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Accept Regulatory Document

Accepter le document d'application de la réglementation

REGDOC-1.2.3, Licence Application Guide: Licence to Prepare Site for a Deep Geological Repository

REGDOC-1.2.3, Guide de présentation d'une demande de permis : Permis de préparation de l'emplacement d'un dépôt géologique en profondeur

Public Meeting

Réunion publique

Scheduled for:
February 21, 2024

Prévue pour le :
21 février 2024

Submitted by:
CNSC Staff

Soumis par :
Le personnel de la CCSN

Summary

This CMD pertains to a request for a decision regarding:

- draft regulatory document
REGDOC-1.2.3, *Licence Application Guide: Licence to Prepare Site for a Deep Geological Repository*

CNSC staff recommend that the Commission consider taking the following action.:

- accept draft REGDOC-1.2.3, *Licence Application Guide: Licence to Prepare Site for a Deep Geological Repository*

The following items are attached:

- draft REGDOC-1.2.3, *Licence Application Guide: Licence to Prepare Site for a Deep Geological Repository*
- consultation report
- comments received during the consultation

Résumé

Ce document à l'intention des commissaires (CMD) concerne une demande de décision au sujet de :

- l'ébauche du document d'application de la réglementation REGDOC-1.2.3, *Guide de présentation d'une demande de permis : Permis de préparation de l'emplacement d'un dépôt géologique en profondeur*

Le personnel de la CCSN recommande à la Commission pourrait considérer prendre la mesure suivante :

- accepter l'ébauche du REGDOC-1.2.3, *Guide de présentation d'une demande de permis : Permis de préparation de l'emplacement d'un dépôt géologique en profondeur*

Les pièces suivantes sont jointes :

- l'ébauche du REGDOC-1.2.3, *Guide de présentation d'une demande de permis : Permis de préparation de l'emplacement d'un dépôt géologique en profondeur*
- le rapport de consultation
- commentaires reçus dans le cadre du processus de consultation

Signed/Signé le

7 February 2024 / 7 Février 2024

Dana Beaton

Director General, Regulatory Policy Directorate

Directrice générale de la Direction de la politique de réglementation

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Executive Summary

Regulatory document REGDOC-1.2.3, *Licence Application Guide: Licence to Prepare Site for a Deep Geological Repository* (DGR) provides clarity on the requirements and guidance on the information needed to apply for a licence to prepare site for a DGR facility. It brings together the requirements and guidance for a licence application found in other parts of the regulatory framework to assist proponents in preparing an application and was developed through consultation with stakeholders and other interested parties.

1 Overview

1.1 Background

Draft REGDOC-1.2.3, *Licence Application Guide: Licence to Prepare Site for a Deep Geological Repository* (DGR) is part of the CNSC's regulated facilities and activities series of regulatory documents. It brings together the requirements and guidance for a licence application that are found in other parts of the regulatory framework, including but not limited to the [Nuclear Safety and Control Act](#) (NSCA), the Regulations made under the NSCA, standards, other regulatory documents as well as other relevant Canadian statutes.

Specifically, REGDOC-1.2.3 seeks to clarify the CNSC's licensing requirements for preparing a site for the possible future construction and operation of a deep geological repository (DGR) facility.

REGDOC-1.2.3 contains:

1. an introduction that sets the scope of the document
2. a background on DGR licensing
3. detailed technical requirements and guidance
4. general administrative information
5. an appendix that lists reference documents by CNSC's safety and control areas (SCAs)

This is the first edition of REGDOC-1.2.3.

1.2 Highlights

The guidance outlined in draft REGDOC-1.2.3, *Licence Application Guide: Licence to Prepare Site for a Deep Geological Repository*, is designed to assist an applicant in:

- developing the safety case for the site preparation phase of the project, which is incorporated into the licensing basis for the site preparation activities.
- documenting the conditions of the site and surrounding region that must be addressed in any technologies being considered, and associated safety and control measures.
- demonstrating that any technologies under consideration for the site will be able to withstand the conditions imposed on the facility by the site and its surroundings
- demonstrating that the available site characteristic data support and inform the post-closure safety case, which is the main tool to assess DGR facility safety in the post-closure period

As explained in the document, REGDOC-1.2.3 does not apply to the following:

- finding or selecting a site
- any disposal facility types other than DGR facilities
- surface and near-surface waste management facilities
- waste from uranium mines and mills
- surface facilities and other ancillary facilities associated with a DGR, such as packaging plants, storage facilities, and water treatment plants

REGDOC-1.2.3 informs readers that, for the preparation of a site for a deep geological repository, the Minister of Environment and Climate Change will convene a review panel to conduct an impact assessment under the *Impact Assessment Act* (IAA) before a licence to prepare a site can be issued and that this process will consider the requirements of both the IAA and NSCA. The guidance contained in REGDOC-1.2.3 does not replace federal impact assessment requirements.

2 Indigenous and Public Consultation and Engagement

2.1 Indigenous Consultation and Engagement

The common-law duty to consult with Indigenous Nations and communities applies when the Crown contemplates actions that may adversely affect potential or established Indigenous and/or treaty rights. The CNSC ensures that all of its licence decisions under the [NSCA](#) uphold the honour of the Crown and consider Indigenous peoples' potential or established Indigenous and/or treaty rights pursuant to section 35 of the [Constitution Act, 1982](#).

CNSC staff are committed to building long-term relationships with Indigenous Nations and communities who have interest in CNSC-regulated facilities within their traditional and/or treaty territories. The CNSC's Indigenous engagement practices include sharing information, discussing topics of interest, seeking feedback and input on CNSC processes, and providing opportunities to participate in environmental monitoring. The CNSC also provides funding support (through the CNSC's Participant Funding Program and the Indigenous and Stakeholder Capacity Fund) for Indigenous peoples to meaningfully participate in Commission proceedings and ongoing regulatory activities.

2.1.1 Discussion

CNSC staff reached out to a wide range of Indigenous Nations and communities to inform them about the consultation activities associated with REGDOC-1.2.3. In response to the CNSC's outreach, the Anishinabek Nation, Athabasca Chipewyan First Nation (ACFN), Historic Saugeen Métis, and the Mississaugas of Scugog Island First Nation (MSIFN) all requested meetings during the consultation period. CNSC staff delivered presentations on REGDOC-1.2.3 and answered questions related to the CNSC's regulatory oversight of waste facilities and the licensing process. ACFN and MSIFN both also submitted written submissions to the CNSC for further consideration.

2.1.2 Conclusion

The feedback received during the meetings and as part of written submissions focussed primarily on the measures outlined in the draft REGDOC related environmental protection, particularly with respect to water. There was also a great deal of interest in the role that engagement will play in the licensing process, including the importance that would be placed on Indigenous knowledge. CNSC staff noted these areas of interest, and where possible, amended the REGDOC to reinforce the applicant's obligations with respect to engagement with Indigenous Nations and communities as part of the regulatory process, which are existing requirements in the CNSC's regulatory framework.

2.2 CNSC Public Consultation and Engagement

The [NSCA](#) mandates the CNSC to disseminate objective scientific, technical and regulatory information to the public concerning its activities and the activities it regulates. CNSC staff fulfill this mandate in a variety of ways, including hosting in-person and virtual information sessions and through annual regulatory reports.

Highlights of the consultation are provided below. For a more detailed report, see Appendix E.

2.2.1 Discussion

The CNSC posted REGDOC-1.2.3, *Licence Application Guide: Licence to Prepare Site for a Deep Geological Repository* on [Let's Talk Nuclear Safety](#) for public consultation from February 22 to May 23, 2023, and from May 24 to June 8, 2023 for feedback on comments received during the consultation period. CNSC staff developed a [consultation backgrounder](#) to assist Canadians in understanding the key concepts associated with the REGDOC, which was posted alongside the main document.

To further support public engagement in the consultation, CNSC staff hosted a webinar on March 22, 2023. The goal of the webinar was to share information about the CNSC's consultation on REGDOC-1.2.3, while also allowing participants to ask questions and provide feedback on the document. During the presentation, CNSC staff answered questions on a variety of themes, including on physical design, site characterization, safety analysis and the licensing process.

A total of twenty (20) commenters, including the two Indigenous communities previously mentioned, provided written submissions to the CNSC during the consultation and feedback periods, from February to June 2023. CNSC staff reviewed the comments, and the feedback received on many of these comments, which fell into the following thematic areas:

- Theme 1: Applicability of the references cited in the document, the role of the graded approach as well as comments related to specific requirements, guidance and SCAs in the REGDOC.
- Theme 2: Technical topics, including site characterization and monitoring, the exclusion zone as well as the lifecycle approach to licensing.

- Theme 3: Engagement, including the role of community involvement in the licensing process, the use of Indigenous knowledge, as well as any requirements related to public disclosure.

CNSC staff made minor edits to the document on content related to all three themes and also made minor corrections suggested by commenters.

Some suggestions related to existing requirements or guidance from other parts of the framework were saved for future consideration since licence application guides, such as REGDOC-1.2.3, are written as aids for applicants to help them find and apply relevant requirements and guidance, and not to update the regulatory framework.

Other comments were found to be outside the CNSC's mandate—that is, they fell within the jurisdiction of another entity, including the Nuclear Waste Management Organization, Natural Resources Canada or the Impact Assessment Agency of Canada, and as such no changes were made.

2.2.2 Conclusion

While there was significant participation in the consultation for this REGDOC, a large portion of the feedback received touched on topics that were either outside of the CNSC's mandate or outside the scope of the consultation. However, CNSC staff were able to bring improvements to the REGDOC, including the following:

- setting out a clearer introduction
- providing more focussed information about DGR licensing process
- revising some aspects of the detailed technical requirements and guidance
- revising references cited in Annex A of the REGDOC

A summary of the submissions and the CNSC's response to the feedback received is found in Appendix B: Consultation Report.

3 Implementation

REGDOC-1.2.3 is intended to guide applicants, but is not intended to form part of the licensing basis.

This draft is the first edition of the regulatory document. If accepted, it will be posted on the CNSC website to assist applicants.

4 Overall Conclusions and recommendations

4.1 Overall Conclusions

Draft REGDOC-1.2.3 was developed through consultation with stakeholders and any other interested parties. This document is essential to communicating and formalizing the CNSC's requirements and guidance related to the site preparation of a DGR.

CNSC staff conclude that the REGDOC-1.2.3 is ready for acceptance by the Commission for publication.

4.2 Overall Recommendations

CNSC staff recommend that the Commission accept REGDOC-1.2.3, *Licence Application Guide: Licence to Prepare Site for a Deep Geological Repository*.

APPENDIX A



Licence Application Guide: Licence to Prepare Site for a Deep Geological Repository

REGDOC-1.2.3

Month 2024

DRAFT



Licence Application Guide: Licence to Prepare Site for a Deep Geological Repository

Regulatory document Month 2024

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Document availability

This document can be viewed on the [CNSC website](#). To request a copy of the document in English or French, please contact:

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Preface

This regulatory document is part of the CNSC’s regulated facilities and activities series of regulatory documents. The full list of regulatory document series is included at the end of this document and can also be found on the CNSC’s website.

In accordance with the [Nuclear Safety and Control Act \(NSCA\)](#) and regulations made under it, a person must have a licence issued by the CNSC to prepare a site for a Deep Geological Repository (DGR).

The CNSC uses a comprehensive licensing system that covers the lifecycle of a DGR. This regulatory document, REGDOC-1.2.3, *Licence Application Guide: Licence to Prepare Site for a Deep Geological Repository*, provides clarity on the requirements and guidance for preparing an application for a licence to prepare a site for a DGR.

A graded approach, commensurate with risk, may be defined and used when applying the requirements and guidance contained in this regulatory document. The use of a graded approach is not a relaxation of requirements. With a graded approach, requirements are applied in proportion to the risks and particular characteristics of the facility or licensed activity.

For information on the implementation of regulatory documents and the graded approach, see REGDOC-3.5.3, *Regulatory Fundamentals* [1]. Information on the relevance of the graded approach to this regulatory document is found in clause 4.4 of CSA N-292.7, Deep geological disposal of radioactive waste and irradiated fuel [2]

The words “shall” and “must” are used to express requirements to be satisfied by the licensee or licence applicant. “Should” is used to express guidance or that which is advised. “May” is used to express an option or that which is permissible within the limits of this regulatory document. “Can” is used to express possibility or capability.

Nothing contained in this document is to be construed as relieving any licensee from any other pertinent requirements. It is the licensee’s responsibility to identify and comply with all applicable regulations and licence conditions.

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Licence to Prepare Site for a Deep Geological Repository

1. Introduction

1.1 Purpose

This document is a licence application guide, which is a specific type of guidance document that maps relevant regulatory documents and technical standards to topics, to inform the licence application process. This regulatory document provides clarity about the requirements and guidance on the information needed to apply for a licence to prepare site for a DGR facility.

A deep geological repository (DGR) is a facility where radioactive waste is placed in a deep, stable, geological formation (usually several hundred metres or more below the surface). The facility is engineered to isolate and contain radioactive waste to ensure the long-term isolation of nuclear substances from the biosphere.

In this document, two key terms are used with respect to a DGR's lifecycle: pre-closure and post-closure. The pre-closure period encompasses site preparation, construction, operation and closure, while the post-closure period follows the closure of a DGR facility.

The information in an application for a licence to prepare site and its referenced documents serves several purposes:

- provides the safety case for the site preparation phase of the project, which is incorporated into the licensing basis for the site preparation activities
- documents the conditions of the site and surrounding region that must be addressed in any technologies being considered, and associated safety and control measures
- demonstrates that any technologies under consideration for the site will be able to withstand the conditions imposed on the facility by the site and its surroundings
- demonstrates that the available site characteristic data support the post-closure safety case

Note: Applicants are to apply the graded approach as outlined in REGDOC-3.5.3 [1] to any requirements or guidance referenced in this document.

1.2 Scope

This document describes the licensing requirements and guidance associated with the [Nuclear Safety and Control Act](#) (NSCA) and its regulations, to obtain a licence to prepare site for a DGR, in particular the requirements and guidance associated with the specific areas relevant to this licensing stage.

This document does:

- not provide guidance on finding or selecting a site
- not apply to disposal facility types other than DGR facilities
- not apply to surface and near-surface waste management facilities
- not apply to waste from uranium mines and mills
- not apply to surface facilities and other ancillary facilities associated with a DGR, such as packaging plants, storage facilities, and water treatment plants
- not describe the requirements and guidance needed for a safety case for disposal facilities

- not replace the federal impact assessment requirements

Under Canada's current environmental review framework, a proposed DGR facility is a designated project under the *Impact Assessment Act* (IAA). Information on the integrated impact assessment process can be found at canada.ca/IAAC.

1.3 Relevant legislation

The following provisions of the NSCA and the regulations made under it are relevant to this document:

[NSCA](#):

- subsection 24(2), 24(4)
- paragraphs 21(1)(a), 26(a), (b) and (e)

[Canadian Nuclear Safety Commission Cost Recovery Fees Regulations](#) (CNSSCRFR):

- part 2

[Class I Nuclear Facilities Regulations](#) (CINFR):

- sections 3, 4

[General Nuclear Safety and Control Regulations](#) (GNSCR):

- sections 3, 15, 17, 21, 22, 23, 27, 28, 29, 30, 31 and 32
- subsections 3(2), 12(1), 23(2), 28(1)
- paragraph 3(1)(b), (c), (d), (e), (f), (g), (h), (i), (j) and (k), 10(b), 12(1)(a), (b), (c), (d), (e), (f), (g), (h), (i) and (j), 17(b), (c) and (e), 20(d), 21(1)(a), 29(1)(d), (h), and (i)

[Nuclear Non-Proliferation Import and Export Control Regulations](#) (NNPIECR):

- section 3

[Nuclear Security Regulations](#) (NSR):

- section 48

[Nuclear Substances and Radiation Devices Regulations](#) (NSRDR):

- paragraphs 36(1)(a) and (d)
- subsection 36(1)

[Radiation Protection Regulations](#) (RPR):

- sections 4, 13, 14, 15, 20, 21, 22 and 23
- subsection 1(3)
- paragraph 4(b)
- subparagraph 4(a)(ii)

Note: While each section of the regulatory document addresses select requirements related to the safety and control area (SCA) or other topic of regulatory importance, applicants are responsible for ensuring that all requirements for the proposed activities under the NSCA and regulations are addressed in an application.

The CNSC also considers pertinent legislation from other government departments, such as:

- *Impact Assessment Act*
- *United Nations Declaration on the Rights of Indigenous Peoples Act*
- *Canadian Environmental Protection Act, 1999*
- *Species at Risk Act*
- *Migratory Birds Convention Act, 1994*

1.4 Waste management framework and standards

The CNSC's regulatory framework for waste management includes the following relevant [regulatory documents](#):

- REGDOC-1.2.1, *Guidance on Deep Geological Repository Site Characterization* [3]
- REGDOC-2.11, *Framework for Radioactive Waste Management and Decommissioning in Canada* [4]
- REGDOC-2.11.1, *Waste Management, Volume I: Management of Radioactive Waste* [5]
- REGDOC-2.11.1, *Waste Management, Volume III: Safety Case for Disposal of Radioactive Waste* [6]
- REGDOC-2.11.2, *Decommissioning* [7]
- REGDOC-3.3.1, *Financial Guarantees for Decommissioning of Nuclear Facilities and Termination of Licensed Activities* [8]

Key principles and elements articulated in this document are consistent with national and international standards. This document is complemented by CSA N292.7, *Deep geological disposal of radioactive waste and irradiated fuel* [2], which provides specific criteria associated with many of the topics covered.

2. Background on the DGR Licensing Process

The CNSC's licensing of a DGR facility begins after site selection, starting with site preparation and ending with decommissioning. The licensing phases are sequential; however, activities associated with a particular phase are expected to occur in parallel and continue across licensing phases. These activities are shown at the bottom of Figure 1 and include site evaluation and characterization, monitoring and surveillance, design, development of the post-closure safety case and engagement with the public and Indigenous Nations and communities.

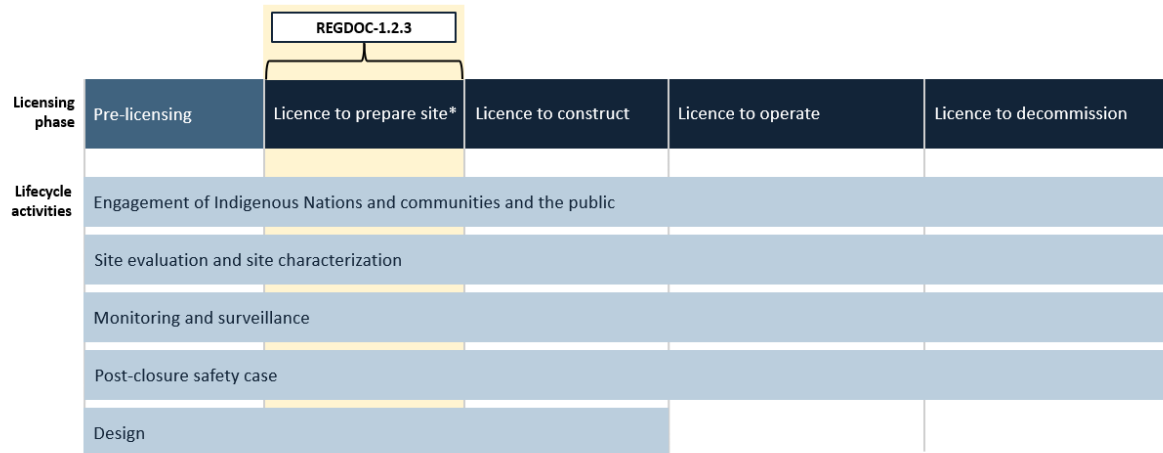
The safety case for disposal is the main tool used to assess the safety of a DGR facility over its lifecycle (see section 3.4 of this document). The safety case is updated iteratively at each licensing phase and is reviewed by the Commission before making any decision.

The CNSC's lifecycle approach also requires an applicant to plan for decommissioning throughout the duration of each licensed activity. The requirements associated with

decommissioning planning during site preparation are provided in REGDOC-2.11.2 [7] (see also section 3.11 of this document).

This document provides information for DGR site preparation and does not provide guidance on future DGR licensing phases.

Figure 1: Licensing stages and lifecycle activities for a deep geological repository



*Before a licensing decision is made, the project must undergo an environmental review under the current federal environmental legislation.

Caption: The figure above shows the licensing phases and typical activities for a DGR.

Note that at each licensing phase, the applicant will consider information gathered from its public and Indigenous engagement activities as an input into site evaluation and for the development of environmental monitoring and surveillance programs, for example. This includes considering Indigenous knowledge and historical and current land use by members of the public and Indigenous Nations and communities. The applicant must also consider the other lifecycle activities at each licensing phase, except for design.

2.1 Overview of site preparation

The applicant is required to have a licence to prepare site before any site preparation work for a DGR facility begins. Site preparation is expected to take place over several years and typically involves a range of activities, including the following:

- clearing vegetation and grubbing
- grading
- fencing
- installation of project infrastructure, including a power supply and utilities
- establishing site access roads and parking
- construction of flood protection and erosion control measures
- construction of surface non-nuclear facility structures, systems and components (SSCs), such as foundation structures

2.2 Site evaluation

Site evaluation determines whether the characteristics of a site and the surrounding region are appropriate for the lifecycle activities of a nuclear facility regulated under the NSCA. The process of site evaluation begins before the applicant applies for a licence to prepare a site and continues throughout the lifecycle of a DGR facility. Information from the site evaluation is a key input into DGR facility design and safety case and informs environmental reviews. Continued evaluation ensures that the facility's design basis and safety case will remain current with potential changing environmental conditions or modifications to the facility itself.

Site evaluation activities carried out during the site preparation stage of a DGR facility include site characterization and the continued development and update of a safety case for both the pre- and post-closure periods.

The expectations regarding site evaluation for a DGR facility are provided in CSA N292.7 [2].

2.3 Site characterization

The applicant must describe the planned activities and provide data about the site characteristics in their application for a licence to prepare site for a DGR facility. Site characterization data are used to develop an understanding of the site and how it is expected to evolve over time. It is essential information for assessing radioactive waste containment and isolation from the environment over a geologically long timeframe. Site characterization information is part of site evaluation and a component of the post-closure safety case. The applicant begins collecting data before submitting a licence application and continues doing so throughout the licensed phases of the DGR facility.

The CNSC's requirements for site characterization for radioactive waste disposal facilities, which include DGRs, are found in the following regulatory documents:

- REGDOC-2.11.1, *Waste Management, Volume I: Management of Radioactive Waste* [5], subsection 11.2, which specifies the requirement for the site to be characterized at a level of detail sufficient to support an understanding of the current site characteristics and how the site is expected to evolve over time.
- REGDOC-2.11.1, *Waste Management, Volume III: Safety Case for the Disposal of Radioactive Waste* [6], subsection 7.3, which specifies that site characterization is required information as part of the disposal system description and in subsection 7.4 that, as part of the safety assessment, the quality of the site characterization data must also be ensured.
- CSA N292.7 [2], clause 6 provides detailed criteria and guidance for site evaluation and site characterization for a DGR facility. Table 1 in CSA N292.7 [2] also describes the role of site characterization throughout the lifecycle of a DGR facility.

For guidance on site characterization for DGR facilities and the role of site characterization in the CNSC's regulatory process, see REGDOC-1.2.1 [3].

2.4 Monitoring and surveillance

The applicant must provide a plan for monitoring the effects of site preparation activities on the environment as part of the application for a licence to prepare site (section 3.9).

The expectations regarding a monitoring and surveillance program for a DGR facility are provided in CSA N292.7 [2] and in REGDOC-2.11.1, *Waste Management, Volume I* [5].

2.5 Post-closure safety case

The applicant must provide a post-closure safety case in support of a licence to prepare site application for a DGR facility. The requirements and guidance for developing a post-closure safety case are provided in REGDOC-2.11.1, *Waste Management, Volume III* [6].

CSA N292.7 [2], clause 9 outlines the criteria for ongoing site evaluation using analytical assessment, such as quantitative modelling of the facility over time. Table 2 in CSA N292.7 [2] further describes the role of analytical assessments, including those central to the post-closure safety case, throughout the lifecycle of a DGR facility.

3. Regulatory Requirements and Guidance

For activities that take place during the site preparation stage for the development of a future nuclear facility, the applicant must clearly demonstrate what measures will be taken to protect health, safety, security and the environment.

To demonstrate this, the licence to prepare site application must provide information to address all:

- relevant requirements in the NSCA
- requirements in regulations made under the NSCA
- relevant requirements in the CNSC's regulatory framework

This includes providing sufficiently detailed information about the safety policies, programs, procedures and safety and control measures. CNSC staff use 14 SCAs to assess, review, verify and report on regulatory requirements and performance across all regulated facilities and activities.

For each SCA, the applicant must consider the proposed design of the DGR when addressing any requirements. The applicant should also provide information to address the associated guidance, relative to the design of the proposed DGR facility.

This section describes the requirements and guidance for the SCAs that are applicable to site preparation for a DGR, as well as other regulatory areas, including reporting and public and Indigenous engagement.

For more information on the SCAs and licensing basis, see REGDOC-3.5.3. *Regulatory Fundamentals* [1]. Note that Appendix A provides a list of reference documents by relevant specific area within each SCA.

3.1 Management system

The application must describe the management system programs, processes and procedures that have been or will be defined and implemented to protect health, safety, security and the environment, as well as provide a description of the organizational management structure for the

application's site preparation work activities, in accordance with CSA N286, *Management system requirements for nuclear facilities* [9].

The applicant's management system must include:

- a clear structure that reflects a logical hierarchy of processes and procedures that is aligned and integrated with the applicant's business purpose and safety culture
- the applicant's organizational structure and resources for the duration of the activities, including:
 - verification that adequate organizational structures and resources will be in place to meet the nuclear safety management needs of the activities
 - top-level organizational charts with references to the full organizational charts, including the staffing levels
 - use of contracted resources to supplement in-house capability
 - how organizational changes will be managed
 - key dates and milestones for the anticipated site preparation work activities
- procedures to control the effectiveness of assessments and engineering activities performed in the different stages of the site evaluation process
- records of all work carried out during site evaluation and site characterization
- methods for preservation of records
- respective design and safety analysis; supply chain and contractor management programs; processes and procedures in cases where there may be the need for early procurement of SSC to accommodate early use or long (critical path) procurement spans, such as long-lead items
- documentation about technical knowledge that will be maintained and managed
- documentation on the resources to control the work performed by contractors; in particular, defining the requirements for the activities, and description of oversight and integration
- documentation on the results of studies, including models and simulations; and investigations in sufficient detail to permit independent review
- a configuration management program to ensure and maintain consistency among design requirements, physical configuration and configuration documentation

The applicant must also ensure, as a contractual obligation, that the applicant and the CNSC will have right of access to the premises of any supplier and sub-supplier carrying out licensed activities.

The applicant's management system should account for:

- data control, verification and validation
- data format
- traceability of data
- configuration control, including data, for environmental, meteorological, geological, geophysical, survey, hydrological, biological factors
- measuring and test equipment
- use and control of computer modelling
- field and laboratory work control
- calculations and analyses
- measures to ensure that the results of the site characterization are accurate, complete, reproducible, traceable and verifiable

- reporting the results of all site evaluation and site characterization work, laboratory tests and geotechnical analyses and evaluations
- changes to prescribed information

The applicant should involve workers with extensive experience and knowledge who can perform technical and engineering analyses and synthesize data from multiple disciplines to provide correct information about the site's current and future state when establishing management system parameters related to site evaluation. Note: The parameters and analyses may not lend themselves to direct verification by inspections, tests, or other techniques that can be defined and controlled. In such cases, evaluations should be reviewed and verified by individuals or groups that are independent of those who did the work and the criteria for any review or verification activity should be documented.

The applicant should demonstrate that they have an approach to foster a healthy safety culture in accordance with REGDOC-2.1.2, *Safety Culture* [10].

REGDOC-2.1.1, *Management System* [11] provides general guidance on management systems.

3.2 Human performance management

For site preparation, human performance management, including worker training, is addressed under the [management system](#) SCA. This means that applicable worker training and human performance management provisions and considerations must be described in the management system. For information on worker training, see CSA N286 [9], clause 4.5.2.

