

2005/09/13-05

THE WORKERS' COMPENSATION BOARD OF BRITISH COLUMBIA**RESOLUTION OF THE BOARD OF DIRECTORS****Re: Approval to Release to Public Hearing Proposed
Amendments to the Occupational Health and Safety
Regulation (BC Regulation 296/97, as amended)****WHEREAS**

Pursuant to section 225(1) of the *Workers Compensation Act* and amendments thereto ("Act"), the Workers' Compensation Board ("WCB") may make regulations it considers necessary or advisable in relation to occupational health and safety and occupational environment;

AND WHEREAS:

Pursuant to section 226(1)(a) of the *Act*, the WCB, before making a regulation, must give notice of the proposed regulation in the *BC Gazette* and in at least 3 newspapers, of which one must be published in the City of Victoria and one in the City of Vancouver;

AND WHEREAS:

Pursuant to section 226(1)(b) of the *Act*, the WCB, before making a regulation, must hold at least one public hearing on the proposed regulation;

AND WHEREAS:

The WCB has drafted proposed regulatory amendments to the *Occupational Health and Safety Regulation* ("OHSR"), as part of the ongoing regulation review process;

THE BOARD OF DIRECTORS RESOLVES THAT:

1. The proposed amendments to the *OHSR* set out in Appendix A, be released to public hearing.

2. The Vice President of the Policy and Research Division is appointed to chair the public hearing and may designate additional members of the public hearing panel as necessary.
3. A public hearing on the proposed amendments will take place during the first week of November 2005.
4. A public hearing on the proposed amendments will be held in Richmond.
5. Notice of the proposed amendments will be published in the *BC Gazette* and in newspapers published in the City of Victoria, the City of Vancouver and in at least one other location as may be deemed appropriate by the Vice President of the Policy and Research Division.

Dated at Richmond, British Columbia, September 13, 2005.

By the Workers' Compensation Board

**DOUGLAS J. ENNS, CHAIR
BOARD OF DIRECTORS**

PART 3: RIGHTS AND RESPONSIBILITIES

OCCUPATIONAL HEALTH AND SAFETY PROGRAMS

- When program required** 3.1 (1) An occupational health and safety program as outlined in section 3.3 must be initiated and maintained ~~by each employer having~~
- (a) **by each employer that has**
 - (i) a workforce of 20 or more ~~workers~~ **workers, and**
 - (ii) ~~in a~~ **at least one** workplace **that is** determined to be not low risk under section 3.16 (2) (b), or
 - (b) **by each employer that has** a workforce of 50 or more workers. ~~in a workplace determined to be low risk under section 3.16 (2) (b).~~
- (1.1) If subsection (1) (a) or (b) applies to the employer, the occupational health and safety program applies to the whole of the employer's operations.**
- (2) Despite subsection (1) an occupational health and safety program may be required in any workplace when, in the opinion of an officer, such a program is necessary.

Explanatory Note

Prior to March 30, 2004, the *Occupational Health and Safety Regulation* (“OHSR”) required employers who had a large workforce but a small number of workers at each individual worksite to initiate and maintain an occupational health and safety (“OHS”) program. The criteria for determining whether an employer needed to comply with this requirement was based on the first aid hazard rating of the industry in which the employer was classified.

At that time, section 3.1 of the *OHSR* provided as follows:

- (1) An occupational health and safety program as outlined in section 3.3 must be initiated and maintained by each employer having
 - (a) a work force of 20 or more workers, *in an industry classified as “A” or “B” hazard in Part 33 (Occupational First Aid), or*
 - (b) a work force of 50 or more workers *in an industry classified as “C” hazard in Part 33.* [emphasis added]
- (2) Despite subsection (1) an occupational health and safety program may be required in any workplace when, in the opinion of an officer, such a program is necessary.

Effective March 30, 2004, the occupational first aid provisions in the *OHSR* were amended to adopt performance-based requirements for first aid. Consequential to the amendments specific to first aid requirements, an amendment was made to section 3.1 of the *OHSR* that describes when an employer must initiate and maintain an OHS program. The criteria for determining when an OHS program is required were amended to parallel the new risk assessment required by employers in the occupational first aid provisions.

A recent review of this regulation has resulted in the identification of an inadvertent exemption of

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employers who have a large workforce (but a small number of workers at each individual worksite), from maintaining an OHS program as required prior to March 30, 2004.

The use of the terms “industry” and “workforce” do not distinguish between employers based upon the number of workers in a particular work site.

Effective March 30, 2004 section 3.1 of the *OHSR* provides as follows:

- (1) An occupational health and safety program as outlined in section 3.3 must be initiated and maintained by each employer having
 - (a) a workforce of 20 or more *workers in a workplace determined to be not low risk under section 3.16(2)(b)*, or
 - (b) a workforce of 50 or more workers *in a workplace determined to be low risk under section 3.16(2)(b)*. [emphasis added]
- (2) Despite subsection (1) an occupational health and safety program may be required in any workplace when, in the opinion of an officer, such a program is necessary.

An amendment is required to existing section 3.1 (1) of the *OHSR* to clarify the intent of the requirement, which is to maintain the requirement that existed prior to March 30, 2004. The requirement is that employers that have a large workforce but a small number of workers at each individual worksite must initiate and maintain an OHS program. The proposal would have no substantial impact on employers who were in compliance with the OHS program requirement prior to March 30, 2004. The proposal would reinstate the substantive elements of the requirement that existed prior to March 30, 2004.

Section 3.1 (1) (b) has been amended to remove wording that is redundant. Given the wording in subsection (1) (a), the logical conclusion would be that subsection (1) (b) would apply to a workforce of 50 or more workers in a workplace determined to be low risk (i.e., subsection (1) (a) would apply to a workforce of 50 or more workers in a workplace determined to be not low risk.)

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PROPOSED AMENDMENT FOR PART 6: SUBSTANCE SPECIFIC REQUIREMENTS
IN THE *OCCUPATIONAL HEALTH AND SAFETY REGULATION*

PART 6: SUBSTANCE SPECIFIC REQUIREMENTS

ASBESTOS

Definitions **6.1** In sections 6.2 to 6.32

"asbestos-containing material" means any manufactured article or other material which contains 1% or more asbestos by weight at the time of manufacture, or which contains 1% or more asbestos as determined by ~~WCB Method 0205 (dispersion staining, polarized light microscope), or x-ray diffraction;~~ in the ***National Institute for Occupational Safety and Health Manual of Analytical Methods, Method 9002, Issue 2 (microscopy, stereo and polarized light, with dispersion staining)*** or other method acceptable to the Board;

Explanatory Note

The definition of *"asbestos-containing material"* in section 6.1 of the *OHSR* references "WCB Method 0205" as a method for quantifying the amount of asbestos in bulk samples. With the elimination of the WCB lab in 2001, the WCB no longer supports WCB sampling/analytical methods. It is proposed that reference to WCB method 0205 be replaced with a reference to NIOSH method 9002 or other method acceptable to the Board. The "other method acceptable to the Board" would allow for the use of electron microscopy and other techniques such as x-ray diffraction for difficult samples.

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PART 6: SUBSTANCE SPECIFIC REQUIREMENTS

Information	6.44	<p>If a cytotoxic drug is received, used, prepared, administered, stored or disposed of at a workplace, the employer must maintain and make readily available to workers information on its</p> <ul style="list-style-type: none">(a) acute and chronic toxicity, including any potential reproductive hazard,(b) acute exposure treatment, and(c) safe handling.
Procedures	6.48	<ul style="list-style-type: none">(1) When a cytotoxic drug is received, used, prepared, administered, stored or disposed of, written safe work procedures must be developed and implemented for applicable aspects of receiving, storage, preparation, administration and waste handling.(2) The work procedures required by subsection (1) must be readily available for reference by workers and where practicable, summaries of relevant procedures must be posted in the appropriate work areas.

Explanatory Note

It is proposed that the act of receiving cytotoxic drugs be added to existing sections 6.44 and 6.48 in recognition that this activity, like the others listed, puts workers at risk of exposure to cytotoxic drugs. Workers involved in receiving cytotoxic drugs require both information on cytotoxic drugs as detailed in 6.44 as well as written safe work procedures for safe handling as outlined in section 6.48.

Further, it is proposed that the reference to “used” in sections 6.44 and 6.48 be repealed and replaced by the terms “prepared” and “administered”. This is consistent with other sections regarding cytotoxic drugs and better describes those aspects of handling cytotoxic drugs currently captured by the term “used”.

In addition, it is proposed that the term “storage” be added in section 6.48(1). The existing section identifies storage as an activity requiring written safe work procedures but does not reference it later in the section. This exclusion was unintentional.

