



DNSR Newsletter

Update on New CEDO Program

Last year, as reported in the [fall 2011 edition of this newsletter](#), the CNSC asked the Canadian Standards Association (CSA) to develop a new occupational standard for certified exposure device operators (CEDOs) in Canada.

Industrial radiographers are essential to many facets of industry where non-destructive testing is required to test and maintain equipment.

The purpose of the new standard for CEDOs is to ensure that there is a high level of knowledge and skills, and a well-developed culture of safety and security for this regulated community. Currently, operators may not all have the same knowledge, and without a unified methodology of certification and recertification, this situation will continue. With the implementation of an improved national program for operator certification, it is expected that safety and security operations of exposure device operators will be improved, a reduction in the radiation doses received will be observed, and fewer accidents will occur.

The current certification process involves a 40-hour radiation safety training course that teaches a number of topics beneficial for a new exposure device operator. The topics covered are outlined in the current CNSC regulatory guide, [G-229, Certification of Exposure Device Operators](#). After completion of the course, a written examination is administered by Natural Resources Canada. Following a successful exam, 320 hours of apprenticeship training are required under the supervision of a CEDO; this training is followed by a practical examination.

In September 2011, a committee of government and industry representatives under the stewardship of the CSA conducted a thorough job and task analysis (JTA) of the use of exposure devices. This resulted in proposed changes to the training program and practical examinations. Some of the changes currently being evaluated include instituting a pre-certification mathematics test prior to the start

of the 40-hour training course, as well as adding new and more relevant questions in the written examination. The 320-hour apprenticeship program and the practical examination may be reworked to cover any gaps identified by the JTA.

The current CEDO program does not require continued education and recurrent training. However, the introduction of requirements to renew or re-certify CEDOs every five years is being considered. Under this proposal, CEDOs will continue with their individual certification but will need to demonstrate ongoing work experience and training.

An important note for all existing CEDOs and qualified operators (QO) is that all QO and CEDO identification cards issued by the CNSC will be replaced with new cards that will have an expiry date. Ultimately, all the changes and additions in the program will incorporate Canada's

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first consensus-based workplace health and safety standard, CSA Z-1000-06, *Occupational Health and Safety Management*. The new standard will be fair to current and new CEDOs, and will address areas of concern and gaps in knowledge and skills identified by both the industry and government agencies. Information on the development of the new CEDO program is available on the [CSA Web site](#).

Once the new CEDO standard is published, the CSA will coordinate a permanent committee that will annually review and update the document to ensure continued relevance. By ensuring ongoing improvement and refinement, the standard will reflect future developments in safety and technology, and the realities of Canadian exposure device operators. ✍

Servicing of Radiation Devices

During a CNSC inspection, it was noted that a licensee (Licensee A) had contracted another licensee (Licensee B) to maintain Licensee A's radiation devices. This contract was for the replacement of parts in exposure device locking mechanisms, which included the removal of the radioactive source. The activity had been going on for some time and a review of Licensee B's licence determined that it was not authorized specifically to service these radiation devices.



A CNSC licence to operate a radiation device does not automatically authorize servicing. The authorization to service a radiation device must be explicitly stated in the licence. Section 1 of the [Nuclear Substances and Radiation Devices Regulations](#) defines the terms "servicing" and "operate":

- "Servicing in respect of radiation devices, means any maintenance of a device, including installation, repair, or dismantling, other than maintenance that ... constitutes routine operating procedures as indicated in the manufacturer's operating manual for the device."
- "Operate includes, in respect of an exposure device, coupling the drive mechanism to the exposure device,

uncoupling the drive mechanism from the exposure device, locking or unlocking the exposure device, and all activities involving the device that take place while the sealed source assembly is not locked inside the device in the fully shielded position."

Based on the information gathered at the time of the inspection, as well as the above referenced regulations, Licensee B was performing the activity of "servicing" without authorization and should have had a servicing licence in place. The activity is not routine in that additional specialized training is required to perform the task.

