

## Lesson Learned Briefing

**No.:** LL11-0036

**Title:** Evaluation of Activities Occurring in Confined Spaces

**Event:** LBNL Event

**Event Date:**

**Category:** ES&H - Confined Space

**Lesson Learned Statement:**

All activities conducted inside a confined space need to be thoroughly reviewed prior to proceeding with the work. Hazards can easily be created from activities performed in a confined space even if the space initially presents little or no hazards. These hazards could occur because the scope of work was not well defined or the scope was changed without review and approval.

**Discussion:**

Confined spaces are defined by the Occupational Safety and Health Administration (OSHA) as spaces that:

1. Are large enough and so configured that an employee can bodily enter and perform assigned work; and
2. Have limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits); and
3. Are not designed for continuous employee occupancy.

The potential hazards found in confined spaces can included either atmospheric hazards, physical hazards or both.

Lawrence Berkeley National Laboratory (LBNL) has approximately 900 confined spaces throughout the site. These spaces are divided into non-permit confined spaces and permit required confined spaces, and include everything from indoor boilers, tanks, and vats to outdoor manholes, pits, and vaults.

OSHA defines non-permit spaces as a confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

Permit required confined spaces (PRCS) are confined spaces which require close monitoring of controls and procedures, and require a written and signed

permit to be completed by the personnel involved. OSHA defines a PRCS as having one or more of the following characteristics:

1. Contains or has a potential to contain a hazardous atmosphere;
2. Contains a material that has the potential for engulfing an entrant;
3. Has an internal configuration, such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or
4. Contains any other recognized serious safety or health hazard.

Construction activities at LBNL that involve upgrading of existing facilities or construction of new facilities, as well as maintenance activities, often creates work that requires entry into these confined spaces. While the LBNL Environment Health & Safety Division is enhancing and modifying the existing Confined Space Entry Program, it is important to remember that construction and maintenance activities involving confined space entry must be adequately managed. Even seemingly simple changes to a scope of work could result in a hazardous condition (e.g., deciding to use a gas powered saw for cutting or discovering the need for use of PVC adhesive.)

Most individuals trained in confined space entry are aware of the potential hazards of confined spaces. Unfortunately, to this day, accidental deaths related to confined spaces still occur. See the following link for a recent confined space incident:

<http://www.bakersfieldnow.com/news/local/131947253.html>

#### ACTION:

To become familiar with the new classifications and requirements of working in a confined space, review the LBNL PUB 3000, Chapter 34, or contact the LBNL Program Manager at x 2603.

**Priority Boxes:**  ORPS Reportable  OSHA Recordable  PAAA  Other

**ISM Code:** Define the Scope of Work

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