; and
 - j) Safety devices.
13. All defects affecting safe operation shall be corrected before the vehicle is placed in service. These requirements also apply to equipment such as lights, reflectors, windshield wipers, defrosters, fire extinguishers, and such where such equipment is necessary.

C. Loading/ Unloading

1. Loading equipment- Equipment needs to be centered on trailer to prevent overhang, and to maintain weight balance on the trailer. Use of a spotter is required, DO not attempt to load metal tracked vehicles in the rain or heavy wet snow. Extreme cold temperatures can cause slippery conditions for tracked equipment. (DO not exceed State/Federal regulations for DOT Highway weights and Standards laws) Operate equipment under the Manufactures design weight rating.
2. Load Securement- Use of "BINDERS" is strictly Prohibited, Ratchet binder's w/Chain is preferred for equipment. Other loads may require use of "Straps". ALL chains, binders and straps will be inspected prior to each use and discarded if damaged per Manufactures recommendations. ALL loads will be secured prior to moving the truck. Refer to SOP – Load Securement/equipment for further requirements.
3. Before a driver loads or unloads his/her vehicle, a brief survey of the area is to be made of any hazards to other project personnel, the public, or equipment, and

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remove the hazard before the loading/unloading commences and follow these guidelines:

- a) Observe gross vehicle weight rating.
- b) Check deck, remove all loose materials
- c) Prior to loading and unloading the transport vehicle will be properly positioned, staged, and secured (set brakes, place wheel chock, etc.), before loading and unloading.
- d) Shifting loads should be blocked or lashed;
- e) Do not move truck until all ground personnel are clear of the truck and adjacent area;
- f) Be alert for pinch points
- g) To avoid falls from flatbed trailers, workers should keep away from sides of the trailer;
- h) Use only approved ladders/scaffolds to access the truck bed;
- i) Observe safe materials handling practices;
- j) Make sure that all transport vehicles are on flat, level ground before raising the box to dump the load;
- k) Any piece of equipment longer than 10' being transported on a trailer must be secured with at least 2 tie downs, plus 1 additional tie down for every 1"- 10'.

D. Equipment Control

1. Equipment shall always be under control and shall be kept in gear when descending grades.
2. Yellow Iron (Dozers, side booms, Excavators, Back hoes, Front loaders, Etc.) Will be operated per Manufactures recommendations, Load limits and ratings will be posted clearly in cab and used to conduct pre-lift calculations. NO equipment will exceed 80% of its design rating under NO circumstances.

E. Safety Equipment

1. Safety equipment is required when hauling any over-dimensional load.
2. Safety equipment includes but not limited to warning signs, flags, and lights to ensure that other drivers are aware of, and can see, the edges and ends of the oversize load.
3. Most states require the hauling vehicle to have a yellow and black "WIDE LOAD" or "OVERSIZE LOAD" sign or banner across the front of the towing vehicle and at the back of the vehicle or at the end of the load if it extends beyond the rear of the hauling vehicle.

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4. Warning flags, red or fluorescent orange, 18 in square, must be attached to forward and rear corners of the oversize load. Additional flags must be attached to any extensions or protuberances that extend farther from the sides of the vehicle and the corners.
5. If the load is permitted to move at night, amber or red lights should be placed at about the same positions as the flags, including on the ends of any protuberances. Lights may also be required anytime the load is moving under conditions of reduced visibility such as fog or rain. Otherwise the load should pull off the road at the first suitable place and wait for visibility conditions to improve.
6. Warning lights are required at the extremities of a wide load (similar placement as the flags).
7. Some states also require a rotating or flashing light atop the cab of the hauling vehicle. All warning devices must be clearly visible to other drivers, usually from a proscribed minimum distance such as 250 or 400 feet.
8. All warning banners, flags, and lights are to be removed or turned off when the truck is not hauling the load.
9. There are differences in requirements between states. If the haul is going to enter or transit several states, the operator must be aware of the requirements in each state. In some cases, states will honor the safety equipment of another state--but this should be confirmed at the time of permit application. Usually, the required dimensions for banners and flags are described as a "minimum" size, therefore, when traversing several states, use the largest size required within that group of states.

IV. TRANSPORTING AND PERMITTING OVERSIZE/ OVERWEIGHT

A. Roles and Responsibilities

1. Project Managers, Supervisors and Drivers will comply with all City, County, State and Federal Cargo Securement, Vehicle Sizes and Weight Regulations. (49 CFR Part 393, Subpart 1).
2. Project Managers, Transportation Managers, and Superintendents will be responsible to obtain all necessary permits required by law for transporting equipment.

