PART 12: TOOLS, MACHINERY AND EQUIPMENT

ROLL-ON/ROLL-OFF CONTAINERS

Definitions **12.175** In sections 12.176 to 12.183:

"container safety standard" means *ANSI Standard ANSI Z245.30-2008, American National Standard for Equipment Technology and Operations for Wastes and Recyclable Materials – Waste Containers – Safety Requirements*;

"roll-on/roll-off container" means a container that

(a) is typically used to receive, store and transport refuse, and

(b) is designed to be used with a vehicle equipped with hydraulic or mechanical tilt-frame and hoist-type equipment, commonly referred to as roll-offs or hook-lifts.

Container safety standard **12.176** (1) A supplier of a roll-on/roll-off container manufactured on or after February 1, 2015, must ensure that the container is designed and manufactured in accordance with the requirements of the container safety standard.

(2) Employers must ensure that workers handle roll-on/roll-off containers in accordance with the requirements of the container safety standard.

Protection against specified hazards **12.177** An owner of a roll-on/roll-off container, and an employer, must ensure that persons are not exposed to the following hazards in respect of a roll-on/roll-off container:

(a) the rupture or disintegration, resulting from poor maintenance, of the lifting eye, cables, anchors, latches, doors, guards, hinges or ladder rungs;

(b) being hit or struck by the unintended or premature discharge of any thing or substance collected, used, stored or transported in the container.

Visual Inspection before loading container onto vehicle **12.178** (1) Before loading a roll-on/roll-off container onto a vehicle, the driver of the vehicle must

(a) visually inspect the container for defects that may be a hazard, and

(b) ensure that the container doors will not open when the container is moved between the ground and the vehicle.

(2) If the driver identifies a defect in a roll-on/roll-off container that may be a hazard, the driver must immediately inform the following, as applicable, of the defect:

(a) his or her employer;

(b) if the driver has no employer, the owner of the container.

Withdrawal from service **12.179** (1) In this section, "notified person" means the person notified under section 12.178 (2) that a roll-on/roll-off container has a defect that may be a hazard.

(2) On receiving notification under section 12.178 (2), a notified person must

(a) withdraw the container from service immediately, or

(b) if it is not practical to withdraw the container from service immediately,

(i) arrange for the safe removal of the container to a place where it can be unloaded, if necessary, and
(ii) have the container repaired.

(3) A roll-on/roll-off container that has been withdrawn from service or repaired under this section may not be returned to service until inspected under section 12.180.

Inspection following repair 12.180

(1) An owner of a roll-on/roll-off container, and an employer, must ensure that a roll-on/roll-off container is inspected by a qualified person after any of the following occur:
(a) significant structural modification or refurbishment;
(b) significant repair of a structural component;
(c) repairs made under section 12.179.

(2) The qualified person must determine whether, following the modification, refurbishment or repairs referred to in subsection (1), the container meets the requirements of the container safety standard.

(3) An inspection under this section must occur on or before the earlier of the following:
(a) 30 days after the making of the modification, refurbishment or repairs referred to in subsection (1);
(b) the return of the container to the place where it is ordinarily stored or located.

Periodic inspection 12.181

(1) An owner of a roll-on/roll-off container, and an employer, must ensure that a qualified person inspects, in accordance with this section, each roll-on/roll-off container to determine if the container meets the requirements of the container safety standard.

(2) The first inspection of a container manufactured before February 1, 2015, or for which the date of manufacture is unknown, must occur as follows:
(a) if section 12.180 applies, as required by that section;
(b) if the container has not previously been inspected under section 12.180, before August 1, 2017;
(c) if the owner or employer, as applicable, acquires the container on or after June 2, 2017, but has no record of it being inspected in accordance with paragraph (a) or (b) of this subsection, within 60 days of acquiring it.

(3) The first inspection of a container manufactured on or after February 1, 2015, must occur as follows:
(a) if section 12.180 applies, as required by that section;
(b) if a container has not previously been inspected under section 12.180, before February 1, 2020;
(c) if the owner or employer, as applicable, acquires the container on or after December 3, 2019, but has no record of it being inspected in accordance with paragraph (a) or (b) of this subsection, within 60 days of acquiring it.

(4) Subsequent inspections of the container must occur within
(a) 30 months of the most recent inspection, whether made under this section or section 12.180, or
(b) a shorter period set by a qualified person, having regard to the condition of the container.

