Fermilab

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Memorandum

September 20, 2006

To: Bruce Chrisman

From: William Griffing

Subject: Revised FESHM Chapters – 6014, Fire Watch and 6014.1, Fire Watch Deployment Matrix

Enclosed you will find revised FESHM chapters 6014, "Fire Watch", and 6014.1, "Fire Watch Deployment Matrix". These chapters have been revised to reflect current operations. They have been posted for site wide review and comments have been addressed.

After final approval, please return this approval page to Elizabeth May at MS119 for posting on the web.

Encl.

Recommended for Approval:

Bruce Chrisman — Date 9/20/06

Approved:

Piermaria Oddone — Date 9/20/06

FIRE WATCH

INTRODUCTION

Automatic fire detection and suppression systems are installed in most areas of Fermilab, offering varying levels of protection. Activation of these systems all result in a response from the Fermilab Fire Department. It is important that such systems remain in service to provide adequate fire protection for life safety and property protection. On occasion, such systems may be temporarily disabled for reasons of new construction, modifications, or due to loss of power. In such cases it may be necessary for a Fire Watch to be established until such time that power has been restored or the disabled system brought back on-line. This chapter outlines the responsibilities and procedures to establish a Fire Watch.

REFERENCES

FIRUS Committee Building List by Priority

DEFINITIONS

After Hours – Monday through Friday between 3:30 PM and 7:00 AM, holidays, and weekends.

Automatic Fire Suppression Systems – sprinklers, Halon, foam, Carbon Dioxide, water mist, and dry and wet chemical systems.

Disablement – The process of 1) shut-down or impairment of a fire protection system, or 2) documentation and notification of system or component failures.

Fire Detection Systems - smoke detectors, thermal detectors, ultra-violet flame detectors, manual pull stations, water flow detectors, etc, connected to a fire alarm control panel.

Fire Protection Engineer (FPE) - responsible for overseeing the overall implementation and oversight of the Fermilab Fire Protection Program from the ES&H Section.

Fire Systems Maintenance (FSM) Technician – individual trained in the inspection, testing, and maintenance of fire protection systems throughout the Laboratory (including Water Based Systems, Fire Alarm Components, and Special Systems). The FSM Technicians or delegated designees conduct the actual disablements.

Fire Watch – a person or persons designated to periodically or continually monitor a facility for potential fire emergencies when detection and/or suppression systems are impaired or disabled.

Impairment – The status of any component or portion of a fire detection/suppression system that is not 100% functional.

Long-Term Disablement – disablement of a fire detection/suppression system for greater than or equal to 48 hours.

Normal Work Hours - Monday through Friday between 7:00 AM and 3:30 PM, excluding holidays.

Short-Term Disablement – disablement of a fire detection/suppression system for less than 48 hours.

(See FESHM Chapter 6010 for additional definitions of Building Manager, Fire Protection Engineer, FIRUS, and Irregularity Report. See FESHM 7010 for definitions of Task Manager and Construction Coordinator.)

RESPONSIBILITIES

Division/Section Heads are responsible for assuring that when detection /suppression systems are disabled, a fire watch appropriate to the situation/facility is established. This responsibility must be communicated through the management levels to include Building Managers, Senior Safety Officers, Task Managers, Construction Coordinators, Service Coordinators, and designees.

The Senior Safety Officer (SSO) shall implement a fire watch program for facilities that have loss power or has had the fire suppression/detection systems taken off-line following the procedures outlined in this chapter.

Facilities Engineering Services Section (FESS) FSM is responsible for

- Following the specific procedures outlined in this chapter when disabling and re-enabling fire detection/suppression systems upon the proper request of personnel in the division/section, or in an emergency (if available).
- Documenting and distributing the Fire Detection/Suppression System Long Term Disablement Request Form to appropriate personnel.
- Delegating disablements to trained personnel by following the requirements in the "Delegated Disablement Procedures" section of this chapter.
- Training and instructing individuals in proper disablement procedures.

The Business Services (BS) -Communications Center is responsible for making appropriate notifications of personnel in accordance with current Security procedures (#12.502) and the requirements of this chapter.

The BS Fermilab Fire Department (FFD) shift officer is responsible for requesting disablement on an emergency basis where system failures occur or as a result of other off-hours problems.

The ESH-Fire Protection Engineer (ESH-FPE) is responsible for
Reviewing all long term disablements
Investigating unresolved disablements and report them to the ESH Section Head.

Task Managers, Construction Coordinators, and Service Coordinators are responsible for

- Managing disablement and re-enablement procedures during the course of a specific project.
- Planning for disablements and contacting FSM for instruction

PLANNED DISABLEMENT REQUESTS

1. All planned (non-emergency) disablement requests must be made to the FESS-FSM group during normal work hours. The number is **x 2924**.

2. All planned disablement requests shall be submitted with advance notice of at least 1 work day for disablements during normal work hours and at least 2 work days for disablements during after hours. Refer to FESHM Disablement of Fire Protection Systems.

