

# Oregon OSHA Proposed Changes to Compactors and Balers in General Industry and Agriculture

Text proposed to be removed is in [~~brackets with line through~~].

Text proposed to be added is in **bold and underlined**.

## General Industry – Division 2/O

~~437-002- 0256 [Oregon Rules for Refuse Collection and Compaction Equipment.~~

~~(1) Definitions as used in OAR 437-002-0256(2), the following terms shall have the meaning prescribed herein unless the context clearly requires otherwise:~~

~~(a) Access covers — A cover preventing access to the interior of the compactor except for service or maintenance.~~

~~(b) Automatic cycling control — A device that initiates the operation of the compactor on demand when solid waste is loaded and continued to cycle until signaled to stop.~~

~~(c) Charging chamber — The loading area of a compactor that holds the solid waste prior to compaction.~~

~~(d) Charging hopper — An enclosure mounted to the compactor charging chamber that directs the flow of solid waste into the charging chamber.~~

~~(e) Chute — The structural enclosure connected either to the charging hopper or the charging chamber (when there is no charging hopper) which guides solid waste into the charging chamber.~~

~~(f) Collection vehicle — An engine-powered cab and chassis upon which mobile equipment is mounted or towed for the receiving, transporting, and unloading of solid waste, or for the receiving, transporting, and unloading of containers.~~

~~(g) Compaction equipment (compactor) — A stationary or self-contained powered machine which remains stationary when in operation with operating controls designed to compact solid waste.~~

~~(A) Stationary — A self-contained stationary compactor/container designed to compact refuse.~~

~~(B) Self-contained — A compacting machine which remains stationary during operation, and is designed to compact refuse into an integral container. The entire unit may be moved for placement and unloading refuse.~~

~~(h) Compactor container locking mechanism — The system that couples or secures the containers to the compactor frame.~~

~~(i) Compactor frame — The structural assembly of a compactor to which the charging chamber and ram components are secured.~~

- (j) Container—A receptacle that receives and holds solid waste.
- (k) Container lifting/dumping mechanism—Devices used for the purpose of unloading solid waste containers.
- (l) Control panel—The panel that contains the controls for operating the compactor. It can be mounted on the compactor frame or located remotely at the control station or both.
- (m) Cycles:
- (A) Automatic cycle—Operation of the compactor in a preprogrammed manner without constant operator control.
- (B) Interrupter cycle—Stopping the operation of a compactor before the completion of the specified cycle.
- (C) Manual cycle—Operation of the mechanism under direct hands-on control of the operator.
- (D) Multiple cycle—Operation of the compactor to perform more than one single cycle operation.
- (E) Single cycle—Operation of compactor to perform one complete cycle.
- (n) Dock ramp—The platform providing access for loading the charging chamber or charging hopper.
- (o) Employee—Any individual, including a minor, whether lawfully or unlawfully employed, who engages to furnish his services for a remuneration, financial, or otherwise, subject to the director and control of an employer, and includes salaried, elected, and appointed officials of the state, state agencies, counties, cities, school districts, and other public corporations, and any individual who is provided with workers' compensation coverage as a subject worker pursuant to ORS Chapter 656, whether by operation of law or by election.
- (p) Employer—Any person who has one or more employees, or any sole proprietor or member of a partnership who elects workers' compensation coverage as a subject worker pursuant to ORS 656.128.
- (q) Guard—A barrier which may include gates and/or door(s) designed to protect the employee(s) from hazards.
- (r) Interlock—An electrical, mechanical, or key-locked device that prevents an undesired sequence of operations.
- (s) Loading door—A door that permits the loading of solid waste into a chute, charging hopper, charging chamber, or all of the above.
- (t) Maintenance personnel—Employees who care for, inspect, clean, and/or maintain compaction equipment.
- (u) Modification—Any change of the original equipment which alters the equipment and/or components so that the compactor functions differently from the original design, specifications, and/or use.
- (v) Operator—An employee who operates the equipment in normal use (other than in the course of servicing or repair).
- (w) Pinch point—Any point where it is possible to be caught between moving parts, or between moving and stationary parts, of a piece of equipment.
- (x) Point-of-Operation—Point-of-operation is the area of the compactor where compaction occurs.
- (y) Ram—The powered component of a compactor that moves the solid waste.
- (z) Safety gate—A movable guard.
- (aa) Solid waste—All putrescible and non-putrescible wastes, including but not limited to garbage, rubbish, refuse, ashes, and waste paper. The term does not include:
- (A) Hazardous wastes as defined in ORS 459.410. Hazardous wastes do not include radio-active material or the radioactively contaminated containers and receptacles used in the