3.3 Operating performance

For activities conducted under the licence to prepare site, the applicant must:

- characterize the risks to health, safety and the environment that may be encountered by workers and the public
- outline the strategy that the applicant will take, including development of mitigation measures, upon discovery of additional risks to the health and safety of the public that were not anticipated during the licence application process

Risks to the health and safety of the public in site preparation include:

- noise hazards from blasting and operation of heavy machinery
- chemical hazards from the handling of fuels, lubricants and other conventional chemicals used in the construction equipment
- mechanical hazards from excavation, earth movement and road building
- electrical hazards from installation of construction infrastructure
- dust from overburden and rock removal and movement
- ground vibration and flying rock hazards from blasting

The applicant's assessment of risks to the health and safety of workers and the public resulting from the activities encompassed by the licence to prepare site should include consideration of accidents and malfunctions that could occur during site preparation activities.

Where risks to the health and safety of either workers or the public are identified, the applicant should provide credible research supporting the potential consequences and measures to mitigate the risks. For example, if site investigation has indicated the presence of a sub-surface hazardous substance, the applicant should provide an investigation of the effects of that substance, if unearthed, on the health and safety of workers and the local public. See [3.8 Conventional health and safety](#) for more information.

3.4 Safety analysis

The application must include:

- a pre-closure safety analysis that is in accordance with REGDOC-2.4.4, *Safety Analysis for Class IB Nuclear Facilities* [12], including a deterministic safety analysis focusing on activities under this licence
- a hazard analysis focusing on activities under this licence, including:
 - the analysis of external hazards at the site evaluation stage to confirm that the facility will withstand events as described in Appendix C of REGDOC-2.4.4 [12]
 - considerations for both design-basis events and beyond-design-basis events for the operational phase in accordance with section 4.1 of REGDOC-2.4.4 [12]
- a post-closure safety assessment that is in accordance with REGDOC-2.11.1, *Waste Management, Volume III* [6]

Assessment of site suitability forms part of the overall site evaluation. The general criteria for assessing site suitability includes a detailed and methodical site evaluation. The associated expectations regarding site evaluation for a DGR facility are provided in CSA N292.7 [2], clause 6.

The applicant should have a credible program for managing safety issues, which includes any planned or ongoing research and development activities.

3.5 Physical design

The application must include:

- a description of the overall physical design of the facility, the design practices and the safety concepts commensurate with the activities being proposed in the licence
- a description of the approach followed for the general design and the performance of the SSCs, including the means for preparing equipment maintenance and the monitoring of SSCs to confirm that they will continue to operate during site preparation, as required by the design
- the principles, policies, programs, processes and procedures for carrying out site preparation activities
- a description of the design considerations related to human factors as outlined in REGDOC-2.5.1, *General Design Considerations: Human Factors* [13]
- information on the frequency and severity derived from the characterization of the hazards resulting from external events in establishing the design basis hazard level, including uncertainties in the design basis hazard level

The applicant must also provide information on the proposed exclusion zone, including size and boundary, and on the proposed emergency planning regions.

Additional considerations for the exclusion zone include:

- site footprint optimization from the onset of the project
- implications for emergency preparedness based on the physical layout of the facility
- security considerations

For structure design and system design at the site preparation stage for a DGR facility, the applicant should propose design descriptions and guides.

3.6 Fitness for service

The application must include an aging management plan, listing all SSCs important to safety, to provide for the timely detection and mitigation of the aging effects to ensure integrity and functional capacity of the SSCs throughout the pre-closure period. It will also ensure that they are as described in the pre- and post-closure safety assessments (see [Safety analysis](#)). For more information, see Appendix A of REGDOC-2.6.3, *Aging Management* [14].

3.7 Radiation protection

The application must describe the approaches for meeting the requirements of the [Radiation Protection Regulations](#) for activities conducted under the licence to prepare site.

The application must describe a radiation protection program and should demonstrate how the design of that program is commensurate with any radiological hazards associated with, or encountered during, the licensed activity.

The application must also describe how radiological hazards will be monitored and controlled during any site preparation activities, as applicable.

For additional guidance on meeting regulatory expectations for radiation protection, including the development of a radiation protection program and monitoring doses, see REGDOC-2.7.1, *Radiation Protection* [15] and REGDOC 2.7.2, *Dosimetry, Volume I: Ascertaining Occupational Dose* [16].

3.8 Conventional health and safety

The application must describe the program and implementation of policies to minimize risk to the health and safety of workers posed by conventional (non-radiological) hazards in the workplace, including the management of workplace safety hazards and the protection of workers.

The application must provide information detailing compliance to all applicable requirements under the [Canada Labour Code](#), including all occupational exposure limits for all chemical compounds listed under its regulations.

For more information, see REGDOC-2.8.1, *Conventional Health and Safety* [17].

3.9 Environmental protection

The application must include a comprehensive set of applicable environmental protection measures, including an environmental risk assessment, environmental management systems,

effluent and emissions control and monitoring program, environmental monitoring program and groundwater protection and monitoring program that meet all requirements applicable to site preparation activities in REGDOC-2.9.1, *Environmental Protection: Environmental Principles, Assessments and Protection Measures* [18].

For site preparation, environmental monitoring consists of monitoring the effects of site preparation activities on the environment.

The applicant must provide the proposed environmental protection policies, programs and procedures needed for the licensing phase.

3.10 Emergency management and fire protection

Emergency management

The application must describe an emergency preparedness program that meets the requirements associated with REGDOC-2.10.1, *Nuclear Emergency Preparedness and Response* [19].

The applicant must provide details of the site emergency response organizations and other applicable organizations, including the numbers and positions of all site staff who are assigned to emergency response duties for site preparation activities.

For site preparation activities, applicants must demonstrate that they have:

- included information on arrangements with first responders, provisions for mutual support or aid, and interagency communication requirements (if a memorandum of understanding is established with a first responders' agency, the same must be provided as part of the application)
- an emergency response plan to ensure that adequate and timely emergency assistance is available to protect workers, the public and the integrity of site security, while mitigating adverse environmental effects during project activities
- an emergency preparedness program that maintains an adequate response capability to respond to and mitigate the emergency situations that could occur at the site, including malevolent acts, medical emergencies, accidents and malfunctions for the site preparation phase

The applicant's emergency preparedness program should contain the following elements:

- a training program for emergency response personnel, commensurate with evolving hazards at the site
- a site hazard change program which, when implemented, can inform emergency preparedness staff of changing hazards on the licensed site to maintain adequate emergency response capability for all potential accident situations, including a notification process to allow emergency response organizations to prepare adequately prior to the introduction of new hazards on the licensed site
- references to population studies and emergency planning considerations related to the site

All aspects of the emergency preparedness program should be commensurate with the hazards on the licensed site.

Although hazards of a malevolent nature are not described in this section of the licence application, the applicant must consider the emergency response to such hazards. It should be noted that the effects of such hazards are likely to be similar to those of conventional accidents and malfunctions.

Fire protection

The application must describe a fire protection program to ensure adequate protection against fires. It should describe how the fire protection activities will be implemented, managed and monitored to ensure that fire risks are minimized during site preparation activities, as applicable.

3.11 Waste management

Site preparation activities for a DGR facility should not involve the handling of radioactive materials or the generation of any radioactive wastes. The applicant should consider how to manage existing onsite hazardous substances that are identified during the site evaluation, as well as the hazardous substances that will be produced during activities encompassed by the licence to prepare site.

The applicant must address:

- quantities and physical characteristics, including hazards posed to health and safety, of each substance or waste, including by-products for each substance or by-product to be regulated or controlled, and the relevant list of regulations governing their control
- transport, storage and use of hazardous substances
- processing and disposal of hazardous wastes

The applicant should characterize all potential hazardous substances and hazardous wastes in a list as follows:

- name of hazardous substance or hazardous waste
- origin of hazardous substance or hazardous waste
- possible by-products that could evolve from the hazardous substance or hazardous waste
- any interactions between the hazardous substances or hazardous wastes, or between the possible by-products
- anticipated quantity or volume and anticipated form
- risks to workers and the public who may be exposed to the hazardous substance hazardous waste or by-products
- how the hazardous substance, hazardous waste or by-products will be processed or disposed of at the site

Preliminary decommissioning plan

As part of the application to prepare site, the applicant must:

- demonstrate that the site evaluation process has appropriately considered future decommissioning in the planning for the nuclear facility and has adequately considered end-of-life decommissioning
- prepare a preliminary decommissioning plan in accordance with REGDOC-2.11.2 [7]

3.12 Security

Applicant submissions and associated correspondence related to security are prescribed information under the NSCA and must be submitted in a secure manner.

The security program must include an inventory change control process for prescribed information.

The security measures must provide oversight, management and control, with documented policies and procedures for prescribed information.

At the site preparation stage, the security program is primarily focused on the protection of prescribed information. Prescribed equipment is not expected to be part of a licence to prepare site. The security program is developed in view of the project progressing to the construction stage.

For site preparation activities, the applicant should include in their security measures:

- a description of the site security policy, which demonstrates that the security quality assurance criteria are integrated into overall quality assurance
- the applicable quality assurance criteria referenced in ISO/IEC 27002:2022, *Information security, cybersecurity and privacy protection — Information security controls* [20]
 - a description of procedures and processes that ensure that the required quality is defined and consistently achieved within the applicant's security policy
- documentation of how site personnel will be trained in security
- information on the security system and subsystem availability program, which accounts for documentation and archiving, and maintaining records of functional testing and routine field testing

The application must describe the cyber security program, processes and procedures that have been or will be defined and implemented to comply with CSA N290.7, *Cyber security for nuclear facilities* [21].

The applicant's cyber security program must describe each element of the program specified in section 4.2 of CSA N290.7 [21], with sufficient detail to show that the cyber threats, vulnerabilities and risks identified in the Site Selection Threat and Risk Assessment (SSTRA) are properly considered.

The applicant should define operational procedures for protecting cyber essential assets from a cyber attack.

Additional guidance is also available in International Atomic Energy Agency (IAEA) NSS No. 17-T, *Computer Security Techniques for Nuclear Facilities* [22].

3.13 Safeguards and non-proliferation

The applicant must provide a description of the arrangements, as applicable to site preparation, that will permit the CNSC to discharge Canada's obligations and provide information to the IAEA, in accordance with REGDOC-2.13.1, *Safeguards and Nuclear Material Accountancy* [23].

The applicant should describe the plan to document measures related to a safeguards program for the full lifecycle of the DGR.

3.14 Packaging and transport

The packaging and transport SCA is not included in an application for a licence to prepare site for a DGR.

3.15 Reporting

With respect to site preparation, the applicant must describe how they will meet the requirements of REGDOC-3.1.2, *Reporting Requirements, Volume I: Non-Power Reactor Class I Nuclear Facilities and Uranium Mines and Mills* [24].

3.16 Indigenous and public engagement

The applicant must provide the CNSC with information about its public and Indigenous engagement activities as part of its licence application.

The applicant must also describe how their proposed public information and disclosure program meets the requirements in REGDOC-3.2.1, *Public Information and Disclosure* [25].

As an agent of the Crown, the CNSC is responsible for fulfilling Canada's legal duty to consult and, where appropriate, accommodate Indigenous peoples when CNSC decisions may have adverse effects on potential or established Indigenous and/or treaty rights.

In fulfilling its consultation obligations, the CNSC may use the information collected and measures proposed by licensees to avoid, mitigate or offset adverse effects. REGDOC-3.2.2, *Indigenous Engagement* [26] outlines requirements and guidance for applicants whose proposed projects may raise the Crown's duty to consult and accommodate. In addition, sections 3.2 and 5 of REGDOC-1.2.1, *Guidance on Deep Geological Repository Site Characterization* [3], identify considerations related to Indigenous knowledge and land use.

Conducting engagement activities with the public and Indigenous peoples early in the project development process, including site evaluation, is expected to result in more effective and efficient consultation practices, strengthen relationships and assist the Crown in meeting its obligations regarding any potential legal duty to consult and accommodate, as well as reduce the risk of delays in the regulatory review process.

4. Standard application information

4.1 Statement of purpose

An applicant must complete a licence application when:

- requesting a new licence
- renewing, amending, replacing or revoking an existing CNSC licence

The application provides details for the licence, which will consequently authorize only specified activities. The applicant must provide:

- a description of any nuclear facility and any prescribed equipment or information to be encompassed by the licence
- information on all activities to be licensed, as described in any of paragraphs 26(a) to (f) of the NSCA, and their purpose

For a licence renewal, the activities requested in this application must match those currently listed on the existing CNSC licence.

This information may be provided in summary format; for example, by listing facilities, equipment or information.

4.2 Licence period

The applicant should state the requested licence period. The licensee may request a specific licence period to match planned activities or an anticipated change in status.

4.3 Description of site

The application must contain a description of the site of the activity to be licensed, including the location of any exclusion zone and any structures within that zone.

For Class I nuclear facilities, the applicant must provide plans showing the location, perimeter, areas, structures and systems of the facility.

4.4 Applicant's name and business address

The applicant must provide the applicant's name and business address.

The name must be that of the persons or organization applying for the licence, as it appears on the proof of legal status documentation, such as the proof of incorporation or sole proprietorship.

The applicant should name an individual only if that person is a sole proprietor or will be solely responsible for the licence.

The business address must be the legal, physical address of the applicant's head office, including the complete street name and number, city, province or territory and postal code. A post office box number is not acceptable.

4.5 Mailing address

If the mailing address is different from the business address, the applicant must provide the mailing address, including the complete street name and number, city, province or territory and postal code.

If no address is provided, any licence issued in response to the application will be mailed to the head office address. A post office box number is acceptable as a mailing address.

4.6 Authority to act

The applicant must notify the Commission of the persons authorized to act on their behalf in their dealings with the Commission.

The applicant should provide a list of names, positions and contact information of all persons who are authorized by the applicant to interact with the CNSC.

Note: The applicant may request, for security reasons, this information be subject to confidentiality requirements.

4.7 Applicant authority

The applicant must provide the name, title and contact information—address, email address and telephone number—of the individual who has the legal signing authority for the application.

The signature of the applicant authority indicates that all statements and representations made in the application and on supplementary pages are binding on the applicant.

4.8 Proof of legal status

Applicants should provide proof of legal status by appending proof of incorporation, corporation number or charter. When submitting an application to renew, a revised proof of legal status should be provided if the applicant's original organization name has changed.

If the applicant is a corporation, the application should include the following information:

- corporation's legal name
- corporation number
- date of incorporation
- jurisdiction of incorporation
- registered office address (if different from the head office address)

4.9 Owner or authority for the site

The applicant must provide evidence that the applicant is the owner of the site or has authority from the owner of the site to carry out the activity to be licensed.

4.10 Other information

If applicable, the applicant should describe the relationship of this application to any previous licences issued by the CNSC for activities at this facility, including any changes to the licensing basis contained in previous licences.

The applicant should reference any other CNSC licences that apply to the use of other nuclear substances and authorized activities conducted at the facility; for example, licences for nuclear substances and radiation devices, dosimetry service, and import/export of controlled nuclear and nuclear-related substances, equipment and information.

Where applicable, the applicant may provide supporting information, including:

- the results of experimental programs, tests or analyses (for example, results of manufacturers' material tests and qualification data)
- those that have been submitted to, received from, or published by a foreign national regulatory body

- information published by a national agency or an international nuclear agency

4.11 Cost recovery

Where applicable, the application must be accompanied by the appropriate regulatory fee as outlined in the [Canadian Nuclear Safety Commission Cost Recovery Fees Regulations](#). Any questions can be addressed to the [CNSC Cost Recovery Advisory Group](#).

4.12 Financial guarantees

The application must describe the financial guarantees for the costs of decommissioning the facility or licensed activity according to the NSCA and the [GNSCR](#). The applicant should also provide a cross-reference to the supporting document regarding the value and form of the financial guarantee.

For more information about financial guarantees and licensing, consult REGDOC-3.3.1 [8].

4.13 Billing contact person

The applicant must provide the following information for the person responsible for the licence fee payments:

- name
- position
- contact information (email, telephone, facsimile)
- mailing address, if different from the business address

4.14 Notification

The applicant must notify the CNSC within 15 days of any changes to the contact names identified in the application.

4.15 Structuring the application

The application may be completed in either of Canada's official languages. The applicant may choose to organize the information in any structure. However, the applicant is encouraged to organize the licence application according to the SCA framework to facilitate CNSC staff review. The CNSC uses SCAs as the technical topics to assess, review, verify and report on regulatory requirements and performance across all regulated facilities and activities, as outlined in REGDOC-3.5.3 [1]. This REGDOC also contains information on licensing and certification, including the licensing basis and other key regulatory concepts, such as the graded approach.

4.16 Submitting the application

The applicant must ensure that the application is complete, dated and signed by the appropriate authority, that all supporting documents are clearly identified and cross-referenced and submitted in a secure format to the CNSC Registry at registry-greffe@cnsccsn.gc.ca.

If the applicant chooses to submit the licence application in printed format, the applicant should provide two signed and dated printed copies of the application to:

Canadian Nuclear Safety Commission
280 Slater Street
P.O. Box 1046, Station B
Ottawa, ON K1P 5S9
Canada

All information submitted is subject to the [Access to Information Act](#) and the [Privacy Act](#). The applicant must identify, with justification, any material that is subject to confidentiality requirements and not suitable for public disclosure. Any information that is submitted may be presented to the Commission to support the licensing decision. Any such information is also made available to the public upon request, in total or in a redacted form, according to the CNSC's legal obligations.

The applicant must keep a record of all licence information, as required by section 27 of the GNSCR.

The CNSC may request additional information from the applicant to further substantiate claims made in the application or to address any gaps identified in the application.

Appendix A: Reference Documents by Safety and Control Area

The CNSC’s regulatory requirements and expectations for the safety performance of programs are organized into a framework made up of 14 safety and control areas (SCAs), which are subdivided into specific areas.

The table that follows outlines each applicable SCA, their applicable specific areas, and reference materials that relate to an application to prepare site for a DGR or subsequent licensing stage to facilitate planning.

Table 1: Reference documents by applicable SCA and specific area

Safety and control area	Specific area	Standard(s) or regulatory documents
Management system	Management system	CSA N286-12 <i>Management System Requirements for Nuclear Facilities</i> [9] REGDOC-2.1.1, <i>Management System</i> [11] IAEA GSR Part 2, <i>Leadership and Management for Safety: General Safety Requirements</i> [A1] IAEA GS-G-3.1, <i>Application of the Management System for Facilities and Activities</i> [A2] IAEA GS-G-3.5, <i>The Management System for Nuclear Installations</i> [A3] ISO 9001:2015, <i>Quality management systems – Requirements</i> [A5] IAEA, No. GS-G-3.4, <i>The Management System for the Pre-disposal Management and Disposal of Radioactive Waste</i> [A6]
	Organization	CSA N286-12 [9] IAEA GSR Part 2 [A1] ISO 9001:2015 [A5] IAEA, No. GS-G-3.4 [A6]
	Performance assessment, improvement and management review	CSA N286-12 [9]
	Operating experience (OPEX)	CSA N286-12 [9] ISO 9001:2015 [A5] IAEA, No. GS-G-3.4 [A6]
	Change management	CSA N286-12 [9]
	Safety culture	REGDOC 2.1.2 <i>Safety Culture</i> [10] CSA N286-12 [9]
	Configuration management	CSA N286-12 [9] ISO 9001: 2015 [A5]

Safety and control area	Specific area	Standard(s) or regulatory documents
		IAEA, No. GS-G-3.4 [A6]
	Records management	CSA N286-12 [9] ISO 9001: 2015 [A5] IAEA, GS-G-3.4 [A6] NEA 7421, <i>Preservation of Records, Knowledge and Memory (RK&M) Across Generations: Final Report of the RK&M Initiative</i> [A7] NEA 7423, <i>Preservation of Records, Knowledge and Memory (RK&M) Across Generations: Compiling a Set of Essential Records for a Radioactive Waste Repository</i> [A8]
	Management of contractors	CSA N286-12 [9] ISO 9001:2015 [A5]
Human performance management	Personnel training	CSA N286-12 [9] REGDOC-2.2.2, <i>Personnel Training</i> [A9]
Operating performance	Reporting and trending	REGDOC-3.1.2 <i>Reporting Requirements, Volume I: Non-Power Reactor Class I Nuclear Facilities and Uranium Mines and Mills</i> [24]
Safety analysis	Deterministic safety analysis	CSA N292.0:19 <i>General principles for the management of radioactive waste and irradiated fuel</i> [A10] REGDOC 2.4.4 <i>Safety Analysis for Class IB Nuclear Facilities</i> [12] REGDOC-2.11.1, <i>Waste Management, Volume III</i> [6]
	Hazard analysis	CCME, <i>Canadian Environmental Quality Guidelines</i> [A13] CEAA, <i>Incorporating climate change considerations in environmental assessment: general guidance for practitioners</i> [A14] REGDOC-1.2.1 <i>Guidance on Deep Geological Repository Site Characterization</i> [3] REGDOC 2.4.4 [12] REGDOC-2.11.1 [6] REGDOC-2.7.1 <i>Radiation Protection</i> [15]
	Criticality safety	CSA N292.0:19 [A10] CSA N292.7 <i>Deep geological disposal of radioactive waste and irradiated fuel</i> [2] REGDOC-2.4.3, <i>Nuclear Criticality Safety</i> [A16]

Safety and control area	Specific area	Standard(s) or regulatory documents
Physical design	Site characterization	REGDOC-1.2.1 [3] REGDOC-2.9.1 <i>Environmental Protection: Environmental Principles, Assessments and Protection Measures</i> [18] CCME, <i>Canadian Environmental Quality Guidelines, Canadian Water Quality Guidelines for the Protection of Aquatic Life</i> [A17] CCME, <i>Canadian Environmental Quality Guidelines, Sediment Quality Guidelines for the Protection of Aquatic Life</i> [A18] IAEA, SSG-18, <i>Meteorological and Hydrological Hazards in Site Evaluation for Nuclear Installations</i> [A19] CSA N292.7 [2] REGDOC-2.11.1, <i>Waste Management, Volume I</i> [5] REGDOC-2.11.1, <i>Waste Management, Volume III</i> [6]
	Facility design	REGDOC-2.5.1 <i>General Design Considerations: Human Factors</i> [13] CSA N292.7 [2] REGDOC-2.11.1 [6] National Building Code of Canada [A20]
	Structure, system and component design	IAEA, SSG-14, <i>Geological Disposal Facilities for Radioactive Waste</i> [A43] National Building Code of Canada [A20] CSA N285.0, <i>General requirements for pressure-retaining systems and components in CANDU nuclear power plants/Material Standards for reactor components for CANDU nuclear power plants</i> [A21] CSA G40.20-13/G40.21-13, <i>General requirements for rolled or welded structural quality steel / Structural quality steel</i> [A22] CSA W59-13, <i>Welded steel construction (metal arc welding)</i> [A23] ASME Boiler and Pressure Vessel Code (BPVC), Section II, Part A: <i>Ferrous Material Specification; Part C: Specifications of Welding Rods, Electrodes and Filler Metals</i> [A24] ASME BPVC, Section III, Division 1, <i>Rules for the Construction of Nuclear Facility Components</i> [A25] ASME BPVC, Section III, Division 3, <i>Containments for Transportation and Storage of Spent Nuclear Fuel and High-level Radioactive Material and Waste</i> [A26] ASME BPVC, Section V, <i>Nondestructive Examination</i> [A27] ASME BPVC, Section IX, <i>Welding and Brazing Qualification</i> [A28] CAN/CGSB-48.9712-2014 / (ISO 9712:2012, IDT), <i>Non-destructive testing – Qualification and certification of NDT Personnel</i> [A29]
Fitness for service	Aging management	REGDOC-2.11.1, <i>Waste Management, Volume I</i> [5] REGDOC-2.6.3 <i>Aging Management</i> [14] CSA N292.0:19 [A10]

Safety and control area	Specific area	Standard(s) or regulatory documents
Radiation protection	Application of ALARA	REGDOC-2.7.1 [15]
	Worker dose control	REGDOC-2.7.1 [15] REGDOC 2.7.2, Dosimetry, Volume I [16]
	Radiation protection program performance	REGDOC-2.7.1 [15]
	Radiological hazard control	REGDOC-2.7.1 [15]
Conventional health and safety	Performance, practices and awareness	Canada Labour Code REGDOC-2.8.1 <i>Conventional Health and Safety</i> [17]
Environmental protection	Effluent and emissions control (releases)	REGDOC-2.9.1 [18] CSA N288.0:22, <i>Environmental management of nuclear facilities: Common Requirements of the CSA N288 series of Standards</i> [A12] CSA N288.5:22, <i>Effluent and emissions monitoring programs at nuclear facilities</i> [A34] CSA N288.8-17, <i>Establishing and implementing action levels for releases to the environment from nuclear facilities</i> [A32]
	Environmental management system (EMS)	REGDOC-2.9.1 [18] CSA N288.0:22 [A12] ISO 14001: 2015 <i>Environmental management systems</i> [A4]
	Assessment and monitoring	REGDOC-2.9.1 [18] CSA N288.0:22 [A12] CSA N288.4:19, <i>Environmental monitoring programs at Class I nuclear facilities and uranium mines and mills</i> [A33] CSA N288.7:15, <i>Groundwater protection programs at Class I nuclear facilities and uranium mines and mills</i> [A35]
	Environmental risk assessment	REGDOC-2.9.1 [18] CSA N288.6-22, <i>Environmental risk assessments at nuclear facilities and uranium mines and mills</i> [A36] CSA N288.0:22 [A12] Health Canada, <i>Guidance for Evaluating Human Health Impacts in Environmental Assessment: Human Health Risk Assessment</i> [A37]
	Protection of people	REGDOC-2.9.1 [18] REGDOC-2.7.1 [15]

Safety and control area	Specific area	Standard(s) or regulatory documents
		CSA N288.0:22 [A12] CSA N288.6:22 [A36] CSA N288.1:20 <i>Guidelines for modelling radionuclide environmental transport, fate, and exposure associated with the normal operation of nuclear facilities</i> [A31]
Emergency management and fire protection	Conventional emergency preparedness and response	REGDOC-2.10.1 <i>Nuclear Emergency Preparedness and Response</i> [19] REGDOC-3.2.1 <i>Public Information and Disclosure</i> [25]
	Nuclear emergency preparedness and response	REGDOC-2.10.1 [19]
	Fire emergency preparedness and response	REGDOC-2.10.1 [19] National Building Code of Canada [A20]
Waste management	Waste characterization	CSA N292.0:19 [A10] CSA N292.8:21 <i>Characterization of radioactive waste and irradiated fuel</i> [A38] REGDOC-2.11.1, <i>Waste Management, Volume I</i> [5]
	Waste minimization	REGDOC-2.11.1 [5] CSA N292.0:19 [A10] CSA N292.5-11 <i>Guideline for the exemption or clearance from regulatory control of materials that contain, or potentially contain, nuclear substances</i> [A30]
	Waste management practices	REGDOC 2.11 [4] REGDOC-2.11.1 [5] CSA N292.0:19 [A10] CSA N292.8:21 [A38] CSA N292.5-11 [A30]
	Decommissioning plans	REGDOC-2.11.2 <i>Decommissioning</i> [7]
Security	Facilities and equipment	REGDOC-2.12.1, <i>High-Security Sites: Volume II: Criteria for Nuclear Security Systems and Devices</i> [A41]

Safety and control area	Specific area	Standard(s) or regulatory documents
	Security practices	IAEA Nuclear Security Series No.23-G, <i>Security of Nuclear Information</i> [A42] IAEA NSS No. 30-G, <i>Sustaining a Nuclear Security Regime</i> [A40]
	Cyber security	CSA N290.7-21 [21] IAEA Nuclear Security Series No.17-T: <i>Computer Security at Nuclear Facilities</i> [A39]
Safeguards and non-proliferation	Access and assistance to the IAEA	REGDOC-2.13.1 <i>Safeguards and Nuclear Material Accountancy</i> [23] IAEA INFCIRC/164 [A15] IAEA INFCIRC/164/Add.1 [A11]
	Operational and design information	REGDOC-2.13.1 [23] IAEA INFCIRC/164 [A15] IAEA INFCIRC/164/Add.1 [A11]

Appendix B: Sample Format for Supporting Documentation

The applicant should ensure that the licence application addresses all of the information requested in this licence application guide. The applicant is encouraged to map the information provided in the application to the related sections and subsections of this document.

The table below provides a sample format that the applicant may consider for providing a mapping of the supporting information to the SCA framework, which is how section 3 of this document is organized.

