
From: Shannon Smith <personal information redacted>
Sent: July 16, 2019 7:21 PM
To: Consultation (CNSC/CCSN); Torrie, Brian (CNSC/CCSN)
Cc: Regulatory Records; UMMD / DMUCU (CNSC/CCSN); Purvis, Caroline (CNSC/CCSN); Liam Mooney; John Takala; Deidre Aldcorn
Subject: Cameco Corporation Comments on the Regulations Amending Certain Regulations Under the Nuclear Safety and Control Act (Radiation Protection)
Attachments: Cameco Corporation Comments on the Regulations Amending Certain Regulations Under the Nuclear Safety and Control Act (Radiation Protection) July 16, 2019.pdf

Sent on behalf of R. Liam Mooney, Vice-President, Safety, Health, Environment, Quality & Regulatory Relations, Cameco Corporation

Dear Mr. Torrie:

Cameco Corporation (Cameco) has reviewed and prepared the attached comments regarding the *Regulations Amending Certain Regulations Under the Nuclear Safety and Control Act (Radiation Protection)* (“the proposed Regulations”) published in the *Canada Gazette*, Part 1, on June 15, 2019.

If you have any questions with respect to the above, then please contact the John Takala at [personal information redacted](#).

Sincerely,
Shannon

Shannon Smith

Senior Administrative Assistant for
Kevin Nagy, Director, Compliance & Licensing
Safety, Health, Environment & Quality

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July 16, 2019

VIA EMAIL

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Dear Mr. Torrie:

Cameco Corporation Comments on *the Regulations Amending Certain Regulations Under the Nuclear Safety and Control Act (Radiation Protection)*

Cameco Corporation (Cameco) has reviewed the *Regulations Amending Certain Regulations Under the Nuclear Safety and Control Act (Radiation Protection)* (“the proposed Regulations”) published in the *Canada Gazette*, Part 1, on June 15, 2019 and has the following comments:

1. Radon Progeny and the Calculation of Effective Dose

How radon progeny is included in the effective dose calculation is fundamental to the determination of whether the dose limits are being met. The proposed repeal of the definitions of *working level* and *working level month* (WLM) and the method for including radon progeny in effective dose set out in section 13 are a significant concern for uranium mines and mill licensees.

The Regulatory Impact Analysis Statement (RIAS) states that the methods for calculating doses in section 13 are better placed in regulatory guidance. Cameco disagrees. Because there is no cost identified for these proposed changes, CNSC must intend to continue to accept the current conversion factor of 5 mSv/WLM. However, intentions can change; even if the section 13 were to be included in a future guidance document (it is not included in draft REGDOC-2.7.2, *Dosimetry*), changes in a REGDOC could be made to the dose conversion factor from exposure (WLM) to dose (mSv) without the rigor of the consultation and process required for an amendment to a regulation.

Cameco recommends that section 13 and the definitions of *working level* and *working level month* not be repealed and that the method for inclusion and calculation of radon progeny dose in effective dose, including the conversion factor between mSv and WLM remain in the proposed Regulations. In addition, Cameco supports the position of other industry members to amend these definitions to limit their application to CNSC-licensed activities.

2. Dose to the Lens of the Eye

Cameco is concerned that the proposed five-year equivalent dose limit of 100 mSv will create operational challenges. Currently, there are no North American suppliers of dosimeters that measure dose to the lens of the eye in mixed beta and gamma radiation fields and the locally-available dosimeters are overly responsive to beta radiation. Surrogate measurements are also overly responsive to beta radiation and are overly conservative. In addition, surrogate measurements and devices developed for medical and laboratory use are not suitable for the industrial settings in which many licensees operate.

Based on this, Cameco recommends that the five-year equivalent dose limit be excluded from the proposed Regulations.

At a minimum, the implementation of s. 15(2) of the proposed Regulation should come into force on January 1, 2024 to allow for dosimetry services for mixed fields to be developed.

In addition, the absence of a definition of equivalent dose in the proposed changes to s. 14(1) creates uncertainty for measurements of true Hp(3) doses and may lead to a significant overestimation. Cameco recommends that s. 14(1) should specify that Hp(3) dose be the applicable dose parameter for the lens of the eye dose.

