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Panel Secretariat, Darlington New Nuclear Power Plant Project Joint Review Panel
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Attention Panel Secretariat:

Environment North is a non-profit charitable organisation formed in 1972 and based in Thunder Bay, Ontario. We strive to improve and protect the ecological sustainability and socio-economic well being of Northwestern Ontario. Our actions and activities revolve around respect and shared responsibility for air, water and land, the essentials of all life.

Environment North is opposed to the construction of new nuclear reactors at Darlington.

We have a long history of involvement in the nuclear waste issue. Members were instrumental in organizing opposition to a technically flawed nuclear waste disposal scheme during the late 1970s. Members submitted letters and presented at the Seaborn Panel in the early 1990's. Members were involved with People for Nuclear Responsibility which provided public education sessions and requested the following question on a Thunder Bay plebiscite in 1997: "Are you in favour of a nuclear waste disposal site in the Thunder Bay area?" The response was overwhelmingly "NO".

Last year Environment North invited Dr. Gordon Edwards and Robert Del Tredici to present "Ontario's Nuclear Legacy" at our Annual General Meeting. As you are likely aware Dr. Edwards has been opposed to nuclear energy for decades and is founder and current president of "Canadian Coalitiion for Nuclear Responsibility".

There are grave problems in nearly every policy level and at every stage of the nuclear energy fuel cycle. At this time we will highlight two aspects which are of most concern to Environment North: nuclear waste and economics.

Nuclear Waste: The construction of two new nuclear power plants result in the creation of more nuclear waste over the next 40-50 years for which there is no proven disposal solution.

In 1995 the independent Scientific Review Group (SRG) chaired by Dr. Raymond Price submitted their analysis of the Environmental Impact Statement on Atomic Energy of Canada Limited's (AECL) Concept for the Disposal of Canada's Nuclear Fuel Waste. The concept was geological disposal in plutonic rock. The SRG report listed almost 100 critical deficiencies in the AECL disposal concept.

Clearly the nuclear industry was not ready at that time to proceed with a disposal facility.

In October 2007 the NWMO Technical Review Group (TRG) released a report entitled the Status of Understanding of Used Fuel Container Corrosion - Summary of Current Knowledge and Gap Analysis. It outlines many areas where knowledge is not sufficient and areas where further research is required.

Disposal in the ground requires isolation of the waste from the environment for 100,000, perhaps up to 250,000 years. The primary barrier is the disposal container. Many of you may be aware that scientists at the Swedish Royal Institute of Technology released a paper last year saying that the 5 cm thick copper canisters proposed for Sweden's waste site may not be sufficient and in the worst case scenario last only 1,000 years before leaking. This research requires further evaluation but it has frequently been demonstrated that containment cannot be sufficiently guaranteed.

A perfect container is likely impossible. However, at some point a decision may be made be that a container is safe enough. In order to trust such a decision the public would rely upon on the judgment of an independent group of technical experts.

Environment North appreciated the careful analysis of the SRG and the Seaborn Panel in their assessment of AECL disposal concept. Both groups were independent of the nuclear industry. The Seaborn panel was appointed by the Federal Minister of Energy and the SRG was appointed by the Seaborn panel. There were 15 members of the SRG and most were not directly involved in the nuclear industry. This is in sharp contrast to the current TRG. There are four individuals in this group and their careers have largely been spent within the nuclear industry and they have been appointed by the Nuclear Waste Management Organisation whose board is turn appointed by members of the nuclear power industry in Canada. While Environment North recognizes the expertise of the TRG and their valuable contribution, the TRG cannot provide a truly independent perspective.

Some who are against a disposal concept, support a rolling stewardship where each generation has the responsibility to safely oversee the waste. It is currently technically possible to safely store the waste above ground with careful monitoring. There is no urgent need to transport the waste and store it in the ground.

Truly, there is no ideal solution. Both geological storage and rolling stewardship have associated risks and place a burden on future generations. There should be an end to the production of more nuclear waste as soon as feasible and no construction of more nuclear power plants.

Economics: The estimated cost of construction is $36 billion. Historical cost overruns would suggest that we could multiply this amount by four. These funds could be invested in efficiencies, renewables, conservation incentives, retrofits, etc. We would have more sustainable energy sources, less toxic waste, more economic activity and more jobs created.

Environment North suggests that the Ontario government undertake a cost analysis between different energy sources in which the cost of the full fuel cycle, all subsidies, all external costs, and risks are incorporated. We do not believe that nuclear energy would fare favourably in such a comparison.

Regrettably, the nuclear industry and branches of the Ontario and Federal governments continue to promote this form of energy - despite the contaminated mining and refining sites, despite the safety risks, the Tritium releases, the security/terrorism risk and the generation of nuclear waste and financial costs as discussed briefly above.

Climate change is of course the main reason nuclear energy is experiencing a potential renaissance. The nuclear energy fuel cycle produces less carbon than electricity derived from coal or from natural gas. But it is by far greenhouse gas emission free as carbon is released in mining, refining, construction of power plants and the construction of storage facilities. More importantly wind, solar, hydro, biomass, efficiencies and conservation produce less or a similar amount carbon – but without the radioactive waste and without the risks and without the costs.

The construction of new nuclear power plants is very carbon intensive primarily as a result of the large quantities of concrete and steel that are required. Thus the project will create a “carbon debt” for a decade or two until many years of electricity production has occurred. These next two decades are a critical time when carbon production urgently needs to be decreased.

It is a puzzle as to why some continue to accept nuclear energy. Perhaps they remain loyal to this admittedly human technological achievement, perhaps the creation of the toxic waste and the level of risk is in their minds acceptable, perhaps there is resistance to move to a decentralised and alternative energy mix scenario which includes many changes in government and society or perhaps they believe an alternative is just not possible.

Many organisations have put forward plans for electricity generation in Ontario that do not involve nuclear energy. For example the Ontario Clean Air Alliance, the David Suzuki Foundation and the Pembina Institute. These plans would likely require refinements but they show that it is possible to consider a future without nuclear energy production. A case could be made for the refurbishment of some of existing nuclear facilities in order to “buy some time” while other alternative energy resources are developed however, we do not do not feel that constructing new nuclear facilities is a wise decision for Ontario.

We thank you for this opportunity to comment.

Kerstin Muth
Member of Environment North