Solid Waste Manual

IOWA MUNICIPALITIES WORKERS' COMPENSATION ASSOCIATION
IMWCA
www.imwca.org | Revised 3.2018

Table of Contents

Purpose 3
General Duty Clause 4
Asbestos Awareness - 1910.1001 4
Avoid the Crush Zone - 1910.1001 4
Bloodborne Pathogens 1910.1030 4
Cell Phones and Headphones 5
Chainsaw Operations 5
Confined Spaces 1910.146 5
Crane and Hoist Inspections 5
Defensive Driving 5
Electrical Safety/NFPA 70 E 6
Ergonomics and Back Injury Prevention 6
Equipment Operations Safety 6
Exits 1910.37 6
Fall Protection 1910.22 and 1910.23 6
Fire Extinguishers 1910.157 7
Forklift Operators 1910.178 7
Flammable Storage 1910.106 7
Small Power Tools 1910 SubpartP
and 1926 Subpart I 7
Hazardous Communications 1910.1200 8
Insect Stings, Bites and Poisonous Plants 8
Ladders 1910.25, 1910.26 and Scaffolding 1910.28 8
Landscape Safety 8
Lockout/Tagout 1910.147 9
Machine Guarding 1910.212 9
Materials Handling and Storage 1910.176 9
Medical and First Aid 1910.151 10
Mounting and Dismounting Heavy Equipment 10
OSHA Reporting- 300 Logs 1904.32 10
Orientation for New and Seasonal Employees 10
Personal Protection Equipment Section 10
- Eye Protection 1910.133 10
- Footwear 1910.136 11
- Hand Protection 1910.138 11
- Hard Hats 1910.135 11
- Hearing Conservation 1910.95 11
- Hi Visibility Vest 11
- Respiratory Protection 1910.134 12
- Seatbelt Use 12

Severe Weather 12
Spill Prevention and Control – 1910,120
(Subpart H) HAZWOPER 12
Tow Chains and Cables 1926.251 12
Trenching and Excavation 1926.650 Subpart P 13
Weight Restrictions on Collection Routes 13
Walking and Working Surfaces 1910.22 and .23 13
- Ladders 1910.23 13
- Step Bolts and Manhole Steps 1910.24 14
- Stairways 1910.25 14
- Dockboards 1910.26 14
- Scaffolding 1926.451 14
- Fall Protection and Falling Object
Protection 1910.28 and 1929 14
- Fall Protection Systems and Falling Object
Protection 1910.30 15

Welding and Cutting 1910.252 15
Resources 15

APPENDIX A: At-a-Glance:
Online University Referneced Courses 16

Purpose

Solid waste operators in Iowa are among some of the most safety-conscious managers that Iowa Municipalities Workers' Compensation (IMWCA) loss control staff is privileged to work with. IMWCA currently serves most of the publically-owned solid waste facilities including landfills, recycling centers, transfer stations and household hazardous waste sites.

In an effort to further assist our members to develop and maintain safe and compliant work environments, IMWCA has developed this electronic manual to help identify requirements of solid waste operations based on their most common exposures.

In this manual, we attempt to identify many of the safety standards that apply to landfill, recycling, composting and transfer station operations under OSHA 1910 General Industry Standards and 1926 Construction Standards. We provide a link to the OSHA standard for further detail and key points that operators must consider in developing these programs. We also attach links to Model OSHA programs to help members comply with these regulations.

IMWCA provides free online training that may be used to meet training requirements of these standards. In some cases, Continuing Education Units (CEU) are available through Kirkwood Community College for mandatory DNR training.

IMWCA wishes to thank the following individuals for their assistance in developing the initial version of this manual:

Scott Smith, Boone County Landfill
Becky Perry, Des Moines County Regional Solid Waste Commission
Wendy Wittrock, Cass County Environmental Agency
Rodger Kaster, Rathbun Area Solid Waste Commission

This manual was first developed in 2011.
Revised in 2015 and 2018

General Duty Clause

Section 5(a)(1) of the Occupational Safety and Health Act (the "General Duty Clause") requires an employer to furnish to its employees:

"employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees..."

