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Sent: September-25-18 2:51 PM
To: Consultation (CNSC/CCSN)
Cc: MANLEY Robin -NUCLEAR; KHAN Saad -NUCLEAR
Subject: OPG Comments on REGDOC-1.1.5, Licence Application Guide: Small Modular Reactor Facilities

OPG Proprietary

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OPG Comments on REGDOC-1.1.5, Licence Application Guide: Small Modular Reactor Facilities

The purpose of this email is to provide OPG comments on REGDOC-1.1.5, Licence Application Guide: Small Modular Reactor Facilities.

OPG appreciates the opportunity to comment on the draft REGDOC, and has reviewed this document in conjunction with other regulatory requirements.

Some key messages to note from the detailed comments:

- OPG appreciate the flexibility provided by REGDOC 1.1.5.
- Small Modular Reactor (SMR) has not been well defined within the Canadian regulatory framework. OPG suggests the CNSC should consider adopting the IAEA definition of SMR, which is a unit up to 300 MWe.
- The information in the Appendix A and B of REGDOC 1.1.5 is well-written and high value since it encompass the essence of licensing an SMR. OPG suggests to state the information up front in the document.

OPG's comments are contained in the attachment to this email, which were developed in consultation with industry partners.

If you require further information or have any questions regarding this submission, please contact Mr. David Train, Manager, Regulatory Projects, at (905)-839-6746, ext. 5360.

Yours sincerely,

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Industry comments on draft REGDOC-1.1.5, Licence Application Guide: Small Modular Reactor Facilities

#	Document/ Excerpt of Section	Industry Issue	Suggested Change *(if applicable)*	Major Comment/ *Request for Clarification* [1]	Impact on Industry, *if major comment*
1.	**General**	The term Small Modular Reactor (SMR) has not been well defined within a regulatory framework. *REGDOC-3.6, Glossary of CNSC Terminology* does define the term "small reactor" as referenced on page 24 of *REGDOC-1.1.5*. However, there is no definition for "Small Modular Reactor" in *REGDOC 3.6,* which indicates that "SMR" stands for "scheduled maintenance release" or "security monitoring room." While SMR generally means reactors that are smaller in size than current generation baseload nuclear power plants, SMRs encompass a broad range of reactor technology from conventional to highly-innovative. It would be useful to both licensees and regulators to establish a technical descriptor for these types of reactors with novel technologies.	Industry suggests the CNSC should consider adopting the IAEA definition of SMR, which reads: "Small modular reactors are defined as advanced reactors that produce electricity of up to 300 MW(e) per module. These reactors have advanced engineered features, are deployable either as a single or multi-module plant, and are designed to be built in factories and shipped to utilities for installation as demand arises."	**MAJOR**	A technical descriptor for these types of reactors with novel technologies would help the CNSC and industry reach a common understanding of what is meant by SMR. Without a clear definition, it is more difficult to understand how the application of the guidance in *REGDOC 1.1.5* would differ from conventional nuclear power plants and small reactors (as defined in *RD-367, Design of Small Reactor Facilities)*.
2.	**General**	Terminology is used inconsistently in this draft REGDOC. For example: • The second pre-licensing activity is referred to as "pre-licensing engagement" in Section 1.2 and as "the process for establishing an appropriate strategy for risk-informed licensing" in Appendix B. • The document uses terms such as "proponent" and "applicant" or "applicant/licensee in several	Use the same terminology throughout the document to avoid confusion.	*Clarification*	

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		sections such 1.2, B.2.1 and Appendix B. Are they to be treated as synonymous? • In Section A.2, "management systems" and "quality assurance" are redundant. Please remove the term "quality assurance." • Some sections, such as 2.3, use the term "Aboriginal" while others such as A.1 and B.2.1 use "Indigenous." Licensees suggest Indigenous be used consistently throughout. • Replace the phrase "to build" with "to construct" in the 1st paragraph of Section 1.2 for consistent use of terminology.			
3.	**General**	Access to Information requirements are not addressed in this initial draft.	In future drafts, industry suggests providing contextual information on the Access to Information Act regarding pre-licensing submission applicability and opportunities for applicants to protect/remove sensitive information. This would be most beneficial to new applicants.	*Clarification*	
4.	**1.1**	How does this guideline differ from a research reactor guide? If a low-powered SMR is not connected to a power conversion unit, can it be licensed as a research reactor facility? Also, it is not clear what "alternative approaches" refers to in the 4th paragraph of this section.		*Clarification*	

