Machinery and Mechanized Equipment

- For the purposes of the Section, machinery and mechanized equipment is defined as mobile, stationary, self-propelled or towed equipment intended for use on construction sites or industrial sites. Click the PDF to learn more about Machinery and Mechanized Equipment.

- This equipment is NOT intended for operation on public highways.

- Equipment such as dump trucks, cargo trucks, and other vehicles that may also travel on public roadways must also meet the requirements of Section 18.E.

- Before any machinery or mechanized equipment is placed in use, it shall be inspected and tested in accordance with the manufacturer's recommendations and requirements of this manual.

  a. Inspections will be documented on either a manufacturer-, government-supplied or contractor-generated checklist. The Competent Person (CP) is required to sign the checklist designating that it meets the manufacturer's recommendations and requirements of this manual.

  b. All checklists will be submitted to the GDA upon completion of the inspection and will become a part of the project file.

  c. All safety deficiencies noted during the inspection shall be corrected prior to the equipment being placed in service at the project.

  d. Re-inspection. Subsequent re-inspections will be conducted at least annually thereafter. Any time the machinery or mechanized equipment is removed and subsequently returned to the project (other than equipment removed for routine off-site operations as part of the project), it shall be re-inspected and recertified prior to use.

  e. The Contractor shall provide the GDA ample notice in advance of any equipment entering the site so that the Contractor's inspection process may be observed and so that spot checks may be conducted.

- No modifications or additions that affect the capacity or safe operation of machinery or equipment shall be made without the manufacturer's written approval.
a. If such modifications or changes are made, the capacity, operation, and maintenance instruction plates, tags, or decals shall be changed accordingly.

b. In no case shall the original safety factor of the equipment be reduced.

* Whenever any machinery or equipment is found to be unsafe, or whenever a deficiency that affects the safe operation is observed, the equipment shall be immediately taken out of service and its use prohibited until unsafe conditions have been corrected.

  a. A tag indicating that the equipment shall not be operated, and that the tag shall not be removed, shall be placed in a conspicuous location on the equipment. Where required, lockout procedures shall be used.

  b. The tag shall remain in its attached location until it is demonstrated to the individual dead-lining the equipment that it is safe to operate.

  c. When corrections are complete, the machinery or equipment shall be retested and re-inspected before being returned to service.

* Machinery and mechanized equipment shall be operated only by designated, qualified personnel.

  a. Machinery or equipment shall not be operated in a manner that will endanger persons or property nor shall the safe operating speeds or loads be exceeded.

  b. Getting off or on any equipment while it is in motion is prohibited.

  c. Machinery and equipment shall be operated in accordance with the manufacturer's instructions and recommendations.

  d. The use of headphones for entertainment purposes (e.g., radio, CD, music, books, etc.,) while operating equipment is prohibited except for communication directly related to operating the machinery or equipment.

  e. The use of cell phones or any other electronic device that may cause distraction is prohibited while operating equipment.

  f. All operator training and evaluation shall be conducted by persons who have the knowledge, training, and experience to train the equipment operators and evaluate their competence
1) These examiners may not license themselves, but instead, must be licensed by another qualified examiner.

2) All qualification/licensing of equipment operators by examiners must include, at a minimum, requirements of this Section, the manufacturer's instructions and recommendations as well as observation of a practical operating examination on the equipment.

- When the manufacturer's instructions or recommendations are more stringent than the requirements of this manual, the manufacturer's instructions or recommendations shall apply.
- Inspections or determinations of road and shoulder conditions and structures shall be made in advance to assure that clearances and load capacities are safe for the passage or placing of any machinery or equipment.
- Equipment requirements.
  a. An operable fuel gage;
  b. An operable audible warning device (horn);
  c. Adequate rearview mirror or mirrors;
  d. Non-slip surfaces on steps;
  e. A power-operated starting device;
  f. Seats or equal protection must be provided for each person required to ride on equipment (unless standing is permitted by the equipment manufacturer);
  g. 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;
  h. All equipment with windshields shall be equipped with powered wipers. Vehicles that operate under conditions that cause fogging or frosting of windshields shall be equipped with operable defogging or defrosting devices. Glass in windshields, windows, and doors shall be safety glass. Cracked or broken glass shall be replaced;
  i. Mobile equipment, operating within an off-highway job site not open to public traffic, shall have a service brake system and a parking brake system
capable of stopping and holding the equipment while fully loaded on the grade of operation.

j. It is recommended that heavy-duty hauling equipment have an emergency brake system that will automatically stop the equipment upon failure of the service brake system. This emergency brake system should be manually operable from the driver's position.

- Mechanized equipment shall be shut down before and during fueling operations. Closed systems, with an automatic shut-off that will prevent spillage if connections are broken, may be used to fuel diesel powered equipment left running.
- Bulldozer and scraper blades, end-loader buckets, dump bodies, and similar equipment shall be either fully lowered or blocked when being repaired or when not in use. All controls shall be in a neutral position, with the engines stopped and brakes set, unless work being performed on the machine requires otherwise.
- Stationary machinery and equipment shall be placed on a firm foundation and secured before being operated.
- All mobile equipment and the areas in which they are operated shall be adequately illuminated while work is in progress.
- Equipment powered by an internal combustion engine will not be operated in or near an enclosed area unless adequate ventilation is provided to ensure the equipment does not generate a hazardous atmosphere.
- All vehicles that will be parked or are moving slower than normal traffic on haul roads shall have a yellow flashing light or four-way flashers visible from all directions.
- No one shall be permitted in the truck cab during loading operations except the driver, and then only if the truck has a cab protector.
- All machinery or equipment operating on rails, tracks, or trolleys (except railroad equipment) shall be provided with substantial track scrapers or track clearers (effective in both directions) on each wheel or set of wheels.
- Steering or spinner knobs shall not be attached to the steering wheel unless the steering mechanism prevents road reactions from causing the steering handwheel to spin.
• When permitted, the steering knob shall be mounted within the periphery of the wheel.
• Safeguards (i.e., bumpers, railings, tracks, etc.,) shall be provided to prevent machinery and equipment operating on a floating plant from going into the water.
• The controls of loaders, excavators, or similar equipment with folding booms or lift arms shall not be operated from a ground position unless so designed.
• Personnel shall not work in, pass under, or ride in the buckets or booms of loaders in operation.
• Tire service vehicles shall be operated so that the operator will be clear of tires and rims when hoisting operations are being performed. Tires large enough to require hoisting equipment will be secured from movement by continued support of the hoisting equipment unless bolted to the vehicle hub or otherwise restrained.
• Each bulldozer, scraper, dragline, crane, motor grader, front-end loader, mechanical shovel, backhoe, and other similar equipment shall be equipped with at least one dry chemical or CO2 fire extinguisher with a minimum rating of 10-B:C.
• Fill hatches on water haul vehicles shall be secured or the opening reduced to a maximum of 8 in (20.3 cm).