Employers can be cited for violation of the General Duty Clause if a recognized serious hazard exists in their workplace and the employer does not take reasonable steps to prevent or abate the hazard. The General Duty Clause is used only where there is no standard that applies to the particular hazard. The following elements are necessary to prove a violation of the General Duty Clause:

a. The employer failed to keep the workplace free of a hazard to which employees of that employer were exposed;
b. The hazard was recognized;
c. The hazard was causing or was likely to cause death or serious physical harm; and
d. There was a feasible and useful method to correct the hazard.

Asbestos Awareness - 1910.1001

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9995

Key points:

- Asbestos Containing Materials (ACM) are common place in Iowa. Many landfills in Iowa accept ACM for final disposal.
- The employer shall ensure that staff and their supervisors are suitably trained about asbestos and the dangers this material poses to workers.
- Employees shall be provided with applicable personal protective equipment.
- Refresher training shall be provided on an annual basis.

See IMWCA Online University Course: Asbestos Awareness

Avoid the Crush Zone - 1910.1001

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10593

www.osha.gov/OshDoc/data_Hurricane_Facts/work_xone_traffic_safety.pdf

Key points:

- Landfill active faces and transfer station unloading areas have similar hazards to construction zones in that moving equipment and workers/customers walking around are often in the same work area. This creates a significant danger because it places people in a potential crush zone.
- A crush zone is any situation in which a person is placed between an operating piece of equipment and an immovable object (i.e., the ground, another piece of equipment, a wall, etc.)
- The employer shall ensure that staff and their supervisors are suitably trained about work zone safety and the dangers associated with crush zones.
- Employees shall be provided with applicable personal protective equipment including high visibility clothing and/or vests.
- Refresher training shall be provided on an annual basis.

See IMWCA Online University Course: Avoiding the Crush Zone

Bloodborne Pathogens 1910.1030

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10051

Key Points:

- Requires that an employer having an employee(s) with occupational exposure as defined by paragraph (b) of this section shall establish a written Exposure Control Plan designed to eliminate or minimize employee exposure.
- Provide training on Bloodborne Pathogens, universal precautions and use of personal protective equipment
- Make available the hepatitis B vaccine and vaccination series to all employees who have occupational exposure, and post-exposure evaluation and follow-up to all employees who have had an exposure incident.

IWMCA Model Program: Blood-borne Pathogens Exposure Control Plan Procedures Model.doc

See IMWCA Online University Course: Bloodborne Pathogens

Cell Phones and Headphones

Employees shall not operate equipment or machinery while talking on cell phones or using non-noise reducing headphones or ear buds.

Chainsaw Operations

Employees working in composting facilities or maintaining fence clearing operations may have to operate chainsaws.

Key Points:

a. Chainsaw operators must be trained before using a chainsaw.
b. Helmet, Face shield, chaps, eye protection and safety-toed boots must be provided by employer and worn by operators.

Confined Spaces 1910.146

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9797

"Confined space" means a space that:
(1) Is large enough and so configured that an employee can bodily enter and perform assigned work; and
(2) Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.); and
(3) Is not designed for continuous employee occupancy.

- Some facilities have pits for servicing conveyors or manholes for leachate pumping systems. In either case, if an employee can enter these locations an employer should have a confined spaces entry procedure.
- Make sure confined spaces are labeled
- Train employees on recognizing confined spaces and entry procedure.

IWMCA Model Program: Confined Spaces-Permit Required

See IMWCA Online University Course: Confined Space Entry

Crane and Hoist Inspections

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9830

Key Points:

- Have a competent person inspect crane systems annually.
- Have a pre-lift inspection process
- Rated load marking. The rated load of the crane shall be plainly marked on each side of the crane, and if the crane has more than one hoisting unit, each hoist shall have its rated load marked on it or its load block and this marking shall be clearly legible from the ground or floor.

