



Spring 2019

DNSR Newsletter



Canada requests an Integrated Regulatory Review Service mission for 2019

The Canadian Nuclear Safety Commission (CNSC) is committed to regulatory excellence. In its ongoing demonstration of this commitment, the CNSC will host an IRRS mission from September 3 to 13, 2019, to review elements of its framework for safety and its core regulatory processes.

It is important for the CNSC to continue to participate in international peer reviews to ensure continuous improvement of its oversight of nuclear safety, and to demonstrate that its regulatory framework is robust and consistent with International Atomic Energy Agency (IAEA) safety standards and international good practices.

Performed by a team of international experts, an IRRS mission is a service offered by the IAEA to Member States. The purpose of an IRRS mission is to compare a country's regulatory practices with international standards and equivalent good practices elsewhere in the world. It will provide the opportunity to highlight the CNSC's strengths as a regulator and to identify areas for continuous regulatory improvement. At the conclusion of the mission, a report of findings will be prepared and made available to the public.

The CNSC previously hosted an IRRS mission in 2009. The IRRS review team determined that Canada had a mature and well-established nuclear regulatory framework. A follow-up mission took place in 2011 to assess the CNSC's progress against the initial peer review findings, to assess the CNSC's response to the Fukushima Daiichi events and to review the regulation of the transport of nuclear substances. The follow-up mission review team noted that the CNSC's response to the events at Fukushima was prompt, robust and comprehensive. Both missions produced an IAEA report and a CNSC management response.

Learn more:

[IAEA Integrated Regulatory Review Service mission to Canada](#)

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Lessons learned from an AMP issued for violation of requirements of the PTNSR, 2015

In 2018, an administrative monetary penalty (AMP) was issued to a licensee for a failure to comply with the requirements of the [Packaging and Transport of Nuclear Substances Regulations, 2015](#) when transporting a 1.85 GBq cobalt-60 radioactive sealed source. The licensee did not use the four screws required to properly secure the lid of the package, as per the package design. In addition, the package was not properly secured in the vehicle. This resulted in the package falling from the vehicle and the source being ejected from the package during transport. The package was discovered by a road maintenance crew approximately 30 minutes after it was lost. The highway was closed to traffic three hours following the discovery of the package and lid on the side of the road. During this time, the radioactive source lay in the middle of the highway unshielded. Many lessons can be learned from this event but there are a few that the CNSC would like to emphasize.

First, it is important for persons handling, offering for transport, or transporting nuclear substances to use packages how they were designed. While Type A package designs do not require CNSC certification, it is a requirement that these packages be designed and tested to withstand normal condition of transport as defined in the regulations. To ensure that packages perform the way they are intended, it is vital that all components of a package be used as designed.

Second, it is important that employers ensure that adequate training is provided to their employees, especially when it comes to the proper use of packages. If employees do not know how to properly prepare a package for transport, it could lead to loss of control of the nuclear substance, or radiological exposures to workers, the public or the environment.

Lastly, licensees are required to immediately report incidences of lost or stolen nuclear substances to the CNSC. Reporting to the CNSC in a timely manner ensures that the CNSC is aware of the situation and, if necessary, enables CNSC staff to provide guidance and coordinate efforts of the various organizations responsible to recover the nuclear substances. Delaying notification, especially if a situation is not under control, can exacerbate any adverse effects to the health and safety of the public or the environment.

If you have questions regarding this article, please email cns.transport.ccsn@canada.ca.

Photo of Type A package from incident along highway





The CNSC uses a graduated approach to enforcement to encourage and compel compliance and deter future non-compliances. CNSC staff assess the significance of the non-compliance, and determine the appropriate enforcement action, based on the CNSC's graduated approach to enforcement.

An administrative monetary penalty (AMP) is a monetary penalty imposed by the CNSC, without court involvement, for the violation of a regulatory requirement. It is administrative in nature; therefore, there is no criminal record associated with it and the burden of proof is less than that for criminal proceedings.

Lessons learned from a confined-space event

Fixed nuclear gauges installed on vessels need to be accessed for repair and maintenance from time to time. For licensees with fixed gauges that are mounted in vessels, a condition that is specific to vessel entries is applied to their licence, in order to prevent exposures to workers who may enter these confined spaces. This licence condition outlines specific requirements to ensure that the source has been shielded prior to any worker entry into the vessel or confined space.

Since December 2018, there have been two events reported to the CNSC that involved workers entering vessels when the radioactive sources from the fixed gauges installed on the vessel were not shielded.

The event reported to the CNSC in December 2018 involved exposure to five non-nuclear energy workers. Although the reported dose to these workers calculated based on the analysis of the event was significantly lower than the limit for members of the public (0.028 mSv), this was a serious event.

The analysis performed by the licensee revealed that the workers did not follow the licensee's procedures

which included the requirement to lock-out and isolate the gauge prior to any workers entering into a confined space. Corrective actions to prevent re-occurrence included updating of the documentation and procedures that the licensee maintains for isolating gauges in confined spaces.