When a licence application is submitted to the CNSC for consideration, the applicant is expected to state the intended purpose of the licence and confirm that the application being completed is for that intended purpose. Hence, the applicant must clearly state all planned licensed activities. A list of activities requiring a licence may be found in section 26 of the [Nuclear Safety and Control Act](#).

Authorization to service a radiation device must be explicitly stated in the licence.

CNSC licensing specialists are available to provide licensees with further information on the servicing of radiation devices. ✍



Orders

As part of its oversight, the CNSC issues orders to licensees for regulatory non-compliance, in order to protect the health and safety of workers, the Canadian public and the environment. These regulatory actions were taken by the CNSC between April 1 and September 30, 2012.

On April 12, 2012, the CNSC issued an order to **SAI Testing & Inspection Ltd.**, a company based in Surrey, British Columbia, which provides geotechnical, environmental and material engineering services.

The order was issued as a result of observations made during a CNSC inspection that identified non-compliances such as failing to monitor doses to workers, shipping dangerous goods without a transport document and using inadequate labelling for safety purposes.

The order prohibits the company from using nuclear gauges. The company has been required to place all portable gauges in storage until it can demonstrate that effective training has been provided to staff and workers, and that all items of non-compliance identified during a CNSC inspection have been corrected.

At press time, SAI Testing & Inspection Ltd. had not demonstrated compliance with all the terms and conditions of the order.

On April 19, 2012, the CNSC issued an order to **Buffalo Inspection Services (2005) Inc.**, a company based in Edmonton, Alberta, which provides non-destructive testing services to the industrial sector.

The order required the company to prohibit a certified exposure device operator (CEDO) from operating an exposure device until the company could demonstrate to the CNSC that the CEDO's activities no longer pose unreasonable health and safety risks.

The order was issued following a CNSC inspection at a metal fabrication shop in Edmonton. The inspection revealed that the CEDO was not operating the device in a safe manner, as required under the *Nuclear Substances and Radiation Devices Regulations*. The CEDO had been observed operating an exposure device without a radiation dosimeter, without emergency equipment, and without a properly functioning survey meter.

The exposure device that was in use at the time of the inspection was returned to the company's licensed storage facility.

On July 23, 2012, the CNSC confirmed that Buffalo Inspection Services (2005) Inc. had complied with all the terms and conditions of the order.

On June 29, 2012, the CNSC issued an order to **Jack Cewe Ltd.**, a company based in Coquitlam, British Columbia, which provides construction services. The company held a CNSC licence to possess nuclear substances contained in radiation devices used for process control purposes, which expired on June 30, 2012.

The order was issued because the company had failed to provide the CNSC with a complete application for the renewal of its expired licence. This failure resulted in the company potentially being unauthorized to possess a radiation device as of July 1, 2012. The order required Jack Cewe Ltd. to immediately transfer its radiation device to an authorized licensed recipient.

On August 2, 2012, the CNSC confirmed that Jack Cewe Ltd. had complied with all the terms and conditions of the order.

On July 6, 2012, the CNSC issued an order to **Best Theratronics Ltd.** because the company had failed to comply with its licence condition for the export of a high-risk radioactive sealed source to New Zealand.

The order required Best Theratronics to immediately cease all imports, exports and transfers of nuclear substances and prescribed equipment until it carried out effective remedial measures to the satisfaction of the CNSC.

Their licence conditions were put in place as part of Canada's international obligations under the International Atomic Energy Agency *Code of Conduct on the Safety and Security of Radioactive Sources*.

The failure of the company to comply with these licence conditions posed an unreasonable risk to national security, the environment and the health and safety of persons and prevented the CNSC from meeting its international obligations pursuant to the Code of Conduct.

On July 26, 2012, the CNSC confirmed that Best Theratronics Ltd. had complied with all the terms and conditions of the order.

On July 19, 2012, the CNSC issued an order to **SGS Canada Inc.**, a company based in Mississauga, Ontario, which provides geotechnical, environmental and material engineering services out of its offices in Alberta.

