June 29, 2020 |

Briefs

Proposed amendments to Occupational Health & Safety Regulation Part 7, Radiation Exposure, Parts 1, 5, 22 and 23, Combustible and flammable liquids

A PDF of the complete submission can be found here.

Introduction

The BC Federation of Labour (“Federation,” “BCFED”) appreciates the opportunity to provide our submission with respect to the proposed amendments to the Occupational Health and Safety Regulation (“OHSR”):

Part 7, Division 3: Radiation Exposure

Parts 1, 5, 22 and 23 -multiple sections- combustible and flammable liquids

The Federation represents more than 500,000 members of our affiliated unions, from more than 1,100 locals, working in every aspect of the BC economy. The Federation is recognized by the Workers’ Compensation Board (“WCB”) and the government as a major stakeholder in advocating for

the health and safety of all workers in BC and full compensation for injured workers and their surviving dependents.

This submission was prepared in consultation with our affiliates.

The proposed amendments to Part 7, Division 3; Radiation exposure, Section 7.19 Exposure limits

According to the Explanatory Notes attached to the proposed amendments to Section 7.19 Exposure Limits, the purpose of the proposed amendments is to protect exposed workers from developing occupationally induced lens changes (including cataract formation), and to harmonize the OHSR with international standards and leading regulatory agencies.

The dose limit currently listed in the OHSR for the lens of the eye is an annual equivalent dose of 150 milliSieverts (“mSv”). This dose limit is not up to date with current scientific understanding of harmful levels of ionizing radiation exposure and can result in the development of occupationally-induced cataracts and lens injury.

In 2011, the International Commission on Radiation Protection (“ICRP”) released their Statement on Tissue Reactions in which they recommended an equivalent dose limit of 100 mSv over five years, with no single year exceeding 50 mSv.

Jurisdictions in Canada and around the world have amended or are planning to amend their regulatory requirements to align them with the ICRP 2011 recommendation.

Section 7.19(1)(a)

The WCB is proposing to amend Section 7.19(1) to change “annual” to “any 12-month period” to define the exposure period. The BCFED supports this amendment as it provides a clear definition of the time-period of exposure.

Section 7.19(1)(b)(c) and (d) have been added to specifically deal with radiation exposure limits to the eyes, skin and hands and feet.

Subsection (b) with respect to exposure to the lens of an eye:

(i) an equivalent dose of 50 mSv over any period of 12 consecutive months that starts on or after April X, 2021 [effective date of amendment to 7.19], and

(ii) an equivalent dose of 100 mSv over any period of 60 consecutive months that starts on or after April X, 2021 [effective date of amendment to 7.19].

Subsection (i) reduces the dose radiation for lens of the eye from 150 mSv to 50 mSv over any period of 12 consecutive months. This is a significant reduction.

Subsection (ii) establishes the acceptable level of 100mSv over a period of 60 months.

Proposed sections 7.19 (c) and (d) are added to maintain the existing ionizing radiation equivalent dose limits for the skin, hands and feet.

The BCFED supports the harmonization of the recommendations from the IRCP with the OHSR as the proposed amendments provide greater protection for workers. The BCFED supports the submission from the Health Sciences Association of British Columbia (HSA).

In previous regulatory submissions, the BCFED has expressed concerns regarding the WCB's practice of harmonizing with other standards. In this case, the BCFED finds it unacceptable that it has taken over ten years for the WCB to align the recommendations of the IRCP with the OHSR. For ten years workers have been exposed to significantly greater levels of radiation over a 12-month period.

Therefore, the BCFED recommends the WCB develop a process that ensures regular reviews of regulations where other standards are applied or referenced. The development of this process would involve consultation with the stakeholders.

The proposed amendments to Part 1, Definitions; Part 5, Chemical and biological agents; Part 22 Underground workings and Part 23: Oil and gas; flammable and combustible substances

The WCB has undertaken a review of various sections of the Occupational Health and Safety Regulation to align the definition of “flammable liquid” with the *BC Fire Code*.