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BSCs-Drug preparation and administration	6.53	<p>(1) All mixing, preparation and priming of administration sets with a cytotoxic drug must be performed in one centralized area in a specially designated Class II Type B biological safety cabinet that</p> <ul style="list-style-type: none">(a) is exhausted to the outside atmosphere in a manner that prevents recirculation into any work area,(b) has exhaust and ventilation systems that remain in operation for a sufficient period of time to ensure that no contaminants escape from the biological safety cabinet into the workplace, and(c) is equipped with a continuous monitoring device to permit confirmation of adequate airflow and cabinet performance. <p>(2) The administration of cytotoxic drugs must be done by following safe work procedures.</p>
Disconnects	6.54	<p>Syringes and intravenous sets used for cytotoxic drugs must have appropriate fittings, such as Luer locking fittings, which prevent accidental disconnection, such as Luer locks.</p>

Explanatory Note

Although historically cytotoxic drugs were used exclusively in chemotherapy treatment, in recent years these drugs have proven to be an effective treatment in low doses, for other problems such as arthritis and psoriasis. These treatments are often delivered, typically using a syringe, to a patient in their own home or another setting away from the location where the administration set would have been prepared. Before a cytotoxic drug is administered by syringe, it needs to be primed. This activity, carried out in someone's home, is in contravention with a strict interpretation of the current regulations which indicate all mixing, preparation and priming of cytotoxic drug administration sets must be performed in a Class II Type B biological safety cabinet.

It is proposed that existing section 6.53 be amended to clarify that the mixing, preparation and what can be considered initial priming of cytotoxic drugs in a biological safety cabinet is separate from the administration of the drugs and the priming carried out in association with that activity. This clarification is achieved by renumbering the current requirement in 6.53 as 6.53(1) and adding new subsection, 6.53(2), specifically requiring that the administration of cytotoxic drugs be done following safe work procedures. Safe work procedures are intended to minimize or eliminate the risk of exposure to the cytotoxic drugs during its administration. An associated guideline will provide examples of safe work procedures for activities associated with administering a cytotoxic drug including procedures around priming.

In addition, it is proposed that section 6.54 be amended to clarify that the requirement for syringes and intravenous sets to have fittings that prevent disconnection is intended to prevent accidental disconnection.

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| Personal protective equipment | 6.55 | <ul style="list-style-type: none">(1) Adequate personal protective equipment must be provided and worn whenever there is a risk of contact with a cytotoxic drug.(2) For the purposes of subsection (1) personal protective equipment includes<ul style="list-style-type: none">(a) gloves made of surgical latex or other material which provides equal or better protection medical gloves that are manufactured and designed for use when handling cytotoxic drugs,(b) a moisture resistant, long-sleeved gown with cuffs,(c) if there is a risk of contact with aerosols, an approved respirator, and(d) if there is a risk of eye contact, eye and face protection.(3) Used gowns and gloves must not be worn outside the preparation, administration or storage area and must be handled as hazardous waste or contaminated linen.(4) All other non-disposable personal protective equipment must be cleaned immediately after use. |
| Waste disposal | 6.57 | <ul style="list-style-type: none">(1) Adequate, leak-proof waste disposal containers, including sharps and solids containers, and distinctive plastic waste bags must be available in every area where cytotoxic drugs are prepared, administered or stored, and all cytotoxic drug-related waste must be placed into these containers or bags.(2) Any excreta from a patient being treated with cytotoxic drugs that is handled by a worker must be treated as cytotoxic drug-related waste. |
| Spills | 6.58 | <ul style="list-style-type: none">(1) Written emergency procedures to address spills of a cytotoxic drug must be developed and implemented which address requirements for small spill cleanup, both inside and outside the biological safety cabinet or fume hood, large spill cleanup, and personal decontamination.(2) Spill kits, clearly labelled, must be kept in or near cytotoxic drug preparation, administration and storage areas and a sign detailing spill procedures must be posted in all such areas. |

Explanatory Note

It is proposed that existing section 6.55 be amended to include a requirement for medical gloves specifically designed for use with cytotoxic drugs. These types of gloves will deliver greater protection than what is provided through the use of gloves made of surgical latex or other material providing protection equivalent to surgical latex.

Hazardous metabolites can be present in excreta of patients treated with cytotoxic drugs. It is proposed that to further worker safety, existing section 6.57 should be renumbered as 6.57(1) and new subsection 6.57(2) be added requiring that any excreta from a patient being treated with cytotoxic drugs that is handled by a worker, must be treated as cytotoxic drug-related waste and disposed of in accordance with 6.57(1).

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Section 6.58(1) requires, among other things, that written emergency procedures be developed and implemented to address a cytotoxic drug spill inside and outside a biological safety cabinet or fume hood. Although cytotoxic drugs can only be mixed and prepared inside a biological safety cabinet, this section appears to suggest that the mixing and preparation of a cytotoxic drug could be done in a fume hood. It is proposed that the reference to a fume hood be deleted to clarify that cytotoxic drugs can only be mixed and prepared in a biological safety cabinet.

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PART 8: PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT

Protection factors 8.34 A respirator must not be used for protection against concentrations of an air contaminant greater than the maximum use concentration, which is the concentration determined by multiplying the exposure limit for the air contaminant by the appropriate respirator protection factor selected from Table 8-1, or as otherwise determined by the Board.

Table 8-1: Respirator protection factors

Respirator type	Protection Factor
Air purifying	
Non-elastomeric or paper type (disposable)	5
Half facepiece, non-powered	10
Full facepiece, non-powered	50
Full facepiece, powered (PAPR), equipped with HEPA filters for exposure to asbestos	100
Loose-fitting facepiece, powered (PAPR)	25
Full facepiece, powered (PAPR), equipped with HEPA filters and/or sorbent cartridge or canister for exposure to contaminants other than asbestos	1,000
Air supplying	
Airline - demand (negative pressure)	
Half facepiece	10
Full facepiece	50
Airline - continuous flow	
Loose-fitting facepiece/hoods	25
Half facepiece	50
Full facepiece	1,000
Helmet/hood	1,000
Airline - pressure demand (positive pressure)	
Half facepiece	50
Full facepiece	1,000
Full facepiece, with egress bottle	10,000
Self-contained breathing apparatus (SCBA)	
Demand (negative pressure)	50
Pressure demand (positive pressure)	10,000
Other factors such as warning properties, IDLH levels , and cartridge/ canister limitations must also be taken into account when determining the maximum use concentration. Refer to the manufacturer's instructions and CSA Standard CAN/CSA Z94.4-93 standards acceptable to the Board for further information.	

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Table 8-1 of existing section 8.34 provides protection factors (“PF”) to be used in determining the maximum use concentrations for different types of respirators. The PF and the types of respirators detailed in Table 8-1 are similar to, but do not mirror, the PF and the types of respirators detailed in the CSA standard for respirators or those detailed in respiratory equipment standards from other sources such as the Occupational Safety and Health Agency (“OSHA”), American National Standards Institute (“ANSI”), or National Institute of Occupational Safety and Health (“NIOSH”).

Table 8-1 is a uniquely “made in BC” set of protection factors for respirators that shares much in common with other respirator standards, but that has been developed, in consultation with stakeholders in a former regulation review process, to best meet the needs of workers in BC. For example, Table 8-1 assigns a PF of 100 to full facepiece PAPR (powered air purifying respirator) fitted with HEPA (high efficiency particulate air) filters for exposure to asbestos while CSA assigns a PF of 1000 and disregards the asbestos factor (i.e., carcinogenic properties of asbestos) as do OSHA, ANSI, and NIOSH.

It is proposed that Table 8-1 be retained with the following amendments:

- 1) It is proposed that the reference to a “non-elastomeric or paper type (disposable)” respirator with assigned PF of 5 be repealed to reflect that this type of device is no longer manufactured or commercially available.
- 2) Because the term “air purifying” holds little meaning for most employers and workers, it is proposed that the term “non-powered” be added to both the air purifying half facepiece and full facepiece respirator to distinguish these devices more clearly from powered devices.
- 3) It is proposed that a reference to a full facepiece PAPR for protection from contaminants other than asbestos be added to the table with an assigned PF of 1000. Reference to this device was inadvertently left out of Table 8-1 during the preparation of the initial *Occupational Health and Safety Regulation*. This is consistent with *CSA Standard CAN/CSA Z94.4-02*.
- 4) It is proposed that the footnote in Table 8-1 include the terms “IDLH”(Immediately Dangerous to Life and Health), which is an important consideration when applying PF *vis-à-vis* maximum use concentrations; and “canister”, which clarifies that respirator sorbent beds come in two sizes. As well, it is proposed that the reference to *CSA Standard CAN/CSA-Z94.4-93* be replaced with a reference to “standards acceptable to the Board”. This will allow a guideline to provide a range of acceptable standards to better assist a range of industries.

