



Exposure Device Operator Certification Program in Canada

In 2012, the CNSC contracted the Canadian Standards Association (CSA) to develop a new certification guide for exposure device operators in Canada. This new guide is expected to replace the CNSC's current regulatory guide *Certification of Exposure Device Operators*, published in 2004. The CNSC's Exposure Device Operator (EDO) certification program is also being updated, to address the most current safety, security and regulatory requirements for the industry. With the assistance of a committee of experts (CSA scheme committee) from the radiography industry, government and training companies, the CSA has now produced *The Certified Exposure Device Operator Personnel Certification Guide* (CSA PCP-09).

The new certification guide document PCP-09 represents years of hard work and concerted effort by the CSA scheme committee and various other sub-committees (including representatives from industry and regulatory organizations). The work required a complete job-task-analysis of the typical Certified Exposure Device Operator (CEDO) daily work, followed by a blueprint for knowledge and skills requirements. This information was used to develop new practical and final exams, as well as the requirements for maintaining and renewing this certification every five years.

What prompted this new program?

From an international perspective, operating exposure devices used for industrial radiography, is considered as an activity representing a high-risk to the health and safety of workers and the public, and must be regulated accordingly. These measures are taken because of the high activity of the radioactive (high-risk) source contained in an exposure device that is portable, the challenges in transporting the

device and the typical working environment where the device is used. In 2004, the International Atomic Energy Agency (IAEA) published the [*Code of Conduct on the Safety and Security of Radioactive Sources*](#) (the Code), and subsequently requested every country to upgrade their safety



Continued on page 2.

In this issue

Exposure Device Operator Certification Program in Canada	1
How the New CEDO Program Works	2
The CNSC Inspection Process	2
CEDO Card Exchange	3
Renewing Your CEDO Status	3
Do You Employ CEDOs?	4
Do You Provide Training for EDO Certification? ..	4
Outline of the New CSA Guide PCP-09	5





Exposure Device Operator Certification Program in Canada... continued from p.1

and security requirements for exposure devices, and implement a system for tracking the status of all high-risk sources (to help guard against illicit activities and accidental loss). As a result, Canada decided to adopt the Code and strengthen its regulatory oversight of sealed sources (especially those used in exposure devices).

Radiography sources are now tracked from cradle to grave (from initial manufacturing to final disposal) and all regulatory requirements with respect to radiation safety and security have been enhanced. This enhancement will soon include the updated knowledge and skills training requirements for CEDOs and the requirement to renew their certification every five years.

When does this come into effect?

The CNSC expects to have the new requirements for CEDOs in place by the fall of 2014. This means that every CEDO will be required to have a new certificate, and training service providers must update their programs according to PCP-09.

The CNSC staff briefed the Commission on the new CEDO certification program at the August 21, 2014 [public Commission meeting](#).

The CNSC provides online webcasts of its Commission meetings. These webcasts and transcripts are available from the CNSC's [website](#).

During the meeting, staff presented the new CEDO program and informed the Commission on the official date of November 1, 2014, for the implementation of CSA guide PCP-09, as well as the transition period that will end on March 1, 2015. Details will be available on the CNSC's Exposure Device Operators [web page](#).

Want to know more about the program and new guide document PCP-09?

Go to the CSA Personnel Certification CEDO program [site](#).

If you have any questions about the program please see the CNSC [web page](#) for exposure device operators.

If you have questions on certification, contact the CNSC Personnel Certification Division by email at edo-oae@cnsccsn.gc.ca or by telephone at 1-800-668-5284. ☎

How the New CEDO Program Works

What will be needed to become a Certified Exposure Device Operator under the new program?

