



HEALTH, SAFETY &  
ENVIRONMENTAL MANUAL

## 13.6 Operators, Vehicles, and Equipment

Revision Number: **R0**

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### OPERATORS, VEHICLES, AND EQUIPMENT

#### Purpose

To give all employees instructions for the care and use of their vehicles and equipment.

#### Scope

##### Equipment – General

All workers must be competent for the type of equipment or vehicle they will be operating. All vehicles, machinery, tools, and equipment shall be maintained in a condition that does not endanger a worker.

##### Equipment Pre-Start:

- All vehicles, machinery, tools, and equipment must be used in accordance with the manufacturer's operating manuals.
- A daily circle check inspection shall be performed on all mobile equipment and commercial vehicles prior to start-up by the operator. A company inspection record has been developed for this purpose. Document the inspection and submit on HCSS. Brake tests are included in the inspection for mobile equipment.

##### Equipment Brake Testing Procedures



All operators shall follow the manufacturer brake testing procedures for the type of equipment they are operating AND follow the procedures described in the Mining Regulations.

1. Test the brakes according to the manufacturer procedures. A copy of the procedure is provided in the operator's manual. Typically, the procedure is also copied, laminated, and placed in the cab of the machine.
2. Test the brakes in accordance with this Mining Regulation:  
**105.** (1) When in use, a motor vehicle, other than a motor vehicle running on rails, shall,
  - (a) be in safe working condition;
  - (b) have brakes which will stop and hold the vehicle under full load conditions on all operating grades, slopes and ramps;

The Regulation above requires the operator to ensure that the machine can be stopped and held stationary by all braking systems with its maximum load on the maximum grade, slope, or ramp in its area of operation.

- (7) A procedure for the testing, maintenance and inspection of each motor vehicle shall be adopted and the procedure shall,
  - a) schedule the testing of brakes, steering, lighting and other safety components prior to initial use of the motor vehicle for the shift;
  - b) provide a record of the testing, maintenance, inspection, and testing that has been carried out; and
  - c) provide for the testing, maintenance, and inspections to be performed by competent persons.

The Regulation above requires the operator to perform brake tests, among other items, prior to the initial use of the machine for the shift and to record the results on the pre-operational inspection records provided by J-AAR. Follow all the instructions in the inspection.

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### Equipment Pre-Start:

- Pull cords and emergency stops are to be tested and logged for processing equipment.
- Cables, chains, straps, hooks, and other hoisting devices shall be inspected before use for damage like cracks in welds; links or cords cut or kinked; and abrasions/scarring of materials that could weaken their strength and cause them to break.
- Regularly inspect catwalks and ladders for cracks or loose bolts so they don't fall or break when climbing or standing on.
- No worker shall operate a vehicle or machine unless they are competent to do so. Specialty module training must be completed within legislated timeframes.
- Passengers are not allowed in or on a vehicle/machine unless a seat and seat belt is provided, unless it is for training purposes.

### Utility Locate Procedures

#### **New Pit Locations:**

All new locations must have utility locates completed before any excavation can begin:



1. J-AAR management will arrange utility locate requests through Ontario One-Call and any other utility owner that is required.
2. The locates will be available onsite to the supervisor and all operators.
3. The following locate items will be adhered to:
  - All services and utilities must be accurately located and marked.
  - The locates must not be expired.
  - The locates must clearly indicate the area of excavation.
  - If paint marks or flags that mark the utility boundary are missing, call for re-locates. Do not guess where the utility is located.
  - If the service may pose a hazard, it must be shut off and disconnected. If it cannot be shut off or disconnected, the service owner shall be requested to supervise the uncovering of the service during excavation.
  - Pipes, conduits and cables for gas, electrical and other services in an excavation shall be supported to prevent their failure or breakage.

If there is any doubt as to the location of the utility, locates that are not clear, exposed utilities not shown on the locates, or any other issue, STOP work and call the utility company for help.

#### **Existing Pit Locations / Client Locations:**

Typically, all utility services are located prior to pit operations commencing. If utilities are located within the licensed pit boundaries, they will be clearly marked and/or fenced off to restrict access.

If an area that is not within the license boundary needs to be excavated, follow the procedure for a new pit location.

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If excavating at a client location, please check with the Client prior to any excavation to determine if utilities are present or if locates are required.

### Overhead Powerlines

This section is intended to ensure that every reasonable precaution shall be taken to prevent hazards to workers due to energized electrical equipment.

An electrical hazard can be defined as:

- a dangerous condition where a worker could make electrical contact with energized equipment or a conductor, and from which the person may sustain an injury from shock and/or;
- there is potential for the worker to receive an arc flash burn, thermal burn, or blast injury.



Electric shock is the passing of electric current through the body. An arc flash is a release of energy caused by an electric arc. The flash causes an explosive expansion of air and metal.