B. Oversize Loads

1. An oversize load is any load that exceeds the maximum legal width, height, and/or length as defined by each state or province in the United States and Canada.
2. Any load more than 8.5 feet wide is, by definition, an oversize load, and with few exceptions will require a state permit to travel on public highways
3. Typically, the maximum legal load width is 8.5 feet, and the maximum height limit is 13.5 to 14.5 feet. Legal length, both in definition and measured length, varies significantly from state to state highways.

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4. In some cases, on local, narrower roads, the maximum legal trailer width may be just 8 feet. Depending upon the state, once the width of a load exceeds 12 or 14 feet, there are additional requirements and/or restrictions, such as the requirement for pilot or escort vehicles (P/EV) and limited permitted travel times and routes.
5. Any load that exceeds 16 feet in width becomes a "super load" and subject to more requirements to ensure that the load can be moved safely.
6. Some super loads may require temporary road closures and attendance of state police or other law enforcement.
7. Wide loads may also be overweight loads, but the issue of vehicle weights is not included in this discussion.
8. When preparing to move any over-width load, it's important to know the exact dimensions of the shipment to determine if a permit is required and support services required.

C. State Regulations and Over Width Permits

1. Maximum legal dimensions of loads vary from state to states, but any vehicle and load that exceeds one or more legal dimension usually requires a permit defining the size, weight, and nature of the load and the origin and destination of the haul.
2. Permits may be issued for one-time hauls, multiple similar hauls (e. g, similar prefabricated assemblies for a construction project) or annual permits for the movement of similar hauls such as manufactured housing or other regularly produced, oversize commodities.
3. The permit defines the conditions of the movement of the wide load, the route of travel, the safety equipment required, including whether escort vehicles will be required, any directed or restricted times of moving the load, and the fee for the permit. Based on the request for the permit, it will be issued for a limited period such as a specific date, or during a specified period of days. Most long-term permits must be renewed at least annually.
4. Each state designates a department to oversee issuance of permits and collect fees. In some states, this is an office within the Department of Transportation, while in other states it may a branch of the Department of Revenue, and there may be one central office or there may be multiple locations that process permit applications.
5. Always keep in mind, regardless of the permit, operators and drivers must comply with any safety equipment, escort requirements, and driver's time in the seat limits.

D. Escort Vehicles

1. Most states do not require escort vehicles for loads that are no more than 10 feet wide, while a few states require escort vehicles for all oversize loads. Depending on the type and size of the load, only one, or two escort vehicles will be required. For example, on highways that are not divided highways, an escort vehicle may be

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required in front of the load, whereas on a divided highway such as an Interstate, the escort may only be required behind the load. Additionally, in some states, all oversize loads moved during the night may require escort vehicles.

2. For loads more than 10 feet wide, up to an absolute limit, usually about 14 feet wide, escort vehicles may be required both in front of, and behind the load.
3. It is not uncommon for a truck and load moving through a state where escort vehicles are not required, to be met by escort vehicles as they transition into a state requiring escort vehicles.
4. Extra wide loads: In some cases, larger wide loads, as defined by each state, may also require law enforcement escorts, including state police, sheriff's officers, or other qualified security personnel. Police and sheriff personnel's time is usually paid for by the hauling company/operator.

E. Running Times

1. Permitted travel times vary widely between states, and in cities and communities within a state. Many states restrict movements of oversized loads to daylight hours. These restrictions may only apply to state highways and not Interstates. These restrictions may also vary according to the size of the oversize load: for example, loads greater than 10 feet wide may be restricted to daylight hours, while oversize loads no more 10 ft. wide may move at night on Interstates and four-lane divided highways. In some cases, wide loads may be required to move at night during periods of least traffic. When moving loads through several states, operators must review the requirements the permit(s) for each state to fully understand and comply with each set of regulations. Penalties for not adhering to the conditions of the permit, or for not having the required permit can result in significant fines.
2. Many states also limit movement of oversize loads on weekends and/or legal holidays, including individual state holidays. During holiday periods, travel must stop at a designated time, e.g., noon, on the day before the holiday and not resume until the day after the holiday. The objective is to not have oversize loads traveling during periods of anticipated increased holiday traffic.