transportation, storage, use or application thereof. Hazardous wastes do not include all of the following which are not declassified by the Commission (Commission means—the Environmental Quality Commission as defined in ORS 459.005 and 410) pursuant to ORS 459.430(3):

(i) Discarded, useless or unwanted materials or residues resulting from any substance or combination of substances intended for the purpose of defoliating plants or for the preventing, destroying, repelling or mitigating of insects, fungi, weeds, rodents, or predatory animals, including but not limited to defoliant, desiccant, fungicide, herbicide, insecticide, nematocide, and rodenticide.

(ii) Residues resulting from any process of industry, manufacturing, trade or business or government, or from the development or recovery of any natural resources, if such residues are classified as hazardous by order of the Commission (Commission means—the Environmental Quality Commission as defined in ORS 459.005 and 410) must find that such residue, because of its quantity, concentration, or physical, chemical or infectious characteristics may:

(I) Cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or

(II) Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

(iii) Discarded, useless or unwanted containers and receptacles used in the transportation, storage, use or application of the substances described in the above definitions (aa)(A)(i) and (ii).

(B) Materials used for fertilizer or for other productive purposes or which are salvageable such as materials used on land in the agricultural operations and the growing or harvesting of crops and the raising of fowls or animals.

(bb) Working surface—The treading surface (ground, floor, dock ramp, platform) on which the operator stands while loading solid waste into the chute, charging hopper, charging chamber, or all of the above.

(2) Refuse Collection and Compaction Equipment.

(a) OAR 437-002-0256(2) contains safety requirements for the identification, installation, modification, maintenance, operation of fixed-in-place (stationary) compactors, and the access only for collection vehicle, used in places of employment subject to ORS 654.001 to 654.170, the Oregon Safe Employment Act. These rules do not apply to compactors attached to mobile collection vehicles.

(b) These requirements apply to both stationary and self-contained compactor/container equipment used to compact solid waste, at a place of employment.

(c) These requirements apply to both new and existing compactors and collection equipment, except that compactors installed at places of employment prior to the date of enactment of these rules need comply only to OAR 437-002-0256(2)(e) through (i) of OAR 437-002-0256(2)(a) through (k).

(d) General Requirements.

(A) Installation. Compactor equipment shall be installed in accordance with applicable rules, and the manufacturers installation requirements.

(B) Identification. Equipment shall have permanent identification with the manufacturer's name and either the date of manufacture or a code traceable to the date of manufacture.

(C) Access for collection vehicles. The employer where the compactor is located shall provide a safe means for the collection vehicle to have access in order to load and/or dump the container.

(D) Compactor work area.