Document Identifier	Title	Version no.	Refers to which part
			e.g. 3.12 Security

Glossary

For definitions of terms used in this document, refer to [REGDOC-3.6, *Glossary of CNSC Terminology*](#), which includes terms and definitions used in the [NSCA](#) and the regulations made under it, and in CNSC regulatory documents and other publications. REGDOC-3.6 is provided for reference and information.

The following terms are either new terms being defined or include revisions to the current definition for that term. Following public consultation, the final terms and definitions will be submitted for inclusion in the next version of REGDOC-3.6, *Glossary of CNSC Terminology*.

[New]

post-closure period

The period associated with a disposal facility after the completion of closure activities.

Note: The post-closure period occurs for an indefinite time frame (Source: CSA N292.7, Deep geological disposal of radioactive waste and irradiated fuel).

[New]

pre-closure period

The period associated with a disposal facility up to and including the completion of closure activities (Source: CSA N292.7, Deep geological disposal of radioactive waste and irradiated fuel).

References

The CNSC may include references to information on best practices and standards such as those published by Canadian Standards Association (CSA) Group. With permission of the publisher, CSA Group, all nuclear-related CSA standards may be viewed at no cost through the CNSC web page “[How to gain free access to all nuclear-related CSA standards](#)”. REGDOCs are available on the CNSC web page “[Regulatory documents](#)”.

- [1] CNSC, REGDOC-3.5.3, Regulatory Fundamentals, Version 3, Ottawa, 2023.
- [2] CSA Group, CSA N-292.7, Deep geological disposal of radioactive waste and irradiated fuel, Mississauga, 2022.
- [3] CNSC, REGDOC-1.2.1, Guidance on Deep Geological Repository Site Characterization, Ottawa, 2021.
- [4] CNSC, REGDOC-2.11, Framework for Radioactive Waste Management and Decommissioning in Canada, Ottawa, 2021.
- [5] CNSC, REGDOC-2.11.1, Waste Management, Volume I: Management of Radioactive Waste, Ottawa, 2021.
- [6] CNSC, REGDOC-2.11.1, Waste Management, Volume III: Safety Case for the Disposal of Radioactive Waste, Ottawa, 2021.
- [7] CNSC, REGDOC-2.11.2, Decommissioning, Ottawa, 2021.
- [8] CNSC, REGDOC-3.3.1, Financial Guarantees for Decommissioning of Nuclear Facilities and Termination of Licensed Activities, Ottawa, 2021.
- [9] CSA Group, CSA N286-12, Management System Requirements for Nuclear Facilities, Mississauga, 2012.
- [10] CNSC, REGDOC-2.1.2, Safety Culture, Ottawa, 2018.
- [11] CNSC, REGDOC-2.1.1, Management System, Ottawa, 2019.
- [12] CNSC, REGDOC-2.4.4, Safety Analysis for Class IB Nuclear Facilities, Ottawa, 2020.
- [13] CNSC, REGDOC-2.5.1, General Design Considerations: Human Factors, Ottawa, 2019.
- [14] CNSC, REGDOC-2.6.3, Aging Management, Ottawa, 2014.
- [15] CNSC, REGDOC-2.7.1, Radiation Protection, Ottawa, 2021.
- [16] CNSC, REGDOC-2.7.2, Dosimetry, Volume I: Ascertaining Occupational Dose, Ottawa, 2021.
- [17] CNSC, REGDOC-2.8.1, Conventional Health and Safety, Ottawa, 2019.

- [18] CNSC, REGDOC-2.9.1, Environmental Principles, Assessments and Protection Measures, Version 1.1, Ottawa, 2017.
- [19] CNSC, REGDOC-2.10.1, Nuclear Emergency Preparedness and Response, Ottawa, 2016.
- [20] International Organization for Standardization (ISO), ISO 27002:2022, Information security, cybersecurity and privacy protection — Information security controls, 2022.
- [21] CSA Group, CSA N290.7:21, Cyber security for nuclear facilities, Mississauga, 2021.
- [22] IAEA, Computer Security Techniques for Nuclear Facilities, IAEA Nuclear Security Series No. 17-T (Rev. 1), Vienna, 2021.
- [23] CNSC, REGDOC-2.13.1, Safeguards and Nuclear Material Accountancy, Ottawa, 2018.
- [24] CNSC, REGDOC-3.1.2, Reporting Requirements, Volume I: Non-Power Reactor Class I Nuclear Facilities and Uranium Mines and Mills, Ottawa, 2022.
- [25] CNSC, REGDOC-3.2.1, Public Information and Disclosure, Version 1, Ottawa, 2018.
- [26] CNSC, REGDOC-3.2.2, Indigenous Engagement, Ottawa, 2022.

Additional Information

The CNSC may recommend additional information on best practices and standards such as those published by CSA Group. With permission of the publisher, CSA Group, all nuclear-related CSA standards may be viewed at no cost through the CNSC webpage “[How to gain free access to all nuclear-related CSA standards](#)”.

The following documents provide additional information that may be relevant and useful for understanding the requirements and guidance provided in this regulatory document:

- A1. IAEA, Leadership and Management for Safety, IAEA Safety Standards Series No. GSR Part 2, Vienna, 2016.
- A2. IAEA, Application of the Management System for Facilities and Activities, IAEA Safety Standards Series No. GS-G-3.1, Vienna, 2006.
- A3. IAEA, The Management System for Nuclear Installations, IAEA Safety Standards Series No. GS-G-3.5, Vienna, 2009.
- A4. International Organization for Standardization (ISO), ISO 14001:2015, Environmental management systems - Requirements with guidance for use, 2015.
- A5. ISO, ISO 9001:2015, Quality management systems - Requirements, 2015.
- A6. IAEA, The Management System for the Disposal of Radioactive Waste, IAEA Safety Standards Series No. GS-G-3.4, Vienna, 2008.
- A7. Nuclear Energy Agency (NEA), NEA 7421, Preservation of Records, Knowledge and Memory (RK&M) Across Generations: Final Report of the RK&M Initiative, Organisation for Economic Co-operation and Development (OECD), Paris, 2019.
- A8. NEA, NEA 7423, Preservation of Records, Knowledge and Memory (RK&M) Across Generations: Compiling a Set of Essential Records for a Radioactive Waste Repository, OECD, Paris, 2019.
- A9. CNSC, REGDOC-2.2.2, Personnel Training, Ottawa, 2016.
- A10. CSA Group, CSA N292.0:19, General principles for the management of radioactive waste and irradiated fuel, Mississauga, 2019.
- A11. IAEA, Protocol Additional to the Agreement between Canada and the IAEA for the Application of Safeguards in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons, IAEA INFCIRC/164/Add 1, 2000.
- A12. CSA Group, CSA N288.0:22, Environmental management of nuclear facilities: Common Requirements of the CSA N288 series of Standards, Mississauga, 2022.
- A13. Canadian Council of Ministers of the Environment (CCME), Canadian Environmental Quality Guidelines, <https://ccme.ca/en/current-activities/canadian-environmental-quality-guidelines>.
- A14. Federal-Provincial-Territorial Committee on Climate Change and Environmental Assessment, Incorporating Climate Change Considerations in Environmental Assessment: General Guidance for Practitioners, Gatineau, 2003.
- A15. IAEA, Agreement between Government of Canada and IAEA for the Application of Safeguards in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons, IAEA INFCIRC/164, 1972.
- A16. CNSC, REGDOC-2.4.3, Nuclear Criticality Safety, Ottawa, 2020.
- A17. CCME, Canadian Environmental Quality Guidelines, Canadian Water Quality Guidelines for the Protection of Aquatic Life, <https://ccme.ca/en/resources/water-aquatic-life>.
- A18. CCME, Canadian Environmental Quality Guidelines, Sediment Quality Guidelines for the Protection of Aquatic Life, <https://ccme.ca/en/resources/sediment>.

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- A19. IAEA, Meteorological and Hydrological Hazards in Site Evaluation for Nuclear Installations, IAEA Safety Standards Series No. SSG-18, Vienna, 2011.
- A20. National Research Council of Canada, National Building Code of Canada, 2020.
- A21. CSA Group, CSA N285.0, General requirements for pressure-retaining systems and components in CANDU nuclear power plants/Material Standards for reactor components for CANDU nuclear power plants, Mississauga, 2017.
- A22. CSA Group, G40.20-13/G40.21-13, General requirements for rolled or welded structural quality steel / Structural quality steel, Mississauga, 2018.
- A23. CSA Group, CSA W59 - Welded steel construction (metal arc welding), Mississauga, 2013.
- A24. ASME, Boiler and Pressure Vessel Code (BPVC) Section II-Materials-Part A-Ferrous Materials Specifications, New York, 2023.
- A25. ASME BPVC, Section III, Division 1, Rules for the Construction of Nuclear Facility Components, New York, 2023.
- A26. ASME BPVC, Section III, Division 3, Containments for Transportation and Storage of Spent Nuclear Fuel and High-level Radioactive Material and Waste, 2023.
- A27. ASME BPVC, Section V, Nondestructive Examination, 2023.
- A28. ASME BPVC, Section IX, Welding, and Brazing Fusing Qualifications, New York, 2023.
- A29. Canadian General Standards Board, CAN/CGSB-48.9712-2014 / (ISO 9712:2012, IDT), Non-destructive testing – Qualification and certification of NDT Personnel, 2014.
- A30. CSA Group, CSA N292.5, Guideline for the exemption or clearance from regulatory control of materials that contain, or potentially contain, nuclear substances, Mississauga, 2011.
- A31. CSA Group, CSA N288.1:20, Guidelines for modelling radionuclide environmental transport, fate, and exposure associated with the normal operation of nuclear facilities, Mississauga, 2020.
- A32. CSA Group, CSA N288.8, Establishing and implementing action levels for releases to the environment from nuclear facilities, Mississauga, 2017.
- A33. CSA Group, CSA N288.4:19, Environmental monitoring programs at nuclear facilities and uranium mines and mills, Mississauga, 2019.
- A34. CSA Group, CSA N288.5:22, Effluent and emissions monitoring programs at nuclear facilities, Mississauga, 2022.
- A35. CSA Group, CSA N288.7:15, Groundwater protection programs at Class I nuclear facilities and uranium mines and mills, Mississauga, 2015.
- A36. CSA Group, CSA N288.6:22, Environmental risk assessments at nuclear facilities and uranium mines and mills, Mississauga, 2022.
- A37. Health Canada, Guidance for Evaluating Human Health Impacts in Environmental Assessment: Human Health Risk Assessment, Ottawa, 2019.
- A38. CSA N292.8:21, Characterization of radioactive waste and irradiated fuel, Mississauga, 2021.
- A39. IAEA, IAEA Nuclear Security Series No.17-T: Computer Security at Nuclear Facilities, 2011.
- A40. IAEA, IAEA NSS No. 30-G, Sustaining a Nuclear Security Regime, Vienna, 2018.
- A41. CNSC, REGDOC-2.12.1, High-Security Sites: Volume II: Criteria for Nuclear Security Systems and Devices, Ottawa, 2018.
- A42. IAEA, IAEA Nuclear Security Series (NSS) No.23-G, Security of Nuclear Information, Vienna, 2015.
- A43. IAEA, IAEA NSS No. SSG-14, Geological Disposal Facilities for Radioactive Waste, Vienna, 2011.

CNSC Regulatory Document Series

Facilities and activities within the nuclear sector in Canada are regulated by the CNSC. In addition to the *Nuclear Safety and Control Act* and associated regulations, these facilities and activities may also be required to comply with other regulatory instruments such as regulatory documents or standards. CNSC regulatory documents are classified under the following categories and series:

Regulated facilities and activities

Series	1.1	Reactor facilities
	1.2	Class IB facilities
	1.3	Uranium mines and mills
	1.4	Class II facilities
	1.5	Certification of prescribed equipment
	1.6	Nuclear substances and radiation devices

Safety and control areas

Series	2.1	Management system
	2.2	Human performance management
	2.3	Operating performance
	2.4	Safety analysis
	2.5	Physical design
	2.6	Fitness for service
	2.7	Radiation protection
	2.8	Conventional health and safety
	2.9	Environmental protection
	2.10	Emergency management and fire protection
	2.11	Waste management
	2.12	Security
	2.13	Safeguards and non-proliferation
	2.14	Packaging and transport

Other regulatory areas

Series	3.1	Reporting requirements
	3.2	Public and Indigenous engagement
	3.3	Financial guarantees
	3.4	Commission proceedings
	3.5	CNSC processes and practices
	3.6	Glossary of CNSC terminology

Note: The regulatory document series may be adjusted periodically by the CNSC. Each regulatory document series listed above may contain multiple regulatory documents. [Visit the CNSC's website](#) for the latest [list of regulatory documents](#).

APPENDIX B

Consultation Report for REGDOC-1.2.3, *Licence Application Guide: Licence to Prepare Site for a Deep Geological Repository*

Consultation overview

The CNSC posted REGDOC-1.2.3, *Licence Application Guide: Licence to Prepare Site for a Deep Geological Repository* on [Let's Talk Nuclear Safety](#) for public consultation from February 22 to May 23, 2023, and from May 24 to June 8, 2023 for the feedback period.

CNSC staff hosted a webinar on March 22, 2023 to share information about the CNSC's consultation on REGDOC-1.2.3, while also allowing participants to ask questions and provide feedback on the document. During the presentation, CNSC staff answered questions on a variety of themes, including physical design, site characterization, safety analysis and the licensing process.

CNSC staff also met with the Anishinabek Nation, Athabasca Chipewyan First Nation, Historic Saugeen Métis and the Mississaugas of Scugog Island First Nation during the consultation period to deliver presentations about REGDOC-1.2.3 and answer questions related to the CNSC's regulatory oversight of waste facilities and the licensing process.

Commenters

The following individuals, organizations and entities provided written feedback during the main consultation and feedback periods:

- Alexandra Franche
- Athabasca Chipewyan First Nation
- Bruce Power
- Canadian Environmental Law Association (CELA)
- Canadian Nuclear Laboratories (CNL)
- Concerned Citizens of Renfrew County and Area (CCRCA)
- Dr. F. R. Greening
- Dr. Sandy Greer
- Mississaugas of Scugog Island First Nation (MSIFN)
- New Brunswick Power

- Northwatch
- Nuclear Waste Management Organization (NWMO)
- Nuclear Waste Watch
- Ontario Power Generation (OPG)
- Protect our Waterways No Nuclear Waste (POW)
- Provincial Council of Women of Ontario
- Sierra Club Canada Foundation (SCCF)
- Sustainable Energy Group
- We the Nuclear Free North (WTNFN)
- Xylene Power Ltd.

Document overview

The CNSC is responsible for licensing activities as set out by the *Nuclear Safety and Control Act* (NSCA), which includes site preparation for nuclear waste facilities. REGDOC-1.2.3 maps out the requirements an applicant would have to meet before the CNSC could issue a licence to prepare the site for a deep geological repository (DGR).

As part of the licensing process, an applicant must provide information relating to site evaluation and site characterization, the planned facility design and long-term safety in the form of a post-closure safety case, which is then assessed by the CNSC against Canada’s legal requirements. These legal requirements are summarized in REGDOC-1.2.3.

Summary of consultation

The comments received during public consultation fall under the following themes:

Theme 1: Applicability

1.1 Cited references

- Commenters noted that the document was in places overly general or lacked sufficient footnotes or references; that some statements would benefit from a supporting reference or explanation; that there were missing technical codes and standards or that certain referenced standards would not apply at site preparation.
- CNSC staff note that a licence application guide maps existing requirements and guidance and is used to assist an applicant in completing their licence application—it does not replicate or reproduce information published elsewhere. REGDOC-1.2.3 lists over 80 documents, all of which have been reviewed by CNSC staff to ensure they contain relevant information, both for an applicant to prepare their submission and to inform the CNSC in its review of the application. However, this list is not intended to be exhaustive as some of the applicable guidance documents may depend on the particular characteristics of the site or design of the facility, for example. The listed documents

were reviewed following the public consultation for relevance and applicability to site preparation and some changes were made to the REGDOC in response to the feedback received.

1.2 Document scope and application of the graded approach

- Several comments addressed the relevance of regulatory requirements that pertain to reactor facilities, rather than waste disposal facilities. Some commenters noted that this would result in significant barriers to any organization considering undertaking a DGR, while others felt that the risks, complexity and uncertainties of DGR operation are as complex as that of a reactor facility. In addition, there was some discussion on the scope of the REGDOC-1.2.3, such as its applicability to surface facilities.
- CNSC staff note that the graded approach applies to this REGDOC, as is standard across the CNSC's regulatory framework, and that more information about the application of the graded approach for a DGR is specified in CSA N292.7, *Deep geological disposal of radioactive waste and irradiated fuel*. To further clarify the scope, section 1.2 was revised to reflect the types of facilities that the REGDOC does not apply to, including any surface facilities and other ancillary facilities associated with a DGR, such as packaging plants, storage facilities and water treatment plants. More information regarding the application of the graded approach was also added to the REGDOC.

1.3 Specific requirements, guidance and SCAs

- Commenters noted that some of the guidance should be expressed as requirements. Other commenters felt that certain SCAs should not be applicable during the license to prepare site application stage, such as radiation protection, while others expressed the opposite view. Many of the SCA-focussed comments related to management system requirements and guidance, such as those associated with contractors and project records, particularly with respect to workers and technical assessments.
- CNSC staff note that each requirement and guidance statement was carefully considered, as well as the relevance of SCAs in light of the licensing stage, to align with the legal instruments referenced in the licence application guide, including the relevant act, regulation or standard. Some changes were made in response to these comments to improve clarity, in particular to section 1.3 Management system.

Theme 2: Technical topics

2.1 Site characterization and monitoring

- Commenters raised concerns around requirements related to site and baseline characterization, and environmental monitoring, with a particular focus on timing and types of activities.
- CNSC staff note that requirements associated with baseline and site characterization and environmental monitoring are specified in section 3.9 Environmental protection. Requirements associated with site characterization, as part of the waste system description and as requirements for disposal projects, are specified in section 2.3 Site

characterization. Section 2 was revised and new text added to further clarify the role of monitoring and surveillance, site evaluation and site characterization as well as to explain the various functions illustrated in revised Figure 1: Pre-closure and post-closure licensing stages and lifecycle activities for a deep geological repository. To further clarify the important role of environmental monitoring and surveillance, these activities were added to the figure and explanatory text was also added to a new section in the document, section 2.4 Monitoring and surveillance.

2.2 Monitoring and the exclusion zone

- Some commenters expressed the view that the exclusion zone should be set out in regulation, that input from Indigenous peoples and their use of the land should inform proposed exclusion zones and that the document should provide more information around the role of monitoring within the zone.
- CNSC staff note that REGDOC-1.2.3 requires the applicant for a DGR licence to submit a safety case to the CNSC that may or may not recommend an exclusion zone. CNSC experts will review the licence application documentation and make their recommendations to the Commission. The REGDOC also states that applicants are required to consult with Indigenous peoples on their land use, which would inform any proposed exclusion zone, in accordance with REGDOC-3.2.2, *Indigenous Engagement*. REGDOC-1.2.3 notes that applicants are required to conduct environmental monitoring in accordance with CSA N288.5, *Effluent and emissions monitoring programs at nuclear facilities*, and REGDOC-2.9.1, *Environmental Protection*, to demonstrate that the environment is protected. No changes were made to the content about exclusion zones.

2.3 Facility lifecycle

- Commenters noted uncertainty around the requirement to show that the DGR site will be suitable for a facility's full lifecycle, which includes the development of a post-closure safety case and a plan for decommissioning. Commenters were concerned about the lack of clarity around the post-closure period, as well as some of the terminology, including the difference between assessment and analysis, and the role of decommissioning the DGR versus potential ancillary facilities. Some commenters also noted that the figure titled "Pre-closure and post-closure licensing stages and lifecycle activities for a deep geological repository" in the draft REGDOC diverged from a similar graphic presented in CSA N292.7.
- CNSC staff note there are no new requirements or guidance established in REGDOC-1.2.3. The safety case for disposal is expected to evolve using an iterative approach, as outlined in REGDOC 2.11.1, *Waste Management, Volume III*. In addition, the terminology used in the draft is consistent with the associated reference documents, such as CSA N929.7, where specific terminology is used during pre-closure and post-closure periods for activities, such as assessment and analysis. Minor changes were made to the text to ensure clarity on these points. In addition, revisions were made to Figure 1: Pre-closure and post-closure licensing stages and lifecycle activities for a deep geological repository to bring focus on the CNSC's licensing phases and lifecycle activities.

Theme 3: Engagement

3.1 Indigenous knowledge and community involvement

- Commenters noted that site preparation activities need to consider potential impacts on Indigenous peoples and their ability to exercise their rights. This included concerns that an applicant may not use Indigenous knowledge appropriately or may not recognize that leveraging Indigenous knowledge can contribute to reducing the potential risks and impacts on Indigenous communities throughout the lifecycle of DGR. Commenters also pointed to the *United Nations Declaration on the Rights of Indigenous Peoples Act* as an applicable Canadian statute.
- CNSC staff note as part of the CNSC's existing licensing requirements, an applicant is required to conduct early and ongoing engagement with potentially impacted Indigenous Nations and communities. This includes working directly with local Indigenous Nations and communities to understand and mitigate potential impacts on Indigenous or treaty rights and considering Indigenous knowledge in assessments and regulatory processes. CNSC's current standards associated with Indigenous knowledge are established in the *CNSC's Indigenous Knowledge Policy Framework*. Changes were made to REGDOC-1.2.3 to clarify this important function, including referencing the *United Nations Declaration on the Rights of Indigenous Peoples Act* under section 1.3 Relevant legislation. The CNSC is also currently assessing potential future improvements to REGDOC-3.2.2, *Indigenous Engagement*, and is working with the Government of Canada to implement the *United Nations Declaration on the Rights of Indigenous Peoples Act*.

3.2 Public disclosure

- Commenters asked for the inclusion of requirements related to the disclosure of an applicant's project records, which they felt should be made available to the public for review during various licencing, review and permitting processes, and for the more general purpose of public oversight and community information.
- CNSC staff note that REGDOC-3.2.1, *Public Information and Disclosure*, which is referenced in section 3.16 of REGDOC-1.2.3, requires licensees to provide the public with access to information about licensed activities. Any application submitted to the CNSC is subject to a thorough review process, which in the case of a DGR would include public hearings, before a licensing decision is made. As part of the hearing process, the public is given access to a wide range of project records, including a comprehensive accounting of how the applicant plans to protect the health and safety of Canadians and the environment. No change was made in response to these comments.

Minor corrections

- Commenters noted a series of minor editorial changes that could be made to improve the document, such as clarifying the year of publication for CSA standards, the definition of a DGR or the licensing process.

- CNSC staff thank commenters for these corrections and note that a series of editorial changes were made before the draft was brought to the Commission for acceptance. However, no changes were made to the definition of a DGR, since the definition used is consistent with the CNSC glossary and with the definition provided by the International Atomic Energy Agency. The CNSC saved comments about its licensing process for future consideration. Current information on the CNSC’s licensing process for a DGR is found in REGDOC-3.5.1, *Information Dissemination: Licensing Process for Class I Nuclear Facilities and Uranium Mines and Mills*.

Other comments

Certain comments received were either outside the CNSC’s mandate or saved for future consideration. As previously mentioned, the CNSC’s licence application guides, such as REGDOC-1.2.3, point to existing requirements and guidance in Canada’s regulatory environment. Suggestions to change requirements or guidance within the existing framework were not made as a result of the work on REGDOC-1.2.3, but rather will be considered in future regulatory projects.

Some comments were also found to be outside the CNSC’s mandate—that is, they fell within the jurisdiction of another entity, as follows:

- Canada’s energy policies, including those related to the use of nuclear power, are set by Natural Resources Canada. This includes the policies on reprocessing used nuclear fuel, which are outlined in the recently released [Canada’s Policy for Radioactive Waste Management and Decommissioning](#). No changes were made in response to comments related to reprocessing used nuclear fuel.
- The NWMO is responsible for safely managing Canada’s used nuclear fuel over the long term, which includes finding a site and selecting a facility design that will respect Canada’s legal requirements for protecting people and the environment. CNSC staff could not consider any comments related to any future license application that it may receive from the NWMO.
- Protection of the environment is a paramount concern for the CNSC. As part of the licensing process, an applicant will have to analyze the environmental impact of any facility, including broader environmental concerns. However, for a DGR, the broader socio-economic concerns fall within the scope of the *Impact Assessment Act*.

Conclusion

CNSC staff reviewed all comments received and made changes to REGDOC-1.2.3, *Licence Application Guide: Licence to Prepare Site for a Deep Geological Repository* in response to the feedback received. CNSC staff also uses the feedback received during public consultation as

part of ongoing business improvements, such as improvements to our internal processes or practices.

APPENDIX C

Comments received during public consultation for Draft REGDOC-1.2.3, *Licence Application Guide: Licence to Prepare Site for a DGR*

Comments received:

- during first round (February 22 to May 23, 2023): fourteen (14) submissions
- during feedback period (May 24 to June 8, 2023): eight (8) submissions

1 Comments considered for revisions to REGDOC-1.2.3

No.	Reviewer	Section	Reviewer's Comment	Feedback commenter	Feedback comment	CNSC response
7.	Northwatch	1 Introduction	This section expresses unsupported assumptions, such as that the geological formation in which a deep geological repository (DGR) would be constructed would be stable and that this presumed stability would not be reduced in the process of constructing the DGR Similarly, this statement expresses the objective of a DGR isolating and containing the radioactive wastes as if a certainty rather than a requirement for which a proposed DGR must be carefully assessed to determine the likelihood of that objective being achieved			The definition of a DGR is consistent with the CNSC glossary and with the definition provided by the International Atomic Energy Agency (IAEA). No change was made.
8.	Northwatch	1 Introduction	In the statement that a "DGR is a facility where radioactive waste is placed in a deep, stable, geological formation (<u>usually several hundred metres or more</u> below the surface)" the REGDOD creates the very false impression that there is a "usual" that can be referenced in describing construction or operating experience with a DGR for used fuel waste, which is in direct conflict with the reality that there is no licence or operating DGR for nuclear fuel waste anywhere in the world; false narratives such as these are very problematic, and undermine any potential for public confidence in the regulatory system			The definition of a DGR is consistent with the CNSC glossary and with the definition provided by the International Atomic Energy Agency (IAEA). No change was made.
9.	Northwatch	2 Overview of site preparation	the unnumbered figure with the title "Title: Pre-closure and post-closure licensing stages and lifecycle activities for a deep geological repository" is confusing and unclear; for example, earlier sections the "safety case" and this figure introduces the term "post closure safety case" and omits any identification of the "safety case" in the table depicting project/application development			See response to comment #40.
10.	Northwatch	0 Preface	The preface sets out the reliance of this draft Regulatory Document on other documents which are not readily available to the commenting public, such as CSA N-292.7, Deep geological disposal of radioactive waste and irradiated fuel; as set out in a previous section, while Northwatch does have an account which is expected to provide Northwatch with access to relevant CSA document, the system is dysfunctional and Northwatch			The CNSC provides free access to CSA nuclear standards through the CSA Communities portal . Technical support is available to users by email at community_admin@csagroup.org . Additionally, the CNSC provides a free, subscription-based service that has additional functionality for reviewing CSA standards. This service includes search, annotation and

No.	Reviewer	Section	Reviewer's Comment	Feedback commenter	Feedback comment	CNSC response
			was unable to access and consider CSA N-292-7 as part of our review.			bookmarking. To obtain access to this service, or for any issues with accessing CSA standards, please contact the CNSC at consultation@cnsccsn.gc.ca .
11.	Northwatch	1 Introduction	CSA N292.7, <i>Deep geological disposal of radioactive waste and irradiated fuel</i> is described in this section as a document "which provides specific criteria associated with many of the topics covered" but as noted above this document was not available to Northwatch for this review, and will have been equally or even more unavailable to others			See response to comment #10.
12.	Northwatch	2 Overview of site preparation	the section states that CNSC's requirements for site characterization for radioactive waste disposal facilities, which include DGRs, are found in REGDOC-2.11.1, Waste Management, Volume I: Management of Radioactive Waste and REGDOC-2.11.1, Waste Management, Volume III: Safety Case for the Disposal of Radioactive Waste; Northwatch wishes to refer CNSC staff reviewing REGDOC 1.2.3. to Northwatch's comments on REGDOC-2.11.1, Volumes I and III for an outline of concerns with respect to those documents and identified deficiencies			CNSC staff review every comment submitted during the REGDOC public consultation process. All comments submitted by Northwatch were carefully considered during the consultation on REGDOC- 2.11.1, Volumes I and III. CNSC staff either made changes, saved the comments for future consideration, or made no change, in accordance with the rationale provided by CNSC experts. REGDOC-1.2.3 is a licence application guide, which means that it points to the existing regulatory requirements and guidance, including REGDOC- 2.11.1, Volumes I and III, which were approved for publication by the Commission in 2021. No change was made in response to this comment.
13.	Northwatch	2 Overview of site preparation	the section states that the applicant must provide a post-closure safety case in support of a licence to prepare site application for a DGR facility and references REGDOC-2.11.1, Waste Management, Volume III for a description of requirements and guidance for developing a post-closure safety case are provided; as per the preceding comment, Northwatch wishes to refer CNSC staff reviewing REGDOC 1.2.3. to Northwatch's comments on REGDOC- 2.11.1, Volumes III for an outline of concerns with respect to that document and identified deficiencies			See response to comment #35.
14.	Northwatch	0 General	The document is frequently overly general or ambiguous The document lacks sufficient footnotes or references; many statements would benefit from a supporting reference or explanation. The document conveys a sense, overall, that if a proponent brings forward a license application related to a deep geological repository, such as an application for a licence to prepare the site, it will be approved; it lacks the impartiality or neutrality that would convey that such			REGDOC-1.2.3 was written by CNSC experts who have referenced the work of their international peers on best practices for effective nuclear waste management. The document cites over 80 standards, codes and guidance and reference documents, all of which have relevant information to guide an applicant in developing their submission and inform the CNSC in its review of the application.

