

Jim MacNeill, O.C.

15-110 Rideau Terrace • Ottawa K1M 0Z2 CANADA

Tel: 613-749-8681

Fax: 613-749-9186

eMail: jwmacneill@hotmail.com

July 29, 2005

Ms. Elizabeth Dowdeswell
President
Nuclear Waste Management Organization
49 Jackes Avenue, First Floor
Toronto Ontario Canada, M4T 1E2

Dear Liz,

I have now read the draft and I find it comprehensive, well written and clearly presented, although I must admit I found Chapter 18 on Financial Aspects a bit difficult. The analysis of the issues is particularly well done. So is the sequencing of the various steps involved in getting from here to closure via Phases 1 to 3.

At the same time, Liz, remembering our lunch, you will not be surprised to learn that I have a number of reservations about the recommended fourth option, "Adaptive Phased Management."

My major concern is the extended time period you have proposed to complete the fourth option. As I understand it, you propose to take up to 120 years to move from the siting of central facilities (about 30 years for phase 1); to transportation of waste to the central facility (another 30 years for phase 2); to placement of waste in deep geologic repository (another 30-60 years for phase 3). This is followed by an extended monitoring period (up to 180 years) and, finally, the decommissioning and closure of the site (another 25 years) -- for a total time frame of some 325 years.

In my view, proposing that any institution take decisions, the implementation of which are to be phased over time frames extending to the year 2330, is essentially unreal. I submit that all it could possibly mean to average citizens is a proposal for indefinite postponement, relieving them of any need for further concern. And all it will mean to the average living politician, apart perhaps from the opportunity to make a few positive-sounding speeches, is that the issue has been passed neatly on to his successors, relieving him or her of the threat of any political pain.

As we know from the past 35 years since the Hare and Porter reports, the siting of a central repository for high-level wastes is politically the most difficult decision that needs to be taken. That's precisely why it hasn't been taken to date. But it is the key decision that needs to be taken. It opens the door to all of the other decisions. I was pleased you proposed that the siting decision be taken in phase 1, but disappointed to see that phase 1

was to take 30 years.

The Swedes and Finns have been working on this same issue for more or less 15 years, as you know, and they expect to have nuclear repositories in service sometime in the next 15 years, for a total of about 3 decades for the entire process. Why can't we do the same?

Liz, I could easily support the report if you proposed that the three phases (and the decisions required in each of them including the consultations leading up to those decisions) be taken over 3 decades (or less) rather than 30, with the first phase being completed in 1 decade not 3.

I am also concerned about the report's rationale for postponing the site decision for another 20 years. That puts it off for at least another 5 federal governments (assuming an average government life of 4 years) and who knows how many governments of Ontario and Boards and CEOs of OPG.

While the whole report provides an internally coherent rationale for postponing this key decision, the best two paragraph summary of the case for postponement, in my view, is found at the bottom of page 12. When I read them, Liz, I asked myself why a government in 2025 couldn't use the same rationale, almost word for word, to reject a site recommended by the then NWMO and pass the decision on to their successors. Let me know if you disagree. The report says:

“We do not know what technologies may be available to succeeding generations, or what they may choose to do with the wastes that we have generated. We also do not know what the capacity of future generations will be to take an active role in managing this waste. In the light of these uncertainties, our obligation is to give them a real choice and the opportunity to shape their own decisions while at the same time not imposing a burden which future generations may not be able to manage. This means avoiding approaches that are irreversible or overly dependent on strong institutions and embracing those that are precautionary. It means planning conservatively setting aside the financial resources to ensure that future generations will have genuine choice. It means making a commitment to continuous learning today to assist decision making tomorrow.

What we can do is plan for the foreseeable future, act responsibly and confidently with the best science and technology in hand. What we must not do is pretend that we have all the answers for all time. A measure of humility will be essential as we move cautiously but surely one step at a time.”

Yet, just before expressing this timeless case for postponement, the report seems alert to the temptation of postponement and delay. In the preceding paragraph but one, it says: *“We are contemplating designing and licensing a system to last for periods longer than recorded history. Under such considerations, **there could be a tendency to avoid making a decision, particularly since any decision will be controversial and politically complex.**”*

You are right, Liz, and in my experience on this issue, I submit it's more than a “tendency”,

it's a genetic syndrome that goes with elective office, and I fear the above rationale will play directly into the hands of those in office carrying the gene.