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- Respirable air quality** 8.37 (1) Compressed breathing air supplied for equipment such as an SCBA and a supplied air respirator must be tested at least annually to ensure that the air being supplied meets the requirements of *CSA Standard ~~CAN3-Z180.1-M85~~, CAN/CSA-Z180.1-00, Compressed Breathing Air and Systems*.
- (2) **If an SCBA cylinder has not been used for a period in excess of one year, air in the cylinder must be slowly depressurized to atmosphere and refilled with compressed breathing air that meets the requirements of *CSA Standard CAN/CSA-Z180.1-00, Compressed Breathing Air and Systems*.**
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Explanatory Note

It is proposed that the reference to the 1985 edition of the CSA Standard in existing section 8.37 be repealed and the 2000 edition adopted. Table 1 of *CSA Standard CAN/CSA Z180.1* has been the operating standard for the evaluation of the quality of air from compressed respirable air cylinders since the late 1980s in BC. Adopting the 2000 Standard will ensure that the most current testing protocols are applied in BC. The updates include: a refinement of the testing criteria for the presence for water vapour, a reduction in the maximum allowable concentration in the air sample for methane, a refinement to the definition of "volatile non-methane hydrocarbons", and a requirement to investigate the source and nature of any discernible odours in an air sample.

A requirement is also proposed that self-contained breathing apparatus ("SCBA") cylinders be refilled once a year. This is achieved by renumbering existing section 8.37 as 8.37 (1), and adding new section 8.37 (2) to include the details of this requirement. The Workers' Compensation Board's "*Breathe Safer*" manual (publication BK75) suggests SCBA cylinders be refilled every six months, in part, because of the prevalence of steel cylinders prior to the 1990s. Steel cylinders are prone to rusting which could result in the lowering of the cylinder's oxygen content. The growth in the number of cylinders constructed of materials less prone to rusting than steel, such as aluminum and composite, along with the use of more effective water vapour scrubbing systems on compressed breathing air filling systems has significantly reduced concerns about oxygen loss due to rusting. The proposed requirement for an annual recharge of air cylinders mirrors clause 10.5.5.2 of *CSA Z94.4-02*.

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- Fit tests** **8.40** (1) A respirator which requires an effective seal with the face for proper functioning must not be issued to a worker unless a fit test demonstrates that the facepiece forms an effective seal with the wearer's face.
- (2) ~~Subsection (1) does not apply to a single use (disposable) respirator unless the manufacturer's instructions indicate that a fit test can be performed. Fit tests must be performed in accordance with procedures in CSA Standard CAN/CSA-Z94.4-02, Selection, Use, and Care of Respirators.~~
- (2.1) A fit test must be carried out**
- (a) before initial use of a respirator,**
- (b) at least once a year,**
- (c) whenever there is a change in respirator facepiece, including the brand, model, and size, and**
- (d) whenever changes to the user's physical condition could affect the respirator fit.**
- (3) Other personal protective equipment that is to be worn at the same time as a respirator and which could interfere with the respirator fit must be worn during a fit test.
- ~~(4) After a respirator is issued to a worker, the fit test must be repeated at least annually to ensure that the face seal remains effective.~~
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Explanatory Note

It is proposed that existing section 8.40 (2) be amended to repeal the reference to single use disposable respirators that are no longer commercially available, and replaced with an amended version of the definition of a fit test currently found in section 8.1 (see the consequential repeal of "fit test" in section 8.1 on page 3). The revised definition eliminates a reference in the original fit test definition to fit tests being qualitative or quantitative in nature. All fit tests are either qualitative or quantitative and the reference to these descriptors is unnecessary. In addition, it is proposed that fit tests be conducted in accordance with the 2002 edition of CSA Z94.4 rather than the 1993 edition. The fit test requirements in the 2002 standard are similar to those in the 1993 edition. The 2002 edition does however, reflect new testing methods developed and introduced into the marketplace since 1993. Specifically the following methods were added:

- Bitter aerosol (Bitrex® denatonium benzoate) which essentially replaces the amyl acetate (banana oil) method
- Quantitative fit testing using particle counting measuring equipment (aerosol photometers; single particle counters)
- Quantitative fit testing using controlled negative-pressure (CNP) quantification instrumentation.

It is noted that a number of firms in a variety of industries have been using the 2002 prescribed methods since the early 1990s for fit testing purposes.

It is also proposed that a new subsection (2.1) be added providing expanded requirements around when a fit test must be conducted. Although the 2002 edition of the standard has gone beyond earlier editions of the standard and now allows for biennial fit testing (permits biennial fit testing but recommends annual fit testing), the working group noted that there are no strong scientific studies that indicate biennial fit testing is as effective as or better than annual fit testing. In the absence of conclusive scientific support for a change it is proposed that the current annual fit testing requirement remain. However, it is recognized that there are situations that could affect the fit of a respirator prior to a user's annual fit test. It

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is proposed that fit testing requirements include fit testing prior to the one year anniversary of the previous fit test if a user's physical condition or changes to respirator components could affect the respirator fit.

The proposed repeal of subsection (4) is a consequential amendment to the proposed addition of subsection (2.1).

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PART 8: PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT

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| Fit-check | 8.41 | (1) Before each use of a respirator which requires an effective seal with the face for proper functioning, a worker must perform a positive or negative pressure-fit user seal check in accordance with CSA Standard CAN/CSA-Z94.4-02, Selection, Use, and Care of Respirators. |
| User seal check | | (2) Subsection (1) does not apply to a single use (disposable) respirator, or to the emergency use of an escape respirator. |
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Explanatory Note

It is proposed that section 8.41(1) require a fit check be conducted in accordance with *CSA Standard CAN/CSA-Z94.4-02*. The 2002 edition of the standard describes, in more detail than the 1993 edition, the proper procedures for carrying out a fit check and would ensure greater consistency among users of respiratory protective equipment. In addition, it is proposed that the section replace references to “fit check” with “user seal check”. The term “fit checking” is often confused with the term “fit testing”, while the term “user seal check” is generally accepted terminology and is the term used in the CSA Standard.

The proposed amendment to section 8.41(2) repeals the reference to a single use (disposable) respirator because it is no longer manufactured.

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Records	8.44	The employer must maintain a record of <ol style="list-style-type: none">(a) fit test results and worker instruction, and(b) maintenance for air supplying respirators, powered air purifying respirators, and for sorbent cartridges and canisters, and(c) maintenance and repairs for each self-contained breathing apparatus and all air cylinders in accordance with the requirements of CSA Standard CAN/CSA-Z94.4-02, Selection, Use, and Care of Respirators.
Maintenance and inspections	8.45	<ol style="list-style-type: none">(1) Inspection of compressed air cylinders must be done in accordance with CSA Standard CAN/CSA-Z94.4-02, Selection, Use, and Care of Respirators.(2) Self-contained breathing apparatus, including regulators, must be serviced and repaired by qualified persons.(3) Compressed air cylinders must be hydrostatically tested in accordance with CSA Standard CAN/CSA-B339-96, Cylinders, Spheres, and Tubes for the Transportation of Dangerous Goods.

Explanatory Note

Existing section 8.44 outlines record keeping requirements for respirator fit testing and worker instruction, and maintenance on all respirator types except self contained breathing apparatus ("SCBA") and related air cylinders. Currently, a requirement for keeping maintenance and repair records for SCBA and related air cylinders, in accordance with the 1993 edition of the CSA Standard on selection, use and care of respirators exists in Part 31 (Firefighting) of the *Occupational Health and Safety Regulation* ("OHSR").

Recognizing that workers other than firefighters use SCBA, it is proposed that the requirements for record keeping of maintenance and repairs of SCBA and related air cylinders should apply to all industries to further worker safety. Accordingly, section 8.44 is amended to include subsection (c) which adopts the requirements for record keeping of maintenance and repair of SCBA and related air cylinders that exist in section 31.26(4). The proposed amendment also adopts the 2002 edition of the CSA Standard to be consistent with its adoption in other respirator sections of Part 8. The relevant requirements in the 2002 edition of the Standard mirror those in the 1993 edition.