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5.	**1.1**	This document is intended to be used in consultation with CNSC staff and the following regulatory documents, which detail requirements and guidance for an applicant to review prior to submitting a licence application: • *REGDOC-1.1.1, Licence to Prepare Site and Site Evaluation for New Reactor Facilities* • *RD/GD-369, Licence Application Guide: Licence to Construct a Nuclear Power Plant* • *REGDOC-1.1.3, Licence Application Guide: Licence to Operate a Nuclear Power Plant* However, *REGDOC-1.1.5* does not provide a straightforward alignment between those three REGDOCs and the CNSC's 14 Safety and Control Areas, especially for those who are not fully knowledgeable about the Nuclear Safety and Control Act and Regulations and the licence application requirements. Also, as currently written, *REGDOC-1.1.5* does not provide guidance to licence applicants for SMR facilities regarding the extent of information and completeness of their facility design that is necessary to apply for licences to prepare a site, construct a facility and operate it.	For clarity, industry suggest future drafts of this document refer to the full suite of REGDOCS applicable to SMRS, possibly displayed using a ball-and-stick diagram.	*Clarification*	

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6.	**2.2.1**	Clarity is sought regarding item #8 and the reference to barriers. Barriers against what? Release of radioactive materials to the environment?	Clarify what is meant by barriers.	*Clarification*	
7.	**2.2.2**	Ensure the SCAs being exempted from the application to prepare a site are consistent with other documents, such as *REGDOC- 1.1.1,* and the REGDOCs cited on the CNSC website.	Ensure consistency of exemptions in all CNSC material.	*Clarification*	
8.	**2.2.5**	The third paragraph incorrectly references the "management system SCA" rather than the "physical design SCA."	Amend the sentence to read, "Consult the CNSC's Regulatory documents Web page for a list of regulatory documents and CSA standards that may be applicable to the ~~management system~~ physical design SCA"	*Clarification*	
9.	**2.2.10**	To be consistent with the topic of this SCA, the note in the 2nd paragraph should include the phrase "fire protection."	Amend the 2nd paragraph to read, "**Note**: The emergency management and fire protection SCA includes … "	*Clarification*	
10.	**2.2.14**	Bullet #2 simply repeats the parent statement. If the bullet is meant to capture the heading for Section 4.14.2 in *REGDOC-1.1.3, Licence Application Guide: Licence to Operate a Nuclear Power Plant* it should be: "2. Packaging and transport program."	Suggest changing to: "2. Packaging and transport program."	*Clarification*	
11.	**2.3**	There is duplication between Section 2.2.11 and Section 2.3 on financial guarantees.	Financial guarantees are already covered in Section 2.3 and should be removed from Section 2.2.11.	*Clarification*	
12.	**B.1**	It is redundant to use the word "optional" twice in the last sentence of the 1st paragraph.	Amend the sentence to read: "The CNSC offers an optional vendor design review (VDR)	*Clarification*	

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			~~optional~~ service in this regard.		
13.	**B.2**	The final sentence in the 2nd paragraph of Section B.2 repeats the meaning of a statement already included at the end of Section B.1.	Amend the 2nd paragraph to read: " … the approach to operation. ~~Information acquired through a VDR can be very useful, and can be used in the licensing process at the applicant's discretion.~~"	*Clarification*	
14.	**Preface; 1, 1.1, Appendix A**	In the stated sections, this draft refers to licence to prepare site, licence to construct and licence to operate. Is this guide also applicable to licence to decommission and licence to abandon?	Clarify whether this guide is also applicable to licence to decommission and licence to abandon and add those references if necessary.	*Clarification*	
15.	**1.1 Last paragraph; Appendix B, Figure 1 1.2 2nd bullet Appendix B Page 17**	In the discussion in Appendix B and VDR/ pre-licensing, VDR is identified as optional. However, no similar statement is included in relation to pre-licensing engagement activities by potential licensees.	Ensure both pre-licensing processes are clearly identified as optional in future drafts.	*Clarification*	
16.	**2.1**	The bullets in the 1st paragraph refer to specific sections of the General Nuclear Safety and Control Regulations, Class I Nuclear Facilities Regulations and Nuclear Security Regulations, paragraph 3 (b). The regulations reference seems specific to a Licence to Prepare Site and is not comprehensive to include other types of licences. For example, Class I Section 5 (a) to (m) would relate to an application for a Licence to Construct and Class I Section 6 (a) to (n) would be applicable for a Licence to Operate. Similarly, other subsections of General Nuclear Safety	Ensure all applicable licence and regulation references are clearly identified.	*Clarification*	