- ~~(i) The compactor shall have a work area around it for safe operation, maintenance, servicing and cleaning procedures.~~
- ~~(ii) All surrounding working areas shall be reasonably free from obstructions and accumulations of waste matter, grease, oil, and water.~~
- ~~(E) Repairing. All mechanical malfunctions or breakdowns affecting safe operation of the compactor equipment shall be repaired before operating the compactor.~~
- ~~(e) Modifications and Additions. When modifications and/or additions are made which affect the capacity of the compactor or the primary function is changed, the employer shall:~~
  - ~~(A) Obtain prior written approval of the manufacturer or follow plans and specifications prepared by a licensed engineer;~~
  - ~~(B) Change the operation, and maintenance instruction plates, tags, or decals; and~~
  - ~~(C) Modify the instruction manual as needed to include the new safety precautions.~~
- ~~(f) Periodic Inspections.~~
  - ~~(A) The employer shall establish and follow a program of at least annual compactor inspections to ensure moving parts, structure, auxiliary equipment, and safeguards are in safe operating condition and adjustment. Compliance with the manufacturer's inspection and maintenance program shall meet the intent of this rule.~~
  - ~~(B) Commencing with the effective date of these rules, records required in section (1) above shall be retained for at least two years following each inspection by the employer.~~
- ~~(g) Training and Instruction. The employer shall:~~
  - ~~(A) Provide operating instructions for the use, cleaning, care and maintenance of compactors;~~
  - ~~(B) Train and instruct each employee on the safe methods of operating and/or maintaining compactors before assigning employees to operate the equipment; and~~
  - ~~(C) Provide adequate supervision, to assure correct operating procedures are being followed;~~
- ~~(h) Compactor Damage or Malfunction. Within a reasonable time but in no event later than one work shift after damage to, or malfunction of, compactor equipment occurs, the operator shall report such damage or malfunction to the employer or other responsible authority.~~
- ~~(i) Compaction Equipment Safeguards.~~
  - ~~(A) The operator shall use all applicable safety features on the equipment.~~
  - ~~(B) Access covers. Access covers shall be interlocked or secured by devices removable by hand tools only.~~
  - ~~(C) Sustained manual pressure controls. Except when equipped with an automatic cycling control, compacting equipment shall be operated only by sustained manual pressure actuating controls located in such a way that the operator can not reach the point of operation.~~
  - ~~(D) Automatic cycling controls. The employer shall ensure that compactors equipped with automatic cycling controls shall be used only in locations where the charging chamber is not accessible while the compactor is cycling automatically.~~
  - ~~(E) Point-of-operation guard. A point-of-operation guard or other protective means shall prevent employees from having any part of their body in the point-of-operation during the compactor cycles. The guard:~~
    - ~~(i) May have safety gates or doors;~~
    - ~~(ii) Shall not create a pinch point;~~
    - ~~(iii) Shall be interlocked in such a manner that the compactor cannot be operated if the guard or loading door is removed or opened;~~
    - ~~(iv) Shall protect the employee from other hazards such as flying glass.~~

~~(F) Lockout. Except during maintenance testing by authorized personnel, the employer shall provide and use locks which will prevent the inadvertent application of energy or motion to equipment being repaired, serviced, or adjusted and follow the lock out procedures, as specified in 1910.147, for the repair, adjustment, servicing, cleaning, and lubricating of compaction equipment.~~

~~(G) Actuating controls. Prior to operation, the operator shall be certain that all individuals are clear of the point-of-operation and pinch-point area.~~

~~(H) Compactor, container locking mechanism. The locking mechanism shall be compatible with both the compactor and the container.~~

~~(I) Hauler key lock. During the time a container which can not be seen by the compactor operator is removed from the compactor, a key locking system shall be provided for use by the hauler to prevent the compactor from operating. The key lock shall not be overridden by any other mechanism.~~

~~(j) Container Lifting/Dumping Mechanisms.~~

~~(A) If the compactor is equipped with a container lifting/dumping mechanism, installation shall be in accordance with the manufacturer's instruction.~~

~~(B) Lifting/dumping mechanism controls shall be in clear view and outside the area of operation of the lifting/dumping mechanism and container.~~

~~(C) Prior to starting the dumping mechanism, the area of operation around the mechanism and container shall be clear of individuals and remain clear during all phases of the dumping operation.~~

~~(k) Operating Controls.~~

~~(A) Highly visible labels for the function of each control shall be provided.~~

~~(B) The design and location of all operating controls shall minimize the likelihood of unintentional activation (starting).~~

~~(C) Electric "stop" and emergency "stop" controls shall be red, distinguishable from all other controls by size and color, and shall not be recessed.~~

