



FESHM 6020.2: WELDING, BURNING, & BRAZING

Revision History

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1.0 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.

2.0 REFERENCES

- FESHM 6010, Fire Protection Program
- FESHM 6030, Disablement of Fire Protection Systems
- FESHM 7010, ES&H Program for Construction
- OSHA 1910.252, Subpart Q, Welding, Cutting, and Brazing
- Fermilab's Fire Department procedure FD-RO-202
- American National Standard (ANSI) Z-49.1 Safety in Welding and Cutting, which identifies safety precautions, including personal protective equipment.
- NFPA 51B, Standard For Fire Prevention During Welding, Cutting, & Other Hot Work, 2009 Edition

3.0 DEFINITIONS

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

4.0 RESPONSIBILITIES

These responsibilities are supplement to the FESHM 6010, Section 4.0.

4.1 Business Services Section (BSS) – Fermilab's Fire Department (FFD)

- Issuing burn permits.
- Providing fire safety instruction in welding, burning, and/or brazing.

4.2 Division/Section/Center, Senior Safety Officer

- Approving planned work within 25 feet of any flammable liquid or gas hazard.

4.3 Task Manager/Construction Coordinator (for subcontracted activities)

- 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.



PROCEDURES

4.4 Welding-Burning-Brazing


- Task Manager/Construction Coordinator shall contact the Fermilab's Fire Department on the behalf of the subcontractor prior to any welding, burning, and/or brazing operation. The fire department's personnel will examine the proposed operation, prescribe precautions, review safety procedures with the employee and/or subcontractor, and then issue a written Burn Permit. When required, hazards and precautions must also be listed in the hazard analysis or work procedure prior to commencing the work.
- Additional safety review and approval may be required by the appropriate Division/Section/Center (D/S/C) 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 D/S/C Senior Safety Officer shall be obtained for work within 25 feet of any flammable liquid or gas hazard.
- 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.
- When it is likely that a fire detection system will be activated by a welding, burning, and/or 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 use of key switches or buttons for disabling detection systems (for example the air sampling smoke detection (VESDA) system) by a designated individual shall be preceded by contacting Security (Ext. 3414) or from a cell phone (630-840-3414) and Fire Department (Ext. 3428) or 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 contacting Security, the Fire Department, the building manager and the other interested parties.

4.5 Safety Precautions

- All subcontractors shall have UL or FM listed check valves and flash back arrestors attached to the regulator side of their oxyacetylene cutting units.
- 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.
- Inspections tags and seals shall be current for all extinguishers used on all jobs.



4.6 Facsimile of WBB Permit

 Fermilab

WELDING CUTTING BRAZING

PERMIT NO. _____

AREA _____
Dept. Bldg. Area

DATE ISSUED _____ FROM _____ TO _____
Time

EXPIRES _____

CHECK LIST

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

FLASHBACK ARRESTORS REQUIRED ON ALL OXYACETYLENE EQUIPMENT

DESCRIBE THE JOB _____

TO BE DONE BY: _____

EMPLOYED BY: _____

FERMILAB EMPLOYEE RESPONSIBLE:

Dept. Employee's Name

ALARM/EXTINGUISHING SYSTEM DISABLEMENT
 NECESSARY? _____

SPECIAL INSTRUCTIONS: _____

PERMIT ISSUED BY: _____

FIRE PREVENTION CAPT. _____

DIAL 3131 for Emergencies
DIAL 3428 for Fire Department Business Phone