

Gordon W. Dalzell,  
Saint John Citizens Coalition for Clean Air  
32 Dorothea Drive, Saint John, NB, E2J 3J1

February 8, 2019

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

To Whom It May Concern:

**SUBJECT:** REG DOC- 1.2.1 Canadian Nuclear Safety Commission (CNSC)  
Class 1 B Facilities: **Guidance on Deep Geological Repository Site  
Characterization, Draft.**

This letter is to provide my comments and questions on both the Draft REGDOC 1.2.2 as well as to provide feedback on the comments sent to CNSC for this draft regulatory document REGDOC – 1.2.1 with February 8, 2019 deadline period.

**Background information of commentator:**

This writer has been following the local nuclear industry over the years specifically the Point Lepreau Nuclear Generating Station (PLNGS). My past involvement has included formal intervenor status at the licencing renewal for this facility (PLNGS).

Additionally, I have participated in the public review of the 2017 Oversight Report of Nuclear Facilities in Canada by making a written submission to the general meeting of the CNSC in October 2018. As well, this writer is co-founder of the Saint John Citizens Coalition for Clean Air an environmental public interest group advocating for clean air in our local and regional area of Saint John, NB.

**SECTION 1- Introduction**

Normally when one reads CNSC regulations that are legally binding it's usually abundantly clear that your regulations are mandatory and, non-discretionary or voluntary in compliance expectations in this Draft REGDO-1.2.1, the title Guidance gives the public the impression that these proposed regulations are just a guide and not a legally binding requirement. It is my understanding that once approved this regulation will set out requirements on Deep Geological Repository site characterization and the regulation should use language that clearly states there are requirements expected.

Again, such language such as “may be used to support the initial Canadian Nuclear Safety Commission (CNSC) licence application (i.e. licence to prepare site and form part of the safety case) is an example. This use of “may” undermines public confidence in the nuclear regulator that has rigorous legally binding strong regulatory oversight in these preparatory nuclear facilities DGR.

I object to the term recommended. It should be clearly stated that site characterization activities are required. These future licensees need to clearly state what they need to do in respect to any preparations for future licence applications.

In Section 1, the Draft Regulation pre-judges the anticipated depth of this deep geological repository DGR that is an engineered facility where radioactive waste is placed in a deep, stable geological formation usually several hundred meters or more below the surface. The guidance should not pre determine specific outcome information until the licence has carried out the required studies data collection identified later in regulatory document. The analogy of the cart before the horse comes to mind.

I fully concur with NB Power’s first comment in respect to this issue of using words such as may that is unclear in terms of CNSC’s requirements expected of licensee’s.

### **SECTION 1.3 Relevant Legislation**

In carefully reviewing this Draft Regulation Document 1.2.2, on overriding limitations presented itself to this writer, namely, the lack of references to public participation, information sharing and engagement that is established within the overarching Canadian legislation.

The Nuclear Safety and Control Act (NSCA) is overseeing Federal legislation. It places high value in public transparency and information sharing. There are several examples where the public may not be privy to the research, data, collation, reports that will be generated as a result of activities on the Deep Geological Repository Site Characterization work. Specifically, in Section 5.2 Data Management Program has a positive aspect in that “these evaluations should be reviewed and verified by independent individuals or groups (e.g. peer review) that are separate from those who initially did the work. That part is positive; however, what is missing is the requirement to have a public record mechanism process available to the public.

For example, in New Brunswick the Public Environment Impact Assessment Registry is available online to permit the public to access all the registration documents, studies generated for a particular project under the review. Even this early stage, a public information sharing process prior to the application for a licence to prepare a site is needed. The Regulatory Document 1.2.2 omits this. The public and interested parties such as Northwatch who identified this omission in their submission recommended a public registry. This writer would fully support Northwatch’s recommendation in that regard. The way this Draft reads, the public’s need to know and to be informed is missing. Reading the Draft Regulatory Document 1.2.2, we the public are shut out at this

stage of the guidance identified on the DGR site characterization preparations and activities by future licence applicants. These future applicants need to be given clear message that by CNSC that you expect them to have a process or mechanism in place to place their preparation activities, data and studies in the public record. This appears to be missing in the current Draft.

I do understand that once a licence application is made, there is a full public disclosure within the public review process. By sharing information in advance of an application progress, it can only contribute to the public interest and desire to be informed especially at this early and important process.

#### **SECTION 1.4- Early Regulatory Involvement**

In respect to the last sentence of the last paragraph "Prior to a formal application being submitted, CNSC staff may also request data results and materials from the site characterization activities in order for example, for the CNSC to conduct independent research". I fully concur as the regulator overseeing a proponent's site characterization work and activities, it is important for the CNSC to have this opportunity to conduct independent research if it sees appropriate or complete enough.

This should be done in an open and transparent manner to ensure that the public's perception of the CNSC remains an independent regulatory body versus being too closed to potential licencees. There is some perception out there that the nuclear industry and its regulatory body are too close in its relationship and interaction. This has to be avoided.

