

CONSTRUCTION NEWS SENSE



Radiological Hazards – Seen and Unseen

Radiological hazards are present at Sandia in many different forms. The hazard is obvious at sites with radiation or contamination areas marked by yellow and magenta warning signs. There are other areas, however, where hazards are not so easily identified.

Most of us know an area posted with a yellow sign showing a black or magenta trefoil and the words "Caution" or "Danger" should be entered only by workers with proper training and/or a work control document. To better protect ourselves against those radiological hazards not so clearly identified, we need to consider the "big picture" when working in any unfamiliar environment.

Did you enter an area through a door displaying a posting such as "Caution, Radioactive Material, Controlled Area?" Such a sign is a bit vague. That radioactive material might be a small, sealed source in a file cabinet drawer, a waste receptacle with no further radiological identification, or even a fixed source of contamination on the floor or wall of a room that would require substantial effort to locate, let alone be exposed to. There are situations where no warning at all is posted on a door to a workspace, rather a simple sticker might be placed on a small item such as a sample or sealed source. The point is signs only alert you to the existence of hazards. They do not necessarily directly point them out. When you notice radiological postings, you need to identify the hazards.

The Sandia Radiation Protection Department (04128) routinely monitors most areas posted for radiological hazards, surveying them to identify the specific hazards and documenting the dose rates and/or contamination levels. A written report is produced and either posted in a conspicuous place or given to the owner of the space. If certain areas in a workspace present higher hazards than in the general area, these will likely be identified in the survey. In some

cases, a status board might be displayed where survey results have been summarized allowing for more rapid identification by workers in the area. Generally, finding information about the hazards in these monitored areas is not difficult.

In unmonitored areas, information about radiological hazards may not be so immediately available. A door to a room might be posted with a warning such as "Contamination Area," but if you are installing a wall anchor in an adjoining space, you might never know about it. Consider the situation where you might be removing a filing cabinet and a plastic bag of small items is found underneath. Some radioactive sources do not display indicators of their hazard until they are closely examined. In another case, you could be working on a roof exhaust system or house vacuum/air line, and because there are spaces in the building where radioactive materials are used, radiological contamination could have been introduced to the system components you are handling.



In view of all the ways workers could potentially be out of compliance in handling, exposed to, or in a position to release radiological contaminants to the environment, taking an extra minute to consider such unseen hazards is an unarguably worthwhile action. Workers at Sandia have been conditioned to evaluate the hazard of asbestos, electricity, PCBs, and biological agents, to name a few. Let's add radiological hazards to that mental list we carry around. Take time to "Stop, Look, and Listen." Keep yourself safe while saving time and money.

Sandia Radiation Protection (04128) is available to assist with identifying, advising, planning, documentation and any other aspect of your "big picture" when your work involves radiation or radioactive material.

Tony Shurter, 04281-1



Sandia National Laboratories



Publisher: Linda Sells, Org. 04844

Time vs. Products of Combustion

Fire is a complex phenomenon involving many chemical and physical interactions. This simple graphic illustrates how quickly a fire can grow (Time in minutes) and release increasing amounts of products of combustion (e.g., flame/heat and smoke/gas), until the fire is extinguished.

Most fires, no matter how large they may become, begin as small fires. Small fires, if detected, are easily controlled through manual intervention or by fixed fire suppression systems.

The earlier a fire is detected, the more likely building occupants are to escape with little or no injury from exposure to combustion products, and the sooner suppression methods can be applied to the fire, reducing property and environmental damage.

This is an important reminder to check the smoke detectors in your home to ensure they work properly. Be fire safe!

Glen Argabright, 04849