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			projects would only be licensed if the proponent had provided a sound and scientific basis for the contents of its application			The CNSC engages with applicants over a number of years to ensure that applications are complete and meeting legal requirements before they are brought to the Commission for a decision. Note that a DGR application would have to obtain a favourable impact assessment before any CNSC licensing decision could be made. The document was revised in response to feedback received in the public consultation.
15.	Northwatch	2 Overview of site preparation	the section on site evaluation describes how “continued evaluation (of site characteristics) ensures that the facility’s design basis and safety case will remain current with potential changing environmental conditions or modifications to the facility itself, including continued optimization of the facility design up until final closure” which suggests that facility design will be fluid and that there will not be an actual and detailed project design at this first licensing stage (which contradicts earlier sections); the section does not set out any requirements or methodology for site evaluation or any standards or measures by which the licensee’s materials with respect to site evaluation will be assessed			<p>Section 2.2 has been revised for clarity as follows:</p> <p>Site evaluation determines whether the characteristics of a site and the surrounding region are appropriate for the lifecycle activities of a nuclear facility regulated under the NSCA. The process of site evaluation begins before the applicant applies for a licence to prepare a site and continues throughout the lifecycle of a DGR facility. Information from the site evaluation is a key input into DGR facility design and safety case and informs environmental reviews. Continued evaluation ensures that the facility’s design basis and safety case will remain current with potential changing environmental conditions or modifications to the facility itself.</p> <p>Site evaluation activities carried out during the site preparation stage of a DGR facility include site characterization and the continued development and update of a safety case for both the pre- and post-closure period.</p> <p>The expectations for site evaluation for a DGR facility are provided in CSA N292.7 [2].</p>
16.	Northwatch	2 Overview of site preparation	the statement that “Site evaluation activities carried out during the pre-closure period of a DGR facility include site characterization and the development and iterative updates of a safety case for both the pre- and post-closure safety assessment” is utterly ambiguous; to provide any meaningful guidance, the requirements for site evaluation activities and documentation of the site evaluation must be clearly set out, including what aspects or values are being evaluated and what the evaluation criteria is and what the consequence for license application approval would be given one evaluation outcome versus a different evaluation outcome			See response to comment #15.
17.	Northwatch	2 Overview of site preparation	the subsection in “site characterization” outlines that the applicant must describe the planned activities and provide			The purpose of a licence application guide, including draft REGDOC 1.2.3, is to map the existing licensing

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			<p>data about the site characteristics in their application for but provides no direction or setting out of requirements for a) how site characterization activities are to be carried out, b) what site characterization activities must be carried out, c) how site characterization activities will be documented, d) how the outcome / findings of site characterization activities will be documented, and e) what requirements will be in place for public disclosure, f) how the CNSC will evaluate site characterization activities, documentation and outcomes, and g) how the CNSC will engage the public and Indigenous peoples in their evaluation of site characterization activities, documentation and outcomes</p>			<p>requirements and guidance to obtain a licence to prepare a site for a DGR. For site characterization specifically, this existing information is provided in more detail as guidance in REGDOC 1.2.1 and the requirements for site characterization for a disposal facility in REGDOC 2.11.1, volume III. CNSC does not prescribe how or what site characterization activities are carried out; CNSC staff review the application information used by proponents to demonstrate how requirements and guidance are being met.</p> <p>For a) through d) the link is established within REGDOC 1.2.1 (DGR site characterization), that indicates a management system (REGDOC -2.1.1 Management System and CSA N286-12) be implemented for site characterization. Requirements and guidance on management system programs, processes and procedures are described in section 3.1. This includes considerations around documentation and organizational structure. The text in section 3.1 has been changed to specifically include site characterization in the list of items the applicant's management system should include.</p> <p>Regarding e), information around public disclosure is provided in section 3.16. Note that f) and g) are out of scope, since the licence application guide is for applicants. All documentation that an applicant uses to demonstrate how requirements are met and guidance is followed are provided to CNSC for assessment.</p>
18.	Northwatch	2 Overview of site preparation	<p>this section states that "Site characterization data demonstrates how radioactive waste will be contained and isolated from the environment over a geologically long timeframe and is supported by the post-closure safety " which again identifies a set of biases, assumptions or pre-suppositions on the part of the CNSC or at least on the part of the draft REGDOC authors; in reality, quality site characterization data would be expected to support an evaluation of how radioactive waste might be contained and isolated from the environment over a geologically long timeframe and to support an evaluation of the potential for post-closure safety; repeatedly, the REGDOC makes statements and assertions about the generic long term safety of a deep geological repository, in the absence of any repository design, site information, or scientific or technical evaluations</p>			<p>Section 2.3, on site characterization, was revised for clarity as follows:</p> <p>The applicant must describe the planned activities and provide data about the site characteristics in their application for a licence to prepare site for a DGR facility.</p> <p>Site characterization data are used to develop an understanding of the site and its expected future evolution. It is essential information for assessing radioactive waste containment and isolation from the environment over a geologically long timeframe. Site characterization information is part of site evaluation and a component of the post-closure safety case. The</p>

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						applicant begins collecting data before submitting a licence application and continues doing so throughout the licensed phases of the DGR facility.
21.	Northwatch	1 Introduction	As noted above, this REGDOC sets out that the safety case must be provided as part of the application, but then indicates that "This document is not intended to.... describe the requirements and guidance needed for a safety case for disposal facilities" without setting out clearly and specifically where those requirements and guidance are situated and how they intersect with the requirements and guidance of this regulatory document; a later section identifies REGDOC-2.11.1, <i>Waste Management, Volume III: Safety Case for Disposal of Radioactive Waste</i> as a relevant document, but neither draft REGDOC 1.2.3. or REGDOC 2.11.1 describe how these two regulatory documents intersect			See response to comment #2 and #22.
22.	Northwatch	2 Overview of site preparation	this section describes "development of the post-closure safety case" as an activity which "will continue throughout the lifecycle of the DGR facility" which is potentially in conflict with the unqualified statement in Section 1 that the application provides "provides the safety case for the site preparation phase of the project", meaning that the safety case for the project will be provided at the site preparation phase of the project			There are no new requirements or guidance established in REGDOC 1.2.3. The safety case for disposal is expected to evolve using an iterative approach, as defined in REGDOC 2.11.1, volume III, section 5.2. No change was made.
23.	Dr. F. R. Greening	3.1 - 3.11	<p>Comments on CNSC REGDOC-1.2.3, Licence Application Guide: Licence to Prepare Site for a Deep Geological Repository:</p> <p>My comments are mainly based on Sections 3.1 to 3.11 of the Guide, which are referred to in the document under the heading "Waste Management," where we read statements such as:</p> <p>(i) The applicant's management system should account for:</p> <ul style="list-style-type: none"> • data control, verification and validation • data format • traceability of data • configuration control, including data, for environmental, meteorological, geological, geophysical, survey, hydrological, biological factors • measuring and test equipment • use and control of computer modelling • field and laboratory work control 	Northwatch	Northwatch supports the comments submitted by Dr. Frank Greening and particularly appreciate his observations that with respect to waste management the regulator document is so vague as to render it essentially meaningless in sections, and his stressing of the importance of the regulatory document using terminology which is precise and which demands precise information in return. Dr. Greening correctly points out that exact guidance is needed with respect to what "data" is required and how the data should be obtained, verified or validated and noted that the issue of poor data has caused many significant errors in previous attempts by the Canadian	Requirements relating to the inventory, specifically waste acceptance criteria, are found in REGDOC-2.11.1, <i>Waste Management, Volume I: Management of Radioactive Waste</i> , which sets requirements for waste management programs, including those associated with the records of the waste inventory. No change was made.

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			<ul style="list-style-type: none"> • calculations and analyses • measures to ensure that the results of the site characterization are accurate, complete, reproducible, traceable and verifiable <p>(ii) The applicant must address:</p> <ul style="list-style-type: none"> • quantities and physical characteristics, including hazards posed to health and safety, of each substance or waste, including by-products for all substances or by-products that will be regulated or controlled, and the appropriate list of regulations governing their control <p>These two items are totally unacceptable because they are far too vague and therefore essentially meaningless. For example, what do the following statements really mean?</p> <ol style="list-style-type: none"> 1. The applicant's management system should account for data control, data calculations and analyses..., etc. 2. The applicant must address quantities and physical characteristics, including hazards posed to health and safety, of each substance or waste ,..., etc. <p>Statements such as these, using language such as "must address" or "should account for" are of no practical use in assessing, and ultimately mandating, what will be permitted for placement in the DGR, or how the waste will behave over time, and how radioactive emissions "from each substance" will be identified and characterized, both within and external to the depository.</p> <p>Also of great concern is the REGDOCs use of the word "data." The dictionary definition of this word is: Information in the form of a collection of discrete values describing specific quantities obtained by measurement, observation, or analysis. Unfortunately, REGDOC-1.2.3 provides no guidance on what "data" are required and how they should be obtained, verified or validated. And, how do we know if a "data" set is complete?</p> <p>This issue has caused many significant errors in previous attempts by the Canadian nuclear industry to provide reliable estimates of radionuclide inventories in its proposed radioactive waste depositories. For example, in</p>		<p>nuclear industry to provide reliable estimates of radionuclide inventories for proposed radioactive waste repositories</p>	

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			<p>the period 2010 to 2014, I was able to prove that OPG and/or NWMO had seriously underestimated, sometimes by factors of more than 100, the radionuclide activities in its proposed Low and Intermediate Waste DGR, slated for construction on the Bruce Nuclear site near Kincardine in Southwest Ontario.</p> <p>More recently, starting in 2017, I have discovered similar errors in the radionuclide inventory published by Canadian Nuclear Laboratories for its NSDF, proposed for construction at its Chalk River Ontario, site. In its initial 2017 EIS Report, CNL estimated there would be 996 tonnes of uranium in its NSDF, only to change this estimate in a later report to a value of about 100 tonnes; and this was done by CNL without providing a word of explanation.</p> <p>Most unfortunately, I see nothing in the CNSC's REGDOC-1.2.3 that addresses and thereby attempts to prevent a recurrence of this problem with future radionuclide inventory estimates. This is especially of concern with NWMO's proposed spent nuclear fuel DGR. Volatile and highly mobile radionuclides such as H-3, C-14, Cl-36, etc, are notoriously difficult to measure and/or calculate, but are often presented in inventory tabulations as precise quantities that are known to within a few percent. This is entirely misleading and unacceptable. REGDOC-1.2.3. must address this issue by delineating precisely how such data should be determined and reported.</p> <p><i>Proposed change:</i> REGDOC-1.2.3. must be changed to address the collection, verification and validation of radionuclide inventory data to prevent the reporting of erroneous inventories as has happened in the past.</p>			
24.	CNL, Bruce Power, NB Power, NWMO, OPG	n.a.	<p>Industry appreciates the opportunity to comment on this draft REGDOC. To ensure its requirements and operational impacts are fully understood, licensees would welcome the opportunity to review future drafts as well to offer constructive feedback before this document is submitted to the Commission for approval and publication.</p> <p>During a collective review of this initial version, subject matter experts from Nuclear Waste Management Organization, Bruce Power, Ontario Power Generation, New Brunswick Power, and Canadian Nuclear Laboratories</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<ul style="list-style-type: none"> - Agreed that there are inconsistencies between REGDOC and CSA standards - Additional issues are created by the CSA standards not being readily available to the public, being an industry product, and not built for purpose - Agreed that REGDOCs should set out their requirements as a stand- 	The CNSC has reviewed all the comments received during the public consultation period and thanks all commenters for their input. The REGDOC document has been revised in response to applicable comments related to the scope of the document.

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			<p>identified the following three themes to which many of our major comments relate to:</p> <ol style="list-style-type: none"> 1. This document lacks consistency with CSA N292.7. Since the CSA N292.7 is referenced frequently within this REGDOC, these inconsistencies will add confusion. <ol style="list-style-type: none"> a. The figure provided in Section 2 is an example of many of these inconsistencies. 2. The document references many CSA standards and other REGDOCs that are not in scope for a Licence to Prepare Site (LTPS) for a DGR. 3. Throughout the document, there appears to be requirements listed that come from the NPP Licence Application Guide (LAG); the requirements for many of the SCAs are more onerous or wouldn't be expected for a DGR LAG. <p>Specific examples are provided in the table below along with other requests for clarification.</p>		<p>alone document, and not depend on by-reference-only inclusions</p>	
25.	Athabasca Chipewyan First Nation	2	<p>On review of REGDOC-1.2.3., Section 2, pre-closure and post closure licencing stages and lifecycle activities for the DGR, it is noted and recognized that Indigenous engagement is included as ongoing activities. ACFN acknowledges the importance of continuous, iterative engagement throughout the licencing stages and lifecycle activities of the DGR.</p> <p>ACFN recognizes and commends the requirement to have a licence to prepare a site before any site preparation work for a DGR facility begins. ACFN notes that licenced site preparation activities such as, clearing vegetation, grading, fencing, infrastructure, establishing access roads and parking, construction of structures, e.g., Flood protection, erosion control, non-nuclear structures, and systems and components, likely have impacts on how Indigenous communities are able to use the land and practice their rights as Indigenous peoples.</p> <p><i>Proposed change:</i> ACFN recommends that licences required above activities to prepare a site and site evaluations (section 2.1) needs to take into account potential impacts on Indigenous peoples and their ability to exercise rights. This would include working directly with local Indigenous communities to understand and mitigating concerns and impacts from site preparation</p>			<p>As part of the CNSC's existing licensing requirements, as outlined in REGDOC-1.2.3, an applicant is required to conduct early and ongoing engagement with potentially impacted Indigenous Nations and communities for projects and licence applications that could raise the CNSC's Duty to Consult, as identified in REGDOC-3.2.2, <i>Indigenous Engagement</i>. This will include working directly with local Indigenous Nations and communities to understand and mitigate potential impacts on Indigenous or treaty rights. No change was made in response to this comment.</p>

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			activities and creating a communication plan for the purpose of engaging Indigenous communities.			
26.	CNL, Bruce Power, NB Power, NWMO, OPG	0 General	<p>MAJOR: Most of the REGDOCs/CSAs referenced are not scoped for DGR</p> <p>Impact: Creates significant barriers to any organization considering undertaking a DGR. The risks, complexity, and costs of licencing a DRG should not be the same as an NPP.</p> <p><i>Proposed change:</i> Consider developing separate codes/regulations or expanding on the scope to include DGR.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<p>- As per above, agreed that REGDOCs should set out their requirements as a stand-alone document, not depend on by-reference-only inclusions</p> <p>- This comment by industry is unclear; are they saying that the risks and complexities of a DGR are less than that of an NPP, or that the licensing process should be less complex in order to be less costly to the waste generators?</p> <p>- In either case, we disagree; the risks and complexity of a DGR operation, including surface and subsurface, are as complex as a NPP, albeit differently complex, and the uncertainties are at least equal; over the post-closure period the risks and uncertainties of a DGR are likely to be greater than that of a NPP (given that the risks of the NPP are largely transferred to a DGR in the post closure period); in this and other instances, the DGR must be regarded as a single project and the multi-stage licensing process must consider the full range of risks and uncertainties, including consideration of post-closure issues during the pre-operational licensing stages</p>	<p>The preface of REGDOC 1.2.3 provides information on the application of the graded approach and specifically points to more information about the application of the graded approach for a geological disposal project, as specified in CSA N292.7. CSA N292.7 was specifically developed for geological disposal, and is a key technical reference provided in REGDOC 1.2.3. To further underline this, the following text was added to the Preface:</p> <p>A graded approach, commensurate with risk, may be defined and used when applying the requirements and guidance contained in this regulatory document. The use of a graded approach is not a relaxation of requirements. With a graded approach, requirements are applied in proportion to risks and particular characteristics of the facility or licensed activity.</p> <p>Potential applicants are encouraged to engage early with the CNSC, to clarify regulatory expectations.</p>
27.	CNL, Bruce Power, NB Power, NWMO, OPG	0 General	<p>MAJOR: Technical scope for a DGR appears to have been copied almost entirely from REGDOC-1.1.3 Licence Application Guide: Licence to operate a Nuclear Power Plant.</p> <p>Impact: Creates significant barriers to any organization considering undertaking a DGR. The risks, complexity, and costs of licensing a DRG should not be the same as an NPP.</p> <p><i>Proposed change:</i> Consider the technical scope in relation to a DGR. Similar comments have been made about SMR regulations being “too stringent” for the intent of preparing for a DGR.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<p>- The view expressed by the nuclear industry that a DGR is a project with less risks and less complexity and should therefore be a lower cost licensing process is of great concern</p> <p>- Whether the regulatory requirements should or should not be the same or greater than that of an NPP should not be a determinant or a driver of the complexity of rigorousness of the DGR REGDOCs - this is not a competition between the two types of facilities</p>	<p>The technical scope outlined in the REGDOC is limited to site preparation for DGR facility. However, to further clarify the scope, and address other comments, section 1.2 was revised to reflect the types of facilities that the REGDOC is not intended to apply to, including surface facilities and other ancillary facilities associated with a DGR, such as packaging plants, storage facilities, and water treatment plants or disposal facility types other than DGR facilities.</p>

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					- It is interesting that industry draws the parallel between SMR regulations being "too stringent" and now regulatory requirements for a DGR being "too stringent"; both are novel, first of a kind operations with significant technical uncertainty, the projects are largely conceptual and have no operating experience to draw from; for these reasons, SMRs and DGRs require a high level of scrutiny and detailed and careful evaluations; we strongly disagree with industry's position that DGRs do not require stringent regulation delivered through a clear and detailed regulatory regime which takes a defence-in-depth approach and insures that the various licensing stages have sufficient redundancy and overlap to avoid gaps and omissions in the review and licensing system	
28.	CNL, Bruce Power, NB Power, NWMO, OPG	0 General	<p><i>Clarification:</i> Several sections request nuclear-specific information (e.g., sources) without a clear path on how/where to obtain information.</p> <p><i>Proposed change:</i> Consult with NRCAN on the division of responsibilities and possible contacts to support the application.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	- We agree with industry that the lack of knowledge about future sources and pathways for emissions and releases is highly problematic; however, the onus is on the license applicant to demonstrate that they have sound knowledge of their project, and its effects, including nuclear releases and other nuclear-specific information at all project stages, including those in the far future	<p>Licence applicants are encouraged to engage early with CNSC for clarification of specific topics, as needed.</p> <p>It remains the applicant's responsibility to demonstrate how they are addressing CNSC requirements and guidance in their application documentation. No change was made.</p>
30.	CNL, Bruce Power, NB Power, NWMO, OPG	0 General	<p><i>Clarification:</i> Reference to CSA N292.7 does not include the year of publication, while other referenced CSA standards include.</p> <p><i>Proposed change:</i> Change "CSA N292.7" to "<u>CSA N292.7-22</u>" throughout the document including the appendices.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada	- As per above, REGDOCs should set out their requirements as a stand-alone document, and not depend on by-reference-only inclusions	For standards that include the year of publication in their nomenclature, this date should only be referenced in the Reference section (or appendices), not the body of the REGDOC. All mentions of CSA documents and other standards have been revised accordingly.

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				Foundation, We the Nuclear Free North		
31.	CNL, Bruce Power, NB Power, NWMO, OPG	1.1, 2 nd paragraph	<p>MAJOR: The DGR facility is defined as “facility where radioactive waste is placed in a deep, stable, geological formation (usually several hundred metres or more below the surface). The facility is engineered to isolate and contain radioactive waste to provide the long-term isolation of nuclear substances from the biosphere. The facility is engineered to isolate and contain radioactive waste to provide the long-term isolation of nuclear substances from the biosphere.”</p> <p>This definition reflects that included in the CNSC REGDOC-3.6, Glossary, and is also consistent with the definition of a <i>geological disposal facility</i> in the IAEA Nuclear Safety and Security Glossary (2022 Interim Edition), “A facility for radioactive waste disposal located underground (usually several hundred metres or more below the surface) in a stable geological formation to provide long term isolation of radionuclides from the biosphere.”</p> <p>However, this definition does not include the surface facilities associated with the underground repository, such as the Used Fuel Packaging Plant, and it is unclear whether the draft REGDOC-1.2.3 would apply to these facilities.</p> <p>Impact: Ambiguous requirements will increase the regulatory uncertainty for the proponents and operators of a DGR</p> <p><i>Proposed change:</i> The definition of the DGR facility needs to be clarified to explicitly include the surface facilities associated with the underground repository, and REGDOC 1.2.2 (once approved) should be referenced.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<ul style="list-style-type: none"> - We agree that the definition of the DGR facility needs to be clarified to explicitly include the surface facilities associated with the underground repository - Ambiguous requirements will increase uncertainty and reduce public trust in the review and licensing processes - The DGR is a single project, including the underground repository, and surface facilities, including the used fuel packaging plant and other operations - The NWMO’s plans to date are of a conceptual nature, based on a number of “reference cases” which continue to evolve and show significant differences from one generation to the next - The REGDOC must make fully clear that the review and licensing process cannot commence prior to project definition and a project description having been developed, including a description of all functions and operations, including whether certain “optional” operations are to be included in the project (such as a shallow caverns for interim sub-surface storage) 	<p>The definition in the document and in the CNSC glossary is consistent with international DGR definitions. The scope of the document identifies that it applies to the site preparation of the DGR facility.</p> <p>It does not include requirements and guidance for surface facilities, and other ancillary facilities associated with a DGR such as a packaging plants, storage facilities, water treatment plants. This is now clarified in the scope, in section 1.2.</p>
32.	CNL, Bruce Power, NB Power, NWMO, OPG	1.1 introduction, para 3	<p><i>Clarification:</i> This document tends to align the start of the post-closure period with the completion of decommissioning and abandonment of the site. This may be logical from a licensing point of view, but unreasonable from technical and management point of view. Once the DGR is closed by sealing the shafts or ramps, the multiple barriers system has been fully completed and the waste has been fully isolated. From this moment, the post-closure safety case takes effect, and the post-closure</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada	<ul style="list-style-type: none"> - The industry statement that ‘Once the DGR is closed by sealing the shafts or ramps, the multiple barriers system has been fully completed and the waste has been fully isolated’ rests on unsupported assumptions - The comment that aligning the start of the post-closure period with the completion of decommissioning and 	<p>The text was revised as follows for clarity:</p> <p>In this document, two key terms are used with respect to a DGR’s lifecycle: the pre-closure period encompasses site preparation, construction, operation and closure, while the post-closure period follows the closure of a DGR facility.</p>

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			<p>monitoring would start. Decommissioning of surface facilities is an important licensing step, but does not necessarily affect the post-closure safety or performance. Also, decommissioning of surface facility does not necessarily happen together with the closure of the repository. It may be possible that some surface structures/facilities are kept for post-closure monitoring or institutional control purposes. Aligning post-closure period with licencing stages is not consistent with CSA N292.7.</p> <p><i>Proposed change:</i> Suggested revision:</p> <p><i>"the pre-closure period encompasses site preparation, construction, operation and closure <u>of the underground repository, including the decommissioning of ancillary facilities</u>"</i></p>	Foundation, We the Nuclear Free North	<p>abandonment of the site is "unreasonable from technical and management point of view" is unclear; why is it unreasonable? Is this because achieving post-closure objectives is unmanageable or unachievable?</p> <p>- It's unclear whether industry's proposed revision would have the statement under discussion end with "ancillary facilities" or if the remaining text "while the post-closure period follows the closure of a DGR facility" would remain included</p> <p>- The comment from industry that "Decommissioning of surface facilities... <u>does not necessarily affect the post-closure safety or performance</u>" is problematic; some surface facilities - such as the used fuel packaging plant - will be highly radioactive, and will certainly be a significant factor in the post-closure safety performance of the site; this comment illustrates why the regulatory and licensing approach must take a whole-project approach for on-site facilities</p>	
33.	CNL, Bruce Power, NB Power, NWMO, OPG	1.1 , 4 th paragraph, 4 th bullet points	<p><i>Clarification:</i> The document requires information in an application</p> <p>☐ demonstrates that the site is suitable for a facility's full lifecycle.</p> <p>This requirement may be difficult to meet because:</p> <ol style="list-style-type: none"> The word "suitable" is ambiguous and lacks definition. It is not very clear if the DGR lifecycle in this document includes the post-closure period that lasts indefinitely. Assuming the lifecycle includes post-closure, it is difficult to fully prove the site will remain good for the full lifecycle due to the large uncertainties associated with the time frame. <p><i>Proposed change:</i> Suggest revising the bullet point as follows:</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<p>- We agree that some of the language throughout the REGDOC is ambiguous and this should be rectified</p> <p>- It should be clarified that the lifecycle of the project includes the post-closure period; industry should further indicate where they have identified further clarification is correct</p> <p>- We agree with industry that it will be "difficult to fully prove the site will remain good for the full lifecycle due to the large uncertainties associated with the time frame"; this is a fundamental issue with the DGR approach to radioactive waste management; - Uncertainties</p>	<p>The wording around this bullet has been revised as follows:</p> <ul style="list-style-type: none"> demonstrates that the available site characteristic data support the post-closure safety case.

