1 Purpose

The purpose of these procedures is to ensure that penetrations are conducted safely and in compliance with applicable regulations. They cover planning, approving, and performing penetrations. They apply to workers, supervisors, ESH coordinators, and area and building managers; and Radiation Protection.

These procedures do not apply to penetrations of earth, soil, or ground. For those penetrations, see Chapter 11, “Excavation Safety”.

2 Procedures

Penetrations require a permit, as described below.

2.1 Penetration Planning Procedure

<table>
<thead>
<tr>
<th>Step</th>
<th>Person</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Supervisor</td>
<td>Classifies penetration:</td>
</tr>
</tbody>
</table>

- A Class 1 penetration is one made into hollow walls, hollow ceilings, or hollow floors or into solid material to a depth of 2 inches or less. A penetration permit is required unless the activity and associated hazard analysis and controls are documented in job safety analysis (JSA). (See Chapter 2, “Work Planning and Control”.)

  If the supervisor has direct knowledge that a structure, wall, floor, or other surface does not contain electrical, gas, or other hazards, these requirements do not apply and a Class 1 penetration may be authorized without a hazard evaluation or documentation.

- A Class 2 penetration is one deeper than 2 inches or all the way through solid material. A penetration permit is required for all Class 2 penetrations. The activity and subsequent hazard analysis and controls must be documented on the permit, unless they have already been documented in a JSA, in which case the permit will reference that documentation.

- All penetrations within a radiologically controlled area (RCA), a radioactive material management area (RMMA), into accelerator shielding (for example, the Accelerator Housing Structure, End Station A Hall, Klystron Gallery Floor), or involving the use of a radiation generating device (x-ray generating device, etc.) for non-destructive testing (NDT) require a penetration permit, including review by the Radiation Protection Department.
### 2.2 Penetration Procedure

<table>
<thead>
<tr>
<th>Step</th>
<th>Person</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Supervisor</td>
<td>Ensures hazards and controls are communicated to workers</td>
</tr>
<tr>
<td>2.</td>
<td>Worker</td>
<td>Performs work, implementing all required controls</td>
</tr>
</tbody>
</table>

### 3 Forms

The following forms are required by this procedure:

- Penetration Safety: Penetration Permit Form (SLAC-I-730-0A23J-007). Form for documenting review and approval of penetrations

### 4 Recordkeeping

The following recordkeeping requirements apply for this procedure:
Upon completion of the work the supervisor must retain the permit for at least 12 months.

5 References

SLAC Environment, Safety, and Health Manual (SLAC-I-720-0A29Z-001)
- Chapter 44, “Penetration Safety”
- Chapter 2, “Work Planning and Control”
- Chapter 11, “Excavation Safety”

Other SLAC Documents
- None

Other Documents
- None