See IMWCA Online University Course: Indoor Crane and Sling

Defensive Driving

Any employee that operates vehicles on behalf of the employer should have defensive driver training. Employees operating collection vehicles, driving semi-trailers to landfills from transfer stations, etc.

See IMWCA Online University Courses:
Defensive Driving
Defensive Driving Refresher
Driving in Adverse Weather
Handling Extreme Conditions for Light Truck Drivers
Winter Driving
Survival Driving – Urban Environments
Survival Driving – Emergencies and Natural Disasters
Space and Time Management
Tailgate Topics Series 1
Tailgate Topics Series 2
Tailgate Topics Series 3

Electrical Safety/NFPA 70 E

Recycling centers, transfer station and landfill maintenance shops can require significant electrical draw. To ensure that employees who service the electrical panels are protected from arc flash, employers should conduct an assessment of arc potential and then provide training and adequate PPE and clothing to protect employees working with the power sources.

- Employers should also ensure that a clear area 30 inches in front and 15 inches on each side of all breaker panels are maintained and all breakers within the panel box are clearly labeled. There should never be an open slot that exposes the panel's electrical bus.
- Facilities may also use electrical drop cords for temporary power to equipment. Do not fasten cords to structure or use a primary power source. Drop cords should be inspected regularly to ensure they are in good condition and heavy enough for the projected use.
- In Household Hazardous Waste collection locations, explosion-proof wiring and fixtures should be used when storing flammables.

See IMWCA Online University Courses:
Electrical Safety
Arc Flash Awareness

Ergonomics and Back Injury Prevention

Key Points:

- Minimize repetitive motions for prolonged periods
- Promote proper lifting techniques
- Minimize excessive reaching and bending

See IMWCA Online University Courses:
Back Safety
Back Safety for the Office Environment
Ergonomics for Supervisors
General Ergonomics
Workplace Ergonomics

Equipment Operations Safety

Solid waste facilities utilize a variety of on- and off-road equipment. Operating this equipment safely is critical to avoid employee injuries and other types of incidents.

See IMWCA Online University Courses:
Backhoe Safety with Trackhoe Supplement
Bulldozer Safety
Dump Truck Safety
Road Grader Safety
Snow Plow Safety
Street Sweeper Safety

There are specific requirements for forklift operators. See the section of this manual on Forklift Operators.

Exits 1910.37

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10113

All exits should be clearly marked, kept clear and maintained in a working condition.

Post evacuation maps when exit routes are not apparent.

See IMWCA Online University Course:
Emergency Evacuation & Egress

Fall Protection 1910.22 and 1910.23

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10112

Key Points:

- The floor of every workroom shall be maintained in a clean and, so far as possible, a dry condition. Where wet processes are used, drainage shall be maintained and false floors, platforms, mats, or other dry standing places should be provided where practicable.
- Where mechanical handling equipment is used, sufficient safe clearances shall be allowed for aisles, at loading docks, through doorways and

wherever turns or passage must be made. Aisles and passageways shall be kept clear and in good repairs, with no obstruction across or in aisles that could create a hazard.
- Covers and/or guardrails shall be provided to protect personnel from the hazards of open pits, tanks, vats, ditches, etc.

See IMWCA Online University Course: Fall Prevention

Fire Extinguishers 1910.157

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9811

Key Points:

- The employer shall provide portable fire extinguishers and shall mount, locate and identify them so that they are readily accessible to employees without subjecting the employees to possible injury.
- The employer shall distribute portable fire extinguishers for use by employees on Class B fires so that the travel distance from the Class B hazard area to any extinguisher is 50 feet (15.2 m) or less.
- Portable extinguishers or hose of this section shall be visually inspected monthly.

