Presentation to NWMO

My name is Paul Thompson. I am a resident of Pinawa. I have worked for AECL for over 21 years in the field of nuclear fuel waste management research. I am a professional engineer with a technical background in geotechnical engineering, specifically related to rock mechanics and geotechnical instrumentation. I am presently acting manager of the Underground Research Laboratory. So I am very cognisant of the issues surrounding the management of Canada's used nuclear fuel.

I believe that the original justification for the many years of research AECL has conducted related to a permanent disposal solution still holds true. I believe it is our society's responsibility to ensure that we deal permanently with used nuclear fuel, which has benefited this generation. We should not be placing the burden and cost of dealing with used nuclear fuel on future generations.

One observation I wish to make is that I feel strongly that the original federal environmental assessment review was basically flawed, in that a small vocal minority (with an axe to grind) was allowed to have a non-proportional influence on the process. The review panel came to the conclusion that there was not broad public acceptance of AECL's original disposal concept. For example, the FEARO hearings in Toronto were advertised prominently in the major newspapers, yet very few people bothered to attend to make a presentation. Many of those who did were affiliated with the anti-nuclear movement or had an anti-establishment bias. The millions of Southern Ontarians who did not attend obviously did not feel strongly enough about the issue to give up a few hours of their time. I submit that this shows that the vast majority, by their apathy, showed a broad general acceptance of the disposal concept.

Permanent deep geological disposal has been selected as the method of managing nuclear fuel wastes by several countries, including Finland, which is presently constructing a repository in granite, Sweden, which is siting a repository in granite, and the USA which is presently licensing a repository in volcanic tuff. No countries have selected storage as a permanent method of managing their used nuclear fuel.

In the last several years I personally have been involved in demonstrating that long-term monitoring can be incorporated into a deep geological repository without compromising the safety of the repository. I was lead author on a report to OPG and have published one paper and am presently writing another on this subject. We have put forward a number of ideas that could be used to monitor a deep geological repository, including a phased approach to the permanent closure of the facility, which essentially creates a hybrid deep storage facility that is eventually converted to a permanent disposal facility when future regulators make that decision.

Finally, I would like to make the observation that the cost comparisons of the three options provided by the NWMO, indicate that deep geological disposal is the least expensive option. If one considers that the costs related to the two storage options only relate to the initial 300 years, one realises that the costs of storage over the long-term will

be much higher, will continue indefinitely, and will be paid for by future generations who will have had no benefit from the used fuel whatsoever.

In conclusion, I feel strongly that the NWMO should select deep geological disposal as the recommended method for managing Canada's nuclear fuel waste.

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