

From: Michael Stephens

Sent: Saturday, January 19, 2019 6:07 PM

To: Consultation (CNSC/CCSN)

Subject: REGDOC-1.2.1, Guidance on Deep Geological Repository Site Characterization

Thank you for the opportunity to comment on the comments you received on REGDOC-1.2.1, Guidance on Deep Geological Repository Site Characterization. From 1985 to 1992 I was on the AECL team studying the anticipated performance of a deep geological disposal repository for Canada's nuclear fuel waste. I retired in 2011. The comments you received on REGDOC- 1.2.1 remind me very much of the issues we (i.e. 300 people or so) looked into for fifteen years back then. I think we generated a good, well-supported, workable proposal. The results of our work are on the public record and should be accessible to anyone who wants to see them.

I think the NWMO is following a wise developmental path that incorporates the lessons learned from our experience. It is disheartening to see the same "what-if" questions coming up again as if they haven't been thought about before. I guess that's inevitable for a multi-generational endeavour. I understand that indigenous peoples argue that you should always consider your planned actions in the light of the foreseeable impact on the next seven generations. I agree - but in this case that is only a good start. Fortunately, examples from nature are available that confirm that humans do know enough about how such a disposal system would behave. One is not simply "rolling the dice" in the abstract about the future. That's why you build in resilience and redundancy in your design, and you establish multiple lines of evidence that what you expect to happen in the future is credible.

I think it is a shame we Canadians have wasted 25 years in getting on with the job of putting into place a workable solution to the issue of what to do with our nuclear fuel waste, and with other long-lived radioactive wastes. It doesn't matter whether the Canadian nuclear industry is shut down tomorrow or continues for the indefinite future, we still need to deal with the accumulated waste that exists (in safe storage) now. As far as I know, most of our world-class team in the 1990's that was capable of making it happen has now dispersed. The Scandinavian countries (Sweden, Finland) face a situation much like Canada and are well on the way to putting into place a solution. I have visited their facilities to see for myself. Are there other possible solutions to deep disposal? Yes. Can we guarantee exactly how a repository will behave to the nth degree? – of course not. We don't have to, and we shouldn't let Canada be stopped from advancing due to "paralysis by analysis".

I do find it interesting that several industry bodies submitted exactly the same comments to you. It shows they do talk to one another – but why not just submit one joint letter?

Dr. Michael Stephens

Deep River