Records of inspection	**12.182**	**An owner of a roll-on/roll-off container, and an employer, must keep a record for each roll-on/roll-off container that includes all of the following:** **(a) the date of each inspection made under sections 12.180 and 12.181;** **(b) details of any tests conducted, including testing methods and results;** **(c) details of any repairs made;** **(d) the date before which the next inspection must occur under section 12.181.**
Withdrawal from service following inspection	**12.183**	**If a qualified person determines, following an inspection under section 12.180 or 12.181, that a roll-on/roll-off container does not meet the container safety standard, the owner of the container, or the employer, must withdraw the container from service** **(a) until it is repaired to meet the container safety standard, or** **(b) permanently.**

Explanatory Notes:

The purpose of the proposed amendment is to provide safety requirements for roll-on/roll-off containers through the adoption of a standard, namely, ANSI Z245.30-2008, Equipment Technology and Operations for Wastes and Recyclable Materials – Waste Containers – Safety Requirements. New sections will be added to Part 12 of the OHSR.

Definitions:
"Qualified" is defined in Part 1 of the OHSR to mean being knowledgeable of the work, the hazards involved and the means to control the hazards, by reason of education, training, experience or a combination thereof:

Currently these containers are neither covered by the OHSR nor any other regulatory act or body resulting in inadequate safety in terms of their design, refurbishment, maintenance, repair and inspection. It should be noted that the Ministry of the Environment regulates containers for hazardous waste (see section 50 of the Hazardous Waste Regulations). Additionally once a roll-on/roll-off container is on the road it comes under the jurisdiction of the BC Ministry of Transportation and Infrastructure (Commercial Vehicle Safety and Enforcement (CVSE)) under the Motor Vehicle Act. As noted later, CVSE does not inspect these containers as they are considered a load carried by the trucks.

The rationale for the adoption of ANSI Z245.30-2008 resulted from incidents involving the failure of structural components of these containers causing serious injuries to workers. The investigation following an incident where the door of the roll-on/roll-off container fell off its hinges and struck the worker causing serious injury indicated that these containers were not designed or built to any uniform standards. They also tend to be poorly maintained, increasing the possibility of the risk of injury to workers. These containers are ubiquitous and are used in many different types of worksites. They come in many different sizes (10, 20, 30 and 40 cubic yard, with indication that 60 cubic yard containers are also being built). On construction sites they are subject to being overloaded and banged about when other heavy duty machinery is used to load these containers.

Roll-on/roll-off container related claims accepted for short term disability, long disability or fatal benefits in 2002 to March 2013 are as follows (Source: WorkSafeBC Statistical Services, BIA Department):

Roll-on/roll-off container related claims accepted for STD, LTD or fatal benefits in BC 2002- March 2013	
Injury Due to	**Number of claims**
Opening and closing RORO door	18
Objects ejecting and hitting worker when RORO door is opened	5
Slips, trips, and falls while working on a RORO container	27
Sprains, strains and muscle injury during loading and unloading or hooking and unhooking container	12
Truck tipping over due to load shift during transport	1
Motor Vehicle Accident	1
TOTAL	64

ANZI Z245.30-2008 will assist manufacturers, installers, modifiers, owners, employers, waste service organizations, and employees.

ANZI Z245.30-2008 establishes safety requirements for all types of waste containers. Containers may vary as to size, design and other characteristics. The scope of ANSI Z245.30-2008 is clearly laid out in the standard. Section 1.2 clearly states that this standard does not apply to containers intended for use by householders for their individual use which are not to be handled by mechanical container lifting and dumping mechanisms. In this document Figure 2 illustrates examples of various types of containers which are not covered by the scope of ANSI Z245.30-2008.

This standard also specifies the responsibility of all persons who are likely users of such containers. It addresses manufacturers, as well as users who will modify, operate, repair and maintain these containers.

The proposed regulatory amendments focus on roll-on/roll-off containers. The following table lists the sections of ANZI Z245.30-2008 that are relevant to roll-on/roll-off containers.

