

EDUCATIONAL MATERIALS FOR CURRENT & PROSPECTIVE LICENSEES OF A RADIOACTIVE SEALED SOURCE OR DEVICE

UNDERSTANDING THE LIFE-CYCLE COSTS

The following questions are intended to assist prospective licensees in understanding the life-cycle costs of a radioactive sealed source or device.

Initial Purchase Price

- Does the initial purchase price include support with final end-of-life disposition?

Regulatory Licensing Fee

- What is the cost of preparing a radioactive material license application?
- What is my annual license fee to possess the sealed source or device?

Financial Assurance

- Will I have to provide financial assurance (FA) in order to possess the sealed source or device?
- What FA mechanisms are acceptable?
- What is the cost to provide FA?

Operating Expenses

- Are there extra operational expenses associated with using sealed sources or devices?
- Are there additional staff training requirements?
- What are the annual maintenance and leak testing costs?

Security

- What are my additional security requirements for possessing sealed sources?

End-of-Life Disposition

- Will the sealed source or device have a viable reuse when no longer needed?
- Can the sealed source be recycled?
- Is there a disposal option available?
- What are the respective costs associated with these disposition options?
- Does this source require transportation in a Type B cask?



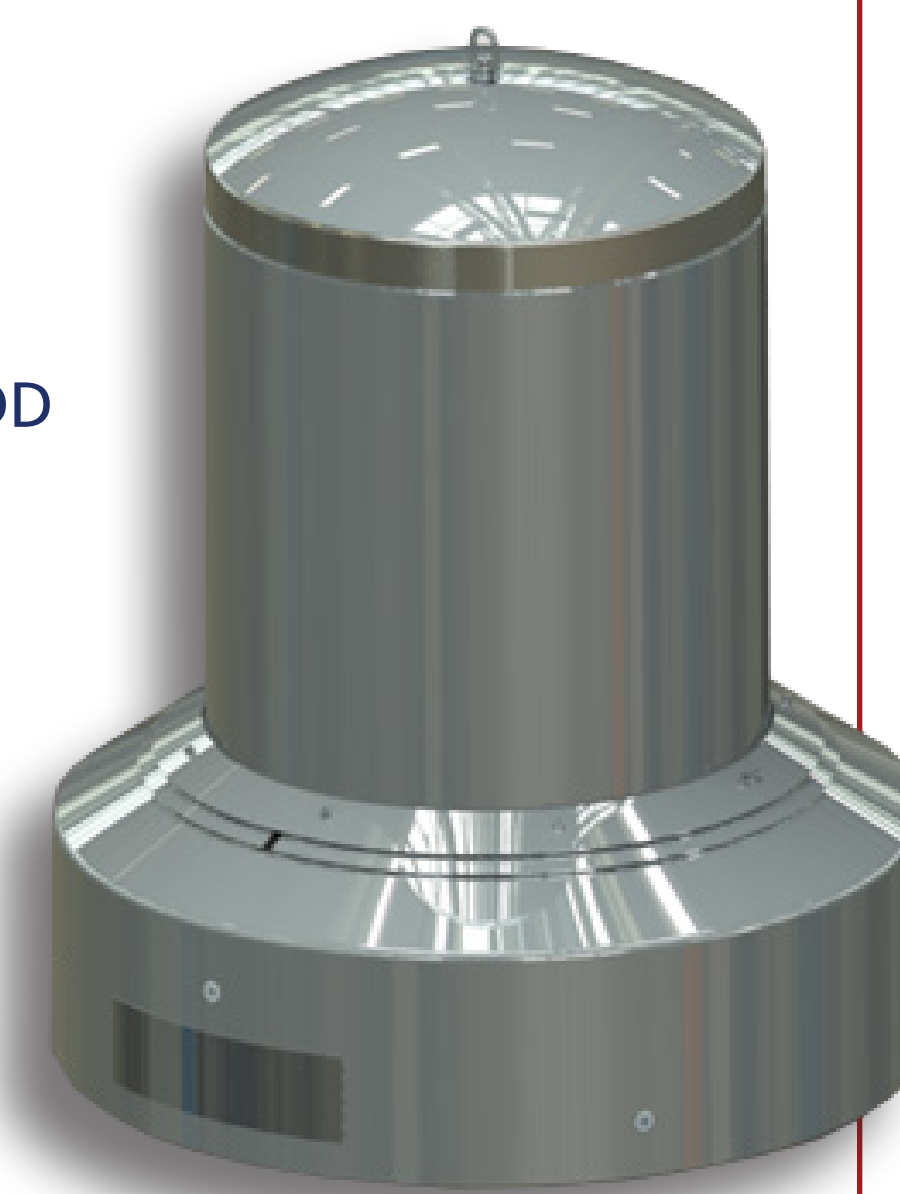
USE OF ALTERNATIVE TECHNOLOGIES

- When considering life-cycle costs, prospective licensees should determine if a suitable alternative technology exists that does not utilize radioactive material and compare the costs.
- Not all uses of radioactive material will have a non-radioactive alternative.