3. Labelling and Signage

Cameco supports the proposed addition of s. 20(3) that exempts the labelling requirements in s. 20(1)(b) for containers that are used to temporarily store nuclear substances. Cameco believes that removing the requirement to name and measure substances prior to their removal from a licensed facility is a practical change and recommends that this should be extended to the long-term storage of nuclear wastes and to other nuclear substances stored in a designated posted area subject to s. 21. This would eliminate the administrative burden associated with sampling and analyzing, as well as making and affixing labels to individual containers and would reduce the safety risk for workers who would be required to perform these tasks that have no practical value.

Cameco further recommends that licensed facilities designed for the purpose of processing large volumes of radioactive substances, such as uranium mines and mills should be exempt from subsection 21(1). At such facilities, these signage requirements impose an administrative burden with no corresponding safety benefit. It is our experience that too many signs in the workplace diminishes the effect the signs are intended to achieve.

Cameco would welcome the opportunity to participate in an industry-CNSC workshop on labelling and signage to advance further amendments to the proposed Regulations that would reduce the administrative burden of licensees and enhance safety.

4. Pregnancy and Breastfeeding

Cameco recommends an amendment to s. 7(2)(c) to clarify that the rights granted to pregnant and breastfeeding nuclear energy workers are initiated from the date when a worker provides written notice that she is pregnant or that she is breastfeeding.

Further, Cameco recommends that s. 11 be amended to authorize a worker who previously provided written notice of her pregnancy to revoke the notice and permit the special dose limits to terminate.

Subsection 15(7) should also be amended to read “A licensee shall not request that a worker who has provided written notice under subsection 11(1) participate in the control of an emergency” and Item 34 in Part 3 should be amended accordingly.

5. Sex and Gender

The National Dose Registry (NDR) currently accepts data based on sex and not on gender for the purposes of epidemiological studies. Unless and until the NDR accepts data based on gender and the acceptable or expected genders are defined and communicated to licensees with an appropriate implementation period, changing “sex” to “gender” in ss. 8, 10 and 18 introduces uncertainty for licensees.

Cameco recommends that the proposed changes to replace “sex” with “gender” be removed or the change is qualified, such that it will occur if and when it is necessary to align with the requirements for data submission to the NDR.

6. Radiation Detection and Measurements

Cameco recommends that section 24.1 be amended to clarify that it applies to instruments and equipment associated with a radiation protection program and not to detectors used in other processes by replacing the proposed language with “Every licensee must ensure that instruments and equipment used for radiation measurements related to direct worker protection are selected...”

7. Emergency Dose and Occupational Dose Limits

Section 15 does not clearly state that the effective dose a worker may receive from participation in an emergency does not contribute to the subsequent occupational dose limit. The default position that the two dose limits are independent should be stated in an amendment to s. 15 to provide certainty.

8. Administrative Monetary Penalties (AMPs)

The use of AMPs for provisions in which compliance is based on a subjective assessment is contrary to the functions AMPs are intended to serve and provides licensees with an uncertain compliance standard. Cameco recommends that the proposed Regulations are an opportunity to amend Part 3 of the schedule to *Administrative Monetary Penalties Regulations (Canadian Nuclear Safety Commission)* and delete the violations in which compliance is determined based on meeting ‘a low as reasonably achievable’ standard. These are Items 2 through 5 and 32.

9. Cameco also recommends the following additional changes or clarifications:

- a. Section 10 should be amended to require nuclear energy workers to provide a current postal or email address to ensure that licensees are able to inform each work in writing of the information required in meet the obligations in s. 7(1) and (2);

b. Schedule 2:

- i. Item 3 should read "Protons and charge pions";
- ii. To be consistent with ICRP 103, "Energy Range" should be deleted from the Column 1 heading and be consistent with Items 3 to 5 which do not have an energy range; and
- iii. The Schedule should incorporate the continuous function of the neutron weighing factor from ICRP 103 or clearly reference.

Finally, Cameco does not believe that CNSC's expectation that the proposed Regulations would not increase administrative burden for licensees as set out in the one-for-one rule section of the RIAS. Changes to regulatory dose limits generally have significant impacts to Cameco. Cameco recommends that this section be revised in subsequent RIAS.

Cameco would be pleased to respond to any further questions. Please contact John Takala at Personal information redacted@_____ in this regard.

Sincerely,



R. Liam Mooney
Vice-President
Safety, Health, Environment, Quality & Regulatory Relations
Cameco Corporation

c: UMMD - Regulatory Records, C. Purvis
Cameco - Regulatory Records, J. Takala