#	**Sections relevant to roll-on/roll-off**	**Sections considered not relevant**
0	**Introduction**	
1	**Scope**	
2-	**Normative references** o ANSI Z245.60-2008, o ANSI Z535.1-2002, o ANSI Z535.2-2002, o ANSI Z535.3-2002, o ANSI Z535.4-2002,	o ANSI Z245.1-2008, o ANSI Z245.21-2008, o ANSI/NFPA 82-2004, o SAE Standard J594, o US Code of Federal Regulations,
3	**Definitions**.	
4	**Construction, installation, reconstruction and modification** 4.1 Design 4.2. Markings 4.2.1 Container markings 4.3 Installation of containers and lifters 4.4 Reconstruction and repair 4.5 Modification	4.2.1.1 Compactor containers 4.2.1.2 Two-wheeled carts 4.2.2 Lifter and markings
5	**Manufacturer/rebuilder/modifier responsibilities** 5.1 Documented instructions	

#	Sections relevant to roll-on/roll-off	Sections considered not relevant
6	**Employer, owner, employee and other user's responsibility for containers** 6.1 Employer responsibilities for all containers 6.2 Operator or employee responsibility for all containers 6.2.1 Additional operator or employee responsibility for tilt-frame and roll-off containers. 6.2.4 Responsibility of users other than operators or employees for all containers	6.1.1 Additional employer responsibilities (markings) for containers placed in public access areas 6.1.1.1 through 6.1.1.3 6.1.2 Additional employer responsibility for tilt frame and roll-off containers. 6.1.3 Additional employer's responsibility for compactor-containers 6.1.4 Additional employer's responsibility for lifters. 6.1.4.1 through 6.1.4.3 6.1.5 Additional employer or owner responsibilities for four-wheeled slant sided containers. 6.2.2 Additional operator or employee responsibility for compactor-containers 6.2.3 Additional employee's responsibility for lifters 6.2.5 Additional customer responsibility for four-wheeled and slant-side containers
7	**Technical requirements** **7.1 General safeguards and features** 7.1.1 Safety factors 7.1.2 Finish 7.1.3 Lids and Doors 7.1.3.1 7.1.5 Safety Signs 7.1.5.1 through 7.1.5.1.4 7.1.6 Steps and handholds 7.1.6.1 through 7.1.6.3 7.2 Safeguards and features for specific container types 7.2.1 Tilt-frame and roll-off containers 7.2.1.1 through 7.2.1.6	7.1.3.2 through 7.1.3.7 7.1.4 Handles used to move the container 7.1.4.1 through 7.1.4.4 7.1.6.4 Grab bars and side rails 7.1.6.5 Splices 7.1.7 Top hinged tailgates 7.2.1.7 7.2.2. Compactor-containers 7.2.2.1 – 7.2.2.2 7.2.3 Four-wheeled and slant-sided containers 7.2.3.1 through 7.2.3.4 7.2.4 Two-wheeled carts 7.2.4.1 Load weight rating 7.2.4.1.1 through7.2.4.2.8 7.2.5 Two-wheeled cart lifters 7.2.5.1 General requirements 7.2.5.1.1 through 7.2.5.4.1

Section 12.176 (1) adopts ANZI Z245.30-2008 as the safety standard from the date when these regulations are promulgated 1 February 2015. It places an obligation on suppliers to ensure that roll-on/roll-off containers are designed and manufactured in accordance to the container safety standard.

Employers are also obligated to ensure that workers handle roll-on/roll-off containers in accordance with the requirements of the container safety standard. These employee or operator obligations are laid out in the standard.

The proposed section 12.177 places an obligation on an owner of a roll-on/roll-off container and an employer to ensure that persons are not exposed to specified hazards that are due to poor maintenance. These are specifically the rupture or disintegration of the lifting eye, cables, anchors, latches doors, guards or ladder rungs. Another hazard is the unintended or premature discharge of any thing or substance produced, used or stored in the container. The risk of being struck by a roll-on/roll-off container door is well known in the waste industry in other jurisdictions as well. A worker in the United Kingdom had his jaw shattered by the locking mechanism of the waste container on the vehicle he was driving. The injury happened as the worker removed the locating pin from the handle holding the rear door of the container shut. Due to pressure exerted from the load, the handle sprang open striking the worker in the face. The worker required 41 stitches and needed his jaw to be wired. There were three similar incidents in the same company's premises between 2002 and 2008.

There is a gap in regulations as well as jurisdiction relating to the period before a roll-off/roll-on container is loaded onto a truck or carrier. Once a container is loaded onto a truck, it falls under the jurisdiction of the BC Ministry of Transportation and Infrastructure (Commercial Vehicle Safety and Enforcement) under the Motor Vehicle Act. CVSE regulates only how the loads are secured to the vehicle or truck.