V. HAULING MATERIAL

A. Procedure

1. Every vehicle with a haulage capacity of 2 ½ cubic yards or more used to haul dirt, rock, concrete, or other construction material shall be equipped with a warning device that operates automatically while the vehicle is backing. The warning sound shall be of such magnitude that it will normally be audible from a distance of 200 feet and will sound immediately on backing. In congested areas or areas with high ambient noise which obscures the audible alarm, a signaler, in clear view of the operator, shall direct the backing operation.

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2. Those vehicles not subject to the above circumstances and operating in areas where their backward movement would constitute a hazard to employees working in the area on foot, and where the operator's vision is obstructed to the rear of the vehicle shall be equipped with an effective device or method to safeguard employees such as:

- a) An automatic back-up audible alarm which would sound immediately on backing, or
- b) An automatic braking device at the rear of the vehicle that will apply the service brake immediately on contact with any obstruction to the rear, or In lieu of the above,

3. Administrative controls shall be established such as:

- a) A spotter or flagger in clear view of the operator who shall direct the backing operation, or
- b) Other procedures which will require the operator to dismount and circle the vehicle immediately prior to starting a back-up operation, or
- c) Prohibiting all foot traffic in the work area
- d) Other means shall be provided that will furnish safety equivalent to the foregoing for personnel working in the area.
- e) All vehicles shall be equipped with a manually operated warning device which can be clearly heard from a distance of 200 feet.
- f) The operator of all vehicles shall not leave the controls of the vehicle while it is moving under its own engine power.
- g) Hauling or earth moving operations shall be controlled in such a manner as to ensure that equipment or vehicle operators know of the presence of Swampers, spotters, office personnel, surveyors, or other workers on foot in the areas of their operations.

4. Private Roads and Off Highway Conditions

- a) On single-lane private roads with two-way traffic shall be provided with turnouts. Where turnouts are not practicable, a control system shall be provided to prevent vehicles from meeting on such single-lane roads.
- b) On private roads used for two-way traffic, arrangements shall be such that vehicles travel on the right side as much as possible. Signs shall be posted to clearly indicate variations from this system. Where practicable, separate haulage roads shall be provided between loaded and empty units. Haulage roads shall be wide enough to allow for safe passage. Safe distances between moving units shall be maintained.

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- c) Private roads shall be maintained free from holes and ruts that affect the safe control of the vehicle. Emergency access ramps and berms used by an employer shall be constructed to restrain and control runaway vehicles.
- d) Where a hazard exists to employees because of traffic or haulage conditions, a system of traffic controls shall be required so as to abate the hazard.
- e) Employees, such as grade-checkers, surveyors and others exposed to vehicular traffic, shall wear flagging garments, or equivalent, as required for flaggers.

5. Dust Control

- a) In specific dusty operations, equipment operators shall use adequate respiratory protection in accordance with SM 12 Respiratory Protection Program.
- b) Action shall be taken to prevent dust from seriously reducing visibility. The following methods shall be used to mitigate or significantly reduce the dust and the visibility hazards in the work area
 - (i) Have a water source (water truck) to moisten the ground at regular intervals;
 - (ii) During simultaneous operations, designate work zones and use proper barricading systems and a traffic control plan
 - (iii) All Workers on Foot (WOF) shall wear an ANSI-approved Class II HI VIS reflective vest;

6. Exhaust

- a) Arrangements shall be made to direct exhaust gases away from the operator's breathing zone.
- b) Exhaust Gases: Vehicle engines shall not be allowed to run in closed garages or other enclosed places, unless vents are provided which effectively remove the exhaust gases from the building.
- c) In addition, ventilation methods need to be considered if operating a vehicle in enclosed areas for maintenance purposes as a mitigation method to carbon monoxide build-up. In these situations, adequate ventilation is required, and vehicles and equipment are only to be operated in properly ventilated areas unless for the purpose stated above.

7. Fueling

- a) No internal combustion engine fuel tank shall be refilled with a flammable liquid while the engine is running. Fueling shall be done in such a manner that the likelihood of spillage is minimal.

