

## WELDING, BURNING AND BRAZING

### INTRODUCTION

Work done on site that involves welding-burning-brazing (WBB) is regulated through the use of a Burn Permit. This system allows for risk evaluation, required controls, and approval by authorized personnel. This chapter describes procedures for the issuance of permits for WBB operations by Fermilab employees, subcontractors and experimenters.

### DEFINITIONS

**Burn Permit** - a set of precautions to be followed, verification of training, and provisions for supervision to assure safe work practices.

### RESPONSIBILITIES

**The project leader (i.e., person initiating the job) or the Task Manager/Construction Coordinator (for subcontracted activities)** is responsible for

- Obtaining a Burn Permit for any welding-burning-brazing activity.
- Contacting Facilities Engineering and Services - Fire System Maintenance (FSM) Technicians for disablement of fire detection systems.

**The Landlord Senior Safety Officer** is responsible for approving planned work within 25 feet of any flammable liquid or gas hazard.

**Business Services - Fire Department** is responsible for:

- Issuing burn permits
- Providing fire safety instruction in welding-burning-brazing.

## PROCEDURES

### 1. Welding-Burning-Brazing

- a. Persons planning to conduct a welding-burning-brazing operation shall contact the Fire Department. Fire Department personnel will examine the proposed operation, prescribe precautions, review safety procedures with the employee, and then issue a written Burn Permit. Hazards and precautions must also be listed in the hazard analysis or work procedure if one is written.
- b. Additional safety review and approval may be required by the appropriate division/section senior safety officer if work involves radioactive materials or if work will be conducted in a confined space or other hazardous operations area. In particular, prior written approval of the division/section senior safety officer shall be obtained for work within 25 feet of any flammable liquid or gas hazard.
- c. Long term permits may be issued for areas that contain frequent or continuous welding-burning-brazing operations. The Fire Department inspects continuous welding areas monthly and has the authority to revoke permits in non-complying areas.
- d. When it is likely that a fire detection system will be activated by a welding-burning-brazing operation, the system may be temporarily disabled or shielded by the FSM Technicians. All planned and emergency requests for disablement shall be made in accordance with [FESHM 6030](#).

The Fire Department, the building manager and local supervision shall be notified whenever a detector or sprinkler is temporarily shielded. The shield must be removed whenever the WBB operation is completed or at the end of the workday whichever comes first. The WBB permit requestor or their designee shall verify removal of the shield(s) and shall notify the Fire Department and any other interested parties.


The use of key switches or buttons for disabling detection systems (for example the High Sensitivity Smoke Detection system) by a designated individual shall be preceded by telephone calls to Security (Ext. 3414), from a cell (630-840-3414) the Fire Department (Ext. 3428) from a cell phone (630)-840-3428, the building manager and other interested parties. Enabling the key switch or button(s) shall be completed at the end of the normal workday preceded by telephone calls to Security (ext 3414), the Fire Department, the building manager and the other interested parties. Failure to enable the system will result in the designated individual contacted to restore the system to the normal condition.

1. There are two technical supplements to this chapter: Fermilab Fire Department procedure FD-RO-202 (available from the Shift Battalion Chief) and American National Standard (ANSI) Z-49.1 Safety in Welding and Cutting, which identifies safety precautions, including personal protective equipment.

## SAFETY PRECAUTIONS

1. All subcontractors shall have UL or FM listed check valves and flash back arrestors attached to the regulator side of their oxyacetylene cutting units.
2. Subcontractors shall furnish their own fire extinguishers. Units shall be of type and size suitable for the job to be completed and listed as such in the hazard analysis.
3. Inspections tags and seals shall be current for all extinguishers used on all jobs.

# Facsimile of Welding Permit

 Fermilab

WELDING       CUTTING       BRAZING

PERMIT NO. \_\_\_\_\_

AREA \_\_\_\_\_  
Dept.                      Bldg.                      Area

DATE ISSUED \_\_\_\_\_ FROM \_\_\_\_\_ TO \_\_\_\_\_  
Time

EXPIRES \_\_\_\_\_

**CHECK LIST**

<input type="checkbox"/> FIRE EXTINGUISHERS	<input type="checkbox"/> EXITS
<input type="checkbox"/> TELEPHONE EXT. _____	<input type="checkbox"/> CONFINED SPACE
<input type="checkbox"/> DETECTORS/SPRINKLERS	<input type="checkbox"/> TWO MAN RULE
<input type="checkbox"/> HALON SYSTEM	<input type="checkbox"/> FIRE WATCH
<input type="checkbox"/> COMBUSTIBLES	<input type="checkbox"/> DOSIMETER/FILM BADGE
<input type="checkbox"/> FLAMMABLE GASES	<input type="checkbox"/> SPECIAL NOTIFICATION
<input type="checkbox"/> REMOTE AREA	<input type="checkbox"/> VENTILATION

**FLASHBACK ARRESTORS REQUIRED ON ALL OXYACETYLENE EQUIPMENT**

DESCRIBE THE JOB \_\_\_\_\_  
\_\_\_\_\_

TO BE DONE BY: \_\_\_\_\_

EMPLOYED BY: \_\_\_\_\_

FERMILAB EMPLOYEE RESPONSIBLE:  
\_\_\_\_\_

Dept.	Employee's Name
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ALARM/EXTINGUISHING SYSTEM DISABLEMENT  
NECESSARY? \_\_\_\_\_

SPECIAL INSTRUCTIONS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PERMIT ISSUED BY: \_\_\_\_\_

FIRE PREVENTION CAPT. \_\_\_\_\_

**DIAL 3131 for Emergencies**

**DIAL 3428 for Fire Department Business Phone**

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