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		and Control Regulations would be applicable.			
17.	**2.1**	With regard to subsections 1-3 in the 2nd paragraph, the list of general information to satisfy the regulations for all types of licenses is not comprehensive. For example, information on environmental releases, waste, malfunction, accidents etc. is not mentioned.	Industry suggests future drafts of this document refer to the appropriate REGDOCs.		
18.	**2.2.2**	Human Factors is not included in the list even though *REGDOC 2.2.1* is mentioned on the CNSC Regulatory Documents web page under the NSCA.	Industry seeks clarity on whether Human Factors was purposefully omitted for this REGDOC.	*Clarification*	
19.	**2.2.4**	It is anticipated that compliance with CSA standards could be a concern for offshore SMR vendors who do not use current CSA standards.	Industry suggests the CNSC consider providing additional context and guidance in this section on how to address this issue.	*Clarification*	
20.	**2.2.5**	Many of the considerations in the 2nd list in this section may be unknown during the pre-licensing engagement phase as well as at LTPS since final design details -- or even intended technology -- may not have been finalized.	Industry suggests future drafts of this REGDOC acknowledge this potential gap.	*Clarification*	
21.	**2.2.10**	The scope of agencies involved is incomplete in bullet #4 in the 5th paragraph.	Industry suggests amending the bullet to read, “Ability of the applicant, region/municipality and/or province/territory to respond to an emergency”	*Clarification*	
22.	**2.2.10**	Is exclusion of “Drills & Exercises” an omission or by intent from the list of considerations the applicant should address when assessing the emergency	Clarify whether the omission was intentional.	*Clarification*	

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		and management and fire protection SCA?			
23.	**2.3**	Beneath the 1st paragraph, "Intergovernmental consultation" is listed as one of the four other regulatory areas. The 2nd paragraph then says, "Consult the CNSC's Regulatory documents Web page …. for the above-mentioned four matters." It seems this topic is not explicitly mentioned on the CNSC's website.	Industry suggests future drafts of the REGDOC be revised to include the need to consult the CNSC on "Intergovernmental consultation."	*Clarification*	
24.	**Appendix A**	The last four paragraphs on Page 14 are well-written and high value since they encompass the essence of licensing an SMR, i.e. the use of a risk-informed, graded approach and the consideration of professional judgement. This information needs to be stated up front in the document, not relegated to an Appendix.	Industry suggests the CNSC move or copy the identified text to the Preface/Introduction in future drafts of this REGDOC.	*Clarification*	
25.	**Appendix B**	Figure 1 is incomplete.	Phase 3 VDR should be included in Figure 1 and "Activity D" should be cross-referenced to Section B.2.1	*Clarification*	
26.	**B.3**	The 1st paragraph contains the phrase, "to initiate a technical assessment." Is the applicant expected to provide any additional information to support the "technical assessment"?	If additional information is required, please specify.	*Clarification*	
27.	**B.3.1,**	The 4th bullet under 'Description of the nuclear facility or activity' says, "The proposed organizational arrangements for the conduct of the activities to be	Eliminate the repetition in future drafts.	*Clarification*	

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		licensed." This essentially repeats the final bullet on the list under 'Description of the purpose of the project and key activities to be conducted,' which says, "key project activities and organizational arrangements that have been identified for each project phase."			
28.	**B.3.1**	Bullet # 5 under 'Description of the nuclear facility or activity' is in the wrong place.	Industry suggests this bullet should be moved to Appendix B, Section B.3.1, Page 23 under 'Estimate of quantity, form, origin and volume of any radioactive waste or hazardous waste.'	*Clarification*	

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