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			<p><i>"demonstrates that the site <u>characteristics are</u> is <u>consistent with the post-closure safety case suitable for a facility's full lifecycle.</u>"</i></p> <p>The above statement is consistent with the idea that suitability is answered by both site characterization and safety case.</p>		about long term safety are central to the discussion of DGRs, but the issue cannot be resolved simply through omission of any or all related regulatory requirements	
34.	CNL, Bruce Power, NB Power, NWMO, OPG	1.1 figure on page 7	<p><i>Clarification:</i> Both Section 1.1 and figure on Page 7 acknowledges the DGR lifecycle and differentiation between pre-closure (i.e., site preparation, construction, operation, and closure) from the post-closure period. Under the Nuclear Safety Control Act what licence application will move a DGR from closure or into the post-closure period?</p> <p><i>Proposed change:</i> Provide clarification of the licence type for the post-closure period.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<p>- Industry's confusion around how CNSC is differentiating between pre-closure and post-closure periods has been created by the drafters of REGDOC 1.2.3 omitting the 5th of the CNSC's five licensing steps, i.e. the "Licence to Abandon", which we presume was removed for messaging or political purposes, i.e. the CNSC wishes to avoid acknowledging that the final license will be to abandon the wastes at the selected site</p> <p>- While we disagree with a licensing approach that includes abandonment, since that is the CSNC approach and industry's intention it should be clearly stated; Figure 7 should be amended to identify the "License to Abandon"</p>	The figure was revised to exclude the post-closure period. See also response to comment #40.
35.	CNL, Bruce Power, NB Power, NWMO, OPG	1.2 Scope	<p><i>Clarification:</i> Is the intention of the document to provide guidance for geologic disposal facilities shallower than several hundred meters below the surface? Shallower geologic disposal is not in the list of exclusions in Section 1.2.</p> <p><i>Proposed change:</i> Provide clarification in the scope.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<p>- We agree with industry's comment that this is an important clarification; we had read the document to mean that RD 1.2.3. did not apply to shallow geological repositories and that shallow geologic repositories were included in "apply to surface and <u>near-surface</u> waste management facilities"</p> <p>- Additionally, we assume that, consistent with international practice, these shallow / near surface facilities would be for storage, not disposal</p>	The scope (section 1.2) has been updated to clarify that the document is not intended to apply to disposal facility types other than DGR facilities.
36.	Athabasca Chipewyan First Nation	0 REGDOC-3.2.2 Section Appendix C	Appendix C of REGDOC-3.2.2. outlines the qualification of current practice: Canadian Nuclear Safety Commission commitment to aboriginal consultation. Appendix C also outlines the CNSC's approach to Aboriginal consultation with generally practices that enable Indigenous			The CNSC acknowledges the importance of working with Indigenous Nations and communities to consider and reflect Indigenous knowledge alongside regulatory information in its assessments and regulatory processes. Indigenous ways of knowing and the Indigenous cultural

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			<p>communities to engage in license applications. One aspect that is missing from this document and the REGDOC-1.2.3. that ACFN sees as valuable to include is the recognition of Indigenous knowledge to inform the licencing process. Indigenous knowledge is valuable equal to that of scientific knowledge where both sets of knowledge inform and have potential to deepen understanding of potential impacts and improve outcomes from DGR site preparation.</p> <p><i>Proposed change:</i> ACFN recommends Indigenous knowledge be included as a requirement of knowledge when preparing a site for a DGR.</p>			<p>context enhance the CNSC's understanding of the potential impacts of nuclear projects. CNSC's current standards for working with Indigenous knowledge are established in the CNSC's Indigenous Knowledge Policy Framework.</p> <p>To further clarify the importance of Indigenous Knowledge, the following was added to the fourth paragraph in section 3.16:</p> <p>In addition, sections 3.2 and 5 of REGDOC-1.2.1, <i>Guidance on Deep Geological Repository Site Characterization</i>, identify considerations related to Indigenous knowledge and land use.</p> <p>The CNSC is currently assessing potential improvements to REGDOC-3.2.2, <i>Indigenous Engagement</i>, which includes adding further guidance related to Indigenous Knowledge.</p>
37.	CNL, Bruce Power, NB Power, NWMO, OPG	1.3 Relevant legislation	<p>MAJOR: Since the Impact Assessment Act (IAA) clearly links to the NSCA and CNSC - should the IAA not be cited in the relevant legislation?</p> <p>Impact: Significant costs and complexities associated with the broad range of regulations cited in this draft are likely to deter potential applicants.</p> <p><i>Proposed change:</i> Consider an IAA reference as well as Environmental Assessment regulations and provincial environmental requirements.</p> <p>Furthermore, consider a clear distinction in CNSC oversight regarding nuclear and environmental aspects and those under other federal/provincial jurisdictions.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<p>- Exactly how many potential applicants does the industry anticipate there being? Coupled with their remarks about making “the business case”, the industry comments support the rising concern about the potential for multiple for-profit waste facilities, including for imported wastes.</p> <p>- Given that the last paragraph in the immediately previous section clearly links the Impact Assessment Act to the review steps for a DGR, industry's suggestion to add the same reference in section 1.3 would create an unnecessary redundancy</p>	<p>The following text has been added to Section 1.3 - Relevant legislation:</p> <p>The CNSC also considers pertinent legislation from other government departments, such as:</p> <ul style="list-style-type: none"> • <i>Impact Assessment Act</i> • <i>United Nations Declaration on the Rights of Indigenous Peoples Act</i> • <i>Canadian Environmental Protection Act, 1999</i> • <i>Species at Risk Act</i> • <i>Migratory Birds Convention Act, 1994</i>
38.	CNL, Bruce Power, NB Power, NWMO, OPG	1.3 Relevant legislation	<p><i>Clarification:</i> The list is confusing; for an example with regards to Class I Nuclear Facilities Regulations:</p> <ul style="list-style-type: none"> • <i>section 3</i> • <i>subsections 14(1), (2)</i> • <i>paragraphs 3(a), (b), (d), (d.1), (e), (f), (g), (h), (i) and (k), 4(a), (b), (c), (d) and (e)</i> 	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra	<p>- We agree that clearly identifying which section the referenced subsections are a subsection of could be helpful</p> <p>- We agree that clearly identifying which section or subsection the referenced paragraphs are found in could be helpful</p>	<p>Subsections 14(1), (2) were removed since they don't have any bearing on site preparation.</p> <p>Section 1.3 Relevant legislation on REGDOC-1.2.3 has been modified to read as follows:</p> <p>Class I Nuclear Facilities Regulations (CINFR):</p> <ul style="list-style-type: none"> • sections 3, 4

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			<p>Does bullet #3 “paragraphs 3(a), (b)...” the same section 3 listed in bullet #1? However, a few items have been removed from the list, like. 3(c).</p> <p><i>Proposed change:</i> Simplify the list and consider adding an Appendix, similar to draft RegDoc-1.2.2, October 2021.</p>	Club of Canada Foundation, We the Nuclear Free North	<p>- We agree that adding further detail in an Appendix would be a reasonable approach, including a description of the rationale and the overall objective of including them</p> <p>- We do not agree that the section should be wholly moved to an Appendix</p>	
39.	CNL, Bruce Power, NB Power, NWMO, OPG	2, Figure	<p><i>Clarification:</i> The first row in the figure shows the “Lifecycle” of a DGR and includes “post institutional control” as a lifecycle stage. The definition of lifecycle in the latest version of REGDOC-3.6 is “<i>The various stages of a nuclear facility’s lifespan, including site selection, site preparation, construction, operation, decommissioning and abandonment.</i>” This definition does not include the post institutional control which is post abandonment. The figure seems inconsistent with the REGDOC-3.6 definition.</p> <p><i>Proposed change:</i> Revise the figure to shade the “Post institutional control” in a different way and add a note to indicate that post institutional control is not considered a lifecycle stage per nuclear regulations.</p> <p>Alternatively, keep the figure as is and add a revised definition of lifecycle stages to the document, which includes the post institutional control as a lifecycle stage.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<p>- Industry’s confusion around how CNSC is differentiating between pre-closure and post-closure periods has been created by the drafters of REGDOC 1.2.3 omitting the 5th of the CNSC’s five licensing steps, i.e. the “Licence to Abandon”, which we presume was removed for messaging or political purposes, i.e. the CNSC wishes to dodge acknowledging that the final license will be to abandon the wastes at the selected site</p> <p>- While we disagree with a licensing approach that includes abandonment, since that is the CSNC approach and industry’s intention it should be clearly stated; Figure 7 should be amended to identify the “License to Abandon”</p>	<p>Note that abandonment would include ‘post institutional control’. This is clarified in REGDOC-3.5.1 <i>Licensing process for Class I Nuclear Facilities and Uranium Mines and Mills</i> which states: The Commission may issue a licence to abandon or an exemption from licensing which will end the licensee’s responsibility for the site and then transfer responsibility for regulatory oversight or institutional control from the CNSC to the province or territory, if applicable”.</p> <p>See also response to comment #40.</p>
40.	CNL, Bruce Power, NB Power, NWMO, OPG	2, Figure	<p><i>Clarification:</i> The figure indicates the post-closure period starts after the site is released from CNSC control. However, Figure A.1 in CSA N292.7 indicates that post-closure period starts when the DGR is closed, while a post-closure monitoring period is still under the CNSC control. There are two questions:</p> <ul style="list-style-type: none"> ☐ What is the starting point of the post-closure period (closure of the DGR or release from CNSC control)? ☐ Does the CNSC control cover the post-closure monitoring activities and these activities are considered part of “Closure” and “License to decommission”? <p><i>Proposed change:</i> Seeking clarity for the starting point of the post-closure period and licensing coverage on post-closure monitoring in the document.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<p>- Excellent questions.</p> <p>- This is a significant issue.</p> <p>- We propose that the CNSC prepare a discussion paper specifically on this topic and include in that discussion paper a detailed description of how other jurisdictions have made this determination and an analysis of the strengths and weaknesses of different options considered.</p> <p>- The issue is further complicated by the potentially very long time- frame for operations, and the current “adaptive repository layout” approach being described by the NWMO and the attendant potential for closure being carried out on a panel-by-panel basis; under this</p>	<p>The figure has been revised for clarity, focussing on the CNSC’s licensing phases and associated lifecycle activities.</p>

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					conceptual approach some sections of the repository could be in a "post closure" mode while others are in construction mode.	
41.	CNL, Bruce Power, NB Power, NWMO, OPG	2, Figure	<p>The figure shows "indigenous and public engagement", "site evaluation", "site characterization" and "post-closure safety case" all extend beyond release of CNSC control. CSA N292.7 Figure A.1 shows these activities all stops before release from CNSC control.</p> <p>In addition, the last bullet in Section 1.1 requires the proponent "demonstrates that the site is suitable for a facility's full lifecycle."</p> <p>It is unclear what activities would be required to be maintained during institutional controls with respect to site evaluation, site characterization and post-closure safety case, and under what jurisdiction.</p> <p><i>Proposed change:</i> Seeking clarity on the inconsistency with the CSA N292.7.</p> <p>If these activities are required to continue beyond release from CNSC control, please answer the following questions:</p> <ul style="list-style-type: none"> ☐ Who is responsible to regulate these activities? ☐ How should the outcomes from these activities be used and for what purpose? <p>Suggest either deleting 'site evaluation', 'site characterization' and 'post-closure safety case' activities from the graphic or adding clarification text with respect to the regulatory requirements for these activities after the closure of the DGR facility.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<p>- Industry comments that the unnumbered figure at the top of page 7 shows "indigenous and public engagement", "site evaluation", "site characterization" and "post-closure safety case" all extend beyond release of CNSC control" and asks who is responsible for regulating these activities, when in fact the figure shows these activities do not continue beyond institutional control (i.e. the CNSC license to abandon) and the question is more problematic: how is post-closure monitoring to be carried out, how are the public and Indigenous peoples to be engaged, what will the response be to unexpected monitoring results (assuming that effective monitoring can and will be undertaken and results made known)</p> <p>- Industry's question about how the outcome of monitoring and engagement activities will be used is very pertinent, but their proposed resolution that these activities be simply deleted is completely unacceptable</p>	See response to comment #40.
42.	CNL, Bruce Power, NB Power, NWMO, OPG	2, Figure	<p><i>Clarification:</i> The figure shows "site characterization" in parallel with "site evaluation". CSA N292.7 Section 6 indicates that site characterization is a subset of site evaluation, which is inconsistent.</p> <p><i>Proposed change:</i> Seeking clarity on the inconsistency with the CSA N292.7 on site evaluation and site characterization.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada	<p>- This request for clarification illustrates the problematic approach adopted by CNSC of referencing industry standards in Regulatory Documents, for which the public has limited or no access and which are - as noted by industry - often contradictory.</p> <p>- The resolution to this comment should be to include sufficient</p>	The figure has been revised to reflect site evaluation and site characterization in one line. Site characterization is described separately in the text to reflect its specific importance for DGR projects, in particular, and as an important aspect of site evaluation

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				Foundation, We the Nuclear Free North	requirements in the REGDOC so that it is a stand-alone document, and cease relying on the industry-generated CSA standards.	
43.	CNL, Bruce Power, NB Power, NWMO, OPxG	2, Figure	<p><i>Clarification:</i> The design phase is shown to be completed at the end of construction; what happens with construction that continues in parallel with the Operation phase? Also, design will continue in Operations to support improvements and optimization.</p> <p><i>Proposed change:</i> Continue the Design Line through Operations</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<p>- The question posed by industry in this comment is unclear.</p> <p>- The industry suggestion that the Design Line be continued through operations could open the door to a proponent filing an incomplete application with design relegated to a “to be determined” status</p> <p>- A license application must include a complete design as part of the project description which will be required to produce the required pre-and-post closure safety assessments; given the NWMO’s stated intention to rely on the construction period (post license to construct) to carry out site characterization activities to obtain information necessary to support their safety case (pre and post closure) this appears to be an intractable contradiction.</p> <p>- CNSC’s response to this comment from industry must be clear in the requirement for a full set of safety reports (pre and post-closure) to be filed as part of the site preparation license (and license to construct application, and license to operate application).</p>	The text has been updated to reflect that activities shown reflect typical activities for each stage. The design period as shown is consistent with CSA N292.7. While aspects related to design improvement could be expected to continue during operation - they would be managed through a design change control process over subsequent decades of active operation.
47.	Dr. Sandy Greer	3.9 Environmental protection	<p>Another observation is the tendency to be too generic in this draft guide, and not identify DGR shaft per se nor the above-ground encapsulation facility, the latter where all used fuel bundles transported to the proposed site must be repackaged before being lowered into the DGR shaft to store in deep tunnels.</p> <p>The fact is, not just the deep shaft and horizontal tunneling is experimental, but the design of the above-ground encapsulation facility is conceptual, regardless of the Finnish DGR activities. In Finland, no operating licence has yet been received, let alone any part of the shaft or above-ground facility operating beyond conceptual designs.</p>			The CNSC’s environmental protection requirements are contained in REGDOC-2.9.1 and the referenced CSA standards, while for environmental monitoring, the requirements are in CSA N288.4. For pre-licensing baseline monitoring, the applicant is required to document and demonstrate a systematic process for gathering baseline data. The baseline data must consider valued components and contaminants of potential concern associated with historical, present or proposed future use of the site. More details on the requirements and guidance are in Appendix C of REGDOC-2.9.1.

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			<p>What bothers me as well is the outcome of designating "the exclusion zone," after which it is logical for understandable national security and related reasons that no one outside of officially designated personnel would be allowed inside the zone. But - and this is a big "BUT" - is the NWMO being mandated to do not just baseline monitoring of any water pathways, i.e. the Teeswater River, and nearby sediments <i>within the zone</i> yet, also important, to continue doing regular monitoring through all years of construction and operation, to be transparent about the various ways that radionuclides and non-radioactive materials could be accumulating in the environment throughout the zone? (I recall very powerfully how Environment Canada during the two public hearings about the OPG DGR were not at all satisfied with what OPG and NWMO consultants stated in regard to the settling pond design.)</p>			<p>No change was made in response to this comment.</p>
48.	Dr. Sandy Greer	3.11 Waste management	<p>The first sentence within this section reads: "For site preparation of a DGR facility, activities should not involve handling radioactive materials, nor the generation of any radioactive wastes." That requirement is reasonable, given the assumption that it refers only to the used fuel bundles which are planned for transportation to the selected DGR site, once the site is operational and, at that time, repackaging will be done. However, again, I point out the importance that baseline monitoring should be done, even prior to any site preparation but absolutely mandatory when it begins. According to what I hear from concerned citizens in the Municipality of South Bruce, the NWMO refuses to do specific types of monitoring prior to official site selection. Therefore, the possibility of background radioactive materials in the waterways or bedrock apparently are not being addressed. As for well water testing, the lack of trust by a number of local residents in regard to the NWMO has caused them to refuse to participate in a well water testing programme funded by the NWMO. A few citizens had discussed instead paying for their own independent water testing but I am not privy to the outcomes at this time. Meanwhile, I feel morally obliged to communicate what I discovered in reading at least three annual water reports where I currently live in Blyth, immediately south of my former home in South Bruce. The strontium levels in all Blyth wells are six to seven times higher than the maximum</p>			<p>Requirements for baseline site characterization and environmental monitoring are specified in section 3.9 - Environmental Protection. Site characterization, as part of the waste system description and as requirements for disposal projects, is described in section 2.3, which provides specific references to CNSC REGDOCs and CSA standard N292.7.</p> <p>The following section was added to improve clarity:</p> <p>Monitoring and surveillance</p> <p>The applicant must provide a plan for monitoring the effects of site preparation activities on the environment as part of the application for a licence to prepare site (section 3.9).</p> <p>The expectations for a monitoring and surveillance program for a DGR facility are provided in CSA N292.7 [2] and in REGDOC-2.11.1, <i>Waste Management, Volume I</i> [5].</p> <p>Also, see response to comment #47.</p>

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			<p>regulatory limit in Ontario of 7,000 ug/L. What was suggested to me is that the strontium could be in the bedrock, in other words, the strontium is perceived as part of natural background radioactive material in the terrain (as distinct from Strontium 90 from the nuclear power plant). Nevertheless, my research indicates that any type of strontium has dangers for babies and young children, and I will be making a noise to get better attention paid to it by the Municipality of North Huron.</p> <p>I mention the above as my rationale for emphasizing the importance of getting baseline monitoring done, because the hazardous materials must recognize what already exists in the natural terrain including water pathways. My own view is that the NWMO ought to have been studying the terrain in South Bruce for such natural background radioactive materials as well as doing its borehole drilling.</p>			
50.	Dr. Sandy Greer	3.4 Safety analysis	<p>Please know that I have read a few of the many added documents which are identified as further regulatory material which pertains to Site Preparation. For example, I scrolled through the numerous "external hazards" in Appendix C of REGDOC-2.4.4.</p> <p>I find it very perplexing how the CNSC identifies very clearly the numerous examples of what could go wrong, such as examples of "postulated initiating events (PIEs), under C.1 on HTML pages 21 and 22. This information accompanies what you write on PDF page 14 within the 3.4 Safety Analysis:</p> <p><i>"considerations for both design-basis events and beyond-design basis events for the operational phase, with a focus on the concept of cliff-edge effects when analyzing external hazards, where a small change of conditions may lead to a catastrophic increase in the severity of consequences [my bold]."</i></p> <p>You ask for an "analysis of external hazards at the site evaluation stage, to confirm that the facility will withstand events as described." Seriously? How is doing so humanly possible or have any credibility? The above example numbers among other requirements which read as intellectual conceptual exercises which cannot be verifiable in real time and real space on the ground in the real world.</p>			<p>Applications are expected to demonstrate that they can meet all requirements outlined in any published REGDOC before the CNSC can proceed with a licensing decision.</p> <p>See also response to comment #90.</p>
51.	Mississaugas of Scugog Island First	3.9 Environmental protection	<p><u>Section 3.9</u> of the REGDOC discusses what an applicant must do for environmental protection. It states that "for site preparation, environmental monitoring consists of</p>			<p>The applicant will also be required to meet the requirements of the <i>Impact Assessment Act</i>, which will proceed as commenter indicates. See the response to comment #97.</p>

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	Nation (MSIFN)		<p>defining baseline characteristics and monitoring the effects of site preparation activities on the environment”.</p> <p><i>Proposed change:</i> Environmental monitoring should first begin with predicting the effects of site preparation and mitigating certain impacts before they happen, then monitoring for unanticipated impacts. Most impacts of site preparation should be clear before any work begins, preemptive measures should be taken to protect the environment and substantially mitigate impacts, not just monitoring effects.</p>			
53.	Mississaugas of Scugog Island First Nation (MSIFN)	3.10 Emergency and Fire	<p><u>Section 3.10</u> of the REGDOC states that an application must describe an emergency preparedness program and outline hazards that exist on the licensed site. It states “Although hazards of a malevolent nature are not described in this section of the license application, the applicant should consider the emergency response to those hazards. Note that the effects of such hazards are likely to be similar to those of conventional accidents and malfunctions”.</p> <p><i>Proposed change:</i> We recommend that this section include mandatory reference to hazards of a malevolent nature, and that the REGDOC use stronger language than “the applicant should consider the emergency response to these hazards”. It should be required that all applicants consider possible intentional threats to a future DGR including the potential for terrorist attacks and sabotage. There is at least one known plan of a group of men considering terrorist/sabotage activities at nuclear sites in Ontario, including considerations for planting explosives, including crude nuclear explosives, and one of the group was training at a flight school whose flight paths cross the Pickering Nuclear Generating Station (https://www.nytimes.com/2003/08/24/world/canada-links-arrest-of-19-pakistanis-to-possible-terrorism-ties.html). The CNSC must fully and transparently consider such threats and appropriate measures to protect against such threats as a future DGR may well be a target for such activity.</p> <p>Nuclear safety is of paramount importance to MSIFN. Almost every portion of the nuclear fuel lifecycle exists in our territory except for uranium mining. A safe and sustainable future for our community is of highest</p>			<p>Emergency planning is performed to identify hazards and establish the programs to respond to them if they arise. To align with section 2.1 of REGDOC-2.10.1, <i>Nuclear Emergency Preparedness and Response</i>, the text was revised (change from ‘should’ to ‘must’):</p> <p>Although hazards of a malevolent nature are not described in this section of the licence application, the applicant must consider the emergency response to those hazards.</p>

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			<p>importance, as we have been, and will continue to be impacted by nuclear activities occurring since colonization. The responsibility of the CNSC to keep our community, and other Indigenous communities, safe must not be taken lightly</p>			
54.	Mississaugas of Scugog Island First Nation (MSIFN)	3.16 Indigenous and public consultation	<p>Section 3.16 of the REGDOC states “The CNSC, as an agent of the Crown, is responsible for fulfilling Canada's legal duty to consult and, where appropriate, accommodate Indigenous peoples, when the CNSC’s decisions may have adverse effects on potential or established Indigenous and/or treaty rights.”</p> <p>As mentioned in previous comments, it is very likely that the CNSC’s decision regarding DGR siting will have adverse effects on potential or established Indigenous and/or treaty rights. As the project will involve digging hundreds of metres below ground, First Nations’ subsurface rights should be acknowledged in whichever geographic location is selected. We recommend the wording in this section be strengthened. Accommodations to impacted Indigenous peoples should not only be where appropriate as determined by the CNSC/the Crown. First Nations should be given the opportunity to state concerns and adverse impacts to their rights, including subsurface rights, without discrimination, and the regulator should be required to accommodate.</p> <p>The same section states “Conducting engagement activities with the public and Indigenous peoples early in the project development process, including site evaluation, is expected to result in more effective and efficient consultation practices, strengthen relationships and assist the Crown in meeting its obligations regarding any potential legal duty to consult and accommodate, as well as reduce the risk of delays in the regulatory review process.”</p> <p>While it is appreciated that consultation will take place early in the project development process, the wording in this section is not inclusive of upholding the rights of Indigenous peoples. The benefits of early engagement should not only be considered in relation to the CNSC/the Crown, but in ensuring that the rights of Indigenous peoples are upheld and not further eroded. Consultation allows Indigenous peoples to fully understand the impacts of a project, and it should not only be looked at from a</p>			<p>The CNSC is committed to supporting the Government of Canada’s whole-of-government approach to implementing the United Nations Declaration on the Rights of Indigenous Peoples Act (UNDA).</p> <p>While the CNSC’s current approach to Indigenous consultation and engagement is mindful of and consistent with the principles articulated in the UN Declaration, the CNSC is committed to ensuring that our approach aligns with any new guidelines and best practices that emerge as the government proceeds with implementation of the Act.</p> <p>The CNSC is committed to keeping MSIFN and other Indigenous Nations and communities informed as implementation and policy discussions evolve regarding UNDA action plan measures that relate to the CNSC’s mandate.</p> <p>The CNSC is committed to a meaningful and thorough consultation process with any impacted Indigenous Nations and communities in relation to any DGR project proposal and any proponent proposing a DGR facility must follow the requirements of REGDOC 3.2.2, <i>Indigenous Engagement</i>, as referenced in REGDOC 1.2.3.</p> <p>No change was made in response to this comment.</p>

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			<p>regulatory standpoint or as having the potential to delay project timelines.</p> <p><i>Proposed change:</i> CNSC is urged to obtain consent from MSIFN prior to licensing the DGR. On June 19th the Canadian Senate voted to pass Bill C-15 to implement UNDRIP into Canadian Law. This Bill has significant implications for government and resource development proponents as UNDRIP requires states to obtain Free Prior and Informed Consent (FPIC) in their consultation with Indigenous Communities. Article 32(2) of UNDRIP states that the Crown shall consult and cooperate with Indigenous Peoples to obtain FPIC prior to approval of any project affecting our lands and territories particularly in connection with development of resources. The measures identified in UNDRIP are a minimum standard for well-being and survival of Indigenous communities and inform processes of consultation. Consent is a theme which has permeated through Canadian history. The 1997 Delgamuukw vs. British Columbia Decision stated that in some cases the Duty to Consult may require obtaining consent. Other industries have prioritized FPIC including the Mining Association of Canada which has established a Sustainable Mining Protocol which identifies a good practice to obtain FPIC for new projects. CNSC should follow with industry standards and Canadian law to obtain consent prior to licensing the site preparation for such work.</p>			
56.	Northwatch	3 Regulatory requirement and guidance	<p>this section sets out that for each Safety Control Area (SCA) the applicant <u>should</u> also provide information to address the associated guidance, relative to the design of the proposed DGR facility; as set out in the preface to the document, the word "Should" is used to express guidance or that which is advised"; Northwatch strongly holds the view that each safety control area <u>must</u> be addressed, and that the term "DGR facility" must throughout this regulatory document be taken as referring to the DGR itself and all associated surface facilities, including but not limited to the used fuel packaging plant, all waste management and waste treatment facilities and functions including for liquid wastes, for exhaust air, the ventilation system, and all water management systems such as holding and retention ponds and other water retaining structures</p>			<p>Requirements, as expressed by must or shall, identify regulatory obligations, as set out in a Canadian act or regulation. Guidance, as expressed by should, helps an applicant understand the ways they can meet those requirements, although they may not always apply. CNSC staff verified the shall/should terminology in this licence application guide, with the goal of being consistent with the requirements and guidance as set out in REGDOCs and standards referred to.</p> <p>CNSC staff evaluate projects against both requirements and guidance, meaning both are considered during regulatory reviews. No change was made.</p>

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57.	Northwatch	3 Regulatory requirement and guidance	the subsection on Physical design should more clearly state that the references to what the application must include apply to the deep geological repository and to the supporting / surface facilities, including all associated surface facilities, including but not limited to the used fuel packaging plant, all waste management and waste treatment facilities and functions including for liquid wastes, for exhaust air, the ventilation system, and all water management systems such as holding and retention ponds and other water retaining structures			See response to comment #31.
58.	Northwatch	3 Regulatory requirement and guidance	the subsection on operating performance should stipulate that the applicant will fully disclose their characterization of the risks to health, safety and the environment that may be encountered by workers and the public and associated mitigation measures and strategies			Section 3.16 Indigenous and public engagement of REGDOC-1.2.3 points applicants to REGDOC-3.2.1, <i>Public Information and Disclosure</i> , which requires applicants to establish a public disclosure protocol to address their target audiences' information interests in relation to the licensed activities. REGDOC-1.2.3 outlines the information that an applicant will have to provide to the CNSC, which will be summarized and made available to the public in a Commission Member Document, as part of the licensing process. No change was made in response to this comment.
59.	Northwatch	3 Regulatory requirement and guidance	the subsection on safety analysis should stipulate that the applicant will fully disclose the hazard analysis, analysis of the potential and consequence of design-basis events and beyond-design-basis events including those with the potential for a catastrophic increase in the severity of consequences, and the post-closure safety assessment and all supporting information, documentation and analysis; as per previous comments, this documentation must be added to the public record and made available to the public for review, scrutiny and considering during various licencing, review, and permitting processes and for the more general purpose of public oversight and community information			See response to comment #58
60.	Northwatch	3 Regulatory requirement and guidance	the subsection on Indigenous and public engagement must stipulate that the applicant's public information and disclosure program must include stipulation that each of the areas of documentation identified in previous comments as being documentation to be added to the public record and made available to the public for review,			See response to comment #58

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			scrutiny and considering during various licencing, review, and permitting processes and for the more general purpose of public oversight and community information are added as per Northwatch's comments			
61.	Northwatch	3 Regulatory requirement and guidance	the subsection on Environmental protection must be amended to include requirements that the applicant must prepare and include a full inventory of natural / ecological / environmental and social values (including recreational, land uses) in the study area and host watersheds and that these inventories be prepared prior to surface or subsurface disturbance at the site, and that a full plan for the remediation of all site disturbance be prepared with financial assurances be posted to ensure that the remediation activities are fully carried out and the monitored for effectiveness			The environmental protection requirements listed in this comment are contained in REGDOC-2.9.1. For example, Appendix A provides requirements to conduct a specific environmental assessment. As part of this assessment, the proponent has to identify natural, ecological, environmental and social values in the study area. Furthermore, Appendix B provides guidance to develop a characterization of the baseline environment before there are disturbances at the site. No change was made.
62.	Northwatch	3 Regulatory requirement and guidance	the subsection on Physical design sets out that "The applicant must also provide information on the proposed exclusion zone, including size and boundary, and on the proposed emergency planning regions"; Northwatch is strongly of the view that rather than the applicant selecting the size and boundary of the exclusion zone, direction for the establishment of the exclusion zone should be set out in regulation, based on best international practice, sound science and the precautionary principle			The applicant for a DGR licence must submit a safety case to the CNSC. This safety case may or may not recommend an exclusion zone. CNSC experts will then review the safety case and make their recommendations to the Commission No change was made.
65.	Northwatch	3 Regulatory requirement and guidance	the subsection on management systems identifies that the applicant's management system <u>should</u> account for numerous items including data control, verification and validation, data format, traceability of data, configuration control, including data, for environmental, meteorological, geological, geophysical, survey, hydrological, biological factors, measuring and test equipment, use and control of computer modelling, field and laboratory work control, calculations and analyses, measures to ensure that the results of the site characterization are accurate, complete, reproducible, traceable and verifiable, reporting the results of all site evaluation work, laboratory tests and geotechnical analyses and evaluations, and changes to prescribed information; as set out in the preface to the document, the word "Should" is used to express guidance or that which is advised"; Northwatch strongly holds the view that the applicant's management system <u>must</u> account for these items			Requirements, as expressed by must or shall, identify regulatory obligations, as set out in a Canadian act or regulation. Guidance, as expressed by should, helps an applicant understand the ways they can meet those requirements, although they may not always apply. It is up to the applicant to show the CNSC how they have met all regulatory requirements. Section 3.1 of REGDOC 1.2.3 specifies that the applicant's management system must be in accordance with CSA N286-12, <i>Management system requirements for nuclear facilities</i> . While developing N286-12, CSA has applied the use of should and shall in light of the CNSC's legal authorities.