For additional information on alternative technologies, please see the World Institute for Nuclear Security (WINS) special report titled, "Considerations for the Adoption of Alternative Technologies to Replace Radioactive Sources" at www.disusedsources.org/resources/.

POTENTIAL LIABILITIES OF LONG-TERM STORAGE

- The U.S. Government Accountability Office (GAO) has estimated that an average of 250 sealed sources are lost, stolen or abandoned each year. While most are recovered, some are not.
- When sources or devices are no longer in use they represent a potential liability. Disused sources must be properly secured to prevent loss, theft or other malevolent use.
- Owners of disused sources or devices may be legally and financially liable for the consequences should their radioactive material damage the environment or create a public health and safety impact.
- Some disused sources 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).
- The U.S. Environmental Protection Agency (EPA) has estimated that an RDD incident in a major metropolitan area could result in 39 million cubic feet and 10 billion gallons of radioactively contaminated waste requiring disposal.



PROPER MANAGEMENT & DISPOSITION

- Most sealed sources and devices can be managed by returning them to the manufacturer or through commercial waste brokers or disposal facilities.
- The Conference of Radiation Control Program Directors (CRCPD), Source Collection and Threat Reduction (SCATR) program, and Off-Site Source Recovery Program (OSRP) may provide assistance to licensees seeking to manage and disposition disused sources.

Conference of Radiation Control Program Directors (CRCPD)

- CRCPD is a non-profit organization of individuals from government agencies that regulate and control the use of radioactive material and radiation sources.
- CRCPD offers assistance in finding cost-effective, legal disposition for radioactive material through reuse by another licensee or device manufacturer; reprocessing of the material; commercial disposal; or acceptance by state or federal government.

- The CRCPD maintains directories of relevant commercial services including:
 - Outlets for common radioactive materials;
 - Packages, transportation and storage;
 - Radioactive waste brokers and decontamination services;
 - Radioactive site investigation and decontamination services; and
 - Recyclers of high-activity sources.

Source Collection & Threat Reduction (SCATR) Program

- CRCPD administers the SCATR program funded by the U.S. Department of Energy (DOE) to reduce the amount of unused sealed sources stored by licensees.
- Working in conjunction with state and local radiation control programs, the SCATR program provides matching funds for the disposition of unwanted sealed sources.

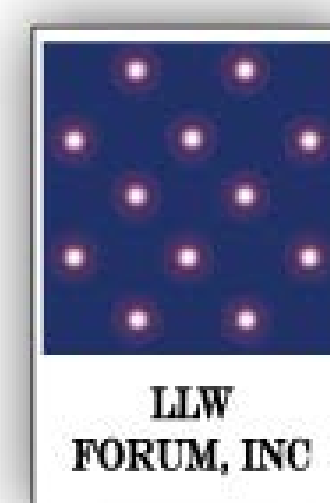
SCATR COST SHARE	
Today through March 31, 2017	40%
April 1, 2017 through March 31, 2018	30%
April 1, 2018 through March 31, 2019	20%

For additional information regarding CRCPD and the SCATR program, contact Russ Meyer at RMeyer@crcpd.org or visit crcpd.org/RadioactiveMaterials.aspx.

Off-Site Source Recovery Project (OSRP)

- OSRP is sponsored by the National Nuclear Security Administration (NNSA) to remove excess, unwanted, abandoned or orphan sources that pose a potential risk to health, safety and national security.
- Initially focused on transuranic sealed sources, the OSRP mission expanded to also include high activity beta/gamma emitting sources that are a security concern. Sources must be registered with the OSRP at <http://osrp.lanl.gov/PickUpSources.aspx> in order to be considered for collection.

Visit www.osrp.lanl.gov for additional information on OSRP.



Learn more at
www.disusedsources.org