**Letter to a Prospective Licensee Considering the Purchase of a**

**Radioactive Sealed Source or Device**

*Note: This letter should be printed on letterhead of radioactive materials program.*

Dear \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:

Radioactive material has many beneficial uses and a long history of reliability and safety when managed properly. As a license applicant for a radioactive sealed source or device, it is important to have a clear understanding of their potential liability and associated life cycle costs.

**Potential Liabilities**

In today’s national security environment, some sealed sources can pose a threat to the public as they could be used individually or in aggregate in a radiological dispersal device (RDD or dirty bomb) or a radiation exposure device (RED). An RDD incident in a major metropolitan area could result in massive quantities of contaminated material requiring millions of dollars in cleanup costs. Radioactive material licensees are legally responsible for the proper management and use of their radioactive material. This includes environmental, public health and safety consequences should their radioactive material damage the environment or create a public health and safety impact, whether by your staff or as a result of theft or sabotage. For instance, a well logging radioactive material licensee that recently lost a source in an Agreement State was billed over $78,000 for the state’s efforts in locating the source and a subsequent civil penalty. These types of financial liabilities are usually not covered by a standard insurance policy.

**Life Cycle Costs**

Before committing to use a radioactive sealed source or device, it is the responsibility of the licensee to consider the full life cycle costs of owning and using radioactive material. Life cycle costs include the purchase price, regulatory license fees, financial assurance (if applicable), security and final disposition (reuse, recycle or disposal). Please review your relevant regulatory requirements to determine if a financial assurance arrangement is required by your jurisdiction. Also note that the U.S. Nuclear Regulatory Commission (NRC) is currently reviewing financial assurance requirements for future enhancements. Final disposition may include the cost of packaging, transporting and disposing the material at a commercial low-level radioactive waste disposal facility. The life cycle costs should be considered when comparing the use of radioactive material with the cost of alternative technologies that do not use radioactive material.

Sealed source end-of-life management options include reuse by another licensee; recycling for its radioactive material; or, disposal in a licensed facility. Reuse is a responsible way to transfer a disused device to another licensee. While the source may no longer work for your application, it may be of value to someone else. Recycling may be possible for higher activity sources to recover the radioactive material for reprocessing or repurposing. Disposal of radioactive sealed sources is available to licensees in all states. Whichever option is pursued, devices containing radioactive material may only be transferred to or received by a company or individual licensed by the U.S. Nuclear Regulatory Commission (NRC) or an Agreement State.

Final disposition of a sealed source or device may be the largest of the life cycle costs and are often significantly higher than anticipated by licensees. As an example, sealed source disposal costs at the Waste Control Specialists (WCS) facility in Texas are based primarily on radioactivity, with curie charges capped at $220,000 (about 400 Ci) for sources generated in the Texas Compact (which includes Texas and Vermont). WCS is required by state statute to charge generators from outside the Texas Compact at least 31.5% more than it charges Texas Compact generators.

Higher activity sources may also require the use of a Type B container for transportation. Currently, there is limited availability of Type B containers and the usage costs can be very expensive—i.e., for some projects, in the hundreds of thousands of dollars.

Licensees may be required to coordinate source disposition with the appropriate low-level radioactive waste compact authority.

**Alternative Technologies**

Prospective licensees are advised to compare the life cycle costs of using a radioactive sealed source or device with the cost of implementing an alternative technology that does not use radioactive material. For the latest information concerning alternative technologies, please see a May 2016 special report from the World Institute for Nuclear Security (WINS) titled, "Considerations for the Adoption of Alternative Technologies to Replace Radioactive Sources," at www.disusedsources.org/resources/. If there is no suitable alternative technology, you will at least be aware of the future financial liabilities and can appropriately plan for them.

We hope you found this information useful in determining the best technology for your specific needs that is protective of public health, safety and the environment. If you have any questions, you may contact \_\_\_\_\_\_\_\_\_\_\_\_\_\_ *(insert contact person’s name)* at \_\_\_\_\_\_\_\_\_\_\_\_\_\_ *(insert contact person’s phone number)* or by email at \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *(insert contact person’s email address).*

Sincerely,

[Head of radioactive materials program]

Enclosure