#### **SECTION 5 – Data Acquisition and Verification Activities**

This commenter fully agrees and supports the following statement in this Section: "The licence applicant would demonstrate in their licence application that the results of site characterization activities are accurate, complete, reproducible, traceable and verifiable." Further, such information available in a public access record would demonstrate to the public that both the regulator and the future licence applicant that there is nothing to hide. Having such information available in some kind of public record base would allow those community members and ENGOs and others with specialized technical knowledge and expertise to be able to raise issues or alarms that could enhance the data collected. The public depends on these interested parties and ENGOs with their professional and through analysis of these applications and regulatory developments to analyze the information.

#### **SECTION 5.2**

This writer questions the conditionality of data collected, presented, stored and archived in a suitable standardized controlled fashion with the provision "wherever possible". The regulation should be more definitive such as data will be collected. In reading this Draft Regulatory Document 1.2.1, this writer worries about escape hatch language along with fussy and unclear language that would give the licence applicant too much discretion and leeway as far as I can determine even as this early stage. This needs to be avoided.

#### **5.4 Integration and Interpretation**

The first sentence cites the interpretation of a large number of physical and environmental components that interact with each other to a greater or lesser degree.

In respect to the environmental ones, I did not see referenced to people in particular to the indigenous people or others who interact or will be impacted both in the short term with the research and longer term.

There is an array of the geological environment components including hydrogeological, mineralogical, chemical and mechanical as well as geology and stability of the site including orogeny, seismicity, glaciation, volcanism all with specialized expertise to study a potential site. What is missing are the specialized studies and expert analysis on the potential for human intrusion that is cited in the draft.

There should be specialized studies on the impact on the planet from long term climate change patterns. It is beyond human understanding what the state of the planet and this future site will be ten thousand years from now let alone a hundred thousand years. For examples, could there be another ice age twenty thousand years from now? There needs to be much more data, analysis and expertise applied to this subject.

There are futurists with professional expertise who study and predict what the planet will be like thousands of years from now. Apart from looking at the geological environment to study the low potential for inadvertent future human intrusion, there needs to be other expertise brought forward to assess the possibility that five hundred years from now there may be specialized know how available to access the deep geological repository. These kind of specialized risk analysis studies need to be written into this Regulatory Document 1.2.1 not just focus on geology assuming no intrusion will occur or a very low preferably of such. There should be zero potential inherent future human intrusion in an ideal world but with unknown advances well into the future this may not be realistic. This entire are noted in 3.1 needs very extensive study and another whole set of expertise to assess this potential.

#### **SECTION 3.1.1 Geological Setting**

In my view the statement "The geological characteristic in combination with the engineered barriers and design of the DGR, should indicate that a DGR at the chosen site would remain safe for the entire time period of concern for tens of thousands to millions of years" is unrealistic and impossible to determine with our current level of knowledge, expertise and engineering know how. The regulations should have a basis of realism and not lead the public or licence applicant on an impossible task or totally unrealistic expectations.

In the list under 3.1.1, no reference to asteroid physics analysis with the potential impact of an asteroid striking the earth within 5000 km radius of proposed DGR site. Where is the expertise to study that type of impact in this regulation? There is a lot of scientific expertise and studies that needs to be accessed and reviewed.

Another area that is not covered is the possibility that a future society will have developed the expertise to neutralize and/or remove the radioactive properties of the nuclear waste buried in this DGR. If that is the case, the DRG will be inaccessible and such advanced future technologies will not be able to be applied.

There are various futuristic scenarios that need to be recognized and reflected in the DGR sites characterization Regulatory Document 1.2.1 which appear to be missing in this Draft Regulation.

### **Section 6 – Facilities for Verification and Characteristic Activities**

I agree with the comments on page 12 from Northwatch submission where there is an assumption that the conclusion of site characterization activities will end up with an approval of this DGR by the CNSC. The regulatory language leaves one with this impression. It should not be that way. There appears to be the potential for a lack of impartiality. The purpose is not to assume the sites acceptability because after all the studies and research, it may not be determined a proposed site has not demonstrated the site's feasibility.

I could not agree more with Northwatch's conclusion on the point that the pre application process may lack independence and impartially as the so aptly state in their comments on this document.

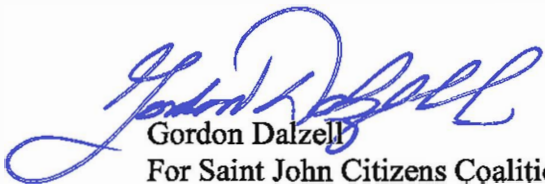
### **Conclusion**

The CNSC is going to have to do much more to facilitate and engage the public and is public review of the important early regulatory developments such as this one. Thankfully, the interventions from Anna Tilmans, Northwatch, Algonquin and Ecowatch have been submitted providing the CNSC with such important feedback on this Regulatory Document. .

The participant funding program needs to be expanded to allow more group and interested parties in the public domain to access their own experts to help them to understand and provide comments on these proposed regulations and other public regulatory reviews.

Thank you for taking my comments under review.

Respectfully submitted,



Gordon Dalzell  
For Saint John Citizens Coalition for Clean Air