In addition, a new section regarding maintenance and inspection procedures for SCBA and related air cylinders is proposed. These requirements currently exist in section 31.26(1) to (3). As noted above, workers other than firefighters use SCBA and as such it is proposed that the requirements regarding maintenance and inspection of SCBA and related air cylinders found in Part 31 be adopted in Part 8 to apply to all users of SCBA and related air cylinders. The proposed new section 8.45(1) adopts the 2002 edition of the CSA Standard on the selection, use, and care of respirators to be consistent with its adoption in other respirator sections of Part 8. Further, subsection (3) references the 1996 edition of the CSA Standard regarding cylinders, spheres, and tubes for the transportation of dangerous goods (the 1988 edition is currently referenced in section 31.26(3)). Requirements for hydrostatic testing in the 1996 edition are similar to those set out in the 1988 edition. Both require hydrostatic testing (volumetric expansion and proof pressure testing) in accordance with Compressed Gas Association Publication C-1. It is also noted that cylinders manufactured prior to 1996 need only conform to the standard referred to in the *OHSR* or the edition of the standard published at the time the cylinder was manufactured in accordance with section 4.4(1) of the *OHSR*.

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PART 31: FIREFIGHTING

- Operation of SCBA** 31.21 Respirators must be used in accordance with *CSA Standard CAN/CSA-Z94.4-9302, Selection, Use, and Care of Respirators*, ~~Section~~ **Clause 9.1**.
- Sealing and fit testing** 31.22 (1) Firefighters who use a self-contained breathing apparatus must be clean shaven to ensure that the mask forms a positive seal against the face.
- (2) Fit tests must be performed in accordance with **procedures in** *CSA Standard CAN/CSA-Z94.4-9302, Selection, Use, and Care of Respirators*.
- (2.1) A fit test must be carried out**
- (a) before initial use of a respirator,**
(b) at least once a year,
(c) whenever there is a change in respirator facepiece, including the brand, model, and size, and
(d) whenever changes to the user's physical condition could affect the respirator fit.
- (3) Personal protective equipment that is worn with self-contained breathing apparatus and might interfere with a proper fit must be worn during the fit test.
- (4) Only corrective eyewear designed for use with self-contained breathing apparatus may be worn.
- Air quality and sampling** 31.24 (1) The employer must ensure that air used for breathing purposes meets the requirements of *CSA Standard Z180.1-M85, CAN/CSA-Z180.1-00, Compressed Breathing Air and Systems*.
- (2) The air must be tested at least once annually in a manner acceptable to the Board.
- Maintenance and records** 31.26 (1) Self-contained breathing apparatus, including regulators, must be serviced and repaired by qualified persons.
- (2) Inspection of compressed air cylinders must be **done** in accordance with *CSA Standard CAN/CSA-Z94.4-9302, Selection, Use, and Care of Respirators (sections 10.3.4-10.4, inclusive)*.
- (3) Compressed air cylinders must be hydrostatically tested in accordance with *CSA Standard CAN/CSA-B339-8896, Cylinders, Spheres, and Tubes for the Transportation of Dangerous Goods*.
- (4) Complete maintenance and repair records for each self-contained breathing apparatus and all air cylinders must be kept in accordance with the requirements of *CSA Standard CAN/CSA-Z94.4-9302, Selection, Use, and Care of Respirators* (section ~~10.3.5.1-b to f~~ **10.3.3.2-b to f**, inclusive).

APPENDIX A
PROPOSED AMENDMENTS FOR PART 8: PERSONAL PROTECTIVE
CLOTHING AND EQUIPMENT AND PART 31: FIREFIGHTING
IN THE OCCUPATIONAL HEALTH AND SAFETY REGULATION

Explanatory Note

It is proposed that existing section 31.21 be amended to repeal the reference to *CSA Z94.4-93* and adopt the 2002 edition of the Standard to be consistent with its adoption in other respirator sections. Clause 9.1 of *CSA Z94.4-02* generally mirrors clause 9.1 of *CSA Z94.4-93*. The 2002 edition has an additional requirement that compressed breathing gas meet the air quality requirements of *CAN/CSA-Z180.1*. However, this requirement already exists in *Occupational Health and Safety Regulation* (“*OHSR*”) section 31.24(1) and therefore its appearance in the 2002 edition of the standard does not impact on the overall requirements regarding compressed breathing gas.

It is also proposed that subsection 31.22(2), like section 8.40, be amended to require that fit tests be conducted in accordance with the 2002 edition of *CSA Z94.4* rather than the 1993 edition. Although the fit test requirements in both editions of the standard are similar, the 2002 edition does reflect new testing methods developed and introduced into the marketplace since 1993. Specifically the following methods were added:

- Bitter aerosol (Bitrex® denatonium benzoate) which essentially replaces the amyl acetate (banana oil) method
- Quantitative fit testing using particle counting measuring equipment (aerosol photometers; single particle counters)
- Quantitative fit testing using controlled negative-pressure (“CNP”) quantification instrumentation.

A new subsection, 31.22(2.1), is also proposed to provide requirements around when a fit test must be conducted. Although the 2002 edition of the standard has gone beyond earlier editions of the standard and now allows for biennial fit testing (permits biennial fit testing but recommends annual fit testing), the working group noted that there are no strong scientific studies that indicate biennial fit testing is as effective as or better than annual fit testing. In the absence of conclusive scientific support for a change, it is proposed that annual fit testing be required. However, it is recognized that there are situations that could affect the fit of a respirator prior to a user's annual fit test. It is proposed that fit testing requirements include fit testing prior to the one year anniversary of the previous fit test if a user's physical condition or changes to respirator components could affect respirator fit.

Further, it is proposed that section 31.24 be amended to repeal the reference to the 1985 edition of the CSA Standard *CAN/CSA-Z180.1-00* regarding compressed breathing air and systems and the 2000 edition adopted. Table 1 of the standard has been the operating standard for the evaluation of the quality of air from compressed respirable air cylinders since the late 1980s in BC. Adopting the 2000 Standard will ensure that the most current testing protocols are applied in BC. The updates include: a refinement of the testing criteria for the presence for water vapour, a reduction in the maximum allowable concentration in the air sample for methane, a refinement to the definition of “volatile non-methane hydrocarbons”, and a requirement to investigate the source and nature of any discernable odours in an air sample.

In addition, it is proposed that subsection 31.26(2) reference the 2002 edition of the CSA standard regarding the selection, use, and care of respirators instead of the 1993 edition to be consistent with its adoption in other respirator sections. The 2002 edition no longer carries an inspection clause specific to fire services, but rather, provides an inspection section that applies to any and all users of SCBAs where the focus is on emergency use of this type of equipment. A guideline will accompany this section to clarify a schedule of inspections for regularly staffed fire departments and volunteer fire departments.

In an effort to adopt the most current editions of standards where appropriate, it is proposed that subsection 31.26(3) reference the 1996 edition of the CSA standard regarding cylinders, spheres, and tubes for the transportation of dangerous goods. Requirements for hydrostatic testing in the 1996 edition are similar to those set out in the 1988 edition. Both require hydrostatic testing (volumetric expansion and proof pressure testing) in accordance with Compressed Gas Association Publication C-1. It is also noted that cylinders manufactured prior to 1996 need only conform to the standard referred to in the *OHSR* or the edition of the standard published at the time the cylinder was manufactured in accordance with section 4.4(1) of the *OHSR*.

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PROPOSED AMENDMENTS FOR PART 8: PERSONAL PROTECTIVE
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Finally, it is proposed that subsection 31.26(4) be amended to adopt the 2002 edition of the CSA standard regarding the selection, use, and care of respirators to be consistent with its adoption in other respirator sections of Part 8. The relevant requirements in the 2002 edition, although differently numbered, mirror those in the 1993 edition.

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APPENDIX A
PROPOSED AMENDMENTS FOR PART 11: FALL PROTECTION
IN THE *OCCUPATIONAL HEALTH AND SAFETY REGULATION*

PART 11: FALL PROTECTION

- Anchors** **11.6** (1) In a temporary fall restraint system, an anchor for a ~~vertical lifeline, or for a lanyard used without a lifeline,~~ **personal fall protection system** must have an ultimate load capacity in any direction in which a load may be applied of at least
- (a) 3.5 kN (800 lbs), or
 - (b) four times the weight of the worker to be connected to the system.
- (2) Each ~~vertical lifeline used for fall arrest~~ **personal fall protection system that is connected to an anchor** must be secured to an independent point of anchorage.
- (3) In a **temporary** fall arrest system ~~or permanent fall restraint system~~, an anchor for a ~~vertical lifeline, or for a lanyard used without a lifeline,~~ **personal fall protection system** must have an ultimate load capacity in any direction required to resist a fall of at least
- (a) 22 kN (5 000 lbs), or
 - (b) two times the maximum arrest force.
- (4) A permanent anchor for a personal fall protection system must have an ultimate load capacity in any direction required to resist a fall of at least 22 kN (5 000 lbs).**
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Explanatory Note

It is proposed that the references to “vertical lifeline, or for a lanyard used without a lifeline” in existing sections 11.6 (1) and (3) be replaced with “personal fall protection system”. “Personal fall protection system” is defined in existing section 11.1:

"personal fall protection system" means a worker's fall restraint system or fall arrest system composed of

- (a) a safety belt or full body harness, and
- (b) a lanyard, lifeline and any other connecting equipment individual to the worker

that is used to secure the worker to an individual point of anchorage or to a horizontal lifeline system;

The proposed amendment to existing section 11.6 (2) is intended to clarify the existing requirement with respect to the connection between a lifeline and an anchor. The proposed amendment broadens the requirement to apply to a lanyard that is used without a lifeline. Therefore, a lifeline or lanyard must be connected to an independent point of anchorage. Anchors may have one or more locations to which lifelines and/or lanyards may be connected. It is important that only one lifeline or lanyard be connected to each such location (e.g., lug, ring or eye). The intention is to prevent a situation where if one worker falls, the safety of another worker is compromised.