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The order was issued following an inspection at the company's location in Edmonton, Alberta. This inspection had identified non-compliances such as the failure to provide effective radiation safety training to workers, the failure to follow internal radiation protection procedures, and the use of inadequate labelling for safety purposes.

The order required SGS Canada Inc. to place into storage all of its portable nuclear gauges based in Edmonton. These gauges were to remain in storage until the company could demonstrate that adequate training had been provided to workers and that all items of non-compliance identified during the CNSC inspection had been corrected.

On August 1, 2012, the CNSC confirmed that SGS Canada Inc. had complied with all the terms and conditions of the order.

On July 27, 2012, the CNSC issued an order to **Okanagan Testing Laboratories Ltd.**, a company based in Kelowna, British Columbia, which provides geotechnical, environmental and material engineering services.

The order was issued as a result of observations made during CNSC inspections which identified a failure to follow internal radiation protection program procedures, as well as other non compliances.

The order required Okanagan Testing Laboratories Ltd. to place all of its nuclear gauges at its Kelowna location into storage. The portable gauges were to remain in storage until the company could demonstrate that an effective radiation protection program had been implemented and that all items of non-compliance identified during the inspections had been corrected.

On August 8, 2012, the CNSC confirmed that Okanagan Testing Laboratories Ltd. had complied with all the terms and conditions of the order.

On August 8, 2012, the CNSC issued an order to **CT & Associates Engineering Inc.**, a company based in Edmonton, Alberta, which provides geotechnical, environmental and material engineering services.

The order was issued as a result of observations made during a CNSC inspection which had identified a failure to follow internal radiation protection program procedures, as well as other non-compliances.

The order required CT & Associates Engineering Inc. to place all of its nuclear gauges into secure storage.

The portable gauges were to remain in storage until the company could demonstrate that management had control over work practices, an effective radiation protection program had been implemented, and all items of non-compliance identified during the inspection had been corrected.

On August 23, 2012, the CNSC confirmed that CT & Associates Engineering Inc. had complied with all the terms and conditions of the order.

On August 20, 2012, the CNSC issued an order to **Nelson's Welding Inspection Limited**, a company based in Drayton Valley, Alberta, which provides non-destructive testing services to the industrial sector.

The order required Nelson's Welding Inspection Limited to prohibit a certified exposure device operator (CEDO) from operating an exposure device until the company could demonstrate to the CNSC that the CEDO's activities no longer posed unreasonable health and safety risks.

The order was issued following a CNSC inspection at a metal fabrication shop in Drayton Valley, Alberta. The inspection revealed that the CEDO was not operating the device in a safe manner, as required under the *Nuclear Substances and Radiation Devices Regulations*. The CEDO had been observed operating an exposure device without a properly functioning survey meter, allowing an unsupervised CEDO-in-training to operate an exposure device and transporting an exposure device without transportation documents.

The CEDO operating the exposure device was immediately removed from performing work with exposure devices.

At press time, Nelson's Welding Inspection Limited had not demonstrated compliance with all the terms and conditions of the order.

On September 5, 2012, the CNSC issued an order to **D. Crupi & Sons Limited**, a company is based in Toronto, Ontario, which provides geotechnical, environmental and material engineering services.

The order was issued following a CNSC inspection which identified non-compliances such as failing to follow requirements for the transport of portable nuclear gauges.

The order required D. Crupi & Sons Limited to place all of its portable gauges in secure storage until all items of

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non-compliance identified during the inspection had been corrected.

On October 11, 2012, the CNSC confirmed that D. Crupi & Sons Limited had complied with all the terms and conditions of the order.

On September 11, 2012, the CNSC issued an order to **AMEC Americas Limited**, a company is based in Calgary, Alberta, which provides geotechnical, environmental and material engineering services throughout Canada.

The order was issued as a result of observations made during a CNSC inspection which identified an untrained worker who was using and transporting a portable nuclear gauge at the licensee's location in Dartmouth, Nova Scotia.