Under Part 4 of the BC Motor Vehicle Act Regulations drivers or carriers are required to perform a pre- and post-trip inspection to ensure that a commercial vehicle is in a safe operation condition. Section 37.22(2) of the Motor Vehicle Act Regulations lists the items requiring inspection by the driver or carrier.

Part 4, BC Motor Vehicle Service Act

37.22 (1) No carrier shall permit a driver to drive, and no driver shall drive, a commercial motor vehicle unless the requirements of this section are met.

(2) The driver or a person specified by the carrier shall satisfy himself or herself that the commercial motor vehicle is in a safe operating condition including, but not limited to, the operating condition of the following terms:

- *(a) Service brakes, including trailer brake connections and brake adjustments;*
- *(b) Parking brake;*
- *(c) Steering mechanism;*
- *(d) Lighting devices and reflectors;*
- *(e) Tires;*
- *(f) Horn;*
- *(g) Windshield wipers;*
- *(h) Rear vision mirrors;*
- *(i) Coupling devices;*
- *(j) Wheels and rims;*
- *(k) Emergency equipment;*
- *(l) Load securement devices.*

(3) The inspection referred to in subsection (2) shall be performed daily before the first trip of the day.

(4) If a trip lasts more than one day, the inspection required by subsection (2) shall be carried out on the second and every subsequent day of the trip no later than the first rest stop of the day.

(5) If a commercial motor vehicle's first trip of the day is to provide relief from an earthquake, flood, fire, famine, drought, epidemic, pestilence or other disaster by transporting passengers or goods, the inspection required by subsection (2) shall be carried out before the commercial vehicle's first trip this is not for that purpose.

(6) The driver or the person specified under subsection (2) shall

- *(a) At the end of the final trip of the day, or*
- *(b) Where a trip lasts more than one day, on every subsequent day of the trip at the final rest stop of the day,*

inspect the commercial motor vehicle and record in the trip inspection report defects observed as a result of this inspection or while in charge of the commercial motor vehicle.

The proposed section 12.178 (1) and (2) complements Part 4 of the BC Motor Vehicle Act Regulations. It requires the driver to walk around a roll-on/roll-off container prior to it being loaded onto a truck or carrier to visually inspect for defects that may be a hazard, and ensure that the doors of the container will not open when the container is moved between the ground and the vehicle. When the container door opens during loading the hinges become damaged, raising the risk of the door falling off its hinges subsequently. If the driver identifies a defect that may be hazard Section 12.178 (2) requires the driver to notify either (a) his or her employer and, if the driver does not have an employer, (b) the owner of the roll-on/roll-off container.

Section 12.179 sets out the obligations of the person who is notified of the defects under 12.178 (2). These include (a) withdrawing the container from service immediately, or (b) if it is not practicable to withdraw the container from service immediately, arrange for further the safe removal of the container to a place where its contents can be unloaded, if necessary, and the container can be repaired. A roll-on/roll-off container that has been withdrawn from service or repaired under this section may not be returned to service until inspected by a qualified person as set out in section 12.180..

Section 12.180 sets out the conditions when a container must be inspected by a qualified person to ensure that the container meets the container safety standard:

(a) after any significant structural modification, refurbishment or
(b) after any significant repair to a structural component.
(c) after any repair under section 12.179.

The qualified person must determine whether, following the modification, refurbishment or repair, the container meets the requirements of the container safety standard. Section 12.180(3) also requires an inspection on the earlier of the following: (a) within 30 days of the making of the modification, refurbishment or repair; (b) on the return of the container to the place where it is ordinarily stored or located.

Section 12.181 sets out the requirements of a periodic inspection program. Although 6.1(3) of ANZI Z245.30-2008 state that it is the employer's responsibility to establish and follow a program of periodic containers inspection, no details on intervals for such inspections are specified. The section on periodic inspection (section 12.181), relating to the intervals for periodic inspections, harmonizes with the International Convention of Safe Containers and the Canadian Safe Containers Act.

