



Canadian Nuclear  
Safety Commission

Commission canadienne  
de sûreté nucléaire

# Licensing of Nuclear Substances and Radiation Devices

## Current Issues and Initiatives

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# Outline

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- New regulations
- Revised documentation
- Changes to licensing
- CNSC licensing expectations



# New NSRD Regulations

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- Changes to exemptions
- Removal of low-risk Licences
- Introduction of Clearance Levels
- Reporting requirement changes



Class II Regulations have changed too!

[www.nuclearsafety.gc.ca](http://www.nuclearsafety.gc.ca)

# Changes to Exemptions (s 5)

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- Removal of limit on number of sealed sources
- Uranium used in analytical work is exempt
- Now allow for abandonment or disposal if exempted
- Changes to Exemption Quantities

# Changes to Exemption Quantities

- Some EQ values are now more restrictive:

- Kr-85
- Xe-133
- C-14



The EQ value for these nuclear substances has been reduced and smaller quantities will require a licence.

May require additional licensing action.

# No licence required (s 5, s 8.1)



Electron Capture Devices  
(containing Ni-63)



Check Sources  
(less than 370 kBq if no alpha)

# Introduction of Clearance Levels



- EQ values establish basis for entering regulatory control
- Clearance levels establish one means for exiting regulatory control
- May be conditional or unconditional



# Reporting Requirement Changes

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Section 38 now applies



- Spills greater than 100 EQ
- Lost, stolen nuclear substances or radiation devices
- Damaged radiation devices
- Sealed source comes out of radiation device

Contents of report are specified

# Revised Documentation

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- RD-52: Design Guide for Nuclear Substance Laboratories and Nuclear Medicine Rooms
- RD-58: Thyroid Screening Programs for Volatile Radioiodines
- RD-150: Designing and Implementing a Radiobioassay Program



# Changes to Licensing

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- Contacting a Licensing Specialist
- Update of Guides and Consolidation of Licences

# Contacting a Licensing Specialist

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- All phone numbers have changed
- Use 1-888-229-2672
- First two groups of numbers on your licence

Example: 97845-1-10.1

Use “9784501”

when prompted to enter your licence number



# Update of Guides and Consolidation of Licences

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- Working to update all application guides, starting with nuclear medicine
  - Tied to regulatory requirements
  - Specify information required
  - Eventually to go online
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- Consolidation
  - Starting with Nuclear Medicine
  - Fewer licences, less paperwork for all



# CNSC licensing expectations

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- ALARA – design assessments
- Radiation Devices – licensing & servicing
- Role of the Radiation Safety Officer
- Who's in Charge?

# ALARA – design assessments

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- Regulatory Guide G-129, Rev 1
- No further ALARA analysis required if:
  - individual occupational dose < 1 mSv/yr
  - individual public dose < 50  $\mu$ Sv/yr
  - collective dose unlikely to exceed 1 person-Sv
- ALARA may be achieved above these values

Doses are not restricted to 50  $\mu$ Sv/yr

# ALARA – design assessments

- Assessment – when required?
- Factors to consider
- Verification of dose estimates
- Re-assessment following changes



# Radiation Devices

## – licensing & servicing

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- PET scanners and other diagnostic units containing a radiation source are considered radiation devices
- Servicing licence required to insert or remove these sealed sources
- Licence must cover nuclear substance used
- Canadian certification should be determined before purchasing

# Role of the Radiation Safety Officer



- Responsible for implementing the radiation safety program
- Must:
  - have sufficient knowledge, experience and resources to carry out responsibilities
  - understand the nature of the licensed activity
  - understand information requirements of licence



The RSO may be a consultant but must be designated by the Applicant Authority to act on its behalf

# Who's in Charge?

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- Section 15 of the General Nuclear Safety and Control Regulations
- Applicant Authority
- Signing Authority
- Radiation Safety Officer
- Alternate Licensing Contact



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