~~(D) A key locking system shall be provided on all compactors for the prevention of unauthorized operation.~~

~~(E) Emergency stop control. Emergency stop control shall be provided; and~~

~~(i) Be red and distinguishable from all other controls, and NOT be recessed; and~~

~~(ii) Be readily accessible to the operator and located within three feet of the point of operation; or~~

~~(c) If chute-fed within three feet of the loading door.~~

~~(F) Ram emergency stop controls shall be provided:~~

~~(i) In case of an emergency, to stop the movement of the ram at any point; and~~

~~(ii) Emergency ram stop control(s) shall be properly identified, operate with constant pressure, control and depict direction of ram travel.~~

~~(l) Electrical Systems. Electrical systems furnished as part of the compactor, or for the installation thereof, shall be in accordance with the manufacturer's instructions, OAR 437, Division 2/S, Electrical, and the National Electric Code as adopted and amended by the Oregon Building Codes Agency.~~

~~(m) Safety Markings and Signs.~~

~~(A) Safety markings. All safety markings shall be color coded in compliance with OAR 437, Division 2/J, Accident Prevention Signs, Symbols, and Tags, for marking physical hazards.~~

~~(B) The location and markings of warning signs shall be as follows:~~

~~(i) A sign on each chute-fed charging hopper loading door stating, DANGER—DO NOT ENTER.~~

- (ii) A sign on/or adjacent to the loading door(s) of any compactor equipped with an automatic sensing device stating, ~~CAUTION—THIS COMPACTOR STARTS AUTOMATICALLY.~~
- (iii) A sign on each control panel and power unit (motor) stating, ~~DANGER—HIGH VOLTAGE.~~
- (iv) A sign on each access cover stating, ~~CAUTION—DO NOT REMOVE ACCESS COVER EXCEPT FOR SERVICING. TURN CONTROL PANEL KEY SWITCH TO OFF POSITION AND REMOVE KEY.~~
- (v) A sign on each side of the safety gates which prevents access to the charging hopper from a walk-on ramp stating, ~~CAUTION—GATE MUST BE CLOSED BEFORE OPERATING COMPACTOR.~~
- (vi) A sign on each charging hopper access door stating ~~CAUTION—BEFORE OPENING DOOR, TURN CONTROL PANEL KEY SWITCH TO OFF POSITION, REMOVE KEY, AND BLOCK OFF TRASH CHUTE.~~
- (vii) Clearly visible signs at all charging hopper access areas stating, ~~DANGER—DO NOT ENTER.~~
- (viii) A sign on each outside face of the charging hopper stating, ~~DANGER—DO NOT ENTER.~~
- (ix) On compactors where there is not a charging hopper, above the charging chamber stating, ~~DANGER—DO NOT ENTER. This sign shall be visible from both sides.~~
- (x) On any container lifting/dumping mechanisms a sign at the dumper controls stating, ~~CAUTION—BEFORE OPERATING DUMPER, CLEAR DUMPING AREA OF ALL INDIVIDUALS.~~
- (xi) On any container lifting/dumping mechanisms, a sign in clear view of the container lifting/dumping mechanisms stating, ~~DANGER—STAY CLEAR OF DUMPER AND DUMPING AREA.~~
- (xii) Clearly visible sign at the hauler key lock stating, ~~COMPACTOR UNIT MUST BE SWITCHED OFF PRIOR TO REMOVAL OF THE CONTAINER.]~~

Stat. Auth.: ORS 654.025(2) and 656.726(3).

Hist: APD Admin. Order 22-1988, f. 12/30/88, ef. 1/1/89.