A review of best practice in other jurisdictions shows that a program of periodic containers inspection is common in all countries that adopt the International Convention of Safe Containers. The Canadian Safe Containers Act is described as an Act to implement the International Convention for Safe Containers (http://laws-lois.justice.gc.ca/PDF/S-1.pdf - accessed 19 September, 2012). Annex 1 contains regulations for the testing, inspection, approval and maintenance of containers. These regulations require examination of containers to be "in accordance with the procedure either prescribed or approved by the Contracting party (the contracting party is the Contracting party of the territory in which the owner is domiciled or has his or her head office) concerned and at intervals appropriate to operating conditions". It makes a distinction between the periodic examination scheme (PES) and the approved continuous examination program (ACEP). The difference between PES and ACEP lies only in the frequency with which examinations are necessary and the markings of the container on or near the safety approval plate. For example, Regulation 2 (Maintenance and Examination) of Annexe 1 states:

2 (d) the interval from the date of manufacture to the date of the first examination shall not exceed five years. Subsequent examination of new containers and re-examination of existing containers shall be at intervals of not more than 30 months. All examinations shall determine whether the container has any defects which could place any person in danger.

3 (a) as an alternative to paragraph 2, the Contracting Party concerned may approve a continuous examination programme if satisfied, on evidence submitted by the owner, that such a programme provides a standard of safety not inferior to the one set out in paragraph 2 above.
(b) to indicate that the container is operated under an approved continuous programme, a mark showing the letters "ACEP" and identification of the Contracting Party which has granted approval of the programme shall be displaced on the container on or as close as practicable to the Safety Approval Plate.

The UK Freight Containers (Safety Convention) Regulation 1984 contains similar provisions for inspections under a Periodic Examination Scheme (PES) or an Approved Continuous Examination Programme (ACEP). The differences lie in the frequency with which examinations are necessary as well as markings of the container on or near the safety approval place.

"Frequency of examinations

2 (a) For a container operated under a Periodic Examination Scheme (PES) the interval from the date of manufacture to the date of the first examination shall not exceed five years. Subsequent examination shall be at intervals of not more than 30 months.

(b) For a container operated under an Approved Continuous Examination ACEP, the examination is carried out in connection with a major repair, refurbishment or on-hire/off-hire interchange but in no case shall the interval without an examination exceed 30 months."

Section 12.181 sets out the scheduling of periodic inspections by a qualified person to determine that containers meet the new container safety standard. It provides a 30 month transition period during which existing containers are expected to be inspected and either repaired so that they meet the new container safety standard or written out of service. Section 12.181 (2) sets out that containers manufactured before February 1, 2015, or for which the date of manufacture is unknown, the first inspection must occur as follows:

(a) if repairs are required under section 12.180, as required by that section;
(b) if the container has not been previously inspected under section 12.180, before August 1, 2017;
(c) if the owner or the employer, as applicable, acquires the container on or after June 2, 2017 but has no record of it having been inspected in accordance with paragraph (a) or (b) of this section, within 60 days of acquiring it.

Section 12.181 (3) provides for a 60 month interval for the first inspection of containers manufactured on or after February 1, 2015. This means that an owner of roll-on/roll-off container and an employer will be able to focus on the volume of existing containers in the first 30 months following the new container safety standard coming into effect. This section states that the first inspection of containers manufactured on or before February 1, 2015, must occur as follows:

(a) if section 12.180 applies, as required by that section;
(b) if a container has not previously been inspected under section 12.180, before February 1, 2020;
(c) if the owner or employer, as applicable, acquires the container on or after December 3, 2019 but has no record of it having been inspected in accordance with paragraph (a) or (b) of this subsection, within 60 days of acquiring it.

Section 12.181 (4) requires that subsequent inspections be at intervals not exceeding 30 months of the most recent inspection, whether made under this section or section 12.180, or a shorter period set by a qualified person, having regard to the condition of the container.

Section 12.182 requires an owner of a roll-on/roll-off container and an employer to keep a record for each container. The record must include all of the following:

(a) the date of each inspection made under section 12.180 or 12.181;
(b) details of any tests conducted, including the testing method and the results;
(c) details of any repairs made;
(d) the date before which the next inspection must occur under section 12.181.

Section 12.183 obligates the owner of the roll-on/roll-off container or the employer to follow the recommendations of the qualified person. If the qualified person determines, upon examination of a roll-on/roll-off container, that the container does not meet the container safety standard, the owner of the container or the employer must withdraw it from service (a) temporarily until it is repaired to meet the container safety standard, or (b) permanently.