

Exposure Device Operator Practical Examination

CNSC EXPECTATIONS

All candidates must complete the exposure device operator (EDO) practical examination as part of the certification process. This examination is required for initial certification and expected for renewal of a certification. There is no alternative to successfully completing the practical examination.

What is a successful EDO practical examination?	<ul style="list-style-type: none">• The candidate has achieved a final score of 90% or more.• The candidate did not fail any of the steps marked by an asterisk (*).<ul style="list-style-type: none">○ If the candidate fails one of these steps, the CNSC considers that the candidate has failed the examination.
Who can administer the practical examination?	The person who initials each section of the examination and signs the final page is the examination administrator. They must be <ul style="list-style-type: none">a) a certified EDO who conducts examinations at a Natural Resources Canada (NRCan) test centre, orb) a certified EDO who has been certified for at least 5 years, orc) a certified EDO who has been certified for less than 5 years but has been authorized by their employer to conduct practical examinations for that employer.
How is the practical examination conducted?	<ul style="list-style-type: none">• Information about the candidate is filled in on the top of the examination.• While conducting the examination, the examiner must check off each step the applicant passes or place an X in the appropriate column for each step failed.• The examiner must initial each section.<ul style="list-style-type: none">○ Only one set of initials is required per section.• The total score for the section may be filled out at the end of the section.• The final score is written on the final page of the examination.<ul style="list-style-type: none">○ If the transportation section is not assessed, the examination is out of 55.○ If the transportation section is assessed, the examination is out of 61.• The examiner must sign and date the final page of the practical examination.
Where can a candidate attempt the practical examination?	A candidate may attempt the practical examination at any licensed location where exposure devices can be held or at an NRCan Test Centre.
How many attempts can a candidate make to pass the practical examination?	The number of attempts required to pass the practical examination is a question that must be answered on the application form (Part 5 for initial certification applications and Part 4 for renewal of certification applications). Therefore, the applicant must sign their application AFTER they successfully complete the practical examination.

When in the certification process should a candidate complete the practical examination?	<p><u>Initial Certification</u>: The CNSC recommends that candidates attempt the practical examination after completing OJT and before attempting the written examination.</p> <p><u>Certification Renewal</u>: The CNSC recommends that candidates attempt the practical examination as close as possible to the date when they submit their application for renewal.</p>
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EXPOSURE DEVICE OPERATOR PRACTICAL EXAMINATION

Candidate (Full Legal Name)		Date:	(yyyy/mm/dd)
NRCan Reg Number:			
Examination Location:	(City, Prov)	Examination Attempt Number:	

ALL sections or subsections identified by an asterisk () are MANDATORY requirements of the practical. If a candidate has failed any of these steps, the CNSC considers that candidate to have failed the practical examination.*

1. Radiation Protection	Fail (X)	Pass (✓)	Examiner's Initials	Expectations
a) *Has direct reading dosimeter, audible alarming dosimeter, dosimeter issued by licensed dosimetry service, and a radiation survey meter in possession			(only one required)	<i>As per CNSC Regulations the EDO must show that they are knowledgeable of and have the ability to properly operate all instruments and equipment</i>
b) *Turns on audible alarming dosimeter and survey meter before starting				
c) *Ensures power level of batteries is sufficient for operation				
d) *Checks equipment for valid calibration dates				
e) *Zeros DRD prior to start for a minimum of 2 mSv (200 mR) total dose range				
f) *Checks function of radiation detection equipment				
Total score:			/6	
2. Inventory Control	Fail (X)	Pass (✓)	Examiner's Initials	Expectations
a) Proper sign out of the exposure device			(only one required)	<i>Able to demonstrate importance of accurate documentation control and record keeping.</i>
b) *Proper survey and recording for surface dose rates on the exposure device (<2 mSv/hr)				
c) Use of all required daily records required by the licensee				
d) Ensure that emergency equipment is available and in good working condition				
Total score:			/4	
3. Prepare Work Area	Fail (X)	Pass (✓)	Examiner's Initials	Expectations
a) Initiates Job Hazard Assessment (JHA) of work area			(only one required)	<i>Able to demonstrate safety and security when preparing work area.</i>
b) Demonstrates knowledge to quarantine broken or deficient equipment				
c) *Posts sufficient number of radiation warning signs and barriers at proper distances to prevent entry into controlled area.				
d) *Performs thorough sweep and evacuates all persons from inside controlled area				
e) Uses collimator and/or effective use of shielding to control radiation levels				
f) All equipment has been safely placed to prevent any incidents				
Total score:			/6	