See IMWCA Online University Courses:
Fire and Explosion Hazards
Fire Prevention

Forklift Operators 1910.178

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9828

- 1910.178(l)(6) The employer shall certify that each operator has been trained and evaluated as required by this paragraph (l). The certification shall include the name of the operator, the date of the training, the date of the evaluation, and the identity of the person(s) performing the training or evaluation.
- IMWCA recommends training skid loader operators under this program.
- Chocking Wheels: Proper chocking of the trailer wheels are required to ensure that the trailer doesn't move while forklifts are loading.

See IMWCA Online University Course: Forklift Safety

Flammable Storage 1910.106

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9752

Store all flammables in an approved cabinet.

See IMWCA Online University Course: Fire and Explosion Hazards

Small Power Tools 1910 Subpart P and 1926 Subpart I

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10112

Key Points:
- Solid waste facilities require the use of powered hand tools.
- Small power tools include a variety of devices. These tools can use electricity, compressed air, hydraulics, or some type of fuel.
- It is important that supervisors and employees understand the hazards of utilizing these tools.
- Employers must provide training on the safe operation of hand and power tools.

See IMWCA Online University Course Hand and Power Tool Safety

Hazardous Communications 1910.1200

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10099

Key Points:

- Employers shall maintain copies of any safety data sheets (formerly referred to as MSDS) that are received with incoming shipments of the sealed containers of hazardous chemicals, shall obtain a safety data sheet as soon as possible for sealed containers of hazardous chemicals received without a material safety data sheet if an employee requests the safety data sheet, and shall ensure that the safety data sheets are readily accessible during each work shift to employees when they are in their work area(s)
- Provide documented training and information on chemicals used in workplace
- Ensure chemical containers are clearly labeled
- Chemicals are properly stored-refer to SDS
- Provide appropriate PPE- refer to SDS

See IMWCA Online University Courses:
Hazard Communication
Safety Data Sheets

Insect Stings, Bites and Poisonous Plants

Key Points:

- Bees and wasps are attracted to moisture in garbage during summer months and can represent a hazard to employees handling garbage containers, sorting operations or checking wet wells.
- The problem is particularly serious if an employee is allergic to bee stings.
- IMWCA recommends that employees with allergies carry an Epipen in the event of an exposure and that other staff be trained on administering the dose if the employee becomes incapacitated.

See IMWCA Online University Course:
Working Outdoors in Warm Weather Climates

Ladders 1910.25, 1910.26 and Scaffolding 1910.28

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9717

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9720

Key Points:

- Ladders and scaffolding shall be maintained in good condition at all times, the joint between the steps and side rails shall be tight, all hardware and fittings securely attached, and the movable parts shall operate freely without binding or undue play.
- Safety feet, outfiggers and other auxiliary equipment shall be kept in good condition to insure proper performance.
- Ladders and scaffolding shall be inspected frequently and those which have developed defects shall be withdrawn from service for repair or destruction and tagged or marked as "Dangerous, Do Not Use."
- Use Type I and IA ladders rated for heavy industrial use.

See IMWCA Online University Courses:
Ladder and Scaffolding Safety
Preventing Slips, Trips, and Falls

Additional Resource:

www.osha.gov/SLTC/etools/construction/falls/4ladders.html

www.osha.gov/Publications/OSHA3252/3252.html

Landscape Safety

Many solid waste facilities have employees that are responsible for grounds maintenance. This includes mowing, trimming, and spraying for weeds. Landscape maintenance involves a number of hazards. Employers should ensure that employees are informed about the hazards and properly trained to carry out required duties.

See IMWCA Online University Course
Landscape Safety

Lockout/Tagout 1910.147

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9804

Common examples of equipment needing a LO/TO procedure are balers, conveyors, crusher and chippers, compressors and powered hoist.

