

Comments on CNSC Draft REGDOC-2.7.1, Radiation Protection

No.	Section/Comment	Proposed Change	Category (Major/Clarification)	Impact on Industry
1	<p>Preface</p> <p>“Can” is used to express possibility or capability.”</p> <p>“Could” is also used in this REGDOC to express possibility or capability.</p>	<p>Consider including “could” with “can”, or revise the document to replace the use of “could”.</p>	<p>Clarification</p>	
2	<p>Sections 3 to 25.2</p> <p>As stated in Section 1, REGDOC-2.7.1 provides requirements and guidance for the application of the Radiation Protection Regulations.</p> <p>However, the text in Sections 3 to 25.2 does not consistently state requirements and guidance using “shall” or “must” for requirements and “should”, “may” or “can” for guidance.</p> <p>Some examples are:</p> <ul style="list-style-type: none"> • “Licensees are required to”, • “The application of the ALARA principle needs to be considered at all stages”, • “There is an obligation on licensees to identify individuals as NEWs”, and • “It is the licensee’s obligation to ensure that”. 	<p>Consistent use of “shall” or “must” for requirements and “should” “may” or “can” for guidance for guidance would make REGDOC-2.7.1 more consistent with the other REGDOCs that have been issued. Furthermore, the document would be improved in terms of reader comprehension by using a sub-heading of “Requirements” before the statements of requirements and “Guidance” before the statements of guidance in each section and sub-section.</p>	<p>Clarification</p>	

No.	Section/Comment	Proposed Change	Category (Major/Clarification)	Impact on Industry
3	<p>2. Interpretation and Application of the Radiation Protection Regulations</p> <p>“doses to caregivers be kept as low as reasonably achievable (ALARA)”</p> <p>The proper definition of ALARA is “as low as is reasonably achievable, social and economic factors being taken into account”. Using this definition of ALARA means that it will not be necessary to add phrases after ALARA, for example in Section 4 “taking into account social and economic factors”.</p>	<p>Change to:</p> <p>“doses to caregivers be kept as low as reasonably achievable, social and economic factors being taken into account (ALARA)”</p>	Clarification	
4	<p>4. Radiation Protection Program</p> <p>“Implementation of the ALARA principle should be integrated into all aspects of the radiation protection program ...”</p> <p>Paragraph 4(a) of the Radiation Protection Regulations states ALARA as a requirement for the licensee’s radiation protection program.</p>	<p>Change to</p> <p>“Implementation of the ALARA principle shall be integrated into all aspects of the radiation protection program ...”</p>	Major	REGDOC-2.7.1 must be clear that implementation of ALARA is a regulatory requirement for an acceptable radiation protection program.
5	<p>4. Radiation Protection Program</p> <p>“Additionally, performance targets may be set to monitor the effectiveness of ALARA measures, and additional information on this topic may be found in subsection 4.1.5.”</p> <p>Since the additional information is provided in subsection 4.1.5, the above cited sentence should state “is”, rather than “may be”.</p>	<p>Change to</p> <p>“Additionally, performance targets may be set to monitor the effectiveness of ALARA measures, and additional information on this topic is found in subsection 4.1.5.”</p>	Clarification	

6	<p>4. Radiation Protection Program</p> <p>“The basic structure of a radiation protection program should include the policies and procedures for key elements of the radiation protection framework, including:</p> <ul style="list-style-type: none"> • application of the ALARA principle (see subsection 4.1) • management control over work practices (see subsection 4.2) • personnel qualification and training (see subsection 4.3) • control of occupational and public exposure to radiation (see subsection 4.4) • planning for unusual situations (see subsection 4.5) • ascertaining the quantity and concentration of any nuclear substance released as a result of the licensed activity (see subsection 4.6)” <p>The above cited paragraph uses “should” to indicate guidance; however, the bullet points are requirements from paragraph 4(a) (i), (ii), (iii), (iv) and 4(b) of the Radiation Protection Regulations. Hence these bullet points need to be stated as regulatory requirements.</p> <p>Also, the above cited paragraph does not explicitly identify that an effective radiation protection program uses a graded approach commensurate with the magnitude of the radiological hazard for the licensed activity.</p>	<p>Change to</p> <p>“Licensees shall implement a radiation protection program that includes the policies and procedures to ensure radiation safety commensurate with the radiological hazard, including:</p> <ul style="list-style-type: none"> • application of the ALARA principle (see subsection 4.1) • management control over work practices (see subsection 4.2) • personnel qualification and training (see subsection 4.3) • control of occupational and public exposure to radiation (see subsection 4.4) • planning for unusual situations (see subsection 4.5) • ascertaining the quantity and concentration of any nuclear substance released as a result of the licensed activity (see subsection 4.6)” 	<p>Major</p>	<p>The items of a radiation protection program in subsections 4.1 to 4.6 of REGDOC-2.7.1 are required in order for the radiation protection program to be in compliance with the Radiation Protection Regulations.</p>
---	--	---	--------------	--

