Chapter 12: Fire and Life Safety

Fire Prevention Hot Work Procedures

1 Purpose

The purpose of these procedures is to minimize ignition hazards caused by fire prevention hot work, that is, activities that generate open flame or sparking, such as welding, open-flame soldering, oxygen cutting, and barbequing. They cover the permitting of fire prevention hot work, both temporary and fixed (that is, ongoing in designated areas). They apply to workers who perform hot work activities at SLAC, their supervisors, area and building managers, field construction managers, the SLAC fire marshal, Facilities and Operations, and SLAC Site Security.

For requirements applying to electrical hot work, see Chapter 8, “Electrical Safety”.

1.1 Excluded Activities

These procedures do not apply to the following activities:

- Smoking in designated smoking areas
- Soldering electronic components
- Using laboratory bench-top burners (such as Bunsen burners)
- Combustion occurring inside listed or approved devices or machinery
- Hydrogen furnace flares
- Cooking on fixed stoves in kitchens

2 Procedures

A permit is required for any hot work. Hot work permits may be requested by any SLAC worker. SLAC employees and others with SLAC logins use the Hot Work Permit-Fire system. Subcontractors may obtain permits through their field construction manager (FCM). Permits are approved by individuals authorized by the SLAC fire marshal. Permits expire at the end of their designated term.

Requesters and approvers of hot work permits and FCMs must complete ESH Course 119, Hot Work Permit Training (ESH Course 119). (No training is required to request open flame cooking permits.)

All SLAC personnel involved in performing, monitoring, or supervising fire watches for hot work processes must complete ESH Course 108, Fire Extinguisher Training (ESH Course 108) and ESH Course...
108PRA, Fire Extinguisher Training Practical (ESH Course 108PRA). Contract personnel performing these duties must provide evidence of equivalent non-SLAC training.

## 2.1 Temporary Hot Work Permit Procedure

Temporary hot work permits are valid for up to eight days.

<table>
<thead>
<tr>
<th>Step</th>
<th>Person</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Requester</td>
<td>Initiates hot work permit using the Hot Work Permit-Fire system, selecting appropriate approver. Separate permits are necessary for each specific area in which hot work will be performed. If subcontractor, contacts the field construction manager (FCM) to submit the request (the FCM may ask the subcontractor to use the Fire and Life Safety: Subcontractor Hot Work Permit Request)</td>
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<td>2.</td>
<td>Hot Work Permit-Fire System</td>
<td>Notifies SLAC fire marshal, selected approver, and building / area manager if applicable</td>
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<td>3.</td>
<td>Requester</td>
<td>Initiates Facilities service request, by using the Facilities Request System or calling ext. 8901, if impairing fire detectors necessary (see Fire and Life Safety: Fire Protection System Impairment Procedures)</td>
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<td>4.</td>
<td>Facilities Service Desk</td>
<td>Generates service request documentation and notifies Facilities Fire Protection Group, if impairing fire detectors necessary</td>
</tr>
<tr>
<td>5.</td>
<td>Requester</td>
<td>Notifies approver when ready to begin work</td>
</tr>
<tr>
<td>6.</td>
<td>Approver</td>
<td>Reviews restrictions and conditions with requester at job site. Signs permit copy in the field and adds approval to Hot Work Permit-Fire system.</td>
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<tr>
<td>7.</td>
<td>Requester</td>
<td>Receives copy of permit. Places permit in a readily accessible location, such as the work planning and control (WPC) folder, or posts in plain view</td>
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<tr>
<td>8.</td>
<td>Facilities Fire Protection Group</td>
<td>Turns fire detectors off and on at the beginning and end of each work day, respectively, if impairing fire detectors necessary</td>
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</tbody>
</table>
| 9.   | Requester | Performs work, meeting following requirements:  
  - Provides a fire watch during welding operations. Continues fire watch for at least 30 minutes after welding or other hot work is completed. Minimum time period may be extended to 60 minutes by approver if severe hot work is being performed or other elevated fire hazard conditions are present.  
  - Does not perform hot work in areas where flammable liquids, or vapors, lint, dust or combustible storage is at risk of ignition  
  - Provides shielding in areas where sparks, slag, or heat may come in contact with combustible material  
  - Wears appropriate clothing in addition to required personal protective equipment  
  - Provides minimum 2A:20BC fire extinguisher for area where welding is done  
  - Maintains all welding equipment in good order. Inspect prior to each use |
2.2 Fixed Hot Work Permit Procedure

Fixed hot work permits cover ongoing work in designated areas. The process for obtaining the permit is the same as for temporary permits, except that the annual permit box is checked. Fixed hot work permits are valid for one year.

3 Forms

The following forms and systems are required by this procedure:

- **Hot Work Permit-Fire**. System for requesting and approving hot work permits
- **Fire and Life Safety: Subcontractor Hot Work Permit Request** (SLAC-I-730-0A12J-003). Optional form, to be used at the discretion of field construction managers (FCMs), for documenting requests by subcontractors for temporary hot work permits
- **Facilities and Operations Project and Work Request System**. System for requesting services from Facilities

4 Recordkeeping

The following recordkeeping requirements apply for this procedure:

- The SLAC fire marshal is responsible for maintaining the permit record using the **Hot Work Permit-Fire** system.

5 References

**SLAC Environment, Safety, and Health Manual** (SLAC-I-720-0A29Z-001)
- **Chapter 12, “Fire and Life Safety”**
  - Fire and Life Safety: Fire Protection System Impairment Procedures (SLAC-I-730-0A12C-002)
  - Fire Protection Resource Site (FireFacts) (SharePoint)
- **Chapter 8, “Electrical Safety”**

Other SLAC Documents
- ESH Course 108, Fire Extinguisher Training (ESH Course 108)
- ESH Course 108PRA, Fire Extinguisher Training Practical (ESH Course 108PRA)
- ESH Course 119, Hot Work Permit Training (ESH Course 119)

Other Documents
- American National Standards Institute (ANSI) Z49.1, “Safety in Welding, Cutting and Allied Processes” (**ANSI Z49.1**)
- National Fire Protection Association (NFPA) 51B, “Standard for Fire Prevention During Welding, Cutting, and Other Hot Work” (**NFPA 51B**), as modified by **SLAC Equivalency to NFPA 51B Hot Work Fire Watch** (SLAC-704-801-007-00)