The order required AMEC Americas Limited to have the worker stop using the device until the person had been trained and qualified by the company to work with and transport portable nuclear gauges.


The CNSC required the untrained worker to be removed from duty in order to prevent any risk to the health and safety of the worker, as well as to the public and the environment.

On October 16, 2012, the CNSC confirmed that AMEC Americas Limited had complied with all the terms and conditions of the order.

On September 21, 2012, the CNSC issued an order to **Groupe Qualitas Inc.**, a company based in Montreal, Quebec, which provides geotechnical, environmental and material engineering services throughout Quebec.

The order was issued as a result of observations made during a CNSC inspection which identified that a worker left a portable nuclear gauge unattended, on two occasions.

The order required Groupe Qualitas Inc. to have the worker immediately stop using the device until the person had been trained and qualified by the company to work with portable nuclear gauges. The CNSC required the untrained worker to be removed from duty in order to prevent any risk to the health and safety of the worker, as well as to the public and the environment.

On October 5, 2012, the CNSC confirmed that Groupe Qualitas Inc. complied with all the terms and conditions of the order. 

Update on the Online Annual Compliance Report Project


The online annual compliance report (ACR) system is a major project that aims to improve efficiency within the regulatory information system. Licensees who use radioisotopes are required to file an ACR which contains their answers to a standard set of questions and a report on their inventory. These reports are currently submitted to the CNSC by mail, fax or email.

Online reporting will modernize the method used by licensees to file their ACRs. In this system, the licensee will have a personal access code uniquely identifying the filing institution. After completing the secure Web login, the licensee can fill out all the question fields electronically, as well as enter his or her inventory of nuclear substances, radiation devices and other prescribed equipment.

The advantage to the licensee is that once the initial login is completed, each subsequent ACR will involve updating the information from the previous report. For example, if

the address or inventories have not changed, there will be no need to re-enter the information. Once implemented, the online reporting tool promises ease of use that will likely save time and compliance costs for licensees.

Online reporting will improve CNSC resource management by reducing time currently required to receive, validate and update the databases, and allow employees to better ensure data accuracy. This will boost operational efficiency and improve overall productivity.

The online tool is nearing completion and will soon be tested internally within the CNSC. Over the coming months, the tool will be released to a preselected group of licensees in the medical sector. Feedback from this trial period will be evaluated and changes will be incorporated, where required, prior to the general release of the ACR online reporting system to all licensees. 

Requirements for Visible Signage

Section 21 of the *Radiation Protection Regulations* (RP Regulations) specifies requirements that CNSC licensees must adhere to if their licensed quantity of a radioactive nuclear substance is more than 100 times its exemption quantity or if a person could be exposed to an effective dose rate greater than 25 $\mu\text{Sv}/\text{hour}$. If either situation exists, licensees must follow the requirements for visible signage, described in paragraph 23(a) of the *Nuclear Substances and Radiation Devices Regulations*.



Accordingly, for safety reasons, licensees must post and keep posted a durable and legible sign that indicates the name (or job title) and the telephone number of a person who can initiate any required emergency procedure and who can be contacted 24 hours a day.

The RP Regulations also require that a durable and legible radiation warning sign be posted at the boundary of and at every point of access to an area, room or enclosure where a nuclear substance is present.

CNSC Expectations

CNSC staff expect emergency contact information to be available to non-licensees or members of the public without a need for them to enter the radiation area. This information has to be available at all points of access to the area, room or enclosure where a nuclear substance is used or stored. The required information must be up-to-date and remain legible. It should be noted that radiation warning signs where the required contact information is faded, peeling off or otherwise unreadable, would not meet the regulatory requirements.

The following questions and answers will help clarify the signage requirement. It is up to licensees to determine

their best method of complying with this and any other CNSC requirement. If further explanation is required, licensees may contact their CNSC licensing specialist.