Key Points:

- This standard covers the servicing and maintenance of machines and equipment in which the unexpected energization or start up of the machines or equipment, or release of stored energy could cause injury to employees. This standard establishes minimum performance requirements for the control of such hazardous energy.
- The employer shall establish a program consisting of equipment specific energy control procedures, employee training and periodic inspections to ensure that before any employee performs any servicing or maintenance on a machine or equipment where the unexpected energizing, startup or release of stored energy could occur and cause injury, the machine or equipment shall be isolated from the energy source and rendered inoperative.
- The standard does not apply to work on cord and plug connected electric equipment for which exposure to the hazards of unexpected energization or start up of the equipment is controlled by the unplugging of the equipment from the energy source and by the plug being under the exclusive control of the employee performing the servicing or maintenance.
- Procedures should be written for collection vehicles with hydraulic cylinder compaction units.

IWMCA Model Program: Lockout/Tagout Model Program

See IMWCA Online University Course: Lockout/Tagout

Machine Guarding 1910.212

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9836

Common examples of equipment needing guards are balers, conveyors, crusher, chippers, compressors, grinders and fans.

Key Points:

- One or more methods of machine guarding shall be provided to protect the operator and other employees in the machine area from hazards such as those created by point of operation, ingoing nip points, rotating parts, flying chips and sparks. Examples of guarding methods are-barrier guards, two-hand tripping devices, electronic safety devices, etc.
- Emergency shutoff should be maintained and tested to ensure operation.

See IMWCA Online University Course: Machine Guarding

Materials Handling and Storage 1910.176

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9824

Key Points:

- Secure storage. Storage of material shall not create a hazard. Bales, containers, bundles, etc., stored in tiers shall be stacked, blocked, interlocked and limited in height so that they are stable and secure against sliding or collapse.
- Use of mechanical equipment. Where mechanical handling equipment is used, sufficient safe clearances shall be allowed for aisles, at loading docks, through doorways and wherever turns or passage must be made. Aisles and passageways shall be kept clear and in good repair, with no obstruction across or in aisles that could create a hazard. Permanent aisles and passageways shall be appropriately marked.

See IMWCA Online University Courses:
Fire and Explosion Hazards
Spill Prevention and Control

Medical and First Aid 1910.151

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9806

Key Points:

- In the absence of an infirmary, clinic or hospital in near proximity to the workplace which is used for the treatment of all injured employees, a person or persons shall be adequately trained to render first aid. Adequate first aid supplies shall be readily available.
- Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use.

See IMWCA Online University Course: First Aid & CPR Training

Mounting and Dismounting Heavy Equipment

To prevent slips and falls from loaders, bulldozers, tractors, dump trucks and other heavy equipment, IMWCA recommends using the three points of contact method. Three points of contact includes keeping either 2 feet and 1 hand or 2 hands and 1 foot on the equipment during each step up or down.

OSHA Reporting- 300 Logs 1904.32

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=12776

Orientation For New and Seasonal Employees

Key points:

- Provide an overview of the solid waste industry for new employees.
- Covers the activities associated with waste management.

See IMWCA Online University Course:
New Employee Orientation
Safety Awareness for Seasonal Employees
Waste Management

Personal Protection Equipment Section

Employers should ensure that all personal protective equipment (PPE) meets the applicable ANSI standard for type of PPE. The OSHA standard provides the applicable ANSI standard.

See IMWCA Online University Course:
Personal Protective Equipment

Eye Protection 1910.133

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9778

The employer shall ensure that each affected employee uses appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.

See IMWCA Online University Course:
Eye and Face Protection

Footwear 1910.136

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9786

- The employer shall ensure that each affected employee uses protective footwear when working in areas where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole, and where such employee's feet are exposed to electrical hazards.
- Provide footwear with puncture resistant soles when exposure exists.
- Provide slip resistant soles when working on wet or slick surfaces.

Hand Protection 1910.138

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9788

Employers shall select and require employees to use appropriate hand protection when employees' hands are exposed to hazards such as those from skin absorption of harmful substances; severe cuts or lacerations; severe abrasions; punctures; chemical burns; thermal burns; and harmful temperature extremes.