4. Exposure Device	Fail (X)	Pass (✓)	Examiner's Initials	Expectations
a) *Uses survey meter during equipment assembly for operation			(only one required)	<i>The EDO must demonstrate a good basic understanding of the exposure device being used. They must be able to demonstrate ability to monitor radiation levels during setup and conduct all the necessary equipment checks.</i>
b) *Device checks – Company contact labels (name/job title and telephone number), source tag, trefoil radiation label, fasteners, locking mechanism, shipping plug/safety covers, and protective covers				
c) *Remote control checks – inspection of full assembly handle, fittings, brake, conduit fasteners, protective covers. Checks for dents, cuts, damage or debris that may affect safe operation				
d) *Remote control drive cable checks – free movement, flex test, visual checks for fraying, kinks, rust, or corrosion				
e) *Guide tube checks – inspection of guide tube conduit, fittings, connectors, threads, source stop. Checks for dents, cuts, damage or debris that may affect safe operation				
f) *Source assembly inspections - Able to demonstrate all go/no-go checks (if applicable to device)				
g) Demonstrates ability to connect the remote controls, the guide tube, collimator and device together to prepare for an operation				
h) Demonstrates knowledge of emergency equipment requirements (cutting tool, tunnel/shielding, 1.5 meter long handled tongs)				
Total score: _____/8				
5. Operation	Fail (X)	Pass (✓)	Examiner's Initials	Expectations
a) *Demonstrates proper use of survey meter during all operational procedures			(only one required)	<i>This is the most important part of the work process. The EDO must demonstrate proper control of the high-risk source and device to ensure safety and security at all times.</i>
b) *Unlocks and safely connects the exposure device and associated equipment in the correct order according to the manufacturer's specification				
c) *Demonstrates safe operations during the cranking and exposing the source assembly to the exposure position (position, observing survey meter, monitoring area)				
d) *Verifies barrier dose rates and radiation warning sign positions on first exposure using the survey meter				
e) *Demonstrates safe operations during the retracting of the source assembly to the shielded position (position, observing survey meter, posilock function)				
f) *Demonstrates observation of survey meter and audible alarming dosimeter during source movements and approach towards device				
g) Demonstrates observation of proper operation and location of source position indicator				
h) *After each attempt to move the source assembly to the shielded position within the exposure device, demonstrates use of a survey meter to ensure that the source assembly has returned to the safe shielded position				
i) Demonstrates the ability to follow all company and regulatory operational procedures				
j) Demonstrates implementation of ALARA and basic radiation protection principles (time, distance, shielding)				
Total score: _____/10				

6. Post Exposure	Fail (X)	Pass (✓)	Examiner's Initials	Expectations
a) *Demonstrates continual use of survey meter post exposure when preparing to complete operations and disassemble associated equipment			(only one required)	<i>The EDO must demonstrate how to secure the device and verify the safety of the worksite in the proper order after completion of exposures.</i>
b) *Ensures the safety lock indicates that the source is locked and in the safe position (may not be applicable for some devices)				
c) *Disassembles the equipment safely and in the correct order according to the manufacturer's specifications				
d) *Installs all retaining safety plug and/or port and lock safety covers				
e) *Secures and locks the exposure device, properly store with protective covers and caps				
f) Performs a final site survey with a survey meter to ensure radiation levels are safe				
g) *Removes the posted radiation warning signs and barriers				
h) Places exposure device back in to secure storage area				
Total score: _____			/8	
7. Record Keeping	Fail (X)	Pass (✓)	Examiner's Initials	Expectations
a) Documents device sign out (dates/names/locations of use)			(only one required)	<i>Maintaining accurate records is a regulatory requirement. The EDO must show how to record all radiation readings properly as well as the results of equipment checks.</i>
b) Documents survey reading on surface of device				
c) Documents all equipment checks required by licensee				
d) Records daily DRD readings				
e) Completes trainee supervisor consent form (as needed)				
Total score: _____			/5	
8. Emergency Preparedness (oral examination)	Fail (X)	Pass (✓)	Examiner's Initials	Expectations
a) *Demonstrates ability to recognize an emergency situation			(only one required)	<i>The EDO must explain how to identify different emergency or dangerous occurrences and describe the process for mitigation.</i>
b) *Demonstrates knowledge of required emergency equipment and location				
c) *Demonstrates knowledge of emergency procedures location at the jobsite				
d) *Demonstrates knowledge of initial emergency steps to be followed				
e) *Demonstrates proper use of long handled tongs and shielding material				
f) *Demonstrates knowledge of correct contact for a retrieval person				
Total score: _____			/6	

9. Transportation (if applicable)	Fail (X)	Pass (✓)	Examiner's Initials	Expectations
a) Verifies the device is locked and secured			(only one required)	<i>Although the EDO cannot transport the device without TDG training, they must show knowledge of the transport requirements including all package, signage and security measures.</i>
b) Ensures all requirements for the appropriate shipping document have been met				
c) Ensures type A or Type B package requirements are met				
d) Displays knowledge of use of transportation overpack and use				
e) Ensures proper labelling/placarding (Class 7) bearing the radiation symbol, UN number, and contact information is completed				
f) Ensures the device is properly placed and secured within the vehicle for transport				
Total score: _____/6				
10. Security	Fail (X)	Pass (✓)	Examiner's Initials	Expectations
a) *Candidate is in control of device at all times throughout operations			(only one required)	
b) *Candidate verifies that when not in use the device was locked and secured inside 2 levels of locked enclosure and that there is immediate response to an alarm in the event of an attempted intrusion				
Total score: _____/2				
FINAL SCORE ___/ 55 A passing result is ≥ 50 and no mandatory steps failed FINAL SCORE (with Transportation if applicable) ___/ 61 A passing result is ≥ 55 and no mandatory steps failed FINAL RESULT : <input type="checkbox"/> PASS <input type="checkbox"/> FAIL				
Authorized Examiner (Certified EDO):				
Examiner's Name	Job Title		NRCan Number	
Company Name			Phone Number	
Examiner's Signature			Date	
<input type="checkbox"/> Yes, _____ has demonstrated the skills and attitude to safely operate an exposure device. (Candidate's Name)				
<input type="checkbox"/> No, _____ does not demonstrate the skills and attitude to safely operate an exposure device. (Candidate's Name)				
Remedial Practical Instruction:				