



Directorate of Security and Safeguards

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December 23, 2015

Ms. Jill Robertson
Dalhousie University
Radiation Safety Office
6299 South Street
Halifax NS
B3H 4H6

Subject: Declaration under the Additional Protocol

Dear Ms. Robertson,

I am writing with regard to the Government of Canada's obligations under its Additional Protocol (AP) Agreement with the International Atomic Energy Agency (IAEA) (see INFCIRC/164 add. 1 at <http://nuclearsafety.gc.ca/eng/resources/non-proliferation/index.cfm>).

Each year, the Canadian Nuclear Safety Commission (CNSC) updates Canada's AP declaration for submission to the IAEA. As part of this process, the CNSC requests declarations from Canadian facilities who meet the criteria put forth in the AP articles.

Article 2 of the AP requires declarations of all nuclear fuel cycle related research and development activities not involving nuclear material performed in Canada. Paragraphs 2.a.(i) and 2.b.(i) contain specific requirements, while the definition for nuclear fuel cycle related research and development can be found in Article 18 of the AP. I have also attached examples of research and development activities including an explanation on whether or not such research must be declared.

If there are any research and development activities related to the nuclear fuel cycle at your institution which have not been declared (whether or not they involve nuclear material), please contact the CNSC by way of Philip O'Connor by telephone at **(613) 947-8312** or by e-mail at **philip.oconnor@canada.ca**. If there are no such activities, we would appreciate a response to indicate that you have considered this matter.

Should you have any questions, please do not hesitate to contact Philip O'Connor. We continue to appreciate your efforts in helping to ensure that Canada meets its international obligations to respect IAEA safeguards.

Sincerely,

A handwritten signature in blue ink, appearing to read "David Moroz", with a horizontal line drawn underneath the name.

David Moroz
Director
International Safeguards Division

Example Eight:

Activity: Develop software for reactor safety analysis of **new** methods. Government-sponsored.

Determination: Declarable under 2.a.(i). This contributes to development of reactor processes, and it is government funded.

Example Nine:

Activity: A government agency is undertaking a project to consolidate radioactive material such as cobalt and iodine to better protect it from illicit use. It is funding a university to research and develop procedures on storing the material to protect workers and the public.

Determination: This is not declarable under 2.a.(i) or 2.b.(i) because it does not contribute to a fuel cycle process.

Example Ten:

Activity: A private company is funding a professor at a university to study the processing of high level nuclear waste (containing plutonium) by using computer models to develop improvements. The process includes the separation of elements.

Determination: Declarable under 2.b.(i). This is private development of waste processing, as defined in Article 18.

Example Eleven:

Activity: A university is developing a monitoring system to detect cracking in zirconium tubes within a fuel assembly during operation. This is government sponsored.

Determination: Not declarable under 2.a.(i) or 2.b.(i). The monitoring system supports maintenance or monitoring of the reactor, and is not contributing to the development of a fuel cycle process.

Example Twelve:

Activity: RMC or a university using government funds is collaborating with a foreign private laboratory to develop a method to improve reactivity estimates for reactor concept development. The research includes computer simulations and lab testing using surrogate (nonnuclear) materials.

Determination: Declarable under 2.a.(i). The government is funding development of reactors. The research does not involve the use of any nuclear material. Research using computer simulations is no different than traditional modeling under the Additional Protocol.

Example Thirteen:

Activity: A university student's dissertation focuses on simulating a reactor core. The computer model is modifying an existing reactor design to improve neutron economy. This work is being done at a government-funded university and supported financially by a private company with government funds for the work.

Determination: Declarable under 2.a.(i). It contributes to development of an improved reactor process, and the research does not involve the use of any nuclear material.