

Submission on

NWMO BACKGROUND PAPERS

1. GUIDING CONCEPTS

1-1 SUSTAINABLE DEVELOPMENT AND NUCLEAR WASTE

David Runnalls

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and

Commissioned Commentary by Robert Morrison

by

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Mr. Runnalls discussion of sustainable development seems considerably conflicted. The basis for conflict seems clear.

On one hand he notes that nuclear energy has much to offer. He points out it produces little or no air pollution and does not contribute significantly to climate change. He suggests that to equitably evaluate its role in sustainable development some kind of balanced consideration of its benefits and costs with respect to humans, their economy, and ecosystems needs to be undertaken.

On the other hand the scope of the NWMO study is very narrow. It is focused on developing recommendations to deal with used nuclear fuel already produced in Canada. Consideration of the overall benefits of nuclear technology and energy to society is outside the scope of the NWMO mandate. Thus Mr. Runnall's final recommendations with respect to used fuel management and sustainable development focus on the local issues associated with the development of facilities.

Mr. Runnalls has missed an important aspect of the role of energy in sustainable development. Human use of energy is the very basis for the tremendous development and growth of human society over the past couple of centuries. Mr. Runnalls leaps to a conclusion that energy use should be reduced as he apparently assumes that its use is inevitably linked to environmental harm. This is not necessarily so. Energy is needed to support humans and ecosystems. As humans devise means to use energy with lowered environmental impact, it follows that even greater energy use is consistent with and very possibly necessary to the goals of sustainable development. Energy from nuclear fission poses one means of supporting humans and the ecosystems to which they are so intimately connected. Coming to grips with the management of used nuclear fuel is a necessary part of realizing the benefits. Dr. Morrison in his cogent commentary points out the benefits of nuclear energy relative to fossil sources, but does not explicitly point out the strong linkage between energy and the development of human institutions. I think

most tend to take the benefits of energy for granted. I apologize to those who don't for this long reminder.

One beauty of the sustainable development concept is its flexibility. It provides a broad framework to guide human endeavor to consistency with its laudable precepts. Several years ago, I undertook to prepare a paper placing nuclear energy in the context of the climate change issue and sustainable development. This was completed with input on important issues from several colleagues in the nuclear industry. The status of nuclear fuel waste at the time, (1996) was considered in context with other nuclear energy issues. The paper, "Global Warming and Sustainable Energy Supply with CANdu Nuclear Power Systems" is [displayed](#) at Computare's website.

I deduce, from Mr. Runnall's background paper that the concept of sustainable development is relevant to the NWMO's practical, and localized, task of recommending a way forward with Canada's existing used nuclear fuel. The concept of sustainable development is important background to understanding the management of used nuclear fuel in the overall context of global human energy use which provides the basis for development.