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66.	Northwatch	3 Regulatory requirement and guidance	the subsection on management systems identifies that the applicant's management system should account for numerous items, as listed immediately above; in addition to amending this from a "should" to a "must", this subsection should include clear requirements that these data items and data areas and associated records and documentation records will be added to the public record and made available to the public for review, scrutiny and considering during various licencing, review, and permitting processes and for the more general purpose of public oversight and community information			See the response to comment #65.
67.	Northwatch	3 Regulatory requirement and guidance	again, the persistent use of "should" instead of "must" throughout this section is a matter of concern; case in point: the applicant <u>must</u> involve workers with extensive experience, knowledge and appropriate technical and engineering experience who can analyses and synthesize data from multiple disciplines to provide correct information about the site's <u>current</u> state and reliable and science-based estimates of the site's <u>future</u> state when establishing management system parameters related to site evaluation; similarly, evaluations <u>must</u> be reviewed and verified by individuals or groups that are independent of those who did the work and the criteria for any review or verification activity should be documented (note that this should be changed to <u>must</u> rather than <u>should</u>); as per previous comments, this documentation must be added to the public record and made available to the public for review, scrutiny and considering during various licencing, review, and permitting processes and for the more general purpose of public oversight and community information			See the response to comment #65.
68.	Athabasca Chipewyan First Nation	2.2 Site characterization	<p>The REGDOC-1.2.3 states that the applicant must provide a description of planned activities and provide data about the site characteristics for licence to prepare a site for a DGR facility. The site characterization demonstrates how radioactive waste will be contained and isolate from the environment over the timeframe and supported by the post-closure safety case.</p> <p><i>Proposed change:</i> ACFN recommends that the standard to which radioactive waste will be contained and isolated from the environment takes into the account Indigenous peoples use of the environment to ensuring the safety of Indigenous people for future generations. ACFN is concerned that Indigenous uses of the land and resources</p>	Alexandra Franche	I will even go further and push for amendments to have lower tritium levels allowed in the current water regulations as well as other toxic radionuclide components. It's astounding how the limit is permissive in Canada compared to other countries	See response to comment #36.

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			(e.g., drinking water from the rivers, streams, lakes etc. and consumption of animals and plants) are not factored into the standards of how radioactive waste is contained and isolated from the environment.			
69.	Athabasca Chipewyan First Nation	2.3 Post-closure safety case	<p>REGDOC-1.2.3 states that the applicant must provide a post-closure safety case in support of a license to prepare site application for the DGR facility. Requirements and guidance for developing a post-closure safety case are provided by REGDOC-2.11.1 and indicate that “the development of the safety case enables ongoing engagement with the public and Indigenous groups and the incorporation of stakeholder feedback. At closure of the disposal facility, the safety case will contain information that future generations may require (e.g., institutional control plans, long-term monitoring plan)”</p> <p><i>Proposed change:</i> ACFN acknowledges that the safety case enables ongoing engagement with the public and Indigenous groups and the incorporation of feedback, and that it contains information that future generations may require (e.g., plans). ACFN notes that post- closure safety case needs to include the interests and use of future generations of Indigenous peoples and recommends that the post closure safety case explicitly support Indigenous multigenerational use that will adequately protect Indigenous people throughout the entire lifecycle (site preparation, construction, operation, and decommissioning). This including Indigenous input on institutional control plans and Indigenous-led long-term monitoring. Indigenous peoples use of the land varies from non-Indigenous peoples (public), including but not exclusive to the consumption of animals, plants and water on the land. These uses are important to accommodate when demonstrating a facility will adequately protect Indigenous people and the environment.</p>			<p>As noted in section 3.1.1 <i>Waste management</i>, the applicant must develop a preliminary decommissioning plan for which they are required to develop an Indigenous engagement plan [REGDOC-2.11.2 section 6.1.1].</p> <p>Through this process Indigenous nations and communities can identify activities such as those noted in the comment that the applicant should consider during institutional control period. No change was made.</p>
70.	Athabasca Chipewyan First Nation	3.3 Operating performance	<p>REGDOC-1.2.3 states that “risks to the health and safety of the public in site preparation include:</p> <ul style="list-style-type: none"> ☐ noise hazards from blasting and operation of heavy machinery ☐ chemical hazards from the handling of fuels, lubricants and other conventional chemicals used in the construction equipment ☐ mechanical hazards from excavation, earth movement and road building 			<p>REGDOC-3.2.2, <i>Indigenous Engagement</i>, as referenced in this REGDOC, applies to applicants and licensees for regulated facilities that could raise the Duty to Consult and Accommodate. Under REGDOC-3.2.2, the applicant is required to engage directly with Indigenous Nations and communities to understand their concerns and potential impacts of the project on their rights, interests and community, including their health and well being. The applicant is required to meaningfully address concerns</p>

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			<ul style="list-style-type: none"> ☐ electrical hazards from installation of construction infrastructure ☐ dust from overburden and rock removal and movement ☐ ground vibration and flying rock hazards from blasting <p>ACFN acknowledges that these risks to health and safety of the public is an important component to prepare a site for DGR. However, Indigenous peoples use of the land and its resources may differ from the general public and therefore may require tailored measures of risk to the health and safety of Indigenous peoples. This may include measures that take into account Indigenous land use, consumption of animals, plants and water in and downstream from the region.</p> <p><i>Proposed change:</i> ACFN recommends that amendments be made to include not only the risks to the health and safety of the public, but also the risks and health of Indigenous peoples in site preparation. ACFN recommends the applicant work directly with local Indigenous groups to understand their concerns and risks that may arise during site preparation.</p>			<p>surrounding the health and safety of Indigenous Peoples including land use, traditional foods, and water.</p> <p>Also, see response to comment #36. No change was made in response to this comment.</p>
71.	Athabasca Chipewyan First Nation	3.3 Operating performance	<p>Section 3.3 also states the applicant's assessment of risks to the health and safety of workers and the public resulting from the activities encompassed by the license to prepare site should include consideration of accidents and malfunctions that could occur during site preparation activities. When considering accidents and malfunctions, Indigenous peoples' use of the land and resources may require special consideration.</p> <p><i>Proposed change:</i> Similar to the above ACFN recommends that accidents and malfunctions be considered with input from local Indigenous peoples.</p>			See response to comment #70.
72.	Athabasca Chipewyan First Nation	3.5 Physical design	<p>REGDOC-1.2.3 states: "the applicant must also provide information on the proposed exclusion zone, including size and boundary, and on the proposed emergency planning regions". ACFN recognizes that Indigenous peoples may be using nearby land and resources for consumption or traditional purposes. Information provided regarding proposed exclusion zones, including size and boundary, and proposed emergency planning regions may need to consider Indigenous use of the land and resources.</p>			See response to comment #62.

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			<p><i>Proposed change:</i> ACFN recommends that applicant include input from Indigenous peoples and their use of the land to inform proposed exclusions zone, size and boundary, and proposed emergency planning.</p>			
73.	Athabasca Chipewyan First Nation	3.7 Radiation protection	<p>REGDOC states “the application must describe how radiological hazards will be monitored and controlled during any site preparation activities”. ACFN notes that in order to protect Indigenous peoples, monitoring radiological hazards must include monitoring for potential hazards arising from Indigenous use of the land. This may include consumption of animals and plants and water around and downstream of a DGR.</p> <p><i>Proposed change:</i> ACFN recommends protecting Indigenous peoples by monitoring radiological hazards with criteria that accommodates potential hazards arising from Indigenous use of the land. The applicant should work with local Indigenous communities to identify risks arising from Indigenous use of the land and waters.</p>			<p>Applicants are required to gather baseline data for the proposed project, which considers valued components. The applicant is required to describe the criteria used to identify valued components that may be affected by the project. CNSC staff expect the applicant to work with Indigenous communities when identifying the valued components. Furthermore, applicants are required to perform an environmental risk assessment in accordance with CSA N288.6 and REGDOC-2.9.1 to demonstrate that there is no unreasonable risk to the environment and to the public as a result of their proposed activities. Applicants are also required to conduct environmental monitoring in accordance with CSA N288.5 and REGDOC-2.9.1 to demonstrate that the environment is protected. More information on CNSC staff’s requirements and guidance for Indigenous engagement are in REGDOC-3.2.2. No change was made.</p>
74.	Athabasca Chipewyan First Nation	3.9 Environmental protection	<p>REGDOC-1.2.3 outlines that the applicant must include “a comprehensive set of applicable Environmental Protection measures, including an environmental risk assessment, environmental management systems, effluent emissions control and monitoring program, environmental monitoring program, and groundwater protection and monitoring program that meet all requirements applicable to site preparation activities of REGDOC-2.9.1”. ACFN acknowledges and commends the following as important components to environmental protection. REGDOC-2.9.1 describes any “licensee should describe the potential effects of the facility or activity on the physical well-being of Indigenous groups and other people resulting from biophysical effects, including the effects of the facility or activity on environmental components and the resulting effects on human health”. This includes identifying “any change that the facility or activity is likely to cause on the environment and any effect of any such change on the health and social economic conditions, physical and cultural heritage and on the current use of lands and</p>			<p>This comment accurately reflects the intent of REGDOC-1.2.3, which is to ensure that an applicant who wants to prepare a site for a DGR is aware of their obligations with respect to environmental protection and engaging Indigenous communities in their early planning efforts. No change was made in response to this comment.</p>

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			resource is for traditional purposes by any indigenous group including effects on hunting, trapping, fishing, and gathering." The licensee "should also identify any concerns raised by Indigenous people about the facility or activity in relation to any Indigenous or treaty rights." (REGDOC-2.9.1, 2016).			
75.	Athabasca Chipewyan First Nation	3.12 Preliminary decommissioning plan	<p>As part of the application to prepare site, the applicant must demonstrate that the site evaluation process has appropriately considered future decommissioning in the planning for the nuclear facility and has adequately considered end-of-life decommissioning, prepare a preliminary decommissioning plan in accordance with REGDOC-2.11.2. REGDOC-2.11.2 identifies that when determining the appropriate decommissioning strategy, the licensee should make "considerations", including Indigenous engagement. ACFN requests that Indigenous engagement be included as a requirement for determining the appropriate decommissioning strategy. The land that the DGR is developed on has likely been used by local Indigenous peoples for generations. Usability and suitability of the land after decommissioning is of high interest to Indigenous peoples ensuring the end use is maximized for future Indigenous peoples.</p> <p><i>Proposed change:</i> ACFN Recommends that Indigenous engagement be included as a requirement for determining the appropriate decommissioning strategy.</p>			<p>REGDOC-2.11.2, Decommissioning requires that Indigenous communities be consulted in the preparation for the plan for decommissioning. Selection of the plan is made by the licensee however they must respond to any question proposed by the Indigenous nation.</p> <p>See also response to comment #69</p>
76.	Athabasca Chipewyan First Nation	3.16 Indigenous and public engagement	<p>REGDOC- 1.2.3 outlines the CNSC's obligation for "consultation to avoid, mitigate or offset adverse effects". REGDOC-3.2.2, Indigenous Engagement [13] outlines "requirements and guidance for applicants whose proposed projects may raise the Crown's duty to consult and accommodate". REGDOC-1.2.3 also outlines that engagement activities with the public and Indigenous peoples should be conducted early in the project development process, including site evaluation. Engagement is expected to result in more effective and efficient consultation practices, strengthen relationships and assist the Crown in meeting its obligations regarding any potential legal duty to consult and accommodate, as well as reduce the risk of delays in the regulatory review process. ACFN acknowledges the value of engagement stated in REGDOC- 1.2.3, but suggests including that the engagement improves how Indigenous communities</p>	Alexandra Franche	<p>Prior, full and informed consent must be given to the First Nations and surrounding Canadian communities. Water has a way of moving around and spreading around the contaminants of high-level toxic waste that will be buried in the DGR. In Port Hope, a town of 16 000 that had a refinery of radium and uranium, has to be cleaned up of low level toxic nuclear waste in the surface soil and this is costing millions; that is strictly the cost for the environmental damage, as little long-term health studies have been conducted. Imagine how costly and risky that DGR project is. It isn't a</p>	See the responses to comments #36 and #70.

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			<p>contribute their knowledge and experience on the land toward reducing the potential risks and impacts on Indigenous communities throughout the life cycle of DGR.</p> <p><i>Proposed change:</i> ACFN recommends that the benefits of engagement include the contribution Indigenous knowledge toward reducing potential risks and impacts on Indigenous communities throughout the lifecycle of DGR. Further, ACFN recommends that Indigenous engagement take place throughout the life of the project. Decommission plans should be developed with input from Indigenous communities and made available for them to review.</p>		<p>guarantee that can be made for First Nations that their land, water and air will be kept intact and their land is sacred to them; they can't just uproot and go live somewhere else. Canada has the world's largest freshwater reserve. Our First Nations are trying to protect it and they have a right to do so and to be given thorough details before the project is underway</p>	
77.	CNL, Bruce Power, NB Power, NWMO, OPG	2.2 Site characterization	<p><i>Clarification:</i> It would be beneficial, if it is not in the referenced documents, to have a Canadian equivalent to Table 1 in IAEA SSG-14 to be included to explain this concept.</p> <p><i>Proposed change:</i> Clearly reference or, if not available, provide a Canadian equivalent to Table 1 in IAEA SSG-14.</p>	<p>Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North</p>	<p>- The resolution to this comment should be to include sufficient requirements in the REGDOC so that it is a stand-alone document; if an IAEA SSG is to be relied upon, it should be reproduced or replicated in the REGDOC</p>	<p>The purpose of the licence application guide (LAG) is to provide information to applicants on applying for a site preparation licence for a DGR facility. The LAG maps out the relevant regulatory documents and standards that inform the application process. This is clarified in the revised document.</p> <p>CNSC's regulatory documents that provide requirements and guidance on site characterization were updated in 2021. These updates included ensuring alignment with IAEA documents in general and included consideration of IAEA SSG-14 (published in 2011) in particular.</p> <p>Specifically with respect to Table 1 of IAEA SSG-14 titled: Features of the Safety Case and supporting safety assessment throughout the lifetime of a disposal facility, the main document that contains this type of information in general within CNSC's framework is REGDOC 2.11.1 volume III: <i>Safety Case for the Disposal of Radioactive Waste, version 2</i>, published 2021, which included consideration and alignment with IAEA SSG-23 (published 2012) <i>The Safety Case and Safety Assessment for the Disposal of Radioactive Waste</i> – the IAEA guide relevant for this topic (and which in turn cites SSG-14 as a reference). Furthermore, CNSC REGDOC-1.2.1 Deep Geological Repository Site Characterization, published in 2021, specifically considered guidance from IAEA SSG-14, and is a reference publication.</p> <p>CSA N292.7 <i>Deep geological disposal of radioactive waste and irradiated fuel</i> also includes IAEA SSG-14 as a reference publication. CSA N292.7 contains several tables with information presented in stages over the lifetime of</p>

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						<p>the facility. For example, Table 1 identifies parameters to be addressed by the site characterization program; and Table 2 describes ongoing site evaluation by analytical assessment.</p> <p>The licence application guide refers to all of these documents, in the relevant sections and topical areas.</p> <p>See also response to comment #2. No change was made.</p>
78.	CNL, Bruce Power, NB Power, NWMO, OPG	3	<p>MAJOR: There are SCAs which may not be applicable during the licence to prepare the site so some of these sections are misleading (e.g., <i>Radiation protection</i>), especially since the licence to prepare the site does not permit the licensee to process, handle or store radioactive substances (as mentioned elsewhere in the document).</p> <p><i>Impact:</i> Unnecessary reference to SCAs that are not relevant to the LTPS increase administrative burden.</p> <p><i>Proposed change:</i> Review the citing of all 14 SCAs in this REGDOC to identify only those applicable for the LTPS.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	- For consistency, all 14 SCAs should be identified in the REGDOC and should be responded to in the application; if there are some which an applicant deems to not be appropriate to the application / licensing stage the applicant can state that in the application.	All safety and control areas that are applicable to site preparation are referenced in the REGDOC. No change was made.
79.	CNL, Bruce Power, NB Power, NWMO, OPG	3.1 bullets on Management System - a work schedule	<p><i>Clarification:</i> Last bullet "A work schedule" appears to be incomplete or is unclear on what it means - the licensing package will include a work schedule, however, it's not clear how it should be a requirement of the management system.</p> <p><i>Proposed change:</i> Add more text to clarify this bullet.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<p>- We agree with industry that there appears to be a formatting error in Section 3.1 which resulted in "a work schedule" not being bulleted; "work schedule" should be bulleted</p> <p>- Industry states that the licensing package will include a work schedule, but this is not actually indicated in the REGDOC, including in Section 4. "Standard application information"</p> <p>- A work schedule should be included in section 3.1 to indicate how it intersects with the management</p>	<p>As per CSA N286-12, clause 4.8.1 f) Work planning, a work schedule needs to be created during site preparation to identify the different phases/milestones of site preparation.</p> <p>For clarity, the bullet reading "work schedule" in section 3.1 has been replaced with: Key dates and milestones for the anticipated site preparation work activities</p>

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					approach, and a more detailed work schedule or work plan should be included in the application, including dates, description of each work item, and the responsible party within the applicant's management and operational team(s) who will have lead responsibility	
80.	CNL, Bruce Power, NB Power, NWMO, OPG	3.1 bullets on Management System - policy for the use of contractor's resources...	<p><i>Clarification:</i> The prescriptive nature of requiring a policy for the use of contractors isn't clear - suggest changing this requirement to any type of control.</p> <p><i>Proposed change:</i> policy for the use of management of contractors' resources to supplement in-house capability.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<p>- We agree that "policy" might not be the appropriate descriptor the requirement "policy for the use of contractors' resources to supplement in-house capability" and this may be better captured by the term "procedure", or protocol"</p> <p>- We support the requirement and suggest that the intersect between this protocol and the requirement several bullets further down the list that "<i>documentation on the resources to control the work performed by contractors, in particular, defining the requirements for the activities, and description of oversight and integration</i>" be required should be clearly stated</p> <p>- Our expectation is that these requirements are intended to achieve important management elements such as transparency, traceability, continuity, and consistency and that protocols will be required to ensure that the licensee has and maintains overall knowledge and understanding of their own project; this may be challenging over time and given the many diverse aspects of the project, but is essential to building and maintaining institutional knowledge and control, as well as accountability</p>	The bullet was edited as follows: use of contracted resources to supplement in-house capability
81.	CNL, Bruce Power, NB Power, NWMO, OPG	3.1, bullets on Management System - procedures to	<p><i>Clarification:</i> The following bullet: <i>procedures to control the effectiveness of assessments and engineering activities performed in the different stages of the site evaluation process, including records of all work carried out during site</i></p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch,	<p>- As per above, our expectation is that these requirements are intended to achieve important management elements such as transparency, traceability, continuity, and</p>	The statement has been revised for clarity and now forms three separate bullets: <ul style="list-style-type: none"> procedures to control the effectiveness of assessments and engineering activities performed

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		control the effectiveness....	<p><i>evaluation and characterization, which must include a description of the measures for preservation of the records</i></p> <p>seems like an odd mix of activities. The required expectation from this bullet is not clear.</p> <p><i>Proposed change:</i> Recommend reviewing the bullet and providing clarity around the required expectation.</p>	Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<p>consistency and that protocols will be required to ensure that the licensee has and maintains overall knowledge and understanding of their own project; this may be challenging over time and given the many diverse aspects of the project, but is essential to building and maintaining institutional knowledge and control, as well as accountability.</p> <p>- We support the REGDOC including additional detail to ensure that industry understands these requirements.</p>	<p>in the different stages of the site evaluation process</p> <ul style="list-style-type: none"> records of all work carried out during site evaluation and characterization methods for preservation of records <p>CNSC staff note that all three elements are very important for such a complex project to ensure that objective evidence of the work performed, procedures and records is maintained. The last bullet is key since the project is for very long time and the records from this phase may be needed for construction and operation.</p>
82.	CNL, Bruce Power, NB Power, NWMO, OPG	3.1, bullets on contractual obligation	<p>MAJOR: The following statement and bullets are premature for a Licence to Prepare Site application:</p> <p><i>The applicant must also ensure, as a contractual obligation, that:</i></p> <ul style="list-style-type: none"> <i>the applicant and the CNSC will have right of access to the premises of any supplier carrying activities specified in the application</i> <i>all sub-suppliers will provide right of access to their premises by those clients who are suppliers</i> <p>Impact: Additional administrative burden on the applicant without any benefit to nuclear safety.</p> <p><i>Proposed change:</i> Remove these bullets. At this point this is premature. A company would not be procuring components for the nuclear facilities until the construction phase.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<p>- We disagree with the industry comment that these requirements should be removed.</p> <p>- We accept the industry's comment that at this point a proponent would not be utilizing components for the nuclear facilities until later phases, but a licensee may in fact be procuring components for the nuclear facilities or prototypes of those components, and these components may be incorporated into the safety case which the applicant is providing at each licensing stage, including the site preparation licensing stage. For example, the applicant may reference or rely upon a specific design for a used fuel container which is not going to be utilized until a later stage but which has been incorporated into the safety case being submitted as part of licencing for earlier stages</p>	<p>The requirements are intended to also ensure that CNSC inspectors are able to access the work activities and premises associated with any regulated activity, including that of third parties who have been contracted by the applicant or licensee to undertake work associated with the license to prepare site. This is in keeping with clauses 9.5.7 (verification) and 9.5.2 (purchasing requirements, including the right to access work facilities) of CSA N286-12.</p> <p>For clarity, the two bullets were revised to the following: The applicant must also ensure, as a contractual obligation, that the applicant and the CNSC will have right of access to the premises of any supplier and sub-supplier carrying activities specified in the licence.</p>
83.	CNL, Bruce Power, NB Power, NWMO, OPG	3.1, bullets on contractual obligation	<p><i>Clarification:</i> The wording for sub-suppliers is unclear - should the CNSC choose to keep the two bullets in the regdoc (see comment above), suggest similar language as the first bullet.</p> <p><i>Proposed change:</i> all sub-suppliers will provide right of access to their premises by those clients who are suppliers</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada	<p>- See immediately above.</p> <p>- We agree that the CNSC should be added to the second bullet.</p> <p>- Any such inspections or site visits should be documented, and the document included in a public registry for the project which spans all licensing stages.</p>	See the response to comment #82.

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			<u>the applicant and the CNSC will have right of access to the premises of any sub-supplier carrying activities specified in the licence</u>	Foundation, We the Nuclear Free North		
84.	CNL, Bruce Power, NB Power, NWMO, OPG	3.1 Management system, last paragraph	<p><i>Clarification:</i> It is unclear the purpose of this statement - Implies the licensees do not use qualified staff. Contradictory if required to comply with N286-12 which requires the workers to be qualified.</p> <p><i>Proposed change:</i> Delete unnecessary/redundant requirement.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<p>- We disagree with industry's statement that this paragraph implies that licensees do not use qualified staff and we strongly disagree with the industry request that it be removed.</p> <p>- Industry's failure to recognize the appropriateness of this requirement is worrisome, and furthers the impression that industry considers constructing a DGR to be on par with a quarry operation and that industry dismisses or seeks to diminish recognition of the sensitive and safety-related nature of this project.</p>	The statement under section 3.1 is about specific experience and knowledge for this complex and unique project and the necessity of interfacing multiple disciplines, including research and development activities. The statement in section 3.1 complements the information in section 3.2. No change was made to the text.
85.	CNL, Bruce Power, NB Power, NWMO, OPG	3.2 Human performance	<p><i>Clarification:</i> "...including worker training, is addressed under the management system SCA."</p> <p>This supports the redundancy identified in s. 3.1 comment.</p> <p><i>Proposed change:</i> Delete unnecessary/redundant requirement from s. 3.1.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	- As with the redundancy comment with respect to s 3.1 (i.e. industry's previous comment) we disagree, and note that industry provided no supporting argument for this comment.	See the response to comment #84.
86.	CNL, Bruce Power, NB Power, NWMO, OPG	3.3 Operating performance	<p><i>Clarification:</i> Some of the content described at Operating performance may be more applicable under other SCAs (e.g., the second bulleted list are risk or hazards that would be covered under a safety analysis or conventional health and safety).</p> <p><i>Proposed change:</i> Move second bulleted list to Conventional Health and Safety section.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<p>- It is appropriate to retain these bullets in this section on operating performance</p> <p>- We support adding additional text to establish clear linkages between Section 3.3 and Section 3.8</p>	<p>The placement of this content is consistent with the existing regulatory framework . The meaning of operating performance in this context is that applicant shall outline the strategy that the applicant will take (including development of mitigation measures) upon discovery of additional risks to the health and safety of the public that were not anticipated during the licence application process.</p> <p>To clarify the text, a link to Section 3.8, stating that related information can be found there, was added.</p>

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87.	CNL, Bruce Power, NB Power, NWMO, OPG	3.3 Operating performance, last paragraph	<p><i>Clarification:</i> The text states: “Where risks to the health and safety of either workers or the public could be higher than for a conventional project, the applicant should provide credible research supporting the potential consequences and measures to mitigate the risks. For example, if site investigation has indicated the presence of a sub-surface hazardous substance, the applicant should provide an investigation of the effects of that substance, if unearthed, on the health and safety of workers and the local public.”</p> <p>It is unclear how the applicant should establish if the “risks to health and safety... could be higher than for a conventional project”.</p> <p><i>Proposed change:</i> Suggest revising the text to: Where risks to the health and safety of either workers or the public could be higher than for a conventional project <u>are identified</u>, the applicant should provide credible research supporting the potential consequences and measures to mitigate the risks.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<ul style="list-style-type: none"> - The industry’s suggestion to insert “are identified” creates more ambiguity and removes the onus on the licensee to carry out this evaluation - Who is industry suggesting would identify the additional risks? - The suggested change to wording implies that it is the responsibility of some entity other than the licensee to carry out that identification, hence obfuscating their responsibilities 	This change was made to the text.
88.	CNL, Bruce Power, NB Power, NWMO, OPG	3.4, 1 st bullet	<p>MAJOR: The current wording in Section 3.4 might be interpreted as requiring a full analysis at the site preparation stage, where some of the data might not be fully available until the Licence to Operate licence application stage. A graded approach should be applied.</p> <p><i>Impact:</i> Ambiguous requirements will increase the regulatory uncertainty for the proponents and operators of a DGR.</p> <p><i>Proposed change:</i> When referring to the safety analysis for later licensing stages of a DGR, under different CNSC licences, the text in this section should be revised and “<u>preliminary</u>” should be used. For example, <u>preliminary</u> safety analysis of operational and post-closure activities</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<ul style="list-style-type: none"> - The greater need for certainty is that of the public, Indigenous peoples and the environment; it is, as previously noted in this comment column, essential that safety assessment for both pre-closure and post-closure be assessed in each licensing stage 	CNSC staff note that the proposed change could cause confusion since the concept of a “preliminary safety analysis” does not exist in the regulatory framework. However, staff agree that the graded approach would apply and that the applicant would conduct their safety analyses in accordance with REGDOC-2.4.4. No change was made to the text.
89.	CNL, Bruce Power, NB Power, NWMO, OPG	3.4 Safety analysis	<p><i>Clarification:</i> Under Safety Analysis, the pre-closure portion is referred to as an “analysis” whereas the post-closure portion is referred to as an “assessment”. Furthermore, Section 3.6 refers to a “pre- [and post-] closure safety assessment. REGDOC-2.11.1 (Waste Management, Volume III) states that “Safety assessment is often used interchangeably with safety analysis”. If these terms can be used interchangeably with no difference in meaning,</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra	<ul style="list-style-type: none"> - We support clarity being brought to the terminology with respect to the safety case, and would support a determination that safety analysis, safety assessment, safety report and safety case could be used interchangeably. 	The terminology used in the draft is consistent with the associated reference documents, such as CSA N929.7, where applicability of different terminology is clearly distinguished for pre-closure stage (to be consistent with REGDOC-2.4.4) and post-closure stage (to be consistent with REGDOC-2.11.1, Volume III). No change was made.