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- b) If a spill occurs it shall be washed away completely, evaporated, or equivalent action taken to control vapors before restarting the engine. Fuel tank caps shall be replaced before starting the engine.
- c) A good metal-to-metal contact shall be kept between fuel supply tank or nozzle of supply hose and the fuel tank.
- d) No open lights, welding, or sparking equipment shall be used near internal combustion equipment being fueled or near storage tanks.
- e) No smoking shall be permitted at or near the gasoline storage area or on equipment being fueled. Post a conspicuous sign in each fuel storage and fueling area stating: "NO SMOKING WITHIN 25 FEET."
- f) Class I liquids shall not be dispensed by pressure from drums, barrels, and similar containers. Approved pumps taking suction through the top of the container or approved self-closing faucets shall be used.
- g) No repairs shall be made to equipment while it is being fueled.
- h) Each fuel storage tank or drum shall have the word "Flammable" conspicuously marked thereon and should also have a similarly sized word indicating the contents of the container.
- i) A dry chemical or carbon dioxide fire extinguisher rated 6: ABC or larger shall be in a location accessible to the fueling area.

VI. OVERHEAD POWWERLINES

A. Procedure

1. Any vehicle or mechanical equipment capable of having parts of its structure elevated near overhead power lines shall be operated so that a minimum clearance distance of 20 feet is maintained. When it is difficult for the equipment operator to maintain the safe clearance distance, a person shall be designated to observe the clearance and warn the operator.
2. Safe clearance distance may be reduced under the following conditions
 - a) Overhead power lines that have been de-energized and grounded by the utility or owners of the lines do not require safe clearance distances unless dictated by the utility or owner. All power lines shall be considered to be energized until utility representatives or owners of the lines state that they are de-energized and grounded.
 - b) If insulating barriers are installed to prevent contact with lines, and if the barriers are rated for the voltage of the line being guarded, the safe clearance distance may be reduced to a distance within the designed working dimensions of the insulating barrier. This still does NOT allow contact with lines to be made with any part of the machinery.

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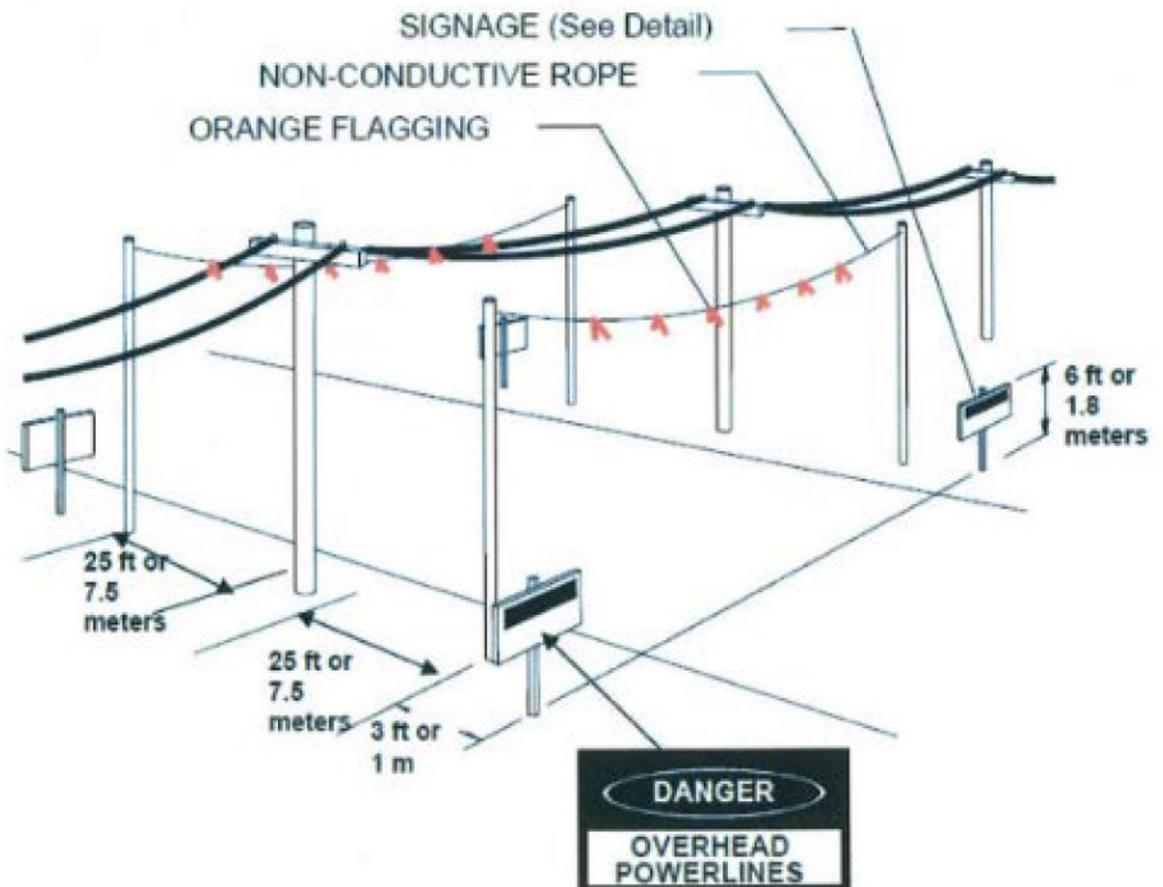
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- c) If the vehicle is in transit with its structure lowered, the clearance may be reduced to 20 Feet from any energized lines. When determining safe clearances during movement, the sag of the overhead lines and the effect of wind forces must be considered. (NOT RECOMMENDED IF THESE DISTANCES ARE REQUIRED CONTACT HSE REPRESENTATIVE PRIOR TO MOVEMENT)
- d) USE OF GOALPOST will be used at all power line crossings the height of the goal post will be set to 20ft or greater below the power lines this will give the operators and spotters another visual marker to ensure that we are in compliance with the minimum distance from the power lines. SEE IMAGE