Question 1:

Do I have to post the emergency contact details at all points of access to the radiation area?

Answer 1:

Yes. The posting location is based on the requirements for radiation warning signs as specified in section 21 of the *RP Regulations*. The intent is that during an emergency, any individual can read legible contact details without having to cross a barrier into a radiation field.

Question 2:

Can I post just one sign with the emergency contact details?

Answer 2:

If there is only one access point to the area where there is a nuclear substance, then yes, it is possible that only one sign with the emergency contact details is acceptable. However, in industrial radiography areas where multiple access points are likely, the contact details are expected to be readily visible anywhere along the boundary. Again, the intent is that an individual who believes an emergency exists should not have to search for the contact details along the boundary.

Question 3:

Can I add contact details to my radiation area warning signs that are posted at the boundary? How far apart do they have to be?

Answer 3:

Yes, contact details can be added to the warning signs if these stickers or labels are placed so that they do not obscure any part of the trefoil symbol or the required radiation danger wording.

The distance between the signs depends on their size. Unless there is just a single access point, it must be apparent from anywhere along the boundary that emergency contact details are posted. These contact details must be legible from the boundary.

Question 4:

Can I print out labels that are then applied to the radiation warning sign?

Answer 4:

The labels must be durable enough for the information to be clear and legible under the expected environmental conditions (weather, location, etc.). If the signs are used outdoors, then the emergency contact information must take this into account. ✍



Notification to SSTS Users

The CNSC is launching a new e-business site in the fourth quarter of 2012. The site will provide access to the Sealed Source Tracking System (SSTS), as well as any new CNSC online services as they become available, such as annual compliance reporting (see page 5). The link to this site will be located where the current login to the SSTS is found, on the left side of the [CNSC Web site](#), under *Licensees and Applicants*.

The launch of the new site will also coincide with a change to the Government of Canada's secure log in services, which means that access codes previously used by licensees for the SSTS will need to be replaced. The CNSC will be providing all SSTS users with a new access code ahead of the launch date. Once launched,

SSTS users will need to enter the new code to access the system.

The e-business site will offer two options for logging into the SSTS: a new Government of Canada secure service or the option to log in using a sign-in partner. The sign-in partner system will allow users to log in using current business or personal banking institution credentials. More details on both systems will be available on the e-business site once it is up and running.

The CNSC will contact current SSTS users to provide them with new access codes and offer additional details on the new e-business site.

If you have any questions or concerns on this matter, please contact the CNSC at ssts-ssss@cncs-ccsn.gc.ca.

CNSC Decertifies Operator

On August 21, 2012, the CNSC announced the decertification of Mr. Jessie Lee Foster as a certified exposure device operator (CEDO). The decision to decertify Mr. Foster stemmed from a recommendation made as a result of a CNSC inspection.

The inspection identified that Mr. Foster had failed to perform pre-operational checks on the exposure device before use, failed to use a survey meter during use,

failed to wear his personal dosimeter and failed to have emergency shielding or tongs available.

As a result of the decertification, Mr. Foster had returned his CEDO card to the CNSC.

In accordance with the *Nuclear Safety and Control Act* and associated regulations, the CNSC can take various regulatory actions to protect the health, safety and security of Canadians and the environment.

Free CNSC 101 Information Session

The Canadian Nuclear Safety Commission will be holding free half-day information sessions in Kincardine and Saugeen Shores, Ontario, on November 19 and 20, 2012.

Who should attend? Members of the public and those interested in learning more about how the CNSC does its work as Canada's nuclear regulator.

CNSC 101 outlines how the CNSC's regulatory oversight ensures the safety and security of the nuclear sector and

its activities, including: nuclear power plants, uranium mines and mills, nuclear waste management, nuclear medicine, manufacture of medical isotopes, nuclear substances and transportation of radioactive materials.

Attendance is limited. Register by [email](#) or by phone at 1-800-668-5284.

For more information, visit the [CNSC Web site](#) or the [CNSC Facebook page](#).

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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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