

**Physics Division ESH Bulletin 2007-03  
Radiological Survey Requirements**

During a recent Operational Awareness Program (OAP) inspection, a small, unlabeled plastic bag that was emitting radioactivity was discovered outside of a Radiological Area on a turbo pump cart. The item inside the bag was identified to be an activated ion source aperture from ORIC. The turbo pump cart and immediate area surrounding it were surveyed and found to contain no other radioactive material or contamination. The direct cause of this incident was failure to adequately survey and/or identify radioactive material removed from a Radiological Area.

Special care must be taken to identify and control items and materials that have been exposed to accelerator beams capable of producing measurable activation. Potentially activated and/or contaminated materials must not be removed from the place where they became activated and/or contaminated without proper surveys and labeling / tagging by Radiological Control Technicians (RCTs). This is to ensure radioactive material is not inadvertently taken to non-radiological areas or mixed with non-radioactive materials.

The following table lists possible Radiological Area postings and labels and the survey requirements for materials that need to be removed from these areas. **Note that a Radiological Area may have more than one posting or label.** Check the Laboratory Space Posting for any specific requirements for release of material from the space.

<b>Radiological Posting / Label or Condition</b>	<b>Presumed Contaminated, Survey Required</b>	<b>Presumed Activated, Survey Required</b>
<b>Materials exposed to accelerated beam</b>		√
<b>Internal accelerator / beamline components or items labeled Contact Radiological Protection Prior to Working On / Opening Systems</b>	√	√
<b>Very High Rad Area (posted for Neutrons)</b>		√
<b>High Rad Area (posted for Neutrons)</b>		√
<b>Radiation Area</b>		
<b>Radiation Buffer Area</b>		
<b>Airborne Radioactivity Area</b>	√	
<b>High Contamination Area</b>	√	
<b>Contamination Area</b>	√	
<b>Contamination Buffer Area</b>	√	
<b>Radioactive Material(s) Area</b>	√	
<b>Inaccessible surfaces when survey is required</b>	√	√

- Tools or equipment must be surveyed and released by an RCT.
- Personal items (e.g., notebooks, papers, flashlights) may be monitored for contamination by the person carrying them, while frisking out of the area.