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			<p>suggest defining safety analysis and stating that the terms “analysis” and “assessment” can be used interchangeably.</p> <p><i>Proposed change:</i> Add the definition of a safety analysis in the REGDOC with a note that <u>“Safety assessment is often used interchangeably with safety analysis.”</u></p>	Club of Canada Foundation, We the Nuclear Free North	- Insider language and use of jargonized terminology often has the effect of excluding members of the public from important discussions and discounting or discarding public comments when they use terms as a lay person rather than with a silo-specific meaning, as might be the case in the use of some terms by industry and regulator.	Note that safety case, safety analysis and safety assessment are all defined in REGDOC-3.6, <i>Glossary of CNSC Terminology</i> , which is published to help the public understand the CNSC’s use of these terms.
90.	CNL, Bruce Power, NB Power, NWMO, OPG	3.4 Safety analysis, 4 th bullet	<p>MAJOR: The fourth bullet says the applicant must include: <i>“• considerations for both design-basis events and beyond-design-basis events for the operational phase, with a focus on the concept of potential cliff-edge effects when analyzing external hazards, where a small change of conditions may lead to a catastrophic increase in the severity of consequences.”</i></p> <p>The <u>operational phase</u> covers activities and timescales that go beyond the activities under the licence to prepare site. Is this interpreted as the portion of the operational phase that is only relevant to the activities required for preparation of site?</p> <p>Impact: Ambiguous requirements will increase the regulatory uncertainty for the proponents and operators of a DGR.</p> <p><i>Proposed change:</i> It is suggested that the fourth bullet is deleted: <i>“considerations for both design-basis events and beyond-design-basis events for the operational phase, with a focus on the concept of potential cliff-edge effects when analyzing external hazards, where a small change of conditions may lead to a catastrophic increase in the severity of consequences.”</i></p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<p>- Further to the previous comment, we consider “cliff-edge effects” to be another example of insiders’ language. We find the term to be useful and relevant and appreciate that the bullet does include some explanatory text, but it is an example where a hyperlink to further explanation would make the document more accessible.</p> <p>- We firmly disagree with the industry proposal that this bullet be deleted; as noted above, in this and other instances, the DGR must be regarded as a single project and the multi-stage licensing process must consider the full range of risks and uncertainties, including consideration of post-closure issues during the pre-operational licensing stages</p>	<p>The fourth bullet was revised to read:</p> <ul style="list-style-type: none"> <i>considerations for both design-basis events and beyond-design-basis events for the operational phase in accordance with section 4.1 of REGDOC-2.4.4 [18]</i>
91.	CNL, Bruce Power, NB Power, NWMO, OPG	3.4 Safety analysis	<p><i>Clarification:</i> The last bullet (<i>a post-closure safety assessment that is in accordance with REGDOC-2.11.1 Volume III</i>) should include the adjective “preliminary” to align with IAEA SSG 14.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and	- We disagree with industry’s suggestion that this requirement be downgraded to “preliminary”; as noted above, in this and other	The text is consistent with CNSC requirements and guidance, particularly REGDOC-2.11.1, <i>Waste Management, Volume III: Safety Case for the Disposal of Radioactive Waste</i> , section 5.2. No change was made.

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			<i>Proposed change:</i> Add " <u>preliminary</u> " in front of "post-closure".	Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	instances, the DGR must be regarded as a single project and the multi-stage licensing process must consider the full range of risks and uncertainties, including consideration of post-closure issues during the pre-operational licensing stages	
92.	CNL, Bruce Power, NB Power, NWMO, OPG	3.4 Safety analysis , last paragraph	<p><i>Clarification:</i> "The applicant should have a credible program for managing safety issues, which includes a research and development program."</p> <p>What defines a R&D Program and why does it need to be a requirement?</p> <p><i>Proposed change:</i> Seeking clarity on the expectations for an R&D program and the rationale for why it is a requirement.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<p>- As requested in Northwatch's comments, we propose that CNSC provide a full dispositioning of comments received on draft REGDOC 1.2.3; we are interested in how CNSC dispositions this comment by industry.</p> <p>- We note that industry persistently resists requirements related to safety issues.</p>	<p>CNSC staff note the importance of research and development to DGRs. Section 2 of REGDOC-2.4.4 addresses research related to safety analyses. The text was revised as follows:</p> <p>The applicant should have a credible program for managing safety issues, which includes any planned or ongoing research and development activities.</p>
93.	CNL, Bruce Power, NB Power, NWMO, OPG	3.5 Physical design, last line	<p>MAJOR: This sentence: <i>For structure design and system design at the site preparation stage for a DGR facility, the applicant should propose design descriptions and guides.</i></p> <p>doesn't appear to be adding any additional detail or guidance to the REGDOC. Clarity on deliverables or explanation on what this sentence is adding to the requirements already provided in this section is requested.</p> <p>Impact: Ambiguous requirements will increase the regulatory uncertainty for the proponents and operators of a DGR.</p> <p><i>Proposed change:</i> Either delete this sentence or add clarity to the requirement (such as "conceptual of preliminary).</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<p>- We note that industry is differentiating between the role of proponent and operators of a DGR and correspondingly comment that the REGDOC must make absolutely clear who the responsible entity is.</p> <p>- As requested in Northwatch's comments, we propose that CNSC provide a full dispositioning of comments received on draft REGDOC 1.2.3</p> <p>- We are interested in how CNSC dispositions this comment by industry.</p>	No change was made since the text is consistent with REGDOC-2.5.1, where the requirements are set.
94.	CNL, Bruce Power, NB Power, NWMO, OPG	3.6 Fitness for service	<p><i>Clarification:</i> It is unclear how SSCs as defined in REGDOC-2.6.3 apply to the features of the repository essential to the performance of the repository through the post-closure period, including the geosphere, the engineered sealing materials, the used fuel container, and the used fuel. Aging management plans for these components through the operations period would not be meaningful.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra	<p>- As noted above, in this and other instances, the DGR must be regarded as a single project and the multi-stage licensing process must consider the full range of risks and uncertainties, including consideration of post-closure issues during the pre-operational licensing stages</p>	<p>The text is consistent with underlying CSA standard. Furthermore, the REGDOC is written in such a way that it could be applied to any DGR concept.</p> <p>The integrated aging management plan needs to consider the aging effects of all SSCs important to safety, but it may conclude that it is unnecessary to manage aging for many SSCs. No change was made.</p>

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			<p>Aging management should ensure that these SSCs are as described at the start of the post-closure period.</p> <p><i>Proposed change:</i> Suggest revised text: <i>The application must include a preliminary aging management plan, listing all <u>identifying key</u> SSCs important to safety <u>during the lifecycle of the facility, and in particular addressing any such SSCs that are part of the LTPS.</u> to provide for the timely detection and mitigation of the aging effects to ensure integrity and functional capacity of the SSCs throughout the pre-closure period and ensure that they are described in the pre- and post-closure safety assessments (see Safety Analysis). For more information, see Appendix A of REGDOC-2.6.2, Aging Management [9].</i></p>	Club of Canada Foundation, We the Nuclear Free North		
95.	CNL, Bruce Power, NB Power, NWMO, OPG	3.7 Radiation protection	<p><i>Clarification:</i> The licensed activity in the site preparation stage does not include any radioactive waste. Is the radiation protection (RP) program meant for radiation source used for construction/inspection (e.g., X-ray examination)?</p> <p><i>Proposed change:</i> Seeking clarity on the scope for the RP program in the site preparation stage.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	- As noted above, in this and other instances, the DGR must be regarded as a single project and the multi-stage licensing process must consider the full range of risks and uncertainties, including consideration of post-closure issues during the pre-operational licensing stages	The site preparation stage does not include licensed activities related to radioactive waste. However, the RP program is intended for radiation sources used for construction/inspection and protection of workers from natural hazards such as Radon that may be encountered when working underground. As the project proceeds, the radiation protection program will evolve. No change was made.
96.	CNL, Bruce Power, NB Power, NWMO, OPG	3.8	<p><i>Clarification:</i> Conventional Health & Safety</p> <p><i>Proposed change:</i> Seeking clarity on whether this section is just for the site preparation phase? If so, this should be clearly stated.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	- As noted above, in this and other instances, the DGR must be regarded as a single project and the multi-stage licensing process must consider the full range of risks and uncertainties, including consideration of post-closure issues during the pre-operational licensing stages	Section 1.2 provides the REGDOC's scope, to describe the requirements and guidance to obtain a licence to prepare a site. Section 2 provides typical examples of site preparation activities. No change was made.
97.	CNL, Bruce Power, NB Power, NWMO, OPG	3.9 Environmental protection	<p><i>Clarification:</i> Defining baseline characteristics would have been part of the site selection process while continuing to collect baseline data could be activities part of the site preparation activities.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch,	- Any activities carried out during the NWMO's site selection process is outside of any licensing or regulatory process, including outside the impact assessment process, and as such was	The text was modified as suggested by commenters. Note that information gathered during site selection that is included in the initial licence application to CNSC would be subject to regulatory review. This would include any information related to baseline characterization and monitoring (see Figure 1 REGDOC-1.2.1).

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			<i>Proposed change:</i> For site preparation, environmental monitoring consists of defining baseline characteristics and of monitoring the effects of site preparation activities on the environment.	Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	wholly at the discretion and advantage of the licensee. - While it is a significant flaw in the overall system that there is no oversight or regulatory requirements during the site selection stage, the industry suggestion that anything that happened in the site selection period is out of bounds for the license to prepare the site application process should be fully rejected.	
98.	CNL, Bruce Power, NB Power, NWMO, OPG	3.10 Emergency and Fire	<i>Clarification:</i> Requirements for an Emergency Preparedness (EP) Program seems premature for this phase. <i>Proposed change:</i> Seeking clarity on the scope for EP program in the site preparation phase.	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	- We are puzzled as to why the industry questions the need for an emergency preparedness program for an industry operation at an industrial site, potentially in a remote and/or rural area. - We are interested in how CNSC dispositions this comment by industry.	The hazard assessment would form the planning basis for the EP Program. The CNSC expects the program to be commensurate to the hazards identified during site preparation, therefore no change was made.
99.	CNL, Bruce Power, NB Power, NWMO, OPG	3.10 Emergency and Fire	<i>Clarification:</i> The requirement to demonstrate a fire response capability as described in CSA N393:22 is for facilities that handle radioactive substances. During the site preparation phase, there will not be any radioactive substances, therefore, this CSA standard shouldn't apply at this time. <i>Proposed change:</i> Remove reference to CSA N393:22, but keep the requirement to describe the fire protection program.	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	- As previously noted, REGDOCs should set out their requirements as a stand-alone document, not dependent on by-reference-only inclusions, particularly to industry generated documents such as the CSCA standards,	Since there would be no radioactive materials on site, CSA N393 would not apply for fire response, so it has been removed from the text. However, the applicant does need to identify how fire response would be implemented at the site (e.g. incipient level firefighting, arrangements with off-site fire departments and other training for fire prevention. Section 3.10 was revised as follows: Fire Protection Program The application must describe a fire protection program to ensure adequate protection against fires. It should describe how the fire protection activities will be implemented, managed and monitored to ensure that fire risks are minimized during site preparation activities, as applicable.
100	CNL, Bruce Power, NB	3.12 Security	<i>Clarification:</i> CSA N290.7 - scope should be reviewed for the appropriateness and applicability to DGR site preparation phase.	Canadian Environmental Law Association, Concerned Citizens of	- As previously noted, REGDOCs should set out their requirements as a stand-alone document, not	CNSC staff reviewed the scope of CSA N290.7 and concluded that the CSA standard CSA N290.7:21, <i>cyber security for nuclear facilities</i> , applies for all stages of

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	Power, NWMO, OPG		<i>Proposed change:</i> Review the scope of CSA N290.7 for applicability to DGR at the site preparation phase.	Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	dependent on by-reference-only inclusions.	licensing for a DGR, including the license to prepare site (LTPS). However, to enhance clarity, section 3.12 has been modified as follows: The application must describe the cyber security program, processes and procedures that have been or will be defined and implemented to comply with CSA N290.7, <i>Cyber security for nuclear facilities</i> [26]. The applicant's cyber security program must describe each element of the program specified in section 4.2 of CSA N290.7 [26], with sufficient detail to show that the cyber threats, vulnerabilities and risks identified in the Site Selection Threat and Risk Assessment (SSTRA) are properly considered.
101	CNL, Bruce Power, NB Power, NWMO, OPG	3.15 Reporting requirements	<i>Clarification:</i> REGDOC 3.1.2 - scope should be reviewed for the appropriateness and applicability to DGR site preparation phase. <i>Proposed change:</i> Review the scope of REGDOC 3.1.2 for applicability to DGR at the site preparation phase	. Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	- As noted above, in this and other instances, the DGR must be regarded as a single project and the multi-stage licensing process must consider the full range of risks and uncertainties, including consideration of post-closure issues during the pre-operational licensing stages	REGDOC-3.1.2, <i>Reporting Requirements, Volume I: Non-Power Reactor Class I Nuclear Facilities and Uranium Mines and Mills</i> , applies to Class IB nuclear facilities, including DGRs. The scope of the document applies to all licencing stages, and some of the clauses identified in the appendix apply to the licenced facility during site preparation. For example, item A1 states that the licensee must report a 'Contravention of the NSCA in relation to an activity that is authorized', which means that if the licensee goes outside of their licenced activities, they would need to report it. This is regardless of the licencing stage.
102	CNL, Bruce Power, NB Power, NWMO, OPG	4.12	<i>Clarification:</i> Considering the duration of the DGR, it would seem much too early to request cost projections. <i>Proposed change:</i> Seeking clarity on the scope of tentative cost projections appropriate for this stage of development. Lessen rework for later changes to financial projections or misunderstandings leading up to cost estimates.	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	- The industry is proposing, with this comment, that they should be permitted to proceed with a project for which the costs are unknown. This is unacceptable, both as a suggested change to the REGDOC and as a practice on the part of a project proponent.	Sections 8 and 9 in REGDOC 3.3.1, <i>Financial guarantees for decommissioning of nuclear facilities and termination of licensed activities</i> , clarify CNSC requirements around planning for decommissioning, which requires cost estimates. Planning for decommissioning is an integral part of the lifecycle planning of a nuclear facility. Furthermore, applicants are required to submit a preliminary decommissioning plan (PDP). The PDP should be filed with the CNSC as early as possible in the lifecycle of the facility. Planning for decommissioning is an ongoing process and should be considered at each lifecycle stage of the facility,

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						from siting to decommissioning, therefore no change was made.
103	CNL, Bruce Power, NB Power, NWMO, OPG	5 Appendix A	<p><i>Clarification:</i> Since the LTPS does not permit the licensee to process, handle or store radioactive substances (as mentioned elsewhere in the document) a number of the CSA standards listed will not be applicable at the site preparation phase. While the licensee needs to demonstrate a management system framework meets the regulatory requirements for any specific safety and control area has been addressed, some of those functions are not required until the applicant is licenced to possess, handle, or store radioactive substances onsite.</p> <p><i>Proposed change:</i> Review the list of standards in the Appendix to identify which are applicable for the LTPS.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	- As previously noted, REGDOCs should set out their requirements as a stand-alone document, not dependent on by-reference-only inclusions.	<p>Verification of standards in Appendix A was undertaken as part of the overall revision to the draft licence application guide. The preface of REGDOC 1.2.3 provides information on the application of the graded approach (in REGDOC 3.5.3), and specifically points to more information about the application of the graded approach for a geological disposal project specified in CSA N292.7. Several changes were made to Appendix A.</p> <p>See also comment #26.</p>
104	CNL, Bruce Power, NB Power, NWMO, OPG	5 Appendix A	<p><i>Clarification:</i> This appendix mentions CSA N292.6 as a reference document. N292.6 is being withdrawn because of the restructuring of the N292 series. The N292 TC recently voted on this matter.</p> <p><i>Proposed change:</i> Seeking clarity whether N292.6 is still applicable.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	- As previously noted, REGDOCs should set out their requirements as a stand-alone document, not dependent on by-reference-only inclusions.	CSA N292.6 was removed from Appendix A
105	CNL, Bruce Power, NB Power, NWMO, OPG	5 Appendix A, Physical design, Site characterization	<p><i>Clarification:</i> CSA N292.7-22 should be included as a reference document. Section 2.2 points to this standard, so the appendix should be consistent.</p> <p><i>Proposed change:</i> Add CSA N292.7-22 as a reference document.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	- As previously noted, REGDOCs should set out their requirements as a stand-alone document, not dependent on by-reference-only inclusions.	The Appendix has been updated to include CSA N292.7-22 under Physical Design, site characterization.
106	CNL, Bruce Power, NB Power, NWMO, OPG	5 Appendix A, Physical design, Facility design	<p><i>Clarification:</i> CSA N292.2-13 was listed as a reference document. It was the consensus that N292.2 (the dry storage standard) would not apply to the DGR. The DGR programs would not interface with the Dry Storage Container (DSC) as the responsibility of opening the DSCs</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch,	- As previously noted, REGDOCs should set out their requirements as a stand-alone document, not dependent on by-reference-only inclusions.	<p>CSA N292.2 was removed from Appendix A</p> <p>See also comment #27.</p>

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			<p>and transferring the fuel to transportation package falls on the utilities.</p> <p><i>Proposed change:</i> Remove reference to N292.2.</p>	Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North		
107	CNL, Bruce Power, NB Power, NWMO, OPG	5 Appendix A, Physical design, Structure, system and component design	<p>MAJOR: CSA N285.0 is listed as a reference document. N285 is specific for NPP and reactor design. It is not appropriate for the design of Class IB facilities, even with the graded approach. REGDOC 1.2.2 (Draft) would be the appropriate guide.</p> <p>CSA N285 is specific for the pressure boundary of NPPs. For reactors in the NPPs, the pressure boundary is the major system (the entire reactor is a pressurized system), and N285 would address the primary structural safety needs. In a nuclear substance processing facility, e.g., the used fuel packaging plant. Pressure boundary is not the key. The key aspect of safety is on handling and manipulations of nuclear substance, radiation protection and containment, which is not addressed by N285.</p> <p>Impact: Following N285 to design the SCCs in a Class IB facility may create a significant burden without increasing safety. For example, N285 is structured around the classified process system, e.g., Class 1, 2, 3 and 6. Per the definitions for these classes, most (if not all) process systems in a used fuel packaging plant would be Class 6. Design of Class 6 is referred to CSA B51 which goes to ASME B31. It would be more efficient and logical to identify the design guide commensurate with the need and the appropriate standards without cycling around. REGDOC-1.2.2 provides a flexible and more reasonable framework for the physical design of the facilities. It is better than pointing to N285 (which can be misleading).</p> <p><i>Proposed change:</i> Remove reference to CSA N285 and replace with REGDOC-1.2.2.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	- As previously noted, REGDOCs should set out their requirements as a stand-alone document, not dependent on by-reference-only inclusions.	<p>There are a number of sections/paragraphs in CSA N285 and the ASME codes cited in Appendix A that are applicable to the design and construction of Class IB facilities. For example:</p> <ul style="list-style-type: none"> the materials and material allowable stresses in ASME codes the requirements for welding in ASME codes and the CSA standard the requirements for NDE examination in ASME codes and the CSA standard the processes for classification, registration/registration exemption in CSA N285 <p>If an applicant chooses to follow these applicable requirements in the codes or standards, the CNSC's application review will verify code compliance. Should an applicant decide not to follow the requirements deemed acceptable to the CNSC, they need to provide detailed test data or qualification results to justify their design.</p> <p>The codes/standards referenced in the REGDOC provide guidance, in whole or in part, to help applicants with their license application. Licence applicants are encouraged to engage early with CNSC for clarification of specific topics, as needed. No change was made to the text.</p>
108	CNL, Bruce Power, NB Power, NWMO, OPG	5 Appendix A, Physical design, Structure, system	<p><i>Clarification:</i> Some ASME codes are listed as reference documents. These codes are at the technical detail level and only address some specific applications (i.e., pressure boundary construction). Why aren't other technical codes</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and	- As previously noted, REGDOCs should set out their requirements as a stand-alone document, not	The references in Appendix A are not intended to be exhaustive as some of the applicable guidance documents may depend on the particular characteristics of the site or design of the facility, for example. However, the list of

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		and component design	and standards listed here, such as those governing automation, electric/electronic equipment, lifting equipment, control system, human interface, etc. The calling of references here seems random and lack of focus. It is better to limit the references to high-level requirements and guidance (i.e., REGDOCs, CSA standards) and not to include those at the detail level. <i>Proposed change:</i> Remove all ASME codes from the reference list	Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	dependent on by-reference-only inclusions.	references in Appendix A was revised following public consultation. See also response to comment #107.
109	CNL, Bruce Power, NB Power, NWMO, OPG	5 Appendix A, Waste management, Decommissioning plans	<i>Clarification:</i> Reference list does not include CSA N292.7-22. Clause 14 of N292.7 provides guidance on repository closure. <i>Proposed change:</i> Add CSA N292.7-22 as a reference document.	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	- As previously noted, REGDOCs should set out their requirements as a stand-alone document, not dependent on by-reference-only inclusions.	The Appendix has been updated to include CSA N292.7-22. Also, see response to comment #2.
110	CNL, Bruce Power, NB Power, NWMO, OPG	5 Appendix A, Table 1	<i>Clarification:</i> Unclear whether this list is guidance or requirements? <i>Proposed change:</i> Revise text to confirm the list is for guidance purposes.	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	- We are interested in how CNSC dispositions this comment by industry.	Appendix A includes the key references cited in the body of the REGDOC as well as additional reference material that may be useful in building an application to prepare the site for a DGR. The body of the REGDOC contains the key requirements and points to the most relevant guidance documents.
115	Northwatch	3.10 Emergency and Fire	We support the comments provided by Mississaugas of Scugog Island First Nation. In particular, we support their comments on the role of Indigenous people in decision-making and oversight with respect to nuclear facilities, the importance of addressing potential risks to groundwater, that environmental monitoring should first begin with predicting the effects of site preparation and mitigating certain impacts before they happen and then monitoring for unanticipated impacts, the importance of including mandatory reference to hazards of a malevolent nature, and that the REGDOC use stronger language than “the			See responses to comments #51 and #53.

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			applicant should consider the emergency response to these hazards”, and the requirement of Indigenous consent prior to commencing to any or each licensing stage.			
116	Northwatch	n.a.	Northwatch supports the comments submitted by Dr. Sandy Greer, and in particular those made with respect to Section 3.3 Operating performance, Section 3.4 Safety Analysis, Section 3.5 Physical design, and Section 3.11 Waste Management, and more generally Dr. Greer's observations with respect to the overly generic and ambiguous and imprecise quality of much of the draft regulatory document.			See responses to comments #47-50.
117	Northwatch	n.a.	<p>Northwatch was one of several civil society and environmental non- governmental organizations who collaborated to prepare feedback on the comments submitted collectively by the Nuclear Waste Management Organization, Bruce Power, Ontario Power Generation, New Brunswick Power and Canadian Nuclear Laboratories on draft Regulatory Document 1.2.3 - Licence Application Guide: Licence to Prepare Site for a Deep Geological Repository (DGR). The outcome of that review is set out in the table attached to this letter. The following points are summary only; please see the table for a more detailed outline of feedback on the comments submitted by the NWMO and others in the nuclear industry.</p> <p>Northwatch agrees with the nuclear industry's observation that there are inconsistencies between REGDOC and CSA standards, that the lack of knowledge about future sources and pathways for emissions and releases is highly problematic, that some of the language throughout the REGDOC is ambiguous and this should be rectified</p> <p>We also agree with industry that it will be “difficult to fully prove the site will remain good for the full lifecycle due to the large uncertainties associated with the time frame”; this is a fundamental issue with the DGR approach to radioactive waste management.</p> <p>Northwatch disagrees with the following points contained in the nuclear industry's joint submission:</p> <ol style="list-style-type: none"> 1 That a DGR is less complex than a nuclear power plant and so therefore the licencing process should be less complex and less costly 2 That “Decommissioning of surface facilities... does not necessarily affect the post-closure safety or performance” 	You		The CNSC has reviewed all the comments received during the public consultation period and thanks all commenters for their input. The REGDOC document has been revised in response to applicable comments related to the scope of the document.