In addition, it is proposed that the application of the requirement should not be limited to personal fall arrest systems, and should be broadened to apply to fall restraint systems. This change would reflect current generally accepted practice in the workplace.

It is not intended that the proposed requirement would apply to a horizontal lifeline because this equipment utilizes different anchor capacities and different safety factors.

The proposed amendment would complement the anchor requirements for personal fall protection systems that are provided in subsections (1) and (3).

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Existing section 11.6 (3) has been split into two sections, 11.6 (3) and 11.6 (4), in order to separate the requirements for a temporary fall arrest system and a permanent anchor.

The proposed addition of section 11.6 (4) results in a minor amendment to section 13.33 (1).

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PART 13: LADDERS, SCAFFOLDS AND TEMPORARY WORK PLATFORMS

- Fall protection** **13.33**
- (1) A worker on a boom-supported elevating work platform must wear a personal fall arrest system secured to **a suitable and substantial anchorage point** ~~an anchor meeting the requirements of Part 11 (Fall Protection).~~
 - (2) If a worker is supported on a work platform suspended by fewer than four suspension lines, the worker must use a personal fall arrest system secured to an anchor meeting the requirements of Part 11 (Fall Protection) and independent of the work platform and its suspension system.
 - (3) If a worker is supported on a work platform suspended by four or more suspension lines, the worker must use a personal fall arrest system secured to an anchor on the platform or to an anchor meeting the requirements of Part 11 (Fall Protection) and independent of the work platform and its suspension system.
 - (4) Each person on a work platform suspended from a crane or hoist must use a personal fall arrest system with a shock absorbing lanyard, secured to
 - (a) an anchor above the load hook, or
 - (b) if the failure of any component does not allow the platform to drop more than 15 cm (6 in), an anchor on the platform designated by the manufacturer or a professional engineer.
 - (5) Each person on a work platform attached to a crane boom must use a personal fall arrest system secured to an anchor on the boom or on the platform.
 - (6) The personal fall arrest system referred to in subsection (5) must be secured on the boom or on the platform to an anchor that is designated by
 - (a) the manufacturer, or
 - (b) a professional engineer.

Explanatory Note

This proposed amendment to existing section 13.33 (1) is required to reflect the proposed amendment to existing section 11.6 related to the ultimate load capacity for a permanent anchor.

The proposed addition of section 11.6 (4) will require a permanent anchor to have an ultimate load capacity of at least 22 kN (5000 pounds). The attachment point for a worker's fall protection lanyard on the platform of a boom-supported elevating work platform is considered to be a permanent anchor. The current CSA and ANSI standards for boom-supported elevating work platforms require that such an anchor point be provided on the work platform. However, the strength requirement specified for this anchorage is, in some of the standards, less than 22 kN. The proposed amendment to existing section 13.33 (1) will accommodate anchors on this type of equipment that have historically been considered adequate for this application.

The proposed wording is essentially a return to the wording of the requirement under the 1998 edition of the *Occupational Health and Safety Regulation* (former section 13.112 (1)). The anchor point on the platform, provided under the applicable code requirement, will be considered "a suitable and substantial anchorage point" for the purposes of the amended section 13.33 (1). For platforms built to older versions of the applicable codes, such as the early 1980's versions, an anchor point for a worker's fall protection

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system was not required on the platform. For these older machines, an anchor meeting a newer version of the applicable code can be engineered and installed on the platform (if this has not already been done), or the fall protection lanyard can be looped around the boom section.

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PART 11: FALL PROTECTION

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| Temporary horizontal lifelines | 11.7 | A temporary horizontal lifeline system may be used if the system is <ul style="list-style-type: none">(a) manufactured for commercial distribution and installed and used in accordance with the written instructions and drawings from the manufacturer or authorized agent, and the instructions and drawings are readily available in the workplace,(b) installed and used in accordance with written instructions and drawings certified by a professional engineer, and the instructions and drawings are readily available in the workplace, or(c) designed, installed and used in a manner acceptable to the Board. |
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Explanatory Note

The term “drawings” is proposed for deletion because it is not necessary. It is recognized that written instructions for temporary horizontal lifeline equipment may include a sketch or simple drawing that provides standard details about the equipment. These written instructions may be adequate and appropriate.

Drawings from the manufacturer or a professional engineer may not exist. Maintaining the drawings requirement may result in an unnecessary burden placed on manufacturers and suppliers of temporary horizontal lifeline systems, and professional engineers to develop formal drawings. In an engineering context, drawings are generally understood to mean formal illustrations that are applicable to a specific task at one or more locations.

PART 12: TOOLS, MACHINERY AND EQUIPMENT

AUTOMOTIVE LIFTS AND OTHER VEHICLE SUPPORTS

Standards	12.74	<p>(1) An automotive lift or hoist must meet the requirements of ANSI Standard ANSI/ALI B153.1-1990, American National Standard for Automotive Lifts – Safety Requirements for the Construction, Care, and Use ANSI Standard ANSI/ALI ALCTV-1998, American National Standard for Automotive Lifts – Safety Requirements for Construction, Testing and Validation.</p> <p>(2) The operation, inspection and maintenance of an automotive lift must meet the requirements of ANSI Standard ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts – Safety Requirements for Operation, Inspection and Maintenance.</p> <p>(2-3) A shop crane, jack, axle stand, ramp or other type of vehicle support Portable automotive lifting devices and vehicle supports must meet the requirements of the applicable section of ANSI Standard ASME PALD-1993, Portable Automotive Lifting Devices ANSI Standard ASME PALD-2003, Safety Standard for Portable Automotive Lifting Devices.</p>
Assembly and installation	12.75	An automotive lift, portable automotive lifting device shop crane, jack or other vehicle support must be assembled and installed by qualified personnel.
Operation	12.76	Operation, inspection, repair, maintenance and modification of a vehicle support or lift an automotive lift, portable automotive lifting device or other vehicle support must be carried out according to the manufacturer's instructions or the written instructions of a professional engineer.
Inspection and maintenance records	12.77	The employer must keep a maintenance and inspection maintenance, inspection, modification and repair record for each automotive lift or hoist.
Inspection and testing	12.78	An automotive lift or hoist must be inspected and tested monthly in a manner acceptable to the Board , unless the manufacturer requires more frequent inspection and testing.
Rated capacity	12.79	<p>(1) The rated capacity must be marked on each automotive lift, or hoist, shop crane, jack, axle stand, ramp portable automotive lifting device or other vehicle support and must not be exceeded.</p> <p>(2) Repealed.</p> <p>(3) If the rated capacity of a device listed in subsection (1) is dependent on the concurrent use of 2 or more devices, the number of devices required to achieve the rated capacity must be clearly marked on the devices.</p>
Controls	12.80	The control for an automotive lift must require continuous pressure by the operator when raising or lowering the unit, and the control must return to the neutral position when released.
Vehicle restraint	12.80.1	<p>Before a runway type automotive lift is used,</p> <p>(a) manual wheel chocks must be used as the primary means to restrain the vehicle from movement, and</p> <p>(b) automatic or fixed stops, or a combination of them, must be provided and used as a secondary means to prevent the vehicle from inadvertently rolling off either end of the runway.</p>

APPENDIX A
PROPOSED AMENDMENTS FOR PART 12: TOOLS, MACHINERY AND EQUIPMENT
IN THE *OCCUPATIONAL HEALTH AND SAFETY REGULATION*

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| Swing-arm restraint | 12.80.2 | (1) If an automotive lift has swing arms, a swing-arm pivot restraint system must be used. |
| | | (2) The swing-arm pivot restraint system must incorporate a means to prevent unintentional removal or disengagement. |
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Explanatory Note

The proposed amendment to existing section 12.74 (1) and the proposed addition of new section 12.74 (1.1) replace reference to the 1990 ANSI standard with updated 1998 and 2000 editions of ANSI standards that apply to automotive lifts. The 1990 standard does not reflect current worker protection measures and workplace practice changes that have occurred since that time. The 1998 and 2000 standards are companion standards and represent an update to the currently referenced 1990 standard. The 1998 standard resulted from an identified need by the Automotive Lift Institute (“ALI”) to enhance the responsibilities of the lift manufacturer regarding construction, testing and validation of automotive lifts. The ALI is a trade association of US and Canadian manufacturers and certain national distributors of automotive lifts with a long history as a standards developer. The 2000 standard provides more detailed guidance to the lift owner or employer about the required qualifications, training, reporting and documentation for lift operators, inspectors and maintenance personnel.

