Confined Space Hazards and Controls

BRIEF

Policy Summary

The Confined Space Program at Berkeley Lab ensures that employees who work in Confined Spaces, including Permit-Required Confined Spaces, are able to perform work safely.

A Confined Space is a space that:

- Is large enough and so configured that an employee can bodily enter and perform assigned work and
- Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry) and
- Is not designed for continuous employee occupancy

Who Should Read This Policy

Berkeley Lab employees, visitors, affiliates, and subcontractors who could be performing work that may include entry into a space that has been evaluated for classification as a Permit-Required Confined Space, or that may be a Permit-Required Confined Space.

To Read the Full Policy, Go To:

The POLICY tab on this wiki page

To Read the EH&S Program Details, Go To:

http://www.lbl.gov/ehs/pub3000/CH34.html

Contact Information

Confined Space Program Manager
EH&S Division

Policy

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<th>Title:</th>
<th>Confined Space Hazards and Controls</th>
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<tr>
<td>Publication date:</td>
<td>1/2/2012</td>
</tr>
<tr>
<td>Effective date:</td>
<td>3/29/2011</td>
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</table>
POLICY

A. Purpose

The Confined Space Program at Berkeley Lab ensures that employees who work in Confined Spaces, including Permit-Required Confined Spaces, are able to perform work safely.

A Confined Space is a space that:

- Is large enough and so configured that an employee can bodily enter and perform assigned work and
- Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry) and
- Is not designed for continuous employee occupancy

B. Persons Affected

This policy applies to Berkeley Lab employees, visitors, affiliates, and subcontractors who could be performing work that may include entry into a space that has been evaluated for classification as a Permit-Required Confined Space, or that may be a Permit-Required Confined Space.

C. Exceptions

Pits, excavations, trenches, and Confined Spaces entered by subcontractors under the subcontractor's approved Permit-Required Confined Space Program may be managed by Berkeley Lab's Construction Safety Program under the requirements of Title 8, California Code of Regulations, Construction Safety Orders; and General Industry Safety Orders, Article 108, Confined Spaces, Section 5157, which is the functional equivalent to 29 CFR 1910.146.

D. Policy Statement

1. A Confined Space is a space that:
   a. Is large enough and so configured that an employee can bodily enter and perform assigned work
   b. Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry) and
   c. Is not designed for continuous employee occupancy
2. During work planning, Activity Leads must review the work area for potential Confined Spaces. Any potential Confined Space must be checked against the Confined Space inventory to determine classification of the space (Work Process A). The classifications will be:
   a. Not a Confined Space (NCS)
   b. Non-permit Confined Space (NPCS)
   c. Permit-Required Confined Space (PRCS)
3. If the space is not listed in the inventory, the space must be classified by the Confined Space Manager (Work Process B).
4. If the space is classified as Not a Confined Space (NCS), work proceeds according to the Safe Work Authorization process (Work Process C).
5. If the space is a Non-permit Confined Space (NPCS) or an Alternate Entry Procedure can be used, review training and qualifications (Work Process D).
6. If the space is a Permit-Required Confined Space (PRCS) and cannot be reclassified, subcontractors must perform the work (Work Process E).
7. Review all Confined Space Entry Training Procedures (Work Process F)
8. Berkeley Lab staff, affiliates, visitors, and others who perform work at Berkeley Lab (excluding subcontractors operating under their own approved Permit-Required Confined Space Program) may not enter any PRCS unless:
   a. The hazards within have been eliminated and the PRCS has been reclassified for non-permit entry per OSHA 29 CFR 1910.146(c)(7) and the procedures herein or
   b. The only hazard in the PRCS is an actual or potential hazardous atmosphere, that condition is controlled through continuous ventilation, and the entry is performed under an Alternate Entry Procedure per OSHA 29 CFR 1910.146(c)(5) and the procedures herein