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3. Employees standing on the ground shall not contact any vehicle or mechanical equipment or any attachments unless one of the following conditions exists:
 - a) The equipment is located such that no part of its structure can come closer to the line than the safe clearance distances permitted above.
 - b) The employee is using protective equipment rated for the voltage of the power line.
4. If any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines is intentionally grounded, employees working on the ground near the point of grounding shall not stand at the grounding location or within 20 feet (6 m) of the equipment where there is a possibility of overhead line contact. Additional precautions, such as the use of barricades or insulation, shall be taken to protect employees from the hazardous ground potentials that can develop from the grounding point.
5. If any vehicle or mechanical equipment becomes electrically energized, personnel shall not touch any part of the equipment or attempt to touch any person who may be in contact with the electrical current. The utility company or appropriate party shall be contacted to have the line de-energized prior to approaching the equipment.

B. INSPECTION, MAINTANENCE, REPAIRS

1. Inspection Requirements

- a) The operator must do a documented inspection of the equipment before the start of operation on the shift and thereafter as required to ensure the safe operating condition of the equipment.
- b) If the operator discovers a deficiency that would result in a condition that could endanger personnel or property, the operator will immediately tag the equipment "out-of-service" and report it to their supervisor. Any repair or adjustment necessary for the safe operation of the equipment must be made before the equipment is used.
- c) Each piece of equipment must be equipped with the Operator's Manual and a Mobile Equipment Pre-Operation Book (Attachment A).
- d) The operator must maintain the cab, floor and deck of mobile equipment free of material, tools or other objects, which could create a tripping hazard, interfere with the operation of controls, or are a hazard to the operator or other occupants in the event of an accident.
- e) Any commercial motor vehicle with a gross weight of more than 10,000 pounds must have a Driver's Vehicle Inspection Report (DVIR) completed prior to its use. A DVIR book shall be provided by H2 ENTERPRISES and kept with that vehicle during its use on H2 ENTERPRISES projects.

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- f) Copies of daily inspections must be turned in to the project office at the end of each week.