The event reported to the CNSC in January 2019 involved exposure of three contractors. The workers were in the vessel for approximately five minutes. At the time of this article, this event was still under investigation. CNSC is in the process of evaluating answers from the licensee to comments made by CNSC staff following a review of their final report.

In conclusion, it is very important for licensees to ensure that their workers carefully follow their vessel entry procedures. The CNSC encourages licensees that perform these vessel entries to consider the radiation exposure along with all other hazards involved with confined space entry.

For questions regarding this article, please email cnscl.licence-permis.ccsn@canada.ca or call 1 888 226 2672.



Annual compliance reporting forms under revision

The annual compliance report (ACR) forms for nuclear substances, radiation devices, and Class II equipment and facilities licences are under revision. Make sure to complete the most recent version by downloading the appropriate form from the [CNSC website](#).

The following are good practices to consider when completing ACR forms:

- The reporting period should never include future information, so the ACR must be submitted after the reporting period's end date. Refer to licence condition 2912, 2914 or 2916 on your licence to find the date your ACR is due.
- The reported whole-body and extremity radiological doses must cover a one-year dosimetry period as defined in the [Radiation Protection Regulations](#). The one calendar year period shall begin on January 1 and end on December 31.
- The reporting period cannot have any gaps from year to year and must pick up where the previous year's ACR ended. Regardless of the reporting period, the ACR form must be submitted to the CNSC by the due date.

- Do not submit sensitive personal information, such as a social insurance number, by email with the ACR form.
- The ACR form is not a vehicle to submit changes to the CNSC. Report any inaccuracy, amendment request, revocation or transfer application directly to the CNSC.

Request for Feedback: Share your comments and suggestions on the ACR forms!

- (1) Are the boxes clear; is it clear what information is expected?
- (2) What challenges do you have when you prepare your ACR?
- (3) Do you see any easier ways for the CNSC to gather this information from you? For example, would you prefer to manage your inventory directly with the CNSC through an online tool rather than including it in the ACR?

Please submit your feedback **before May 31st, 2019** by email to cnscc.dnsr-info-drsn.ccsn@canada.ca.

Update on the CNSC's regulatory framework

The following information is provided to inform nuclear substances and radiation devices licensees, as well as Class II facility licensees, of the latest activities related to the CNSC's efforts to modernize its regulatory framework. The projects listed below either contain requirements or provide useful guidance and information.

Soon to be published:

REGDOC-2.12.3, Security of Nuclear Substances: Sealed Sources and Category I, II, and III Nuclear Material, Version 2 – Guidance

This regulatory document sets out guidance to help applicants for a CNSC licence in respect of sealed sources and Category I, II or III nuclear material to prepare and submit the security information to be included with the application, pursuant to the [Nuclear Safety and Control Act](#). This regulatory document also



sets out guidance to help applicants for a CNSC licence to transport Category I, II or III nuclear material to prepare and submit a written transportation security plan that meets the requirements of the [Nuclear Security Regulations](#).

This document supersedes REGDOC-2.12.3, *Security of Nuclear Substances: Sealed Sources, G-208, Transportation Security Plans for Category I, II or III Nuclear Material*, and G-274, *Security Programs for Category I or II Nuclear Material or Certain Nuclear Facilities*.

REGDOC-1.4.1, Licence Application Guide for Class II Facilities and Prescribed Equipment – Guidance

This regulatory document provides information to applicants in preparing and submitting applications for a licence to carry out activities related to Class II nuclear facilities and prescribed equipment. This regulatory document will help applicants prepare the information the CNSC uses to determine if they are qualified, have made adequate provision for the protection of the environment and health and safety of persons, and otherwise meet the requirements of the provisions of the *Nuclear Safety and Control Act and its regulations*.

This document will supersede RD/GD-120, *Licence Application Guide: Radiotherapy*; RD/GD-207, *Licence Application Guide: Service Class II Prescribed Equipment*; and RD/GD-289, *Licence Application Guide: Class II Non-radiotherapy Accelerator Facilities*, version 2.

REGDOC-2.1.1, Management System - Guidance

This regulatory document consolidates CNSC expectations for the “management system” safety and control area as well as applicable references in the legislation. This document contains supplemental information on CNSC expectations on meeting requirements in CSA N286, *Management system requirements for nuclear facilities*. This document also provides information regarding radiation safety oversight for nuclear substance licensees, radiation device licensees and Class II nuclear facility licensees.

REGDOC-3.1.3, Reporting Requirements for Waste Nuclear Substance Licensees, Class II Nuclear Facilities and Users of Prescribed Equipment, Nuclear Substance and Radiation Devices – Requirements and guidance

This regulatory document consolidates and clarifies requirements found in the *Nuclear Safety and Control Act* and its regulations, and provides guidance for reports and notifications that licensees must submit to the Commission. It also gives details on the events, situations and dangerous occurrences that licensees of Class II nuclear facilities, and users of prescribed equipment, nuclear substances and radiation devices must submit to the CNSC. The document presents the types of reports and the applicable timeframe for reporting.