- Registration as a trainee with Natural Resources Canada's Non-Destructive Testing Certification Body
- Successful completion of a prerequisite math exam
- Successful completion of an EDO vocational training program (40 hours)
- On-the-job training (320) hours
- Successful completion of the EDO practical exam
- Successful completion of the final certification exam (150 multiple choice questions)
- Submission of all required documentation to the CNSC ☎

The CNSC Inspection Process

CNSC inspectors will continue to conduct compliance inspections and assess how CEDOs are meeting their obligations under the [Nuclear Safety and Control Act](#). The inspectors will also check for new CEDO certification cards with expiry dates. The CNSC intends to publish on its website a list of all current CEDOs in our database, and make it


available to the public. This will contain information on all CEDOs in good standing, with current certification. CNSC inspectors will be able to verify certifications against information in the database, and may also conduct more frequent performance-based inspections to fully observe and assess radiography operations. ☎



CEDO Card Exchange

Under the new program, CEDOs will be required to renew their certification every five years. This transition began in 2013, and approximately 3,000 new CEDO cards have since been issued. The date for renewal is now found on the new CEDO certification card. Exchanging the card is easy, and there is no charge to CEDOs. If you do not have your new card, please contact the CNSC Personnel Certification Division (edo-oae@cnscccsn.gc.ca) and provide them with valid contact information to obtain your new card. The requirements for certification renewal will also be listed in the new certification guide, and will be put in place for the first group of CEDOs renewing in 2015.

- All current CEDOs will be given ample opportunity to exchange their current cards for new ones. CNSC regional offices can assist in the card exchange process.
- Exchanging an old CEDO or Qualified Operator (QO) card for a new CEDO certification card will provide the CNSC with up-to-date contact information, to allow for future communication and consultation.

- Licensees will be tasked with the responsibility to ensure that the CEDOs operating their exposure devices have valid new certification card. CNSC compliance inspectors will be verifying proper identification when conducting compliance field inspections. 




Renewing Your CEDO Status

The CNSC now requires CEDOs to renew their certification every five years. To ensure this, CNSC inspectors will be checking for the new CEDO certification cards during inspections. Licensees will also be required to check their CEDOs for valid cards before allowing them to conduct any radiography work. The work being conducted by CEDOs, along with their responsibilities for protecting the health, safety and security of people and the environment, are extremely important. It is therefore essential to provide evidence of continued competence in knowledge and skills requirements. Under the new program, CEDOs will be required to provide the following to renew their certification:

- Documented proof of continuous learning, which includes at least 40 hours of continuous learning over the last five-year period, with no less than five hours in any given year.

- Successful completion of the EDO practical exam.
- Documented evidence of continuous work in the field of radiography over the last five years. This requires a minimum of 320 work hours in the two years prior to renewal, and no period of non-work as a CEDO in excess of 12 months.
- A completed "application for renewal" form, submitted no sooner than six months and no later than one month prior to the certification expiry date.


Failure to provide this information may result in a delay or even loss of certification. If a CEDO loses their certification, they may be required to take additional training and/or rewrite the final exam. 

Do You Employ CEDOs?

The *Nuclear Substance and Radiation Device Regulations* contain several requirements related to the possession and use of exposure devices and the obligations of licensees. Under the new CEDO program, licensees will also be responsible for:

- all licensed activities conducted by CEDOs while in their employment.
- ensuring that all CEDOs in their employment possess a current and valid CNSC-issued CEDO certification card, with an expiry date (older cards without expiry dates can be exchanged by contacting the CNSC Personnel Certification Division (edo-oae@cnscccsn.gc.ca)); the CEDO should also have a valid photo identification card issued by Natural Resources Canada (NRCan).
- ensuring that all CEDOs in their employment receive the required training on all models of exposure devices in their possession that they may potentially use; this training must be documented, with records provided to the CNSC on request.
- ensuring that all CEDOs in their employment receive the required training on the licensee's operational, health and safety, and security requirements for work related to industrial radiography; this includes any training (if required) on emergency response, source retrieval or transportation of dangerous goods.
- ensuring that all CEDOs in their employment are provided with all the required documentation when

using or transporting an exposure device.

- ensuring that all CEDOs in their employment are trained to use all the safety equipment and instrumentation they require in their industrial radiography work.
- ensuring that all CEDOs in their employment are designated as nuclear energy workers, and are provided with the required dosimetry equipment. 