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			<p>3 The industry suggestion that the Design Line be continued through operations; this could open the door to a proponent filing an incomplete application with design relegated to a "to be determined" status- As with the redundancy comment with respect to s 3.1 (i.e. industry's previous comment) we disagree, and note that industry provided no supporting argument for this comment.</p> <p>While it is a significant flaw in the overall system that there is no oversight or regulatory requirements during the site selection stage, the industry suggestion that anything that happened in the site selection period is out of bounds for the license to prepare the site application process should be fully rejected</p>			

2 Comments outside the CNSC's mandate or saved for future consideration

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1.	Alexandra Franche	0 General	<p>I am against deep ground repositories for multiple reasons after listening to many presentations on the topic.</p> <p>-There is currently no safe way of containing nuclear waste in the ground forever and anywhere in the world and no DGR anywhere yet.</p> <p>-Canada should not plan to bury the nuclear waste and forget about it (a repository). Sweden has been designing one for the past 40 years but even they have apprehensions so they would make the waste retrievable and they would be monitoring it to mitigate the risks, though it's very costly.</p> <p>-The containers are subject to humidity and heat underground which is a problem and the current material in which they are encapsulated is corroding and deteriorating and there needs to be a plan to make sure that material is regularly monitored in order to replace it. There needs to be proper funding in order to do that and a plan to do so down the line regardless of future elected political parties.</p> <p>-The US tried to use the Yucca mountain as a repository to contain their nuclear waste and their design failed because of the water, the porous surfaces, and the containers for instance. The volcanic/seismic activity was known but the project went ahead... and it was part of why it was so problematic. We would want better assurances about the long term safety of the operation in the selected sites.</p> <p>-I am also against it because it should not be a matter of strictly allowing the municipality in which it will be buried in to vote. The land is on unceded Native territory to begin with and communities should have full informed prior consent and it shouldn't just be limited to the town that will host the mounds of nuclear waste, the waste will travel through numerous towns and cities, using provincial roads and highways that belong to all Ontarians and Canadians.</p>			<p>The CNSC is responsible for licensing certain activities as set out by the NSCA, which includes site preparation for nuclear waste facilities, such as a DGR. REGDOC-1.2.3 lays out the requirements any applicant would have to meet <u>before</u> the CNSC could issue a licence to prepare the site for a DGR. Any matters relating to suitability of the site, facility design, type of waste stored, means of containment and so on are first proposed by the applicant and then assessed by the CNSC against Canada's legal requirements, which are further clarified in our REGDOCs. REGDOC-1.2.3 was written by CNSC experts who reference the work of their international peers on the best practices for effective nuclear waste management. No change was made.</p>
2.	Alexandra Franche	0 General	<p>-There should be a clear set of rules that potential licensees must meet to secure a license; not just for deep geological repositories, but for all nuclear projects. The rules must require a vigorous review of nuclear projects.</p>			<p>Canada's energy policies, including those related to the use of nuclear power, are set by Natural Resources Canada. The role of regulatory oversight of the nuclear industry falls to the CNSC, as set out in the Nuclear Safety and Control Act and its regulations.</p>

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			<p>-The nuclear industry is the operator of such nuclear projects and they themselves should not be regulators, a truly independent agency should be appointed. AND WE MUST STOP PRODUCING NUCLEAR WASTE. NOW. It is not clean energy. It is toxic, dangerous, and costly. We already have more waste than we can handle.</p>			<p>As part of CNSC's regulatory framework, CNSC staff issue guidance in the form of licence application guides, which map out existing requirements from Canadian acts and regulations, relevant guidance documents and technical standards that inform the application process. Each guide is designed to outline the CNSC's expectations for a licensed facility or activity, which can vary widely given the range of regulated entities overseen by CNSC staff. Any application submitted is subject to a thorough review process, which often includes public scrutiny at Commission hearings, before a licensing decision is made.</p> <p>No change was made in response to this comment.</p>
3.	<p>Bill Noll Vice Chair Protect our Waterways No Nuclear Waste (POW)</p>	1 Introduction	<p>In your introduction of the document, you specify that a DGR is a facility where radioactive waste is placed in a deep, stable, geological formation.</p> <p>This is a misleading statement as there is no actual tests that have been completed at either of the proposed sites that can support the conclusion that the rock will remain stable once the rock has been disturbed by the construction activities of blasting in the creation of the DGR.</p> <p>Also in your introduction a claim has been made that the facility is engineered to isolate and contain radioactive waste to provide the long term isolation of nuclear substances from the biosphere.</p> <p>How can such a claim be made for these specific sites under consideration when no actual testing has been completed at the site to determine if this is a fact? To date this has only been a claim made by the proponents of the DGR solution with no actual real live experience to substantiate this claim.</p> <p>In fact, the proponent of the DGR in these sites has stated that until the DGR is constructed there is no real specific data to provide at this time and that that this information regarding safety of the facility will only be available once the Federal regulatory bodies (CNSC and the Impact Assessment agency) have completed their reviews.</p> <p>In addition, the proponent of the DGR has stated that there will be releases of radioactive substances into the</p>	Northwatch	<p>Northwatch supports the comments submitted by Protect our Waterways - No Nuclear Waste (POW), particularly with respect to the importance of factual and unbiased information, proposed the contradictions in the draft REGDOC between stating that a safety case for the site preparation of the project will be available when site preparation will take place in advance of the site characterization that will be required to support the safety case, the importance of including ancillary activities and impacts (noise, dust, traffic, etc.), and of underground water systems and aquifers and of surrounding land uses and users.</p>	<p>The introduction of the REGDOC defines key concepts used within the document, which are not claims or statements, but rather explanations of terminology as it is widely understood and accepted in the scientific literature. REGDOC-1.2.3 outlines how an application for a DGR license to prepare site will be assessed against Canada's legal requirements to protect the health, safety and security of people and the environment.</p> <p>The CNSC requires an applicant to develop a post-closure safety case, which is updated and verified for accuracy throughout the lifecycle of a DGR facility, and to provide an assessment of site suitability, for example, as part of the licensing expectations for site preparation. The licensing requirements are found in section 3 and 4 of the document. No change was made.</p>

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			<p>biosphere through the ventilation staffs, elevator staff, the above ground repacking facility and excavation of rock will cause releases of radioactive radon gasses. The proponent also claims that all of the radioactive releases will be within the limits specified by the regulatory bodies.</p> <p>The proposed document also states that a safety case for the site preparation of the project will be available. How is this possible when there is no specific site testing been completed to determine the parameters that defines the system or sets the conditions of operating a DGR?</p> <p>The potential site in South Bruce, has neighbouring farms and homes within 100 meters of the proposed creation of a DGR and the above ground repacking facility. Will the review consider the construction activities associated with creating a DGR including items such as heavy equipment operating hourly, blasting occurring frequently, noise being created by the constant backing up of vehicles, disruption to local traffic by heavy vehicles on the roads leading to the facility, dust created in the environment surrounding the site, and releases of radon gasses from the excavated rock that maybe on site.</p> <p>Do not understand that without a full evaluation of the completed structure for a DGR and testing, you can determine the site is suitable for a facility's full life cycle.</p> <p>Two other major component of the site selection plan have been ignored in your introduction namely the repacking facility that uses hot cells in its operation and the rock pile plans for the excavated rock pile which is assumed to be 15 meters high and cover an area of 65 acres.</p> <p>The NWMO implementation of a DGR is still under design review and changing and most importantly significantly different design than any DGR in the world.</p> <p>The major differences being the type of rock in South Bruce, the transport of the spent fuel from the reactor sites, the repacking facility is unlike any in the world requiring hotcells to protect the workers, the container design, the actual spent fuel itself, elevators versus ramp for transporting the spent fuel to the DGR, and the placement of the spent fuel bundles in the cavity.</p>			

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			<p>The other factors of concern are environmental issues. The site in South Bruce has a major river running in the middle of the site, the site is rich with aquifers supplying the drinking water for the community of South Bruce, with all the noise during construction the wild life in the area will be impacted, and the quality of life for those that live in the adjacent property will be severely impacted.</p> <p>No longer can we rely on history to determine how the change in our climate will effect our weather conditions. We can only expect the weather to be more intense than previous years and given the South Bruce site has a major river within the site and we have ponds being constructed there is a high probability flooding will occur and the chance for the river to become polluted from not only the ponds but the excavated rock as well</p> <p>Given all the issues I see with the structure of the document, I find the intent of the site preparation document totally inadequate to determine if a site preparation should be licenced. There are way too many omissions in the introduction to make that determination.</p>			
4.	<p>Charles Rhodes, P.Eng., Ph.D.</p> <p>Xylene Power Ltd.</p>	0 General	<p>I am totally opposed to licensing of a DGR as envisaged by the NWMO.</p> <p>Climate change is primarily due to the rising atmospheric CO2 concentration. Today, in 2023, stopping further rise in the atmospheric CO2 concentration would require about 21,000 GWt of new dependable and sustainable clean (non-fossil) thermal power to meet the total thermal load presently met by combustion of fossil fuels. Due to increasing electrification in developing countries, by 2070 this total thermal load will likely rise to about 40,000 GWt.</p> <p>Intermittent renewable electricity generation cannot supply dependable power and, due to electricity dispatch constraints, can only economically provide about 25% of the required clean energy. Meeting the anticipated 2070 total thermal load with dependable power and clean energy will require both maximum economic renewable energy generation and a fleet of about: 30,000 X 300 MWe Small Modular Reactors (SMRs), each of which must have a sustainable fuel cycle.</p>			See response to comment #114.

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			<p>Based on a projected Canadian population of 60,000,000 in 2070, Canada's share of these reactors will be about 450 X 300 MWe SMRs.</p> <p>In spite of ample evidence of relatively rapid climate change, elected governments with short time horizons continue to delay deployment of nuclear power plants with sustainable fuel cycles. The consequences of this deployment procrastination will be dire.</p> <p>There is simply not enough minable natural uranium to provide sustainable displacement of fossil fuels using water moderated reactors. Sustainable displacement of fossil fuels requires fuel breeding fast neutron reactors (FNRs). The start fuel for a sustainable nuclear fuel cycle is best obtained by separating the TRans Uranium actinides (TRU) from used water moderated reactor fuel. However, such separation is physically impossible if the used water moderated reactor fuel is placed in a DGR.</p> <p>The DGR should be totally replaced by used CANDU fuel reprocessing as described at</p> <p>www.xylenepower.com/Ottensmeyer%20Plan.htm.</p> <p>Interim storage of fission products and other radioactive material pending future use and reprocessing is best done using a facility such as Jersey Emerald, as described at:</p> <p>www.xylenepower.com/Jersey%20Emerald.htm.</p> <p>A major feature of Jersey Emerald is permanent accessibility above the water table for future inspection/container repair.</p>			
5.	Dr. Sandy Greer	1.3 Relevant legislation	<p>My final concern to document in this submission relates to what seems to be an open-ended question - lacking in any full transparency from either the NWMO in what it communicates, or from the CNSC as per this draft guide - about what types of radioactive waste in future could end up in the currently proposed DGR (given the development of small modular nuclear reactors and related versions), and from what geographic origins, namely, outside of Canada.</p> <p>Itemized under the Nuclear Safety and Control Act is section 26, which begins:</p>			<p>There will not be any activities related to the management of radioactive waste, including imports, during the site preparation phase, therefore no change was made.</p>

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			<p><i>"Subject to the regulations, no person shall, except in accordance with a licence,</i></p> <p>(a) <i>possess, transfer, import, export, use or abandon a nuclear substance, prescribed equipment or prescribed information;</i></p> <p>(b) <i>mine, produce, refine, convert, enrich, process, reprocess, package,</i></p> <p>(c) <i>transport, manage, store or dispose of a nuclear substance;</i></p> <p>(d) <i>produce or service prescribed equipment; ...</i></p> <p>Also, section 3 is itemized, under the Nuclear Non-Proliferation Import and Export Control Regulations (NNPIECR). Section 3 is titled Application for Licence to Import or Export.</p> <p>My question is, why are the above specific pieces of legislation included in the CNSC draft guide for 'Site Preparation'? Much more transparency is needed in the final guide, because the NWMO for a long time communicated that only Canadian-produced high level radioactive waste will be buried in a future DGR. Nor is there full transparency that various types of waste will end up in it too. Most recently, the NWMO has distributed a public announcement dated May 16, 2023 titled U.S. DOE and Canada's NWMO sign joint Statement of Intent to Cooperate on Used Nuclear Fuel Management.</p> <p>Obviously, the identification of Section 3 in the NNPIECR leaves the door wide open to allow not only information to be exchanged across binational boundaries, even if that is the original intention of the Joint Statement. The latter is all about public relations and the hubris of the NWMO boasting about its international community in which it feels so important.</p> <p>The tone of this piece of PR, however, clearly communicates the determination of NWMO to have its way in the successful deep burial of radioactive waste. I have no polite words for its aggressive and manipulated pursuit of a so-called "consent-based siting process," and pray that somehow it will be stopped.</p>			
6.	Gracia Janes Environment Convenor Provincial Council of	0 General	<p>Comments on the GCNSC draft guide for proponents in preparing the "license to prepare the site" for a proposed deep geological repository, i.e. REGDOC 1.2.3.</p> <p>As it relates to the Nuclear Waste Management Organization's selection of one of two proposed sites at South Bruce and somewhere in between Ignace and</p>	Northwatch	Northwatch supports the comments submitted by the Provincial Council of Women, including their flagging of issues with computer-modelling and vague premises	A DGR applicant would have to obtain a favourable impact assessment before any CNSC licensing decision could be made. No change was made.

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	Women of Ontario		<p>Dryden, for burial and abandonment of all of Canada's high level nuclear waste, the Provincial Council of Women of Ontario strongly supports the view of other organizations and individual experts, that there should be a very strong set of rules in place before licenses to prepare any chosen site for a proposed deep geological repository are applied for.</p> <p>PCWO were intervenors at the Ontario Power authority Power Generation Project #17529 OPG/Bruce hearing from 2013 and 2014, regarding the deep burial of low and intermediate nuclear waste, where the Environmental Assessment and the site preparation were dealt with together on a rushed basis, and had many flaws.</p> <p>Examples of the flaws cited by PCWO, were the:</p> <ul style="list-style-type: none"> ☐ use of computer-modelled and vague premises and methods e.g. the overall, "investigate -as-you proceed" observational method (used in mining operations) to start and guide the building of the repository. ☐ lack of attention to warnings of the EA Panel's expert technical information re fissures/fractures and evidence of flow through from base of planned repository to surface and only 1of 6 cores being used was even close to the planned site ☐ (as per CNSC's critique of the current OPG background) lack of detail of the broad comparative geographic location. ☐ surficial attention to environmental, health, safety and social factors. <p>Finally, the Provincial Council of Women (PCWO) believes that it is extremely important that the long term safety of this, the first deep geological repository in Canada, site which will have to hold an enormous amount of high level nuclear waste, be secured through a strong the environmental impact assessment process under the Impact Assessment Act, and only then should a site preparation permit be applied for.</p>		and methods such as "investigate -as- you proceed" observational method and the importance of having a thorough and complete impact assessment process completed in advance of the licensing process commence (i.e. before the license to prepare the site).	
19.	Northwatch	1 Introduction	<p>This section directly states that the application for a licence to prepare site and its referenced documents will "provides the safety case", albeit with the qualifying language that this is "for the site preparation phase of the project"; this is a critical point: to provide the safety case, the project must have moved for "reference case" to a</p>			See response to comment #2.

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			detailed proposal, and there is no indication that the NWMO will have a developed proposal by 2024 and certainly Ontario Power Generation did not have a complete proposal even at the point of being in the public hearing on their license applications for site preparation and construction; we strongly agree that a licensee must be required to provide a detailed safety case for their proposed project and that the supporting technical work must be available for examination by intervenors, but we are unconvinced that this will be the case			
20.	Northwatch	1 Introduction	This section directly states that it will be required that the application for a licence to prepare site ‘demonstrates that any technologies under consideration for the site will be able to withstand the conditions imposed on the facility by the site and its surroundings’ and ‘demonstrates that the site is suitable for a facility’s full lifecycle’; similar to the provision of the safety case, this is a critical point, and we strongly agree that these demonstrations must be delivered as part of the application for the License to prepare the site, but to do so the project must have moved from ‘reference case’ to a detailed proposal, and there is no indication that the NWMO will have a developed proposal by 2024 or 2025 (the variously estimated dates for application submission); we strongly agree that a licensee must be required to provide this detailed information but note that meeting the requirement is unlikely to be achieved within the CNSC’s estimated time frames			See response to comment #2.
29.	CNL, Bruce Power, NB Power, NWMO, OPG	0 General	<p><i>Clarification:</i> Draft timelines should be developed within the REGDOC 1.2 series. It is understood that such a project and licencing phase(s) will take considerable time, but these timelines should be recognized in the regulatory framework for use in the business case development and to raise awareness for an organization preparing to make an application.</p> <p><i>Proposed change:</i> Consider consulting with NRCan and the mining industry.</p>	Canadian Environmental Law Association, Concerned Citizens of Renfrew County and Area, Northwatch, Nuclear Waste Watch, Protect Our Waterways – No Nuclear Waste, Sierra Club of Canada Foundation, We the Nuclear Free North	<p>- We agree that there should be a clear setting out of timelines and intersects between the various activities which are subject of REGDOC 1.2 series</p> <p>- The use of this timeline for ‘business case development’ is unclear; does the industry anticipate multiple applicants, including private sector proponents?</p> <p>- We reject the suggestion that the CNSC should specifically consult with NRCan and the mining industry on this point; the process for developing the</p>	<p>The timelines for reviewing a licence to prepare site for a DGR are outlined in section. 8.2 of the <i>Class I Nuclear Facilities Regulations</i>. Guidance on these timelines is available in section 8 and Appendix B of REGDOC-3.5.1, <i>Licensing Process for Class I Nuclear Facilities and Uranium Mines and Mills</i>.</p> <p>With many decades of experience regulating the uranium mining industry, CNSC’s in-house expertise may be helpful for proponents wishing to engage early and seek clarity on regulatory expectations associated with a given activity. No change was made.</p>

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					REGDOCs should be open and transparent, and if NRCan and/or the mining industry are to contribute to it, they should do so through the same avenue as the public, Indigenous peoples, and the nuclear industry; if input is provided outside of this current process it should be posted in the same manner as the comments received as part of this process	
44.	Alexandra Franche	3.5	-What is the design of the DGR? It feels like the design was not presented at the first stages of the approval process for the people to get a clear idea of what is to be expected while giving consent and determining what is considered safe. Will there be a chimney to allow an airflow? Will that allow nuclear particles to escapes into the surrounding air if some are released into the repository? It contaminates the air, the earth, the water, the food chain... us.			See response to comment #46.
45.	Alexandra Franche	3.9 Environmental protection	-By having deep ground repositories for our nuclear waste we have no way of ensuring that our underwater sources of water are not contaminated in years to come. Ontario has a network of complex groundwater tables and aquifer that feeds into our lakes and rivers. We have the world's largest source of fresh water and we are about to carelessly contaminate it for our generation and all future ones to come. We need to safeguard water.			See response to comment #52.
46.	Alexandra Franche	2.1 Overview of site prep	-The sites that have been selected for DGRs are quite a distance away from the nuclear centrals and the nuclear waste will travels kilometres and kilometres by trucks right next to our homes, our families in our cars, lakes and rivers, schools, agricultural fields, forests and everything else we hold dear and pay for through our taxes and hard-earned money. If anything should happen, and it's a question of time before it will, the taxpayers will be left with the bill of the cleanup and consequences to their health, lives, economy and environment to name a few. It is dangerous. We should leave nuclear waste closer to where it is produced, but further away from the great lakes and our fresh drinking water in an above ground facility that is reinforced so that it is protected against flooding/climate impacts and terror attacks.			The NWMO is responsible for safely managing Canada's used nuclear fuel over the long term, which includes finding a site and selecting a facility design that will respect Canada's legal requirements for protecting people and the environment. The CNSC would use the information contained in REGDOC-1.2.3 to assess the NWMO's application to prepare a site for their DGR project. Any comments that relate to the specifics of any DGR application are out of scope for the revision of this REGDOC. No change was made.

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49.	Dr. Sandy Greer	3.3 Operating performance	<p>It is not good enough for the CNSC to make demands on the NWMO to deliver information which it identifies within this section of the draft guide for 'Site Preparation,' and fully allow the NWMO to reach out to communities to determine site selection without telling such communities all of these details prior to site selection.</p> <p>But doing so, in truth, would expose even more so what the NWMO does not yet know nor may ever be able to figure out - and be able to show the evidence.</p> <p>For example, see under Draft 3.3 on PDF page 13, this specific requirement: "outline the strategy that the applicant will take, including development of mitigation measures, upon discovery of additional risks to the health and safety of the public that were not anticipated during the licence application process"</p> <p>Such a request surely is within the realm of conjecture. For starters, even if such mitigation measures were being developed, there absolutely would be no proof that they could be effective. This type of requirement treats the community members who live in proximity of a proposed DGR as if they are fools. Sadly, the actual fools are the municipal councils who see only the money being offered, rather than the sacrifice of clean water pathways and food security for the future generations.</p> <p>Next, under Draft 3.3 on the same page is a more down-to-earth request, to list hazards which include: noise from blasting (etc.); chemical; mechanical from excavation (etc.), dust from overburden and rock removal (etc.), and more. But, a major shortcoming of 'Site Preparation' - related to Site Characterization - appears not to have improved since the previous proposal by Ontario Power Generation, Inc. related to its proposed low-and-intermediate level DGR. Such impact estimations are limited only to the site perimeters, but totally neglect to include the impacts on the wider region in regard - just as one example - the need to transport a huge amount of gravel and sand to construct the DGR shaft as well as the tunnels over a long period of time, with various environmental and social impacts from widening roads, regular traffic of gravel trucks, and related negative impacts upon neighbouring farmlands and the surrounding ecosystems.</p> <p>For the above reason alone - the lack of responsibility and essential safeguarding to the larger region by the proponent, where socially and environmental and negative</p>			<p>Protection of the environment is a paramount concern for the CNSC. The analysis that will have to be undertaken to understand the environmental impact of any facility is just not limited to the facility boundary. Broader environmental concerns are also accounted for. Additionally, the broader socio-economic concerns mentioned are not within the scope of the CNSC however are in the scope of the Impact Assessment Act and said analysis will occur in the Joint Impact Assessment. No change was made.</p>

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			impacts are inevitable, as per the broader land-based way of life which contributes food security (whether farming in midwestern Ontario or wildlife in northern Ontario) - is totally unacceptable. Rural and remote ways of life ought not to be treated as dispensable, nor the natural environment be treated merely as collateral damage. Doing so is unconscionable.			
52.	Mississaugas of Scugog Island First Nation (MSIFN)	3.3 Operating performance	<p><u>Section 3.3</u> of the REGDOC lists risks to the health and safety of the public in the site preparation phase. The list includes noise, chemical, mechanical, electrical, and dust hazards. An applicant is meant to assess possible risks to the health and safety of workers and the public including accidents and malfunctions that could occur during site preparation activities.</p> <p><i>Proposed change:</i> The list of risks to health and safety of the public does not include potential risks to groundwater. Given the depth of a DGR (<500 metres below the ground's surface, NWMO 2021) impacts to groundwater flow and potential contamination should be considered, including groundwater-surface water interactions. Does the CNSC not anticipate impacts to groundwater from the DGR, or does the site preparation stage not include below surface activities?</p>			<p>Given that site preparation stage does not include below surface activities, this comment is out of scope for section 3.3 of REGDOC 1.2.3. However, ensuring that groundwater is protected will be a key part of CNSC staff's evaluation of any DGR facility proposal – and those requirements are identified in REGDOC 1.2.3.</p> <p>The safety case for disposal requires that nuclear waste is both isolated and contained. Multiple lines of evidence are needed to demonstrate both of these functions. This includes extensive information about the site – the geology (rock types, fracture characteristics, and more), hydrogeology – including groundwater characteristics, and it also includes extensive information about engineered barriers.</p> <p>Staff's assessment of information submitted in support of a site preparation licence will include an evaluation of the substantive information required to demonstrate that groundwater and surface water protection is ensured. Key references cited in REGDOC-1.2.3 include REGDOC 2.9.1, REGDOC 2.11.1 volumes 1 and III and REGDOC 1.2.1.</p> <p>No change was made.</p>
55.	Mississaugas of Scugog Island First Nation (MSIFN)	3.1 Management system	<p><u>Section 3.1</u> of the REGDOC lists the requirements for an applicant of a license to have a management system in place meant to outline processes and procedures that have been/will be put in place to protect health, safety, security, and the environment. The management system must have a description of the organizational management structure for the applicant's site preparation work activities, including procurement and ensuring technical knowledge at the staffing level is adequate to meet nuclear safety management needs.</p> <p><i>Proposed change:</i> We recommend including Indigenous procurement and Indigenous education and training</p>			<p>Licence application guides, such as REGDOC-1.2.3, point to existing requirements and guidance in Canada's regulatory environment. The suggestions made are outside of the existing framework, and as such will be saved for future consideration.</p> <p>REGDOC-1.2.3 identifies the following when it comes to procurement (1) and training (2):</p> <ul style="list-style-type: none"> For the licenced activities, the applicant shall meet CSA N286-12 clause 9.5. Provisions for purchasing requirements are specified in clause 9.5.2. It is up to the applicant/licensee to select the suppliers as per requirements in CSA N286-12. <p>Regarding training for licence activities, clause 4.5.2 of N286-12 is a generic clause applicable to all nuclear facilities. As per this</p>

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			<p>relevant to whichever geographical location is chosen within the management system.</p> <p>There is a high probability that wherever a site is selected for the DGR site it will be within the Traditional and/or Treaty Territory of a First Nation in Canada.</p> <p>It is important, and becoming customary, to include Indigenous procurement policies in the early stages of planning for major projects. It is also important that First Nations be properly consulted on a potential DGR, and to do so appropriately the staff of whichever organization is chosen should be adequately trained and educated on Indigenous rights and interests, and best practices for Indigenous procurement.</p>			<p>clause, workers shall be competent and “training shall be systematically developed and implemented so that the required qualification is achieved and maintained.” It is up to the applicant/licensee to establish, document and implement the necessary training to meet the requirements</p>
63.	Northwatch	3 Regulatory requirement and guidance	<p>the subsection on management systems identifies that the applicant's management system must include procedures to control the effectiveness of assessments and engineering activities performed in the different stages of the site evaluation process, including records of all work carried out during site evaluation and characterization, which must include a description of the measures for preservation of the records but fails to identify how these records will be added to the public record and made available to the public for review, scrutiny and considering during various licencing, review, and permitting processes and for the more general purpose of public oversight and community information</p>			<p>See response to comment #64.</p>
64.	Northwatch	3 Regulatory requirement and guidance	<p>the subsection on management systems identifies that the applicant's management system must include documentation on the results of studies, including models and simulations, and investigations in sufficient detail to permit independent review but fails to identify how these records will be added to the public record and made available to the public for review, scrutiny and considering during various licencing, review, and permitting processes and for the more general purpose of public oversight and community information</p>			<p>The records to be produced as a result of studies, including models and simulations, and investigations must be submitted as part of an application to prepare site for a DGR, and would form the licensing basis, as defined in section 6.1.1 of REGDOC-3.5.3. Those documents are needed for CNSC staff to conclude that the applicant is qualified to carry out the licensed activity, and that appropriate provisions are in place to protect the health and safety of Canadians and the environment. The CNSC shares key documents with the public as part of the licensing process, but our current requirements do not obligate applicants to disclose management system documentation to the public. This comment will be saved for future consideration.</p>
111.	Sam Arnold	0 General	<p>Please allow me to voice my concerns about this process and my opposition to the creation of a Deep Geological Repository (DGR) in either designated location under</p>			<p>See response to comments #2 and #52.</p>

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	Sustainable Energy Group		<p>consideration in Ontario. My concerns include the following:</p> <ol style="list-style-type: none"> 1. As Mississaugas of Scugog Island First Nation pointed out, "The list of risks to health and safety of the public does not include potential risks to groundwater." The protection of ground water is essential — especially so to Indigenous people — and must not be contaminated by blasting rock in creating a nuclear tomb 500 meters underground, burying highly radioactive nuclear waste for many thousands of years, and then permanently sealing it. The likelihood of groundwater becoming contaminated by a DGR over time is certain, and probably within only a few hundred years. Copper does corrode and bentonite is not a permanent seal. Neither is rock that is susceptible to geological movement. DGRs are not a reliable or affordable solution. 2. Transporting nuclear waste from New Brunswick, Quebec and Ontario to the DGR site is another highly questionable risk. It is unthinkable to allow this to happen, as both the risk of accidents and the enormous cost involved makes this concept ludicrous. 3. Nuclear waste needs to stay where it is now, near the power plants that produced it. There it can be repackaged most safely and least expensively as required until a proper and affordable solution can be found. The same is true for the medium-level nuclear waste. Most of that waste can be stored with the nuclear reactors when they are decommissioned. 4. Small Modular Nuclear Reactors (SMNRs) are not a solution to the climate emergency that is already getting out of control. This latest nuclear technology is no more than a Hail Mary pass from a desperate dying industry trying to survive. SMNRs are uneconomical and are not needed to meet our energy requirements as they will be too late, too costly, and are likely to fail. Efficiency and renewable energy, especially wind and solar, is where funding needs to go. SMNRs are not now, and never will be, economically competitive with renewable energy, including hydro. 5. As well, nuclear proliferation is an additional risk created by the nuclear industry through the creation of plutonium in reactors. This is truly worrisome and must end before a military or terrorist disaster occurs. The threat of a nuclear war is now the highest it's ever been, 			

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			<p>thanks to Russia, North Korea, Iran, and other countries, including the United States.</p> <p>Finally and importantly, the climate emergency demands immediate and effective action with responsible stewardship. Nuclear has no place in mitigating the climate crisis. This needs to be accepted now, so we can tackle the climate emergency quickly and most effectively</p>			
112.	Gretchen Fitzgerald Sierra Club Foundation	0 General	See edoc 7061878			The purpose of the public consultation is to gather input on the content of REGDOC-1.2.3, which relates to site preparation for a deep geological repository. This submission addresses a specific near surface disposal application and is not applicable to this consultation. No change was made.
113.	Alexandra Franche	0 General	I have not been able to read all submissions, but I agree with comments submitted by: Northwatch, by Bill Noll, Vice Chair of Protect our Waterways No Nuclear Waste (POW), and by Dr. Sandy Greer. We must stop producing nuclear waste and contain the tons we have indefinitely, safely. DGRs as presented are not a viable solution			See response to comment #2.
114.	Northwatch	n.a.	Dr. Rhodes proposes that the notion of a deep geological repository be replaced by used CANDU fuel reprocessing, and that such reprocessing take place at a location in western Canada proposed by Dr. Rhodes. Northwatch's feedback on this is that reprocessing is not a viable alternative to the long term isolation of nuclear waste from the environment (which a DGR is purported to do but is unproven as a means of achieving this) because a) reprocessing increases and diversifies high level nuclear waste, exacerbating the problem rather than solving it, b) reprocessing has additional weapons proliferation risk, c) reprocessing is a technical difficult and environmental contaminating activity, and d) transporting the wastes thousands of kilometres is not environmentally or fiscally responsible. Dr. Rhodes provides little to no comment on the draft regulatory document.			The policies on reprocessing used nuclear fuel falls under the mandate of Natural Resources Canada, which is outlined in the recently released Canada's Policy for Radioactive Waste Management and Decommissioning . No change was made.