### Mining Regulations

#### Sec. 159

- (1) Electrical work shall not be performed on energized equipment except where,
- (a) de-energizing the equipment,
    - (i) would increase or introduce additional hazards, or
    - (ii) is not feasible due to equipment design or operational limitations;
  - (b) equipment and personal protective devices and clothing that are appropriate to the work are provided and used;
  - (c) the employer has established written measures and procedures for energized work to protect the health and safety of workers;
  - (d) no hazard from explosive or flammable materials exists; and
  - (e) all necessary precautions to work safely are taken.
- (2) Except as provided for in subsection (1), no object shall be brought closer than the distance specified in Column 2 of the following Table to an exposed, energized overhead electric supply line of the voltage specified in Column 1:

Column 1 Voltage of Powerline	Column 2 Minimum Distance
300 to 150,000 volts	3 Metres
150,000 to 250,000 volts	4.5 Metres
Over 250,000 volts	6 Metres

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- (5) Machines that have movable or extendable booms must not be operated in close proximity to energized electrical supply lines unless,
- (a) they are operated in accordance with subsection (1); or
  - (b) the operator of the machine has been authorized to perform such work and,
    - (i) there is a clearance between any part of the machine and the energized line that is more than the greater of,
      - (A) one-half the maximum horizontal reach of the boom, or
      - (B) the distance determined under subsection (2),
    - (ii) the lines are disconnected and grounded,
    - (iii) the machine is a railroad crane operating on railroad tracks and the supply line is energized to less than 750 volts direct current, or
    - (iv) the supply lines are guarded against contact by any part of the machine or its load.
- (6) Subsections (2) to (5) apply only with respect to electrical lines installed on the surface and electrical equipment used on the surface.

### PROCEDURES

If a piece of equipment or vehicle may have the potential of encroaching the minimum allowable distance to an overhead powerline as stated in the Table, the following procedures are required:

- Arrange for a competent signaler to assist the operator/driver;
- Notify the operator/driver of the electrical hazard before work starts and
- Provide enough warning devices / signs in the vicinity of the hazard so at least one is always visible to warn the operator/driver.

Ensure that affected workers and operators are familiar with these procedures and will not proceed with the work until they are fully implemented.

When working at construction projects, similar procedures are required, however always check with the project supervisor before working in vicinity of overhead powerlines for the project specific procedures.

#### **Equipment Operation:**

- Three-point climbing procedures must be used when climbing into the cab of a machine or vehicle.
- Operators must always turn on all beacons and lights when travelling on public roadways, regardless of time of day, to ensure maximum visibility.
- All dump trucks must have an operating reverse alarm.
- All mobile equipment must have an operating reverse alarm. Before backing up (reversing) your equipment, check your blind spots. If blind spots can't be seen while seated, then either physically get out of the cab to check your path or use someone to guide you.
- Excavators must not reverse unless they swing to travel forward or use a signaler to reverse.
- All exposed moving parts must be guarded to prevent injury.
- All buckets, blades, forks, or other devices shall be lowered to the ground when unattended by the operator, unless proper blocking or jacking is used (i.e., maintenance).



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- No worker shall operate a backhoe or similar excavating machine in such a way that it or part of its load passes over a worker.
- Always be aware of overhead hazards, such as power lines. Equipment must maintain minimum distances from power lines. Please notify supervisor if working near a power line. Special procedures may apply.
- A functional parking brake must always be applied when a wheeled machine is unattended. If there is no parking brake or it is inoperable, then other means must be taken to prevent the vehicle/machine from rolling away.
- When operating a tractor backhoe, always ensure the parking brake is applied and the transmission is in neutral before swinging the seat around to operate the rear attachments.
- Operators shall not use personal devices or cell phones while operating equipment. The 2-way / CB radios must only be used when it is safe to do so. Do not use the radios when reversing the machine. Do not use radios when working in areas that require your full attention (i.e. near ground workers, etc.).
- If a dump truck or other vehicle gets stuck and needs help, never push the vehicle from the rear, always pull out the vehicle from the front with a strap or chain. Always get permission from the driver first.

#### Equipment Parked – Shutdown

- Machines must be locked and secured with the master key turned off or removed at the end of the shift, nights or when the machine is parked and unattended. This is to prevent unauthorized individuals from operating/starting the equipment.
- Store attachments, tools, buckets, forks, etc. in safe and secure areas when finished with them, even if just for a few minutes. Make sure they are not able to tip over, fall or move suddenly (i.e. wedge loader forks into a stockpile).
- Unsafe or hazardous vehicles/machines/tools must be locked and tagged out and the supervisor must be notified immediately.

#### Lifting Stackers

Incidents have occurred when chains used to lift stackers have unexpectedly failed and the stacker crashed to the ground.

Please follow these procedures when lifting stackers and conveyors:

- Use the correct chain.
- Use chain designed for lifting only.
- If unsure of which chain to use, ask someone who knows.
- Do not use the stacker lifting chain for other tasks (i.e., pulling out trucks)
- When lifting the stacker, lift straight up and do not allow the chain to contact or rest on the cutting edge.
- Inspect your chain before use for cracks, damage or stretched links. Get replacement as required.
- **DO NOT** go or work under a stacker while it is being lifted or maneuvered with the bucket and/or chains. To clean around the kingpin, use a long-handled scraper. Inspect from a safe distance beside the stacker, not under it.