Section 9.3 of the 1998 standard includes processes to ensure that automotive lifts will be tested and conform to testing standards referenced in the 1998 standard. Section 9.3 requires third party validation by a nationally recognized testing laboratory. This validation requirement may be onerous. Section 4.4 of the *Occupational Health and Safety Regulation* (“OHSR”) provides that when the OHSR requires a person to comply with a standard of another agency, the person may, as an alternative, comply with another standard acceptable to the Workers’ Compensation Board (“WCB”). In order to address potential concerns about the validation requirement in the 1998 standard, it is anticipated that the WCB would accept alternatives to the third party validation outlined in section 9.3 of the 1998 standard. These alternatives would be outlined in a guideline.

The proposed amendment to existing section 12.74 (2) to change the reference of the ANSI Standard ASME PALD from the 1993 edition to the 2003 edition also represents an update of the applicable standard. The 2003 edition offers increased protection to workers. The 2003 edition includes provisions for automotive ramps and forklift jacks, matters not addressed in the 1993 standard. In addition, other significant changes include:

- warning label requirements being replaced with more comprehensive safety messages;
- a new section on quality assurance that requires manufacturers to adhere to a planned, written system of policies and procedures to assure consistent and continuing conformity to the requirements of the standard;
- durability test requirements for all 18 categories of equipment covered in the standard (rather than only 4 categories of equipment in the 1993 edition); and
- five additional safety standards referenced in the 2003 standard (only one standard is listed in the 1993 edition).

The reference to “automotive lift or hoist” in existing sections 12.74 to 12.80 has been shortened to “automotive lift” to maintain consistency with current terminology.

As well, the reference to “shop crane, jack, axle stand, ramp” in existing sections 12.74 (2), 12.75 and 12.79 (1) has been replaced with “portable automotive lifting devices” to reflect the standard and to cover all portable automotive lifting equipment. “Portable automotive lifting device” has been added to existing section 12.76 to clarify that this section is applicable to such devices. The intent is that the regulation will now clearly indicate the categories of equipment covered by the standards.

The existing operation, inspection and maintenance requirements in section 12.76 are in addition to those provided in section 12.74. Section 12.76 would typically address situations where manufacturers’ instructions or the written instructions of a professional engineer are needed because of circumstances

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relating to the standard(s) referenced in section 12.74 or the particular automotive lift. These situations include the following:

- the referenced standard in existing section 12.74 is not applicable to the equipment because of the equipment's year of manufacture (e.g., pre-1998);
- an earlier edition of the standard that may be applicable does not address repair or modification of the equipment;
- the automotive lift apparatus is not a type covered in the referenced standard (e.g., vehicle display or storage lifts and some portable lifting devices);
- the manufacturer is no longer in business (and therefore a professional engineer could provide instructions in these situations); and
- repair or modification to structural components of the automotive lift has not been designed or inspected by the manufacturer (and therefore a professional engineer could provide the design, necessary instructions and final inspection of the equipment).

A practice guideline would provide further information about the operation, inspection, repair and modification of an automotive lift.

The proposed revision to existing section 12.77 would add requirements by the employer to keep records of repairs and modifications to the automotive lift. The intent is to clarify that "maintenance" generally refers to preventative maintenance measures (e.g., checking the oil) of the lift, while "repair" refers to work done to fix a problem with the lift. In addition, it is important to owners and operators to know if the automotive lift has been modified, particularly if the unit is later sold to another owner. A practice guideline would provide information about maintenance and repair records.

The proposed revision to existing section 12.78 is intended to clarify that daily inspections are routine, cursory inspections of the automotive lift. Monthly inspections are envisioned as a more intensive inspection of the equipment which should include inspection and test points that are typical in the industry for that type of equipment. Monthly inspections are in addition to daily inspections. A practice guideline would provide further information about the components of a monthly inspection.

The proposed new requirement for automatic or fixed stops in new section 12.80.1 flows from recommendations by the WCB's Lessons to be Learned Committee ("Committee") which reviewed the circumstances surrounding the death of a high school student in 2002 caused by a vehicle rolling off a runway style automotive lift. The Committee determined that these automotive lifts should have runway stops to ensure vehicles cannot roll off a lift and harm a worker. Proposed new section 12.80.1 is intended to highlight the importance of having both manual wheel chocks and automatic or fixed stops (also known as runway stops) on runway type (i.e., drive-on style) automotive lifts to restrict movement of a vehicle placed on the lift. Manual wheel chocks are standard requirements on all runway type automotive lifts. Runway stops act as a secondary means to restrain the vehicle from inadvertently rolling off either end of the runways when raised.

Since 1974, ANSI standards have either specifically or implicitly required automatic or fixed stops (also known as "runway chocks"). The 1974 edition references runway chocks by stating that "Wheel chocks shall be permanently affixed to the runway ends ... Chocks may be either fixed or automatic." The 1981 and 1990 editions reference "runway chocks" but do not specifically identify them as being automatic or fixed. The 1990 edition, which is the current required standard for automotive lifts, references "chocks" and an assumption is made that they are intended to mean automatic or fixed stops. The wording changes in the 1998 edition differentiate and clarify between "manual chocks" and "automatic or fixed stops".

All runway lifts manufactured after 1974 in accordance with the applicable ANSI standard are equipped with accidental roll-off protection, in the form of automatic chocks or fixed stops, provided by the lift manufacturer. However, not all automotive lifts in use in BC, particularly lifts manufactured prior to 1974 may have complied with the 1990 ANSI standard with respect to runway stops.

Proposed new section 12.80.2 is intended to address equipment manufactured prior to the 1990 ANSI standard. A swing-arm pivot restraint system refers to devices that prevent the lift pads that support the

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vehicle from slipping off, which would cause the vehicle to collapse from the lift. The requirement exists in the 1990 and 1998 editions of the ANSI standard. There have been many incidents in BC of vehicles falling off automotive lifts due to the swing-arms slipping away. These incidents have resulted in “near miss” accidents or injuries to workers.

A large number of lifts currently in use in BC were built prior to 1990 and may not have swing-arm restraint devices. In addition, there may be lifts built since 1990 that do not adhere to ANSI standards regarding swing-arm restraints. Proposed section 12.80.2 is intended to prevent injuries and potential fatalities that may occur because of the absence of swing-arm restraint devices.

It is anticipated that the new requirements relating to automatic or fixed stops and swing-arm restraints would apply to automotive lifts in use in BC, regardless of date of manufacture. Retrofitting costs for older equipment to comply with proposed sections 12.80.1 and 12.80.2 are estimated to be \$1000 to \$1700. Retrofit kits are available for \$700 to \$1400.

It is anticipated that if the above amendments are approved, the effective date of these amendments would be at least 6 months after the date of approval to allow for education and awareness of affected parties, and time for any necessary equipment retrofitting. It is anticipated that most automotive lifts currently in use would be in compliance with the proposed changes if they were built since the 1974 ANSI standard. Note that all editions of the ANSI standard, since 1974, have required that all automotive lifts be retrofitted to meet the standard within 6 months of the date of issue.

PART 13: LADDERS, SCAFFOLDS AND TEMPORARY WORK PLATFORMS

DIVISION 5 – MOVABLE WORK PLATFORMS

- Hoisting and lowering work platforms** **13.29**
- (1) Cranes, winches and other devices used for hoisting and lowering movable work platforms must
 - (a) be operated as slowly as practicable while supporting the work platform,
 - (b) be lowered under power, if the device is powered, and
 - (c) not be equipped with a free running boom or hoisting winch controlled only by brakes.
 - (2) If a moveable work platform is suspended **from a crane, winch or other device** over a structure that cannot safely support its weight or if other hazards exist below the platform, lower limit travel devices compatible with the hoist system must be used to ensure the platform cannot be lowered beyond the safe lower limit of travel.
 - (2.1) If the lower limit travel devices required by subsection (2) are not practicable, the employer must ensure that work procedures acceptable to the Board are used that will minimize the risk of the platform going beyond the safe lower limit of travel.**
 - (3) A trial lift for a work platform suspended from or attached to a crane or hoist must be performed at all work locations before the platform is occupied.