See IMWCA Online University Course: Hand and Finger Safety

Hard Hats 1910.135

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9785

- The employer shall ensure that each affected employee wears a protective helmet when working in areas where there is a potential for injury to the head from impact, or from falling or flying objects.
- In work areas with limited clearance that pose a potential for head injuries but in which a full hard hat would be difficult to utilize, the employer shall ensure that each affected employee wears a protective helmet such as a bump hat.

For an interpretation of the rule: http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=24765

Hearing Conservation 1910.95

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9735

Key Points:

- When employees are subjected to sound exceeding 90 decibels, feasible administrative or engineering controls shall be utilized. If such controls fail to reduce sound levels within the listed levels, personal protective equipment shall be provided and used to reduce sound levels within the levels of the table.
- The employer shall administer a continuing, effective hearing conservation program whenever employee noise exposures equal or exceed an 8-hour time-weighted average sound level (TWA) of 85 decibels measured on the A scale (slow response) or, equivalently, a dose of fifty percent. For purposes of the hearing conservation program, employee noise exposures shall be computed in accordance with appendix A and Table G-16a, and without regard to any attenuation provided by the use of personal protective equipment.

IWMCA Model Program: Hearing Conservation

See IMWCA Online University Course: Hearing Conservation

Hi Visibility Vest

When collecting recycling, collectors working on the right-of -way should wear Hi Visibility vest or other apparel in accordance with DOT requirements. IMWCA also recommends that employees working on the tipping floor of recycling centers or directing traffic on the tipping face of landfills wear break- away hi visibility clothing to remain visible to customers and other employees driving in the area.

Respiratory Protection 1910.134

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=12716

Common exposures are in household hazardous waste collection sites, grinding or crushing operations (airborne particulates) and compost facilities (mold).

Key Points:

- A respirator shall be provided to each employee when such equipment is necessary to protect the health of such employee. The employer shall provide the respirators which are applicable and suitable for the purpose intended. The employer shall be responsible for the establishment and maintenance of a respiratory protection program, which shall include the requirements outlined in paragraph (c) of this section. The program shall cover each employee required by this section to use a respirator.
- The employer shall provide medical evaluations of employees required to use respirators
- The employer shall use fit testing procedures for tight-fitting respirators to ensure a proper seal

See IMWCA Online University Course: Respiratory Protection

Seatbelts - Buckle Up for Safety

Key points:

- Seat belts and shoulder restraints must be worn at all times in any on, or off road, vehicle that is so equipped. All occupants of vehicles and equipment used on official business shall also be required to use seatbelts.
- Prevents serious injury or death in the event of a collision and/or roll over situation.
- IMWCA requires its members to implement a mandatory seat belt policy.

IWMCA Model Program: Seatbelt/Restraint Model Policy

See IMWCA Online University Course: Tailgate Topics Series 2. This "bundle" contains four, ten-minute topics including one titled Buckle Up.

Severe Weather

IMWCA recommends that landfills, transfer stations and recycling facilities have severe weather policies to notify employees of approaching storms and provide a plan for tornado shelters.

A plan is required by Iowa DNR for all disposal sites.

See IMWCA Online University Course: Working In Extreme Temperatures

Spill Prevention and Control – 1910,120 (Subpart H) HAZWOPER

www.osha.gov/pls/oshaweb/owasrch.search_form?p_doc_type=STANDARDS&p_toc_level=1&p_keyvalue=1910

Key points:

- The best strategy to use for dealing with chemical spills is prevention.
- The employer shall ensure that staff and their supervisors are suitably trained about what to do in case of a chemical spill. This includes how to identify and assess the situation, response measures, and evacuation plans.
- Only employees properly trained to deal with chemical spills should respond to a spill. Employees trained to respond shall be provided with applicable personal protective equipment.
- Refresher training shall be provided on an annual basis.