Do You Provide Training for EDO Certification?

Vocational and practical training programs must meet the training needs of the learner - before being certified as an exposure device operator (EDO) using a systematic approach. If you are a training provider for either the vocational courses or for the practical on-the-job training, the new guide PCP-09 provides some details that will assist in assuring all knowledge and skills areas are covered.

- The candidate must have a prerequisite of good math skills. This can be tested by either an equivalent math exam accepted by the training facility, or the Natural Resources Canada's Non-Destructive Testing math exam.
- Knowledge training in gamma radiography principles, radiation and radioactivity fundamentals, radiation units, regulations, security, operational procedures,

emergency procedures, transportation, radiation protection and device/equipment operation.

- The 40-hour vocational training and the 320-hour on-the-job training should be completed within two years of the start of the training.
- The CSA guide PCP-09 outlines the knowledge and skill areas in which the candidates must be trained, and on which they will be tested in the final practical and written exams.

An on-the-job program is essential to develop the skills and abilities of the EDO. It is also a continuation and complement to the vocational training program, and should help to reinforce and expand on the essential knowledge already provided. Training must be tailored to the needs and the learning characteristics of the EDOs and the gamma radiography industry, and must include development of strong cultures for safety and security. 



Outline of the NEW CSA Guide PCP-09

Introduction (sections 1.1 to 1.12)

These sections provide general information on the authority for the guide and its development process.

Exposure Device Operator Personnel Certification (sections 2.1 to 2.27)

These sections clearly lay out what is required to become a Certified Exposure Device Operator (CEDO) and how to maintain and renew a certification. There is also information on the expectations for training, in both the vocational and practical requirements. The final process for certification is briefly explained; information on how to apply for obtaining the certification is available from the [NRCAN \(NDT\)](#) and [CNSC \(EDO\)](#) websites.

There is also a section on professional expectations, which is based on CNSC regulations. This section describes actions taken by a CEDO that may result in enforcement measures being applied by the CNSC, including decertification.

Exam Preparation and Completion (sections 3.1 to 3.9)

These sections provide information on the six areas of study that make up the final written exam. The six areas of study are: radiation fundamentals, radiation units, regulatory requirements, security, operational procedures and radiation protection. These six areas were developed from the expert sub-committee's job-task-analysis, and form the basis for the knowledge and skills requirements for CEDOs. These sections (as well as the body of knowledge they encompass) will assist training companies in modifying their training modules to ensure all knowledge and skills are properly transferred to trainees.

Examination Body of Knowledge and Blueprint (sections 4.1 to 4.3)

These sections provide references and definitions to assist with further understanding of knowledge and skills

requirements and expectations. The blueprint further breaks down the knowledge requirements and provides a value for the percentage of corresponding questions in the final exam. Some questions on the final exam pertain to the knowledge and skills developed during the on-the-job training. Since the final written exam is all encompassing to the training program, it is now the final step in the certification.


Appendix A - EDO Practical Examination Form

To simplify the practical exam, the guide includes a sample training form that can be copied and used for candidate testing. This form must be signed by authorized evaluators and submitted as part of a request for certification.

Appendix B - EDO On-the-Job Training Plan

Since the on-the-job training can take significant time to complete, the guide provides a sample plan that can be used to track a trainee's progress. This will help ensure that training goals are being met and areas of weakness are identified and addressed.

Appendix C - EDO Continuous Education Log and Instructions

The renewal of CEDO certification is not a simple process. There are now strict expectations requiring CEDOs to demonstrate continued learning and continued work. The CEDO must indicate that they have received at least 40 hours of additional training over the last five years. This includes online training, attendance at conferences and any in-house training information sessions. The CEDO must also show that they have worked as an EDO in gamma radiography, and that any period of non-work did not exceed 12 months. In the two year period prior to the certification expiry date, a CEDO must work a minimum of 320 hours. Finally, a CEDO must complete the practical exam prior to recertification. 

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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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