3. Short-term disablements may be requested by contacting the FESS-FSM Technicians directly (by phone, page, etc). The Fire Detection/Suppression System Long Term Disablement Request Form is only required for long-term disablements (>48 hours).

4. The following information is needed when requesting a disablement:

   a. Description of area to be disabled (building name, specific location)
   b. Identification of the system requiring disablement
   c. Date and time the disablement is needed
   d. Reason for disablement (welding, construction, etc.)
   e. Site contact (task manager, supervisor, etc.) name, extension, page numbers
   f. Requestor name
   g. Budget code (required for after hours work)
   h. Estimated length of time of disablement.

Note: Remember, The Fire Detection/Suppression System Long Term Disablement Request Form is only required for long-term disablements (>48 hours).

5. The FSM group is responsible for entering this information into CMMS.

6. There are occasions when the FSM group will initiate a request for disablement (e.g., if a system sensor is indicating needed maintenance). In this event, FSM will request the disablement and obtain approvals from the building manager, landlord ES&H safety personnel, or the Senior Safety Officer, etc. If unavailable, the FSM group will notify appropriate individuals by voice mail, email, etc.

7. The FSM technicians will perform all disablement, unless otherwise delegated by the FSM technician. *Note: The individual delegated is responsible for re-enablement at the earliest opportunity.*

8. The minimum amount of fire detection/suppression systems shall be disabled (depending on system design and configuration) ensuring maximum building/equipment protection.

9. The FSM technician will notify the Communication Center, the FFD, and any other applicable groups (e.g., Main Control Room) of the disablement and will convey any additional pertinent information prior to disablement.

10. The FSM technician (or delegate) will receive a disablement tag number. Upon disablement, the completed disablement tag shall be placed on the panel or affected system. If other systems are associated with the disabled system, each portion of the affected system shall be listed in the comments area on the front of the tag.

11. Requesting division/section worksite contacts or designees (including subcontractors) must inform the FESS-FSM Technicians of any changes in scope of wok affecting the disablement (extensions, affected areas, etc.). The FESS-FSM Technicians will make the necessary changes to the system.

12. The worksite contact (building manager, task manager, subcontractor, etc.) shall notify the FSM technician (or delegate) for system re-enablement as early as possible.

13. Upon re-enablement of the affected fire detection/suppression system(s), the FSM technician (or delegate) shall notify the Communication Center, the FFD, and applicable division/section personnel that the system is in service. Upon verification with the Communication Center that the system is clear on FIRUS, the tag is removed, completed with the time/date of re-enablement, initialed, and returned to FESS Operations/Engineering.

14. The FSM technicians will review all disablements at least weekly. If a short-term disablement exceeds 48 hours, an FSM technician will instruct division/section ES&H safety personnel/Senior Safety Officer to submit the required Fire Detection/Suppression System Long Term Disablement Request Form. The FSM Technicians will audit the status of all outstanding long term disablements report any significant deficiencies or issues to the appropriate division/section and the Fire Protection Engineer.

FIRE WATCH

In the event a portion of the fire detection, protection or suppression system is rendered inoperative, a Fire-Watch may be required.

Upon notification that the fire detection, protection or suppression system is rendered inoperative for a facility, the Division/Section SSO will determine the need and level for a Fire Watch. Refer to Figure 1. If it is determined that a fire watch is required then implement for the duration of the problem.

A fire watch is a qualified person or persons in attendance during the times when fixed fire detection systems have been taken out of operation, the fire watch should be familiar with the operation of systems/operations in the building, capable of moving throughout the building and be able to notify emergency responders.

Fire Watchers must be familiar with alarm location and procedures for sounding an alarm in the event of a fire, and other life safety alarms (ODH, Hazardous Atmosphere, etc). The assignment of a person or persons to an area for the express purpose of notifying the fire department, the building occupants, or both of an emergency; preventing a fire from occurring; extinguishing small fires; or protecting the public from fire or life safety dangers.

Based on the size of the building, operations occurring within the building and the criticality of the building to Laboratory operations the solution to the Fire Watch issue may range from having Security periodically check the building during their tours through having Division/Section personnel physically inside the building until the problem has been fixed.

In planning for and assigning a Fire Watch, the following must be considered:

- Equipping individual with a flashlight and two-way radio or cell phone
- Providing a route and timetable for touring the facility

- Providing a check-in schedule with the Communications Center
- Providing a replacement for the Fire Watch after a set period of time

NOTE: The use of Security personnel must be coordinated through the Security Chief at (x3414). There will be times that due to staffing shortages the Security Force will not be able to provide Fire Watch Duties.

Fire Watch Deployment Matrix Guide

1. Identify the specific building or category in which the building is best described.
2. Determine what detection, occupancy and if the facility has a working FIRUS connection, sprinkler system and has a redundant or complete detection systems are present and working.
3. Add the numbers and place total in Right hand column (Sum of working devices).
4. Having arrived at a number, continue to the right matching the number to the various options presented.
5. Once located this is the recommended level of fire watch is presented for consideration for local implementation.

Figure 1 – Fire Watch Deployment Matrix Guide