Given the report's elegant rationale for delay, good from one generation to the next, we have to ask what in fact will force our leaders finally to take the needed decisions and act. The report seems to suggest that it may take a real or apprehended crisis. In the same paragraph cited above, it says: "*Furthermore, the technology used to store nuclear fuel waste today is safe, adequate and affordable for some period of time **and there appears to be no imminent safety or environmental crisis forcing a decision.***" (My emphasis.)

In other words, the report seems to imply, if we now faced a crisis, our recommended time frame for action would be different. But we are not in a crisis – yet – and so let's be humble, optimistic that the future will provide better answers to many questions, and take our time to discover and learn. We can safely pass on the hard decisions for dealing with our nuclear wastes to our children's leaders, or to theirs. At some point, hopefully, leaders will feel smart enough and confident enough to take the needed decisions. (Or a crisis stemming from our failure to act will force them to do so.)

I am also concerned, Liz, that in proposing that the issue be dealt with over 30 decades rather than 3 (or less), the report turns the principle of inter-generational equity on its head. This principle, I believe, requires that our generation deal fully with the legacy of nuclear wastes we have created. I admit that is now difficult since we have already experienced well over 3 decades of delay. That is all the more reason, however, why we should be proposing to deal with it fully and as soon as reasonably possible. In my view, giving ourselves a pass and proposing that future leaders may take up to 30 decades to arrive at closure, doesn't meet the test of "as soon as reasonably possible." Three decades or less would come a lot closer.

The paragraph on page 12, just after the one cited above, approaches this point but then backs away. It says: "... *this generation of citizens which has enjoyed the benefits of nuclear energy has an obligation **to begin** provision for managing that waste. That is consistent with the polluter pays principle. Waste already exists. This generation does not want to leave as a legacy the burden of providing for and funding the management of the waste we have created. We should not bequeath hazardous wastes to future generations without also giving those generations the capability to manage the waste in a safe and secure way.*"

I would suggest that our generation, which has enjoyed the benefits of the energy generating the waste, has an obligation to do more than "***begin provision for managing that waste.***" We have an obligation to manage the waste, to deal with the entire process, not just a part of the first phase but the second and third as well.

And we have an obligation to pay for it. Anything short of that is not "*consistent with the polluter pays principle,*" contrary to the assertion in the report.

In this regard, however, I was pleased to learn in chapter 18 that in 2002 the three agencies

represented on your Board, i.e., Ontario Power Generation, Hydro Québec, and NB Power Nuclear, as well as Atomic Energy Canada Ltd. (AECL), “... *established an individual trust fund, that is held and managed by an independent third party.*”

This is, in principle, a significant advance. But can it be implemented? I have three concerns.

The first is the time frame over which such a fund is to be held inviolate -- 30 decades. That is as far in the future as Oliver Cromwell, Louis IV, and Charles X are in the past. My confidence in the stability of human institutions doesn't stretch that far. Asking an institution to hold such funds inviolate for three decades or less may be reasonable providing there is complete transparency and strong oversight -- but 30 decades?

The temptation to divert the money to other uses is my second concern. It is almost overwhelming, Liz, as we've learned from funds established not only for this purpose (e.g. by the old Ontario Hydro) but also for other purposes (e.g., Oil Funds, on which I have worked recently).

Finally, the notion of establishing the present value of the estimated costs of waste management at a discount rate of 5.75% “out to 350 years” (page 226), raises a host of legitimate questions that I haven't heard debated since my days in OECD but would love to hear discussed once more.

These and many other concerns could be addressed if you shortened the time frame from today to closure to 3 decades (or less) from 30 and phase 1 to no more than one decade.