Explanatory Note

The intent of section 13.29 (2) is to ensure that lower limit travel devices are used to prevent a work platform from being lowered beyond a safe level. Specifically, the requirement for these devices is needed if the work platform is to be suspended over a structure that cannot safely support its weight, or if other hazards exist below the platform. Some examples of the hazards that might exist below the platform are when a work platform is being lowered over water, a canopy entrance to a building, or the entrance to the underground parking area of a building. Lower limit devices are generally practicable if the hoisting equipment being used is a permanent powered platform. Most permanent powered platforms and many portable powered platforms use a cable climbing hoist. For these types of hoists, the use of cable clips positioned at the appropriate spot on the hoist line(s) may be considered a lower limit travel device. Lower limit travel devices are generally not practicable for crane-supported or drum winch-supported work platforms. It is proposed that existing section 13.29 (2) be amended to include reference to “crane, winch or other device”. This addition is intended to clarify the situations in which this section is applicable.

The requirement in section 13.29 (2) was part of the proposal to amend Part 13, which was taken to a March 2004 public hearing and came into effect on January 1, 2005. During the public hearing, a submitter noted that some types of hoists do not have devices to limit a work platform’s travel beyond a safe level.

It is proposed that the requirement for lower limit travel devices be amended (proposed section 13.29 (2.1)) to address situations where it is not practicable to have these devices, while maintaining worker health and safety. The proposed amendment is intended to outline a hierarchy of safety measures when a moveable work platform is suspended over a structure that cannot safely support its weight or if other hazards exist below. The use of a lower limit travel device would be the primary means of worker safety. The use of work procedures would be secondary only where the devices do not exist or are not practicable. If a winch or drum hoist is being used, painting a warning mark on the hoist line at an appropriate spot may be part of the work procedures for controlling lower travel limits. It is anticipated that a practice guideline would outline the applicable work procedures that are acceptable to the Workers’ Compensation Board.

APPENDIX A
PROPOSED AMENDMENTS FOR PART 14: CRANES AND HOISTS
IN THE OCCUPATIONAL HEALTH AND SAFETY REGULATION

PART 14: CRANES AND HOISTS

GENERAL REQUIREMENTS

Two-block prevention	14.25	If a crane or hoist is being used to hoist personnel with a load line, the line must have <ul style="list-style-type: none">(a) a device to prevent two-blocking, if the equipment has a telescoping boom, or(b) a device to warn the operator of impending two-blocking if the equipment has a boom installed with a fixed length.
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Explanatory Note

Section 14.25 is an exact replication of former section 13.98. This section was repealed as part of the proposal to amend Part 13 of the *Occupational Health and Safety Regulation* ("OHSR"), which was taken to a March 2004 public hearing and came into effect on January 1, 2005. In its place a new requirement, section 13.28, was enacted to reiterate the goal of minimizing the occurrence of two-blocking and to provide an alternative when it is not practicable to maintain a two-blocking prevention or warning device on certain types of equipment (e.g., the use of conventional lattice boom cranes in pile driving) . Section 13.28 provides as follows:

- (1) A crane or hoist used to raise a work platform on a load line must be equipped with
 - (a) a device to prevent two-blocking at all points, or
 - (b) in the case of a lattice boom crane, a two-blocking warning device.
- (2) Despite subsection (1), a work procedure acceptable to the Board may be followed to minimize the risk of two-blocking if it is not practicable to maintain a two-blocking prevention or warning device on a conventional lattice boom crane used for pile driving and similar applications.

The restatement of former section 13.98 in Part 14 of the *OHSR* was intended to ensure that information on two-block prevention was not overlooked if a reader reviewed only the information on cranes in either Part 13 or 14. It is proposed that section 14.25 be deleted as section 13.98 has been repealed.

PART 20: CONSTRUCTION, EXCAVATION AND DEMOLITION

SAFE WORK AREAS AND SAFE ACCESS

**Thrust-out
crane landing
platforms**

- 20.13**
- (1) A professional engineer must certify each thrust-out crane landing platform and certify that the building structure can adequately support loads to be imposed by use of the platform.
 - (2) Thrust-out crane landing platform drawings and certification must be available on site when the platform is in place.
 - ~~(3) The rated load of a thrust-out crane landing platform must
 - ~~(a) equal or exceed the rated lifting capacity of any crane or hoist delivering loads to the platform, except with the prior approval of the Board, and~~
 - ~~(b) be clearly marked on the platform.~~
 - ~~(c) Repealed.~~~~
 - (3) The rated capacity of a thrust-out crane landing platform must be clearly marked on the platform and not be exceeded.**
 - (3.1) Control measures acceptable to the Board must be implemented to ensure all loads placed on a thrust-out crane landing platform
 - (a) are safely supported, and**
 - (b) can be safely attached to and detached from the rigging.****
 - (4) Thrust-out platform decking and supporting members must be designed to safely support any concentrated loads that may be landed.
 - (5) Repealed.

Explanatory Note

Section 20.13 (3) (a) of the *Occupational Health and Safety Regulation* ("OHSR") requires prior approval from the Workers' Compensation Board ("WCB") if the rated load of a thrust-out crane landing platform is not equal to or greater than the rated lifting capacity of a crane or hoist delivering loads to the platform. Generally, this section applies when buildings are under construction and these platforms are utilized as a means for cranes to place loads of materials that will be utilized in the construction of the upper floors of the building.

It is recognized that when this requirement was developed in the 1970s, the maximum crane capacities were commonly around 8,000 to 8,800 lbs. Today, the capacities of cranes are much higher and the requirement is out-of-date with equipment utilized in the construction industry. There are very rare occurrences of a thrust-out crane landing platform to have a capacity equal to or greater than the crane that is delivering the load to the platform. In response to this change in the industry/equipment, a guideline was developed by the WCB in June 2004 which described procedures and means that the WCB has found acceptable in the past in order to provide prior approval as required in section 20.13 (3) (a).

It is proposed that existing section 20.13 (3) (a) be deleted. The goal of section 20.13 (3) (a) is to ensure that the thrust-out crane landing platform is not overloaded, and does not collapse. Workers working below the platform would be in danger of serious injury if the load and platform fell on them. Proposed section 20.13 (3.1) is intended to maintain this goal by requiring control measures to be implemented to prevent loading the platforms in unsafe ways. It would also address situations where the rated capacity

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of the platform is not exceeded but the dimensions of the load may create unsafe conditions for workers (e.g., the load's dimensions exceed the dimensions of the platforms or the size and configuration of the load creates difficulties for workers unhooking and hooking the load to rigging on the crane). It is anticipated that a guideline would describe some acceptable control measures. Control measures could be a combination of engineering controls and work procedures (e.g., using platforms with rated capacities equal to or greater than the crane's capacity, recommending that the capacity of a landing platform be maximized, which may require through bolting the platform to a concrete slab of the building, etc.) or work procedures alone (e.g., those accepted for prior approvals in the past).

Proposed section 20.13 (3) retains the wording of existing section 20.13 (3) (b) and also requires that the rated capacity of the platform not be exceeded. This proposed requirement is intended to ensure that the platform is not overloaded, either through delivery of loads by crane or by manual means. It is also intended to prevent the platform from being overloaded by single or combined loads placed on the platform by the crane and/or from within the structure.

The proposed requirement that the rated capacity of the platform not be exceeded may not be adequately covered by section 4.3 (1) (b) (ii) of the *OHSR* which provides that equipment must be used and operated in accordance with safe work practices. This section would not address situations of marginal overloads based on design factors.

PART 20: CONSTRUCTION, EXCAVATION AND DEMOLITION

~~PILE DRIVING AND DREDGING~~ MARINE CONSTRUCTION, PILE DRIVING AND DREDGING

Suspended work platforms	20.102	(1)	Suspended work platforms such as gilly boards, small boats and buckets used to support workers must meet the requirements for suspended work platforms in Part 13 (Ladders, Scaffolds and Temporary Work Platforms).
		(2)	Despite section 13.27 (5), a secondary hoisting line on a crane may be used to suspend workers on a work platform in a marine construction or pile driving operation if <ul style="list-style-type: none">(a) it is not practicable to provide another means for positioning workers to perform work tasks,(b) all of the crane's hoisting gear that is being used conforms to section 13.29 (1), and(c) the total load attached to or suspended from all load lines of the crane does not exceed 50% of the rated capacity of the crane for the reach and configuration.