See IMWCA Online University Course: Spill Prevention and Control

Tow Chains and Cables 1926.251

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10686

Key Points:

- Ensure cables and chains are rated for task.
- Ensure cables and chains are in good condition without kinks or defect.
- Ensure cable clamps are properly installed on cable eye loops.

Trenching and Excavation 1926.650 Subpart P

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10686

Key Points:

- Trenching and excavation activities pose significant hazards to employees.
- These activities can create confined space entry issues in which employees can become trapped.
- Supervisors and employees must be trained to properly assess sites and develop a clear operations plan to ensure employee safety.

See IMWCA Online University Course Trenching and Excavation

Weight Restrictions on Collection Routes

IMWCA recommends that each city establish a 45 pound lifting limit on each bag or container that employees must lift. This weight was generated by using the NIOSH lifting formula based on weight of load, frequency of stops, height of lift and other variables. The more stops an employee does per day will require a reduction in load limits.

See IMWCA Online University Course: Back Safety

Walking and Working Surfaces

Employers are responsible for providing safe walking and working surfaces, portable and fixed ladders, scaffolding, fall protection and employee training

Walking and Working Surfaces 1910.21 and 1910.22

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9715

Key Points:

- The floor of every workroom shall be maintained in a clean and, so far as possible, a dry condition. Where wet processes are used, drainage shall be maintained and false floors, platforms, mats, or other dry standing places should be provided where practicable.
- The employer must provide, and ensure each employee uses, a safe means of access and egress to and from walking-working surfaces.

See IMWCA Online University Course Preventing Slips, Trips, and Falls

Ladders 1910.23

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9717

Key Points:

- Ladders shall be maintained in good condition at all times, the joint between the steps and side rails shall be tight, all hardware and fittings securely attached, and the movable parts shall operate freely without binding or undue play.
- Safety feet, outriggers and other auxiliary equipment shall be kept in good condition to insure proper performance.
- Ladders shall be inspected frequently and those which have developed defects shall be withdrawn from service for repair or destruction and tagged or marked as “Dangerous, Do Not Use.”
- Use Type I and IA ladders rated for heavy industrial use.

See IMWCA Online University Courses: Ladder and Scaffolding Safety Preventing Slips, Trips, and Falls

Step Bolts and Manhole Steps 1910.24

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9717

Key Points:

- Employer must ensure step bolts are uniformly spaced at a vertical distance of not less than 12 inches (30 cm) and not more than 18 inches (46 cm) apart. The spacing from the entry and exit surface to the first step bolt may differ from the spacing between the other step bolts
- Manhole steps are to be maintained in a safe condition at all times. Inspect for corrosion and damage before each use.

Stairways 1910.25

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9717

Key Points:

- Handrails, stair rail systems, and guardrail systems must be provided.
- Stairs shall have uniform riser heights and tread depths between landings

Dockboards 1910.26

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9717

Key Points:

- Portable dockboards are secured by anchoring them in place or using equipment or devices that prevent the dockboard from moving out of a safe position. When the employer demonstrates that securing the dockboard is not feasible, the employer must ensure there is sufficient contact between the dockboard and the surface to prevent the dockboard from moving out of a safe position.
- Measures, such as wheel chocks or sand shoes, are used to prevent the transport vehicle (e.g. a truck, semitrailer, trailer, or rail car) on which a dockboard is placed, from moving while employees are on the dockboard.

Scaffolding 1926.451

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9717

Key Points:

- Scaffolding shall be maintained in good condition at all times.
- Scaffolding must provide a secure and stable work platform at all times.
- Railings, safety feet, outriggers and other auxiliary equipment shall be kept in good condition to insure proper performance.
- Personal fall arrest systems may be required depending on height on scaffolding (1910.27.)