## **STATIONARY COMPACTORS, SELF-CONTAINED COMPACTORS AND BALERS**

OAR 437-002-0256

**This applies to all stationary compactors, self-contained compactors, and balers.**

**You must comply with:**

**Subdivision 2/D Walking/Working Surfaces, for ladders, stairs and other walking/working surfaces.**

**Subdivision 2/J 1910.147, Control of Hazardous Energy, for maintenance, servicing, and repair activities.**

**Subdivision 2/J 1910.146, Permit Required Confined Space for confined space hazards.**

**Subdivision 2/O Machine Guarding for any guarding hazard not covered in these rules.**

### **YOUR RESPONSIBILITY:**

**To protect employees from hazards associated with stationary compactors, self-contained compactors, and balers.**

#### **Operators and other employees**

##### **(1) You must:**

- **Train and supervise equipment operators. Training must include information from the operation manual, when available, and these rules.**
- **Document the name(s) of the trainer and trainees along with the date of the training.**
- **Provide supervision to ensure employees follow correct operating procedures.**
- **Instruct all employees how to identify and report exposure to hazards.**
- **Prohibit wearing loose clothing, jewelry, or long loose hair that can become entangled in the equipment.**

#### **Installation, inspection and maintenance**

##### **(2) You must:**

- **Install the equipment according to the manufacturer's instructions.**
- **Keep the equipment in safe working order.**
- **Maintain the equipment according to manufacturer's recommendations when available.**
- **Follow the manufacturer's recommendations for inspecting and testing. If there are no manufacturer's recommendations available, inspect and test annually.**
- **Keep a record of inspections for a minimum of two years.**

- Make sure that modifications do not diminish the original level of safety.
- Add safety precautions, resulting from modifications, to the operation manual, when available, and to the training information.
- Not allow the use of damaged, malfunctioning, or defective equipment.
- Ensure only qualified employees, trained and authorized by your management, or authorized service technicians are allowed to maintain and repair the equipment. Qualified employees must demonstrate a proficiency in maintaining and repairing the equipment.

### Guard moving parts

#### (3) You must:

- Have guards that prevent body parts from getting caught by moving parts during the equipment's cycle.
- Use sustained manual pressure controls when not using point of operation guarding.
- Make certain the point of operation is visible to the operator when using sustained manual pressure controls.
- Make sure the equipment manufactured with interlocks will not function with the gate or door open.

### Controls

#### (4) You must:

- Clearly label the function of each control.
- Make sure controls are not subject to unintentional activation.
- Have stop controls that are red, a different size than other controls, and not recessed.
- Keep emergency stop controls readily accessible to the operator, or within 3 feet of the operating feed area or chute opening at equipment location.
- Provide a way to stop the complete operation of the baler or compactor at any point in the cycle.
- Require horizontal balers equipped with an automatic start, to have a minimum 5-second audible and visual warning when the startup control is activated. Before the main motor starts, there must be visual warning lasting for not less than 10 additional seconds.
  - No alarm or delay is required when the horizontal baler is restarting from sleep mode.

### Access points for Maintenance or Repairs

#### (5) You must:

- Make sure access covers
  - Have functional interlocks or locks that require hand tools for removal.
- Have warning signs on compactors that read:
  - Restricted Area, Authorized Employees Only,
  - Warning – Stand Clear When Tailgate or Container is in Motion and During Loading and Unloading,

- Warning – This Compactor Starts Automatically,
- Warning – Gate Must Be Closed Before Operating This Compactor.
- Have warning signs on balers that read:
  - CAUTION – Stand clear When Bale is Ejected,
  - WARNING – This Baler Starts Automatically,
  - DANGER – High Voltage,
  - DANGER – Disconnect and Lock Out Power Before Opening This Panel
- Replace missing or defaced signs.

Note: Addition sign requirements are in ANSI Z245-2-1997 7.10 compactors and ANSI Z245.5 –1997 5.1.6. balers.

### Immediate work area

#### (6) You must:

- Not allow clutter or waste material that causes a safety hazard or obstructs safe operation to accumulate around the operator station.
- Include warning signs at all loading points and the point of operation on automatic cycling equipment indicating that the baler or compactor starts automatically.