Soon to consult:

Radiation Protection Regulations (RPR)

The CNSC is proposing several amendments to harmonize the RPR with updated recommendations by the International Commission on Radiological Protection and the International Atomic Energy Agency, to clarify requirements, and to reflect lessons learned through regulatory operational experience since the RPR first came into force in 2000. The proposed amendments are outlined in the [What We Heard Report](#) following the publication of the discussion paper [DIS-13-01, Proposals to Amend the Radiation Protection Regulations](#). Public consultation on the proposed amendments will take place via publication in the *Canada Gazette*, Part I. The CNSC will notify stakeholders of the opportunity to provide comments via its website and email.

REGDOC-2.7.1, Radiation Protection – Requirements and guidance

This regulatory document sets out requirements and guidance on the topics of radiation protection programs, the principles of worker dose control and the principles of radiological hazard control to ensure the protection of workers and members of the public. The new requirements align with the proposed



amendments to the [Radiation Protection Regulations](#) which are outlined in the [What We Heard Report](#) following the publication of the discussion paper [DIS-13-01, Proposals to Amend the Radiation Protection Regulations](#). This regulatory document will be revised as necessary as a result of the consultation on the proposed amendments to the RPR and the comments received on the document.

REGDOC-2.7.2, Dosimetry, Volume I: Ascertaining Occupational Dose – Requirements and guidance

This regulatory document sets out requirements and guidance for ascertaining doses. Along with REGDOC-2.7.1, *Radiation Protection*, draft REGDOC-2.7.2, *Dosimetry*, supersedes the following previously published regulatory documents on topics related to radiation protection and dosimetry:

- G-121, rev. 1, *Radiation Safety in Educational, Medical and Research Institutions*
- G-129, *Keeping Radiation Exposures and Doses “As Low as Reasonably Achievable (ALARA)”*
- G-91, *Ascertaining and Recording Radiation Doses to Individuals*
- GD-150, *Designing and Implementing a Bioassay Program*
- G-228, *Developing and Using Action Levels*
- G-313, *Radiation Safety Training Programs for Workers Involved in Licensed Activities with Nuclear Substances and Radiation Devices, and with Class II Nuclear Facilities and Prescribed Equipment*

This regulatory document provides new guidance on ascertaining and recording of the equivalent dose to the lens of the eye, and the use of licensed dosimetry services for annual doses to extremities greater than 50 mSv. This regulatory document will also be revised as necessary as a result of the consultation on the

proposed amendments to the RPR and the comments received on the document.

REGDOC-1.6.2, Developing and Implementing an Effective Radiation Protection Program for Users of Nuclear Substances and Radiation Device – Guidance

This regulatory document provides guidance to nuclear substances and radiation devices applicants on the development, implementation, management and assessment of their radiation protection programs. This document will supersede G-121, *Radiation Safety in Educational, Medical and Research Institutions*.

REGDOC 3.3.1, Financial Guarantees - Requirements and Guidance

This regulatory document sets out requirements and guidance for applicants and licensees regarding the establishment and termination of activities licensed by the CNSC.

This document will supersede G-206, *Financial Guarantees for the Decommissioning of Licensed Activities*.

For more information on regulatory documents, please consult the [regulatory documents index](#) on our website.

In keeping with the CNSC's commitment to stakeholder engagement, comments and suggestions on any regulatory document may be submitted at any time to the CNSC at cnscconsultation.ccsn@canada.ca. As part of ongoing efforts to enhance and clarify its regulatory framework, the CNSC will use these comments to inform future reviews of its regulatory tools. Comments received outside the formal consultation period will not be publicly dispositioned.



CNSC regulatory actions

To protect the health and safety of workers, the public and the environment, the CNSC issues regulatory actions to non-compliant licensees. Three orders were issued between September 1 and December 31, 2018. The three orders issued were primarily for inadequate oversight of radiation protection programs and inadequate worker training. The breakdown of the orders issued is as follows:

- One order issued to a commercial-sector licensee
- Two orders issued to industrial-sector licensees

Industrial sector – Portable gauge
[GEM Testing Ltd.](#)

Industrial sector – Industrial radiography
[Bakos NDT Ltd.](#)

Commercial sector – Processing of nuclear substances
[Isologic Innovative Radiopharmaceuticals Ltd.](#)

Portable gauge user measuring soil properties



Upcoming Public Commission Hearings

May 15, 2019 – *Renewal of Orano’s Cluff Lake decommissioning licence*

May 16, 2019 – *Renewal of Best Theratronics operating licence*

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The *DNSR Newsletter* is a CNSC publication. If you have any suggestions on topics or issues that you would like to see covered, please do not hesitate to contact us.

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