

Tritium Exit Sign Owner Responsibilities

The Department of Environmental Protection's (DEP) Bureau of Radiation Protection (BRP) has prepared this fact sheet to provide information regarding identification, safety concerns, and proper disposal methods of tritium exit signs.

What is tritium?

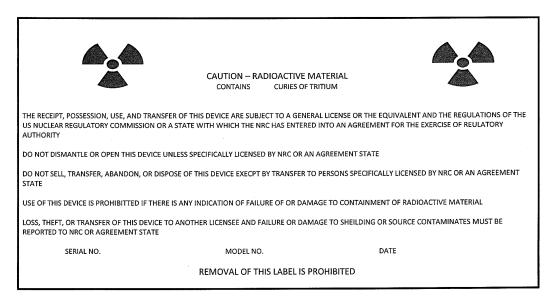
Tritium is a radioactive isotope of the element hydrogen.

What are tritium exit signs and how are they identified?

Tritium exit signs are self-luminous signs that display the word "EXIT" used to identify a designated exit route from a building or enclosed space. The self-luminous nature of the sign requires no electrical power for operation. They are typically located in buildings where access to electrical service is unreliable, unavailable, or costly.



This type of exit sign can be distinguished from others by observation. The signs illuminate with a greenish glow. The light emanates from several sealed glass tubes containing tritium arranged into the word "EXIT." Another indication that the sign may contain tritium is the lack of evidence of an electrical power supply. The sign may also be identified by the required labeling, similar to that shown below, which includes the three-bladed radiation symbol and the words, "Caution – Radioactive Material," as well as other information about the quantity of radioactive tritium and the manufacturer.



Who Regulates Tritium Exit Signs?

Tritium exit signs are regulated by Pennsylvania as a Nuclear Regulatory Commission (NRC) agreement state under federal regulations (10 CFR §§ 32.51 and 31.5a). Under these regulations, certain people (general public excluded) have a general license to acquire and use these devices. There are more than 60,000 tritium exit signs in use in Pennsylvania, according to estimates derived from the NRC.

What is the concern?

Recent testing performed by DEP has identified tritium contamination in many landfills throughout the state. DEP believes that illegal disposal of tritium signs has caused this problem. Often, building maintenance personnel or construction/demolition workers may be unaware that the devices contain radioactive material. As a result, these devices may end up in landfills, incinerators, and at scrap metal recycling facilities.

What can be done?

As an owner of these devices, it is important to know that tritium exit signs must be disposed of or recycled properly. The following management practices are recommended:

- Ensure that building maintenance staff and employees are aware of the need to use caution when working on or removing tritium signs.
- Ensure that all staff are aware that a broken tritium exit sign has the potential to result in contamination
 of people, property, and the environment and potential radiation dose to people.
- Ensure that all staff are aware of the special handling and disposal requirements for these devices.
- Ensure that employees are aware that tritium signs are not to be disposed of in the ordinary trash.
- Ensure that, when tritium signs are removed or replaced, they are returned to the manufacturer or a low-level radioactive waste site for disposal.
- Maintain an inventory of tritium exit signs including each sign's expiration date, location, and condition. Check this inventory at least annually.
- Report the transfer of tritium exit signs to: PA DEP BRP, Attn: GLTS, P.O. Box 8469, Harrisburg, PA 17105-8469.

How should the signs be disposed?

Contact the sign manufacturer for instructions and return cost information. If the manufacturer is unable to accept return of the device, other manufacturers of similar devices, provided they are licensed to accept tritium, may accept the signs. Alternatively, consider using a radioactive waste broker or processor to perform packaging, transport, and disposal of unwanted tritium signs.

Where is additional information?

For a list of radioactive waste brokers and processors, contact DEP's BRP at 717-787-2480.

For more information regarding the responsibilities concerning these, or other radioactive materials, contact the regional BRP office or visit www.crcpd.org or www.dep.pa.gov.

Southwest Regional Office Southcentral Regional Office Southeast Regional Office 400 Waterfront Drive 909 Elmerton Avenue 2 East Main Street Pittsburgh, PA 15222 Harrisburg, PA 17110 Norristown, PA 19401 412-442-4000 717-705-4700 484-250-5950

For more information, visit www.dep.pa.gov.