2. Maintenance Requirements

- a) The maintenance requirements for haulage vehicles and equipment are listed below:
- b) Windshields: Windshields complying with the applicable provisions of the state vehicle code shall be provided and maintained on haulage vehicles and scrapers.
- c) Equipment and Accessories: Equipment and accessories installed on haulage vehicles shall be arranged so as to avoid impairing the driver's operational vision to the front or sides.
- d) Brakes: Service brake systems for self-propelled, rubber-tired, off-highway equipment manufactured before January 1, 1972 (for scrapers January 1, 1971) shall meet minimum performance criteria for service brake systems as set forth in the Society of Automotive Engineers Recommended Practices listed below. Service, emergency and parking brake systems for self-propelled, rubber-tired, off-highway equipment manufactured after January 1, 1972 (for scrapers January 1, 1971) shall meet the applicable minimum performance criteria for each system as set forth in the same Society of Automotive Engineers Recommended Practices
- e) Air Tank Service: Liquids should be drained automatically from vehicle's compressed air tanks, but if such automatic equipment is not provided, the tanks shall be drained manually at least once each operating shift.
- f) Hydraulics: Visual inspection of hydraulic cylinders and seals for any leaks, check hydraulic reservoir for adequate levels (See Operators manual for specific equipment)
- g) Mechanical Joints: Visual inspect pins at the joints of booms and buckets, look for any cracks or stressed areas. These areas should be greased during inspection. (See manufactures recommendations)
- h) Cab Shield: Haulage vehicles, whose pay load is loaded by means of cranes, power shovels, loaders, or similar equipment, shall have a cab shield and/or canopy adequate to protect the operator from shifting or falling materials.
- i) Fenders complying with the following standards from SAE Recommended Practice J321, November 1967 or J321b April, 1978, shall be provided on new scrapers, carryalls, related power units, and trailed hauling units manufactured and placed into service after January 1, 1971.
- j) Lights: Whenever visibility conditions warrant additional light, all vehicles, or combinations of vehicles, in use shall be equipped with at least two headlights and two taillights in operable condition.

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- k) Canopy: Crawler tractors, bulldozers, carryalls and similar equipment manufactured and used prior to April 1, 1971, except for scrapers, front-end loaders and new equipment covered by 1596, shall have canopy protection and seat belts for the operator when used where there is exposure to falling or rolling objects.
- l) Operating Levers: Operating levers controlling hoisting or dumping devices on haulage bodies shall be equipped with a latch or other device which will prevent accidental starting or tripping of the mechanism.
- m) Trip Handles: Trip handles for tailgates of dump trucks shall be so arranged that in dumping, the operator will not be exposed either to the hazard of being struck by falling material or any part of the truck.
- n) Dump Bodies: Haulage vehicles equipped with dump bodies that tilt to release their load by gravity through an opening at the rear or side shall be provided with a device that gives the operator a clearly audible or visible warning when sufficient force is applied by the elevating mechanism to cause or sustain dump body elevation.
- o) Hazard Signals: Tractor-scrapers (self-propelled) pushed by other equipment during loading operations shall be provided with a clearly audible or visible warning device that can be activated by the operator of the tractor-scraper to communicate an "ALL STOP" warning to the pushing equipment in event of an emergency.
- p) Repair of Haulage Vehicles, Tractors, Bulldozers and Similar Equipment
 - (i) No repairs shall be attempted on power equipment until arrangements are made to eliminate possibility of injury, caused by sudden movements or operation of the equipment or its parts. When the equipment being repaired is a bulldozer, carryall, ripper, or other machine having sharp or heavy moving parts such as blades, beds, or gates, such parts shall be lowered to the ground or securely and positively blocked in an inoperative position.
 - (ii) All controls shall be in a neutral position, with the engine(s) stopped and brakes set, unless work being performed requires otherwise.
 - (iii) Trucks with dump bodies shall be equipped with positive means of support, permanently attached, and capable of being locked in position to prevent accidental lowering of the body while maintenance or inspection work is being done

VII. COMMUNICATION AND PLANNING

A. Procedure

1. Radio communication shall be provided in low-visibility environments;

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2. Communications between operators, ground personnel, truck drivers and others is a significant element governing safe equipment operation H2 ENTERPRISES recommends utilizing two-way radio equipment.
3. It is critical that all ground personnel make and maintain eye contact with the equipment operator and ensure that the equipment operator acknowledges the intentions of ground personnel or other equipment operators when they come in close proximity with the equipment.
4. Where verbal or hand signals are used; only one person at a time should be giving signals. If the equipment operator cannot hear or understand the signal or verbal direction, the operator is to stop the equipment immediately until the proper course of action can be determined.
5. Equipment operations and haul routes should be considered in the Job Safety Analysis (JSA). Things to consider in this plan include:
 - a) Is an Internal Traffic Control Plan warranted?
 - b) Employee parking
 - c) Overhead and underground utilities
 - d) Do any work operations interfere with each other?
 - e) Locations of haul routes
 - f) Access in and out of the site
 - g) Equipment parking and storage areas
 - h) The grade and width of the haul roads
 - i) Operator training

VIII. TRAINING AND DOCUMENTATION

- A. All employees will be trained on an ongoing basis, annual training reviews are required.
- B. All training will be documented and maintained in the employee's safety / training skills file.
- C. All inspection and maintenance records will be maintained by management for the serviceable life of the equipment.

