

Texas Radiation Advisory Board's

Advisory Statement on Sealed Source Disposal

The Texas Radiation Advisory Board (TRAB) members are expert advisors on issues relating to radiation and radioactive materials. Board members make recommendations about various issues and provide those to the agencies, the legislature and the governor. As such, the TRAB addresses the topic of public safety and national security with respect to the disposal of sealed sources in Texas

Radiation exposure to all members of the general public occurs continually. People are exposed to three broad categories of radioactive sources: natural occurring radioactive material (NORM), technologically enhanced naturally occurring radioactive material (TENORM), plus medical and industrial sources of radiation. Radioactive sources are used in many applications.

Industrial applications of radiation sealed sources range from:

- density and level measurement
- devices to radiograph/x-ray pipes
- oil well logging

Medical applications of radiation sealed sources include:

- radioactive seeds used in cancer treatment
- bone density measurements
- brain tumor therapy

When the owners of these sources no longer need them, they have several options; return the sources to the manufacturer, manifest the sources as waste from their site for disposal (either directly or through a broker) or store the sources on site, until there is a disposal facility licensed to accept the sources. For many years there was no place in the US available to Texas licensees to dispose of these sources; so companies were forced to store the sealed sources that were no longer needed (disused sources) on site.

The solution to what to do with disused sources is simple: they need to be disposed of at a licensed facility. In 2014 the Low-Level Radioactive Waste Forum Disused Sources Working Group (Working Group) generated a report on recommendations to facilitate the disposal of sealed sources in the US. In general the TRAB endorses the recommendations of this report. Also, the TRAB recommends that the Texas Department of State Health Services (DSHS) and the Texas Commission on Environmental Quality (TCEQ) review this report, evaluate the recommendations, and support and implement these recommendations to the extent possible.

One of the recommendations from this Working Group is to promote the recycling and reuse of sealed sources. In order for recycling to be a significant effort, the manufacturers, distributors

and service companies need to be the primary recyclers. Most companies that possess and use sealed sources, for industrial purposes, are not qualified to evaluate the source for reuse or recycling. It is important that manufacturers, distributors, and service companies continue to be allowed to accept and ship sealed sources as radioactive material rather than as waste, as this streamlines the shipping process. There are significant incentives for users to recycle disused sources: it costs a lot less to recycle a source than to buy a new one, and in many cases the source can be reused in its original container. Several manufacturers have been recycling for quite a while, and have increased their efforts as of late.

One current policy inhibits recycling. If one uses the current definition in TCEQ's policy of the last beneficial user, this user has to be the generator. In many cases the last user of the source has no means of recycling or reusing the source and must transfer the source to a manufacturer, distributor or service company with recycling capabilities. The TCEQ's definition in policy of last user needs to be changed in order to better promote recycling.

Sealed sources were collected post 9/11 for the promotion and protection of the public and for national security. The idea then was that the sealed sources, if collected by knowledgeable source handling facilities, were more secure in one location than in the many locations of several users. If that was the case then, it is still the case now. The need to dispose of sealed sources should be a business decision of the source users. Sealed sources that have been collected for about the last two decades by recyclers, manufacturers, brokers, etc., were transferred to their license by a source transfer and have been on their inventories for many years. There is no reason to believe that these sources are not the rightful property of the above, and they should be recognized as being the generator of these sealed sources, once they are declared as waste. In order to promote the disposal of these old disused sources, special provisions need to be made for those sealed sources that were collected before the regulations for waste disposal at the Texas radioactive waste disposal site were enacted. A simple one time exemption for sealed sources older than this will allow for such sources to be disposed of promptly and safely.

Regarding the Working Group's implementation of increased controls for Category 3 sources (sources with less radioactive material than Category 1 and 2 sources), the Category of the source is independent of the need to dispose of a sealed source. Even a small amount of radioactive material can cause a large reaction from the public. Security of all Category 3 sources needs to be better addressed. If the idea is that the safest location for all these sealed sources is in one secure disposal facility, rather than in several different storage facilities, then disposal of disused sources needs to be facilitated.

Since public safety and national security are prime reasons for consolidating sources at a disposal facility then certain sources of foreign origin, used in domestic applications, must also be allowed into the Texas disposal facility. Otherwise, this increases the possibility of the sources being stored for an indefinite amount of time by the users and possibly being abandoned. The

decision could be made on a case by case basis in order to prevent deliberate attempts to improperly dispose of foreign sources that have other disposal options.