Liz, our generation also has an obligation to pay for our share of the decommissioning of the nuclear plants that have provided us with power. I know this does not fall within your terms of reference even though there are a few oblique references to it, as on page 96, where it is said that “*over the long term, the benefit from co-location [of a waste storage facility] at nuclear plant plants, and the opportunity to benefit from shared oversight facilities, ceases once the nuclear plants are decommissioned.*” Decommissioned by whom, when, how and at whose cost? These are not your questions to answer, I know. But the costs of decommissioning will be enormous and energy users should long ago have been contributing to an inviolate fund to cover these costs. Is anyone looking at this? I see that the Canadian Nuclear Safety Commission is having its difficulties trying to arrange for the decommissioning of AECL's seven small research reactors and labs at Chalk River.¹ Is this a test run foreshadowing similar trouble ahead on our large

¹ Ottawa, July 19, 2005. Peter Calamai, Science Correspondent for the Toronto Star, reports that the Canadian Nuclear Safety Commission has requested more detailed estimates of how much it will cost to decommission the seven small research reactors and dozens of labs operated by Atomic Energy of Canada Ltd. at Chalk River, Ont. At a public hearing in May, AECL officials said they would seek \$300 million from the federal government for immediate clean-up over five years. But over the next 100 years, the minimum bill will be \$2 billion. Moreover, the federal authorities guaranteed the liabilities of AECL, a Crown corporation. The Commission, however, says that this isn't good enough and has given the AECL to the end of the year to come up with a detailed decommissioning plan and estimates of the cost of cleaning up the facility, opened in 1944. The President of the Commission, Linda Keen, said that “We

reactors?

These are all huge, complex and difficult issues, Liz, and I want to congratulate you again on your comprehensive and thoughtful treatment of them. If you would now propose that this generation take full responsibility for the management of the wastes created by the nuclear industry on its behalf, and reduce the time frame for “Adaptive Phased Management” to 3 decades (or less) from 30, I would be glad to endorse it.

Yours sincerely,

A handwritten signature in black ink, appearing to be 'Jim', written in a cursive style.

P.S.: I finished the above night before last, Liz, and was going to send it the next morning. When the morning's Citizen appeared, however, it headlined a story that OPG has entered into a "hosting agreement" with several communities around the Bruce Nuclear station in which it will pay them some \$35.7 million over the next 30 years in exchange for their support for OPG's plan to store low- and intermediate-level nuclear waste in a deep rock geologic repository at the Bruce plant in Kincardine.

According to the report, OPG plans an environmental assessment between 2007 and 2010. It would be followed by CNSC licensing; construction would begin in 2013; and waste would start to be placed in the caverns in 2017.

Like everyone else I presume, except those on the inside, I didn't know this was coming, but I wasn't especially surprised by the manner in which it was done. I waited to see the response from OPG but, if given, it wasn't in any report I could find. Rather than wait any longer, I am sending this along.

One must presume that OPG is satisfied that this site is technically sound and environmentally safe? Locating a repository, even one for low and intermediate-level wastes, on the shores of the Great Lakes will raise a lot of questions for which there will have to be fool-proof answers. This will come out in an environmental assessment, of course, but it would be nice to know what studies OPG undertook before entering into a “hosting agreement” and what are yet proposed. It is an international waterway and I wonder if at some point the U.S. authorities will have to be consulted? And whether there will be a reference to the IJC?

If it entered into a “hosting agreement” without undertaking a fairly comprehensive

need somebody to say that they accept this liability seriously ...” **At the May hearing she said that getting the government to pay for cleaning up the site was an uphill battle politically. "People don't like to spend money on waste. It doesn't generate revenues. It doesn't offer an opportunity for a lot of profile and launching of new ideas," she said.**

assessment of the proposed site, OPG's action would make a mockery of your view that "... *decisions on locating a [waste management] facility will be made on site specific characteristics.*" (page 23). You are right, of course, but I have always thought that a site would be chosen initially on political grounds, especially the existence of a community willing to accept the waste. I've never thought such a community would be easy to find even for low and intermediate-level waste, and I don't think it will be easy to find for high-level waste. The Bruce communities, of course, have a vested interest in the future of nuclear power and it will have no future if our generation proves politically incapable of dealing responsibly with all the waste.

It will be interesting to follow this story now that it is in the public domain and see how it emerges.

Good luck.

A handwritten signature in black ink, appearing to be the name "Jim". The signature is written in a cursive style with a large, sweeping initial letter.