See IMWCA Online University Courses:
Ladder and Scaffolding Safety
Preventing Slips, Trips, and Falls

Fall Protection and Falling Object Protection 1910.28 and 1929

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10112

Key Points:

- With some exceptions, the employer must ensure that each employee on a walking-working surface with an unprotected side or edge that is 4 feet (1.2 m) or more above a lower level is protected from falling by one or more of the following:
  - Guardrail systems;
  - Safety net systems; or
  - Personal fall protection systems, such as personal fall arrest, travel restraint, or positioning systems.
- Covers and/or guardrails shall be provided to protect personnel from the hazards of open pits, tanks, vats, ditches, etc.

Fall Protection Systems and Falling Object Protection 1910.30

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10112

Key Points:
Before any employee is exposed to a fall hazard, the employer must provide training for each employee who uses personal fall protection systems or who is required to be trained as specified elsewhere in this subpart.

- The employer must ensure that each employee is trained by a qualified person.
- The employer must train each employee in at least the following topics:
  - The nature of the fall hazards in the work area and how to recognize them;
  - The procedures to be followed to minimize those hazards;
  - The correct procedures for installing, inspecting, operating, maintaining, and disassembling the personal fall protection systems that the employee uses; and
  - The correct use of personal fall protection systems and equipment.

See IMWCA Online University Course Fall Prevention

Welding and Cutting 1910.252

www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9853

Key points:

- Cutting or welding shall be permitted only in areas that are or have been made fire safe. When work cannot be moved practically, as in most construction work, the area shall be made safe by removing combustibles or protecting combustibles from ignition sources.
- The employer shall insist that cutters or welders and their supervisors are suitably trained in the safe operation of their equipment and the safe use of the process.
- Employees exposed to the hazards created by welding, cutting, or brazing operations shall be protected by personal protective equipment in accordance with the requirements of 1910.132. Appropriate protective clothing required for any welding operation will vary with the size, nature and location of the work to be performed.
- Provide proper ventilation or respirators when necessary.

See IMWCA Online University Courses: Welding, Cutting, and Brazing Safety Compressed Gas Safety

Resources

www.OSHA.gov
www.iowaworkforce.org/labor/iosh/
www.public-health.uiowa.edu/worksafe/services/
www.cdc.gov/niosh/

APPENDIX A: At-a-Glance: Online University Referenced Courses

A
Arc Flash Awareness
Asbestos Awareness
Avoiding the Crush Zone

B
Backhoe Safety with Trackhoe Supplement
Back Safety
Back Safety for the Office Environment
Bloodborne Pathogens
Bulldozer Safety

C
Compressed Gas Safety
Confined Space Entry

D
Defensive Driving
Defensive Driving Refresher
Driving in Adverse Weather
Dump Truck Safety

E
Electrical Safety
Ergonomics for Supervisors
Emergency Evacuation & Egress
Eye and Face Protection

F
Fall Protection
Fire and Explosion Hazards
Fire Prevention
First Aid & CPR
Forklift Safety

G
General Ergonomics

H
Hand and Finger Safety
Hand and Power Tool Safety
Handling Extreme Conditions for Light Truck Drivers
Hazards Communications
Hearing Conservation

I
Indoor Crane and Sling

J

K

L
Ladder and Scaffolding Safety
Lockout/Tagout

M
Machine Guarding

N
New Employee Orientation

O

P
Personal Protective Equipment
Preventing Slips, Trips, and Falls

Q

R
Respiratory Protection
Road Grader Safety

S

Safety Awareness for Seasonal Employees
Safety Data Sheets
Snow Plow Safety
Space and Time Management
Spill Prevention and Control
Street Sweeper Safety
Survival Driving – Emergencies and Natural Disasters
Survival Driving – Urban Environments

T

Tailgate Topics Series 1
Tailgate Topics Series 2
Tailgate Topics Series 3
Trenching and Excavation

U

V

W

Waste Management
Welding, Cutting, and Brazing Safety
Winter Driving
Working In Extreme Temperatures
Working Outdoors in Warm Weather Climates
Workplace Ergonomics