



SHIELD SOURCE INCORPORATED

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January 4, 1990

U.S. Nuclear Regulatory Commission
Att: Ms Elaine Hemby
Export/Import & International Safeguards
Office of International Programs
Washington, DC 20555

Dear Ms Hemby:

Please find attached our completed NRC Form 7, for export of bulk tritium gas to our facilities in Peterborough, Ontario, Canada. Further details and general background concerning our operations are as follows:

1. Our facilities in Peterborough are licensed by the Atomic Energy Control Board (AECB) for manufacture and distribution of Gaseous Tritium Light Sources and devices (GTLS), under license no. 5-8785-92C, issued for the period from October 16, 1989 to February 29, 1992. The possession limit for unsealed sources (bulk tritium) is 200,000 Ci (7,400 terabequerels).
2. Tritium gas is to be used for the sole purpose of manufacturing GTLS.
3. Finished products to be manufactured include commercial EXIT signs and markers, aircraft signs and markers, aircraft runway and helipad lighting units, and miscellaneous devices such as compass illuminators, instrument lighting packages, flashlights and map readers.
4. The maximum tritium content of individual sealed sources varies with the finished product application. At the present time, the highest level is 250 Ci in wand sources used for runway lighting. The maximum tritium content of finished devices for runway lighting products is 1,000 Ci, in a runway lighting panel assembly.
5. For the past three years, the company has assembled finished products using sealed sources imported from the United States and Europe.

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6. We understand that some time during 1990, tritium gas will become commercially available from Ontario Hydro of Canada. When such tritium can be purchased, we expect this material to become a major portion of our total requirement. However, since we have received no clear commitment from Ontario Hydro as to when tritium will be available, it is critical that we assure supply from an alternative and approved source.
7. The forecast volume of tritium use in the first year of the license is based on our current production of commercial Exit signs, runway lighting devices and other products. In addition, we expect to become a major supplier of sealed sources to other GTLS manufacturers. The breakdown is as follows:

Forecast Annual Tritium Gas Usage: 1990-1991

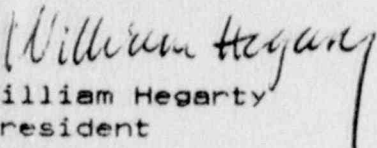
Exit Signs:	300,000 Ci (Average 17 Ci/Sign)
Runways:	300,000 Ci (3 to 4 Runways)
Helipad:	150,000 Ci (10 Helipads)
Miscellaneous:	50,000 Ci
Total:	<u>800,000 Ci</u>

As noted above, we expect to purchase a large portion of our requirements in Canada commencing about the second quarter of 1990, provided that tritium is available; therefore, this initial export application is for 200,000 Ci in the first year.

I hope this information will provide sufficient background for your complete understanding and we hope for an expeditious review of our application.

We are most grateful for your help in advising us what additional information may be helpful to the Commission in processing our application. Please do not hesitate to call me if you have any further questions.

Yours sincerely,


William Hegarty
President

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