Explanatory Note

Section 13.27 of the *Occupational Health and Safety Regulation* provides as follows:

- (1) The weight of a work platform suspended from a crane or hoist or attached to a crane boom and its rigging, plus the rated capacity, must not exceed 50% of the rated capacity of the crane or hoist at the working radius or configuration.
- (2) If a work platform attached to a crane boom causes eccentric loading on the boom,
 - (a) the effect on the rated capacity of the crane must be determined and the rated capacity certified by the crane manufacturer or a professional engineer, and
 - (b) the rated capacity of the crane must be reduced accordingly
- (3) The boom of a crane used to suspend a work platform must have a powered boom or a fixed boom.
- (4) A work platform must not be
 - (a) suspended from an articulating boom crane, or
 - (b) attached to an articulating boom crane, unless the crane manufacturer approves the installation.
- (5) If workers are on a work platform suspended from a crane, a secondary hoisting line on the crane must not be used.

The intent of section 13.27(5) is to ban simultaneous movement of a worker on one hoisting line and materials on another hoisting line for all activities involving the use of a work platform suspended from a crane. The ban is important because such simultaneous use of two hoisting lines on a single crane can be dangerous and result in serious injury to a worker. The requirement in section 13.27(5) was part of the proposal to amend Part 13, which was taken to a March 2004 public hearing and came into effect on January 1, 2005.

During the public hearing, the marine and pile driving industry raised concerns about the proposed amendment to ban the use of a secondary hoisting line on a crane when workers are on a platform suspended from the crane. They noted that the proposal would result in the need to use two cranes for activities that were historically completed with one crane. As a result, this would create a greater hazard to workers as two crane booms would be working in close proximity to one another. In addition, they advised that in marine construction activity, worksites that are accessed by marine derricks (e.g., ferry slips) usually preclude the possibility of two cranes being positioned to perform the work.

A new requirement is proposed for Part 20 (proposed section 20.102(2)) to recognize that the nature of the work performed in certain marine construction and pile driving operations necessitates the use of a secondary hoisting line and that there are currently no practicable alternative work processes. The scope of work covered by the proposed change is some types of dock and wharf construction and

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repair work, and during pile driving and related support work. It is envisioned that if work is taking place in an area that provides sufficient space to position other equipment on firm and near level ground or other solid surfaces such as a dock, the use of a boom-supported elevating work platform, or other safe means, would be generally considered to be a practicable alternative to the use of a secondary hoisting line. It is anticipated that a guideline would outline the circumstances where the WCB envisions that the use of a secondary line would likely be the only practicable means to do some tasks, and circumstances where other methods of positioning workers to do tasks at height would be considered practicable.

Section 20.102 (2) (b) is intended to require all load lines in use on a crane to be powered up and down (i.e., free running lines are not to be used). This would include the boom hoist line on a conventional crane.

Section 20.102 (2) (c) is intended to ensure that the total load suspended on the crane (i.e., loads suspended from both lines) does not exceed 50% of the rated capacity of the crane.

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PROPOSED AMENDMENTS FOR PART 26: FORESTRY OPERATIONS
IN THE *OCCUPATIONAL HEALTH AND SAFETY REGULATION*

PART 26: FORESTRY OPERATIONS

- Bullboards** **26.65** (1) For the protection of the driver, each logging truck must have, **at the back of the cab**, a substantial barrier ~~at the back of the cab~~ that
- (a) is at least 15 cm (6 in) higher than the cab, and
 - (b) is at least 15 cm (6 in) wider than the cab ~~or is the maximum width allowed by the *Motor Vehicle Act*~~. **but does not exceed 2.6 m (102 in) in width.**
- (2) The barrier at the back of the cab of a self-loading logging truck may be less than the height specified in subsection (1) but must not be less than the cab height.
-

Explanatory Note

Section 7.10 (vehicle width) of the *Commercial Transport Regulations* states that no person shall, without a permit, drive or operate on a highway a vehicle having a total outside width, including its load, in excess of 2.6 m. Many logging truck cabs are 2.6 m wide.

The *Occupational Health and Safety Regulation* (“OHSR”) currently requires that the barrier at the back of logging truck cabs be at least 15 cm (6 in) wider than the cab or the maximum width allowed by the *Motor Vehicle Act*. The *Motor Vehicle Act Regulations* (“MVAR”) had, until recently, stipulated that bulkheads or cab protectors must be the width of the vehicle or vehicle cab. Section 26.65 (1) (b) references the MVAR in order to accommodate logging truck cabs that are wider than 2.45 m (but not greater than 2.6 m). These logging trucks would not be able to affix a barrier that is 15 cm wider than the cab, in compliance with the first requirement in 26.65 (1) (b), without being over the maximum width permissible for vehicles that operate on a highway.

Sections of the MVAR regarding bulkheads and cab protectors for commercial vehicles, including width requirements, were repealed in early 2005 and replaced with requirements that are not applicable to logging trucks. Accordingly, the proposed amendment repeals the reference to the *Motor Vehicle Act* and adds a specific requirement to accommodate logging truck cabs that are wider than 2.45 m.

PART 26: FORESTRY OPERATIONS

- Bullboards** 26.65 (3) For the purposes of subsection (1), the barrier must be capable of withstanding a horizontal forward static load equal to 40% of the weight of the cargo being transported that may shift and contact the barrier, with the weight uniformly distributed over the entire barrier.
- (4) The barrier of the logging truck must be
- (a) designed, constructed and maintained so that it has no aperture large enough to permit any item of cargo to pass through it, and
 - (b) installed in a manner acceptable to the Board to ensure that the rated capacity of the barrier is not diminished.
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Explanatory Note

Existing section 26.65 (1) indicates that “For the protection of the driver, each logging truck must have a **substantial barrier** at the back of the cab...” (emphasis added). Workers’ Compensation Board (“WCB”) officers have used strength and structural requirements for bulkheads and cab protectors previously found in the *Motor Vehicle Act Regulations* (“MVAR”) to define a substantial barrier for the purposes of existing section 26.65.

Sections of the *MVAR* regarding bulkheads and cab protectors for commercial vehicles, including strength and structural requirements, were repealed in early 2005 and replaced with requirements that are not applicable to logging trucks.

Proposed new section 26.65 (3) adds a strength requirement for a substantial barrier similar to that previously found in the *MVAR*. A guideline will provide further guidance as to what portion of the weight on additional semi-trailers must be used in determining the required rated capacity of the barrier.

Proposed new section 26.65(4) adds two structural requirements for a substantial barrier. Proposed new subsection 26.65(4)(a) adds a requirement, mirroring a previous structural requirement in the *MVAR*, to ensure that no aperture in a barrier is large enough to permit cargo to pass through it. Proposed new subsection 26.65(4)(b) adds a requirement regarding installation to ensure that barriers are affixed in a manner that ensures that the barrier can perform to its rated capacity. The *MVAR* previously required that a barrier be affixed in accordance with the manufacturer’s recommendations. The proposed *Occupational Health and Safety Regulation* (“OHSR”) requirement provides greater flexibility regarding barrier installation and will be accompanied by a guideline that will detail a number of installation approaches that are acceptable to the Board. Acceptable installation approaches will include installation in accordance with manufacturer’s recommendations, installation as specified by a professional engineer, and more detailed installation processes such as using particular types of bolts, U-bolts and UNF bolts.

PART 26: FORESTRY OPERATIONS

- Bullboards** **26.65** (5) **The barrier must be**
- (a) **permanently marked with**
 - (i) **the name and address of its manufacturer,**
 - (ii) **the model number or serial number of the barrier, and**
 - (iii) **its rated capacity in terms of the cargo weight that may be transported in compliance with this section, or**
 - (b) **identified by carrying in the logging truck a copy of a letter that**
 - (i) **accurately describes the barrier,**
 - (ii) **certifies the model number or serial number of the barrier and its rated capacity in terms of the cargo weight it can carry, and**
 - (iii) **has been signed by the manufacturer or a professional engineer.**
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Explanatory Note

In addition to using the previous *Motor Vehicle Act Regulations* (“*MVAR*”) strength and structural requirements for bulkheads and cab protectors to define a substantial barrier for the purposes of existing section 26.65, Workers’ Compensation Board (“*WCB*”) officers have also relied on the previous *MVAR* requirement that a barrier be permanently marked, or have an appropriately signed letter accompanying the barrier, detailing relevant barrier information. This information provides *WCB* officers with a simple method of determining if logging truck barriers are in compliance with the substantial barrier requirement in section 26.65.

Sections of the *MVAR* regarding bulkheads and cab protectors for commercial vehicles, including barrier identification requirements, were repealed in early 2005 and replaced with requirements that are not applicable to logging trucks.

Proposed new section 26.65 (5) adds a requirement for barriers to be permanently marked, or accompanied by an appropriately signed letter, with the barrier information required to assist *WCB* officers in determining compliance with barrier strength requirements. These requirements mirror the barrier identification requirements previously found in the *MVAR* with the exception of the addition of the requirement to “accurately describe the barrier” in 26.65 (6) (b) (i). This requirement is added to ensure that an officer can confirm that a letter accompanying a barrier does in fact relate to that barrier.