E. Roles and Responsibilities
<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division Director</td>
<td>Assures that entries into Permit-Required Confined Spaces under his or her division’s control are made only in accordance with this chapter</td>
</tr>
</tbody>
</table>
| Environment, Health & Safety (EH&S) Division | • Administers the Berkeley Lab Confined Space Program  
• Provides training ([Work Process F](#)) to Berkeley Lab personnel involved in entry into Confined Spaces  
• Designates the Confined Space Program Manager  
• Conducts ongoing program effectiveness review and assurance ([Work Process G](#)). |
| Confined Space Manager                    | • Classifies spaces as Not a Confined Space (NCS), a Non-permit Confined Space (NPCS), or a Permit-Required Confined Space (PRCS)  
• Maintains the LBNL Confined Space Inventory  
• Designates Entry Supervisors  
• Develops Safe Work Procedures (SWPs) for work in spaces in consultation with space owners and entrants  
• Stops work if any hazards are not adequately controlled  
• Reviews PRCS Reclassification Certifications, PRCS Alternate Entry Procedure Certifications, and Subcontractor PRCS Permits  
• Reviews Subcontractor PRCS programs and provides comments to the Activity Lead |
| Activity Leads                            | • Review the work area and determine whether spaces that must be entered are included in the LBNL Confined Space Inventory  
• Review the LBNL Confined Space Inventory and determine whether an SWP exists for work in that space  
• For activities involving Berkeley Lab employee or affiliate entry into inventoried spaces, assign a properly trained and qualified Entry Supervisor for any entry into a Permit-Required Confined Space and assure that entry proceeds only in accordance with [Work Process B, Classification of Spaces](#).  
• For activities involving subcontractor entry into inventoried spaces:  
  • Obtain review and approval from the Confined Space Program Manager  
  • Approve Subcontractor Permit-Required Confined Space programs and procedures  
  • Co-approve (with the Construction Safety Entry Supervisor) documentation prepared by subcontractors for entry into PRCSs. Documentation includes but is not limited to Reclassification or Alternate Entry Procedure Certification, entry permit, coordination procedures, and authorizations. Assure that entry proceeds only in accordance with [Work Process D, Entry into Inventoried Spaces by LBNL Employees or Affiliates (Does Not Include Subcontractors)](#), and [Work Process E, Entry into Inventoried Spaces by Subcontractors](#).  
  • Immediately report to the Confined Space Program Manager:  
    • Any unauthorized entry into a PRCS  
    • Detection of any hazard in a PRCS that is not covered in the permit  
    • Detection of a condition prohibited by the permit  
    • Occurrence of an injury or near-miss during entry  
    • Change in use or configuration of the permit space  
    • Employee complaints about the effectiveness of the program  
  • Activity Leads are NOT Entry Supervisors unless they have been separately so designated by the Confined Space Program Manager. |
Entry Supervisors
- Operate only in PRCSs within their specific area of technical expertise
- Assure that entries into PRCSs at Berkeley Lab are made only as provided in this document and applicable regulations. See Work Process B, Classification of Spaces
- Reclassify PRCSs to NPCSSs and authorize entry thereto, or authorize entry into PRCSs via an Alternate Entry Procedure, as permitted by this program
- Remove all entrants from the space whenever conditions change to create a hazard
- Forward completed [PRCS Reclassification Certification (Appendix C) and PRCS Alternate Entry Procedure Certification (Appendix D)] to the Confined Space Program Manager after expiration of the certification
- Immediately report to the Confined Space Program Manager
  - Any unauthorized entry of a PRCS
  - Detection of any hazard in a PRCS that is not covered in the permit
  - Detection of a condition prohibited by the permit
  - Occurrence of an injury or near-miss during entry
  - Change in use or configuration of the permit space
  - Employee complaints about the effectiveness of the program

Construction Safety Entry Supervisors
- Review, concur on adequacy, and co-approve (with the Activity Lead) documentation prepared by the subcontractor for entry into PRCSs
  - Documentation includes but is not limited to Reclassification or Alternate Entry Procedure Certification, entry permit, coordination procedures, and authorizations.
- Fulfill roles and responsibilities of "Entry Supervisor" above