As described in the explanatory notes:

> *The purpose of the amendments is to enhance worker safety in workplaces handling flammable liquids, flammable gases, and combustible liquids by ensuring:*
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> - *the definition of “flammable liquid” in the OHSR is consistent with the BC Fire Code,*
> - *the requirements around ignition sources, grounding and bonding apply to all liquids and gases that pose a risk of fire or explosion,*
> - *written safe work procedures relating to the use of flammable liquids for manual cleaning no longer need to be submitted to the Board, and*
> - *the terms “flammable liquid” and “combustible liquid” are used consistently throughout the OHSR.”*

Part 1: Definitions

The WCB proposes to amend Section 1.1 by the changing the definition of “flammable liquid” to include “a vapour pressure of not more than 275.8 kPa at 37.8 degrees Celsius.” The amendment ensures that the risks of fires or explosion from flammable liquids are consistent with the *BC Fire Code*. The BCFED agrees the proposed amendment will improve worker health and safety.

But we are concerned the WCB has not proposed to amend Section 1.1 to add definitions for “flash point” and “vapour pressure.” We strongly believe these definitions must be easily available to employers and workers.

The BCFED recommends the WCB include in Part 1, Section 1.1 the definition of “flash point” from the *BC Fire Code:*

> *Flash point means the minimum temperature at which a liquid within a container gives off vapour in sufficient concentration to form an ignitable mixture with air near the surface of the liquid. (See Subsection 4.1.3. of Division B.)*[1]

Because there is no definition for “vapour pressure” in the *BC Fire Code*, the BCFED recommends the WCB develop an appropriate definition, for example:

> *Another important property of an ignitable liquid is the vapour pressure. For example, the vapour pressure of a liquid is an indicator of how easily a liquid fuel will evaporate at given temperature and pressure conditions. Every fuel has a different vapour pressure. The higher the value, the more fuel vapour will form above the liquid.*[2]
>
> *And a second example:*
>
> “*Vapour pressure” is the pressure at any given temperature of a vapour in equilibrium with its liquid.*[3]

Part 5: Flammable and combustible substances, Section 5.27 Ignition sources subsections (1)(3)

The WCB proposes to amend Section 5.27 (1)(3) to include “a combustible liquid normally used as a fuel.”

According to the Explanatory Notes, the purpose of the amendment is to ensure that the requirements of this section apply to all liquids and gases that can create a risk of fire or explosion given their relatively low flash point. The amendment ensures that combustible liquids normally used

as fuel are covered by the requirements regardless of how they are being used at the workplace. The amendment excludes combustible liquids such as lubricants and cooking oil as they are not normally used as fuels.

The proposed amendment to subsection (3) clearly lays out the responsibilities of the prime contractor or owner in controlling ignition sources in workplaces where there is more than one employer.

The BCFED supports the proposed amendments in Section 5.27 (1)(3).

Part 5: Section 5.28 Grounding or bonding

Section 5.28 is intended to address the risk of fire or explosion when flammable liquids are transferred using metallic or other conductive containers. The proposed amendment now includes “combustible liquids normally used as fuel” and “flammable gas.” The definition of “flammable gas” in Section 5.1 aligns with the WHMIS 2015 definition. An example of a flammable gas is propane.

The BCFED supports the proposed amendments to broaden the requirements of grounding and bonding combustible liquids normally used as fuel and flammable gas.

The BCFED recommends the WCB develop new guidelines for Sections 5.27 and 5.28, including a list of combustible and flammable liquids that fall within the definitions.

Part 5: Section 5.32 Manual cleaning

Section 5.32 sets out the requirements for the use of flammable liquids used for manual cleaning. The employer is required to thoroughly review alternative solvents when a suitable non-flammable substitute is not available and to minimize the quantity used. The employer is to develop and implement safe work procedures to effectively control flammability and health hazards and provide instruction and training to workers. And the work procedures must be submitted to the WCB.

The WCB proposes to amend Section 5.32 by removing subsection (c) the work procedures have been submitted to the Board.

The WCB provides the following explanation for deleting this requirement:

> *Section 5.32(e) currently requires safe work procedures for using a flammable liquid as a manual cleaning solvent to be submitted to WorkSafeBC. The proposed deletion of paragraph (e) is consistent with most sections of the OHSR requiring safe work procedures to be developed. It also eliminates confusion with regards to whether or not the procedures require approval from WorkSafeBC before work commences. Under section 5.32, it is the employer's responsibility to ensure the procedures are appropriate and available for inspection.*

In previous regulatory review submissions, the BCFED has strongly objected to the practice of the WCB to remove oversight requirements. And indeed, the WCB can now say with confidence the removal of subsection (e) is consistent with most sections of the OHSR.

The BCFED opines that a simple change to subsection (e) clarifying the safe work procedures must be submitted "prior" to manual cleaning would eliminate confusion around the timing of the approval process.