## Agriculture – Division 4/O

### STATIONARY COMPACTORS, SELF-CONTAINED COMPACTORS AND STATIONARY BALERS

OAR 437-004-2150

This applies to all, stationary compactors, self-contained compactors, and stationary balers.

**You must comply with:**

**Subdivision 4/D applies for guarding all elevated surfaces, platforms, and stairs.**

**Subdivision 4/J, Control of Hazardous Energy, for all maintenance, servicing, and repair activities.**

**Subdivision 4/J Confined Space.**

**Subdivision 4/O Machine Guarding for any hazard not covered in these rules.**

### YOUR RESPONSIBILITY:

To protect employees from hazards associated with stationary compactors, self-contained compactors, and stationary balers.

#### Operators and other employees

(1) You must:

- Train and supervise equipment operators. Training must include information from the operation manual, when available, and these rules.
- Document the name(s) of the trainer and trainees along with the date of the training.
- Provide supervision to ensure employees follow correct operating procedures.
- Instruct all employees how to identify and report exposure to hazards.
- Prohibit wearing loose clothing, jewelry, or long, loose hair that can become entangled in the equipment.

#### Installation, inspection and maintenance

(2) You must:

- Install the equipment according to the manufacturer's instructions.
- Keep the equipment in safe working order.
- Maintain the equipment according to manufacturer's recommendations, when available.
- Follow the manufacturer's recommendations for inspecting and testing. If the recommendations are not available inspect and test annually.
- Keep a record of inspections for a minimum of two years.
- Make sure that modifications do not diminish the original level of safety.

- Add safety precautions, resulting from modifications, to the operation manual, when available, and to the training information.
- Not allow the use of damaged, malfunctioning, or defective equipment.
- Ensure only qualified employees, trained and authorized by management, or authorized service technicians maintain and repair the equipment. Qualified employees must demonstrate a proficiency in maintaining and repairing the equipment.

### Guard moving parts

#### (3) You must:

- Have guards that prevent body parts from getting caught by moving parts during the equipment's cycle.
- Use sustained manual pressure controls when not using point of operation guarding.
- Make certain the point of operation is visible to the operator when using sustained manual pressure controls.
- Make sure equipment manufactured with interlocks will not function with the gate or door open.

### Controls

#### (4) You must:

- Clearly label the function of each control.
- Make sure controls are not subject to unintentional activation.
- Have stop controls that are red, a different size than other controls, and not recessed.
- Keep emergency stop controls readily accessible to the operator, or within 3 feet of the operating feed area or chute opening at the equipment location.
- Provide a way to stop the complete operation of the baler or compactor at any point in the cycle.
- Require horizontal balers with an automatic start to have a minimum 5-second audible and visual warning when the startup control is activated. Before the main motor starts, there must be visual warning lasting for not less than 10 additional seconds.
  - No alarm or delay is required when the horizontal baler is restarting from sleep mode.

### Access points for maintenance or repair

#### (5) You must:

- Make sure access covers
  - Have functional interlocks or locks that require hand tools for removal.
- Have warning signs on compactors that read:
  - Restricted Area, Authorized Employees Only
  - Warning – Stand Clear When Tailgate or Container is in Motion and During Loading and Unloading
  - Warning – This Compactor Starts Automatically
  - Warning – Gate Must Be Closed Before Operating This Compactor.
- Have warning signs on balers that read:
  - CAUTION – Stand clear when bale is ejected.

- WARNING – This baler starts automatically.
- DANGER – High Voltage.
- DANGER – Disconnect and lock out power before opening this panel.
- Replace missing or defaced signs.

NOTE: Additional sign requirements are in ANSI Z245.2-1997 7.10, Compactors and ANSI Z245.5-1997 5.1.6, Balers for additional rules about signs.

### Immediate work area

#### (6) You must:

- Not allow clutter or waste material that causes a safety hazard or obstructs safe operation to accumulate around the operator station.
- Include warning signs at all loading points and the point of operation on automatic cycling equipment indicating that the baler or compactor starts automatically.