No.	Section/Comment	Proposed Change	Category (Major/Clarification)	Impact on Industry
7	<p>4.1.1 Commitment to ALARA</p> <p>“Radiation protection is part of the safety culture of a licensee’s organization. A licensee’s management has a role in fostering a safety culture in which everyone in the organization recognizes the importance of optimizing doses from exposure to radiation. Requirements and guidance for fostering and assessing safety culture are provided in CNSC regulatory document REGDOC-2.1.2, Safety Culture [9].”</p> <p>The above cited paragraph is not written to state a requirement nor guidance on the recommended means to comply with the NSCA and Regulations with respect to safety culture. Paragraphs 3(d) in the Class I Nuclear Facilities Regulations and 3(b)(v) in the Uranium Mining and Mills Regulations state regulatory requirements for the licensees to have measures to promote and support safety culture. However, the Class II Nuclear Facilities Regulations, the Nuclear Substances and Radiation Devices Regulations and the Packaging and Transport of Nuclear Substances Regulations do not explicitly state regulatory requirements for the licensees to have measures to promote and support safety culture.</p>	<p>Change to</p> <p>“Licensees shall ensure that everyone in the organization recognizes the importance of optimizing doses from exposure to radiation. Hence, radiation protection is part of a safety culture within a licensee’s organization. Requirements and guidance for fostering and assessing safety culture are provided in CNSC regulatory document REGDOC-2.1.2, Safety Culture [9].”</p>	<p>Clarification</p>	

No.	Section/Comment	Proposed Change	Category (Major/Clarification)	Impact on Industry
8	<p>4.1.2 Allocation of resources</p> <p>“As part of its policy commitment to ALARA, licensees can contribute to the control of doses to persons by providing appropriate resources, both financial and human.”</p> <p>Using “can” in the above cited paragraph seems to be inconsistent with the subsequent paragraphs that state guidance for provision of adequate financial and human resources to implement ALARA initiatives.</p>	<p>Change to</p> <p>“As part of its policy commitment to ALARA, licensees should contribute to the control of doses to persons by providing appropriate resources, both financial and human.”</p>	Clarification	
9	<p>4.1.3 Process for the application of ALARA</p> <p>“The application of the ALARA principle needs to be considered at all stages – from design of facilities, processes, structures, systems and components, through to operation, decommissioning and waste management.”</p> <p>The phrase “needs to be” makes the above cited statement unclear with regards to whether a requirement is being stated. Paragraph 4(a) of the Radiation Protection Regulations states ALARA as a requirement for the licensee’s radiation protection program, replace “needs to be” with “shall be”.</p>	<p>Change to</p> <p>“The application of the ALARA principle shall be considered at all stages – from design of facilities, processes, structures, systems and components, through to operation, decommissioning and waste management.”</p>	Clarification	

No.	Section/Comment	Proposed Change	Category (Major/Clarification)	Impact on Industry
10	<p>4.1.4 Taking into account social and economic factors</p> <p>“The ALARA principle takes into account social and economic factors, and licensees have the overall responsibility of assessing and documenting the justification and rationale for how they will take these factors into account in the application of the ALARA principle in order to substantiate their decisions.”</p> <p>The above cited paragraph is neither written as a requirement nor as guidance. The paragraph should be revised to state a requirement.</p>	<p>Change to</p> <p>“The ALARA principle takes into account social and economic factors, and licensees shall assess and document the justification and rationale for how they will take these factors into account in the application of the ALARA principle in order to substantiate their decisions.”</p>	Clarification	
11	<p>4.1.5 Oversight of the application of ALARA</p> <p>“The ALARA principle incorporates the notion that the level of effort that should be applied to optimize doses depends on the magnitude of projected or historical doses. The regular review of dose records and other appropriate indicators, such as the frequency of contamination incidents, form a critical part of the oversight of the application of ALARA. These reviews identify trends that enable licensees to evaluate the effectiveness of dose reduction efforts.”</p> <p>The above cited paragraph is neither written as a requirement nor as guidance. The paragraph should be revised to state a requirement.</p>	<p>Change to</p> <p>“The ALARA principle incorporates the notion that the level of effort that should be applied to optimize doses depends on the magnitude of projected or historical doses. Licensees shall demonstrate their oversight of the application of ALARA, for example by regular review of dose records and other appropriate indicators, such as the frequency of contamination incidents. These reviews identify trends that enable licensees to evaluate the effectiveness of dose reduction efforts.”</p>	Clarification	

No.	Section/Comment	Proposed Change	Category (Major/ Clarification)	Impact on Industry
12	<p>4.2 Management control over work practices</p> <p>No requirement for management control over work practices is stated in Section 4.2 of REGDOC-2.7.1.</p>	<p>Add</p> <p>“Subparagraph 4(a)(i) of the Regulations requires the implementation of management control over work practices as part of a radiation protection program.”</p>	Major	Clarity is needed in REGDOC-2.7.1 to ensure that the requirements are aligned with the Radiation Protection Regulations.