Subcontractors
- Conform to the requirements of applicable regulations and this PUB-3000 chapter

F. Definitions/Acronyms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Confined Space</td>
<td>A space that</td>
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<td></td>
<td>• Is large enough and so configured that an employee can bodily enter and perform assigned work and</td>
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</tr>
<tr>
<td></td>
<td>• Is not designed for continuous employee occupancy</td>
</tr>
<tr>
<td>Non-permit Confined Space</td>
<td>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.</td>
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<tr>
<td>Permit-Required Confined Space</td>
<td>A Confined Space that has one or more of the following characteristics:</td>
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<tr>
<td></td>
<td>• Contains or has a potential to contain a hazardous atmosphere</td>
</tr>
<tr>
<td></td>
<td>• Contains a material that has the potential for engulfing an entrant</td>
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<tr>
<td></td>
<td>• Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls, or by a floor that slopes downward and tapers to a smaller cross-section</td>
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<tr>
<td></td>
<td>• Contains any other recognized serious safety or health hazard</td>
</tr>
<tr>
<td>Eliminated</td>
<td>Removed by a means that does not require active intervention to maintain. For example, Lock Out/Tag Out of rotating machinery or physical blocking of a hydraulic ram would be considered elimination. Traffic control or continuous forced-air ventilation would not be considered elimination.</td>
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</table>

G. Recordkeeping Requirements

<table>
<thead>
<tr>
<th>Role</th>
<th>Recordkeeping Requirement</th>
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### Subject Matter Experts

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<td>Program Effectiveness Review and Assurance documents</td>
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<tr>
<td>PRCS Reclassification Certificates</td>
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<tr>
<td>PRCS Alternate Entry Procedure Certificates</td>
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### Implementing Documents

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<th>PUB-3000 Reference</th>
<th>Title</th>
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<tr>
<td>07.07.006.001</td>
<td>Ch. 34</td>
<td>Confined Spaces</td>
<td>Program</td>
</tr>
<tr>
<td>07.07.006.002</td>
<td>Ch. 34, Work Process A</td>
<td>LBNL Confined Space Inventory</td>
<td>Work Process</td>
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<tr>
<td>07.07.006.003</td>
<td>Ch. 34, Work Process B</td>
<td>Classification of Spaces</td>
<td>Work Process</td>
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<td>07.07.006.005</td>
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<td>Entry into Inventoried Spaces by LBNL Employees or Affiliates (Does Not Include Subcontractors)</td>
<td>Work Process</td>
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<tr>
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<td>Ch. 34, Work Process F</td>
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### Contact Information

Confined Space Program Manager  
EH&S Division

### Revision History

<table>
<thead>
<tr>
<th>Date</th>
<th>Revision</th>
<th>By whom</th>
<th>Revision Description</th>
<th>Section(s) affected</th>
<th>Change Type</th>
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<td>1/2/2012</td>
<td>1</td>
<td>B. Tuse</td>
<td>Re-write for wiki</td>
<td>all</td>
<td>Minor</td>
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### Document Information

Lawrence Berkeley National Laboratory. The official or current version is located in the online LBNL Requirements and Policies Manual. Printed or exported versions are not official. Users are responsible for working with the latest approved revision.
Confined Space Hazards and Controls

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Publication date: 1/2/2012
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Next review date: 1/2/2015
Policy Area: Industrial Hygiene and Safety
RPM Section (home): ESH
RPM Section (cross-reference): None
Functional Division: Environment, Health & Safety
Prior reference information (optional): PUB-3000 Chapter 34

Source Requirements Documents
- 29 CFR 191.146, Permit-Required Confined Spaces
- 10 CFR 851.21(a)(5), Hazard Identification and Assessment

Implementing Documents

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Other References

- DOE Guide 440.1-8, Implementation Guide for use with 10 CFR Part 851, *Worker Safety and Health Program*, Section 3.3.2.1.5