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Written submission from Todd De Rick

Mémoire de Todd De Rick

In the Matter of

À l'égard de

Decision on the scope of an environmental assessment of the proposed Micro Modular Reactor Project at the Canadian Nuclear Laboratories Ltd., in Chalk River

Décision sur la portée de l'évaluation environnementale pour le projet de microréacteur modulaire aux Laboratoires Nucléaires Canadiens ltée, à Chalk River

Hearing in writing based on written submissions

Audience par écrit fondée sur des mémoires

June 2020

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Canada

I am a Canadian who has been concerned about climate change and the need to greatly reduce greenhouse gas (ghg) emissions and air pollution for some time now. I have followed the energy landscape very closely for almost 10 years and am seeing why fossil fuels still dominate global energy demand (cheap, flexible, transportable and meets most modern society energy requirements). However, because fossil fuels emit much ghg emissions and air pollution, we need to move to energy sources that meet society requirements with minimal ghg emissions and air pollution. In the almost 10 years that I have been learning about energy, I have come to realize that nuclear power is near zero emissions and is capable of meeting most modern energy requirements (reliable, around-the-clock, on demand access to energy, regardless of the weather), based on information from the United Nations Intergovernmental Panel on Climate Change (IPCC), the International Energy Agency (IEA), Massachusetts Institute of Technology (MIT) and other prominent and highly regarded organizations.

Canada is currently not on track to reach emission reduction targets and this will require innovation and ingenuity in order to meet these targets, especially in the time frames required. Canada has a long history of nuclear power innovation and has extensive industry experience. We need to take advantage of this, especially considering Canada has many remote and "off grid" locations that need ample clean power. Global First Power & Ultra Safe Nuclear Corporation’s micro modular nuclear reactor could power such locations for up to 20 years without refuelling, as opposed to diesel generators that need refuelling almost every day. Also, these small modular nuclear reactors (SMR) could provide electricity, heat, and energy for desalination, indoor greenhouses, etc without ghg emissions, air pollution or noise. SMR's could replace diesel in off grid communities and remote mines. Mining is set for massive growth as we move away from fossil fuels and build new infrastructure and machines that will require much raw materials.

These SMR's are small enough to be able to provide energy to small remote communities, first nations reserves, remote mines, etc while requiring minimal land use. They will be able to be manufactured in a central location and then shipped to where they will eventually be put into production. This is different from typical nuclear reactor construction projects today, which are massive and built on site and take several years, often over budget and behind schedule. SMR's can be mass produced in a factory and could be produced similar to how airplane companies are able to produce 100's of jets per year.

Alberta is currently heavily dependent on the oil and gas industry for employment and general economic activities. This has been the case for several decades, but this now needs to change. Perhaps many current oil and gas employees could be transitioned to work in SMR manufacturing factories. Canada is rich in natural resources and raw materials that would be required for a large scale up of SMR manufacturing. Once the SMR industry is established, there is likely to be a need all over the world for SMR's, not just in Canada. For example, billions of people in Asia and Africa live in poverty and/or have insufficient access to energy in order to live modern lifestyles that most in North America and Europe are able to. Asia and Africa are ramping up their economies quickly to provide modern lifestyles and careers and jobs for their citizens. This will require a huge ramp up of energy. Asia and Africa are likely to choose the cheapest forms of energy to achieve this, which is currently fossil fuels. SMR's have the potential to provide almost all the energy that modern societies require on an economically competitive basis and all without producing GHG emissions and air pollution. Since air pollution is very costly from a healthcare perspective, if SMR are available to Asia and Africa on a cost competitive basis, perhaps they will choose SMR's instead of fossil fuels. Canada has the expertise, raw materials, supply chains, infrastructure and workforce to be able to build and deliver SMR's all over the world.