The current guideline clarifies the timing of the approval process:

> *Written safe work procedures that document effective means to control flammability and health hazards must be submitted to WorkSafeBC before a flammable liquid is used as a manual cleaning solvent.**[4]***

At the pre-consultation session on January 20, 2020, WCB staff stated, in response to labour's concerns with the proposal to eliminate subsection (e), that "very few manual cleaning safe work procedures are currently received by WorkSafeBC and that the ones that are submitted typically relate to low risk situations."

This statement greatly concerns the BCFED. The BCFED believes the WCB should have responded more robustly to the fact that they received few safe work procedures and those that were submitted were for low risk situations. We worry that removing subsection(e) will send a signal to employers that this is not an issue they need to take seriously. Manual cleaning with flammable liquids is very

hazardous work.

Many solvents used in workplaces are flammable liquids. Commonly used solvents include chemicals such as toluene, hexane, alcohols, glycol, ether, gasoline and specially formulated proprietary solvent blends.

Flammable solvents often pose fire or explosion risk if safety measures for their use and storage are not followed. Workplace fires and explosions can result in catastrophic injuries to workers and property loss.

The BCFED strongly objects to the proposal to amend Section 5.32 by removing subsection (e). We believe that WCB monitoring safe work procedures for the use of flammable liquids in manual cleaning is critical to ensuring worker health and safety.

The BCFED recommends the WCB develop a template and a guideline to assist the employers with complying with the requirements of Section 5.32.

Part 22: Underground workings, Section 22.54 Fire prevention and control; and

Part 23: Oil and gas, Section 23.78, Truck loading and unloading

The BCFED agrees with the proposed amendments to Sections 22.54 and 23.78 to ensure consistent use of the terms “combustible liquid” and “flammable liquid.”

Conclusion

The BCFED is pleased to participate in this consultation process and we urge the WCB Board of Directors to seriously consider implementing our recommendations to provide increased protections for workers.

Summary of recommendations

Part 7: Division 3 Radiation exposure

1. The BCFED recommends the WCB develop a process that ensures regular reviews of regulations where other standards are applied or referenced. The development of this process would involve consultation with the stakeholders.

Parts 1, 5, 22 and 23: Combustible and flammable liquids

Part 1: Section 1.1

1. The BCFED recommends the WCB include in Part 1, Section 1.1 the definition of “flash point” from the *BC Fire Code:*

   Flash point means the minimum temperature at which a liquid within a container gives off vapour in sufficient concentration to form an ignitable mixture with air near the surface of the liquid. (See Subsection 4.1.3. of Division B.)

2. Because there is no definition for “vapour pressure” in the *BC Fire Code*, the BCFED recommends the WCB develop an appropriate definition, for example:

   Another important property of an ignitable liquid is the vapour pressure. For example, the vapour pressure of a liquid is an indicator of how easily a liquid fuel will evaporate at given temperature and pressure conditions. Every fuel has a different vapour pressure. The higher the value, the more fuel vapour will form above the liquid.

And a second example:

“*Vapour pressure” is the pressure at any given temperature of a vapour in equilibrium with its liquid.*

Part 5: Sections 5.27 and 5.28

1. The BCFED recommends the WCB develop guidelines for Sections 5.27 and 5.28, including a list of combustible and flammable liquids that fall within the definitions.

Part 5: Section 5.32

1. The BCFED recommends that a simple change to subsection (e) clarifying the safe work procedures must be submitted “prior” to manual cleaning would eliminate confusion around the timing of the approval process.
2. The BCFED strongly objects to the proposal to amend Section 5.32 by removing subsection (e). We believe that WCB monitoring safe work procedures for the use of flammable liquids in manual cleaning is critical to ensuring worker health and safety. The BCFED recommends that subsection (e) remain unchanged in the regulation.
3. The BCFED recommends the WCB develop a risk assessment template pulling together all of the requirements and a guideline to assist the employers with complying with the requirements of Section 5.32.

[1] http://free.bcpublications.ca/civix/document/id/public/bcfc2018/bcfc_2018dap1s14r1

[2] https://guides.firedynamicstraining.ca/g/structural-firefighting-fundamentals-of-fire-and-combustion/118152

[3] https://www.labour.gov.hk/text_alternative/pdf/eng/GN-FL.pdf

[4] worksafebc.com/en/law-policy/occupational-health-safety/searchable-ohs-regulation/ohs-guidelines/guidelines-part-05# Section Number: G5.32