Fermilab

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Memorandum

December 11, 2006

To: Bruce Chrisman

From: William Griffing

Subject: Revised FESHM Chapter 6030 – Disablement of Fire Protection Systems

Enclosed you will find revised FESHM chapter 6030, Diablement of Fire Proection Systems. This chapter was revised to reflect current operations and organizations. It was posted for site wide review and all comments were 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 12/13/06

Approved:

Piermaria Oddone — Date 12/13/06

DISABLEMENT OF FIRE PROTECTION SYSTEMS

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, it is necessary that such systems be temporarily disabled for reasons of new construction, modifications, or where welding, torch cutting, grinding, sanding, or other work may cause activation of fire detection and/or suppression systems. Because such disablements must be controlled and minimized, this chapter outlines the responsibilities and procedures to request, perform, and track system disablements, re-enablements, and impairments.

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.

CMMS – Computerized Maintenance Management System operated and maintained by FESS/Operations.

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 Detection/Suppression System Long Term Disablement Request Form – document issued by individuals to begin the process of long term (>48 hours) disablement and re-enablement of fire protection systems (FESHM Chapter 6030.1).

Fire Protection Engineer (FPE) - highly trained and educated professional responsible for overseeing the overall implementation and oversight of the Fermilab Fire Protection Program.

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.

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

Heads of divisions and sections are responsible for assuring that fire detection/suppression systems are disabled only when necessary and are re-enabled at the earliest opportunity. This responsibility must be communicated through the management levels to include Building Managers, Senior Safety Officers, Task Managers, Construction Coordinators, Service Coordinators, and designees.

Senior Safety Officer (SSO)

The SSO or designee shall authorize long-term disablements by using the Fire Detection/Suppression System Long Term Disablement Request Form and follow the procedures outlined in this chapter. (The form requires the signature of the division/section head.)

In addition, the SSO or designee may require further actions during the time of system disablement or impairment, such as frequent checks of affected areas, fire watches, etc.

Facilities Engineering Services Section (FESS)

The FESS Fire Systems Maintenance (FSM) Technician group are 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). They also have additional responsibilities to document and distribute the Fire Detection/Suppression System Long Term Disablement Request Form to appropriate personnel. If required, the FSM Technicians may delegate disablements to trained personnel by following the requirements in the "Delegated Disablement Procedures" section of this chapter. The FSM technicians are responsible for training and instructing individuals in proper disablement procedures.

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 safety personnel 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.

As requested or at the direction of Division/Section management, the FSM supervisor or designee will prepare a monthly disablement/impairment report for appropriate D/S management, safety personnel, and the ES&H-FPE. This report is a "snapshot" of the status of affected fire detection/suppression systems throughout Fermilab.

Environment, Safety and Health (ES&H) Section

The Communications Center of ES&H-Security shall make appropriate notifications of personnel in accordance with current Security procedures (#12.502) and the requirements of this chapter.

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

The ES&H Section Fire Protection Engineer (ES&H-FPE) reviews all long term disablements. If necessary, the ES&H-FPE will investigate unresolved disablements and report them to the ES&H Section Head.

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 **x2924**.

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.

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, safety personnel, 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 Fermilab Fire Department, 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.

EMERGENCY DISABLEMENTS

1. During normal work hours, requests of emergency disablements shall be made directly to the FESS-FSM Technicians (x2924 or on-site pager 0269). They will respond and evaluate the disablement at that time.

2. All after hours requests for emergency disablements shall be made to the Communication Center (x3414).

3. The Communication Center dispatcher shall notify the on-call FSM technician in accordance with the most current Communication Center Procedure #12.502.

4. The on-call FSM technician will evaluate the disablement request and determine whether the disablement will proceed and how it will be performed (by the FSM technician, subcontractor, etc.).

5. FSM technician will notify the Communication Center, the Fermilab Fire Department, the Senior Safety Officer (SSO) of the affected division/section, and any other applicable groups (e.g., Main Control Room) of the disablement and will convey any additional pertinent information.

6. The FSM technician or designee will conduct or oversee the disablement process and documentation (including transfer of the work to a subcontractor). A temporary disablement tag will be used. The next business day, the FSM technician will enter the information into the Disablement Tag Log.

7. Upon re-enablement of the affected fire detection/suppression system(s), the FSM technician (or delegate) shall notify the Communication Center, the FFD, SSO, 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 Operation/Engineering.

DELEGATED DISABLEMENT PROCEDURES

The FSM technician is authorized to delegate disablement of fire detection/suppression systems. Disablement (and re-enablement) of fire detection/suppression systems can be delegated to:

- Fermilab employees and visiting scientists,
- Task Managers, Construction Coordinators, and Service Coordinators, or
- Subcontractors.

Fermilab Employees and Visiting Scientists

Fermilab employees and visiting scientists may conduct routine disablements and re-enablements of fire detection/suppression systems. The disablement procedures are limited to basic procedures as directed by the FSM technicians for ongoing processes or tasks in a building or area. Individuals must receive instructions on the specific disablement procedures of the fire protection system from FSM personnel or knowledgeable individuals from the affected division/section prior to performing any disablement. These specific disablement procedures may include elements of the procedures outlined in other sections of this chapter.

Delegated personnel shall re-enable the fire detection/suppression system at the earliest opportunity.

Task Managers, Construction Coordinators, and Service Coordinators

Task Managers, Construction Coordinators, and Service Coordinators occasionally have responsibility to manage disablement and re-enablement procedures during the course of a specific project. These individuals are responsible for planning such disablements and contacting the FSM group for instruction. The FSM group is responsible for training these individuals on correct procedures and limiting the scope of these procedures.

Subcontractors

1. Subcontractors maintain much of the fire detection/suppression systems throughout Fermilab. This includes preventive maintenance of existing systems, response to malfunctions of the systems, and special system operations during specific projects.

2. Subcontractors may include fire protection system specialists, service contractors, or construction contractors working on a particular project.

3. The FSM group is responsible for authorizing and approving the scope of all subcontractor disablements and re-enablements. This includes emergency response, preventive maintenance, and specific procedures for a given project. The scope of the subcontractors work must be specifically detailed and communicated to affected personnel within all divisions and sections. *Approval and authorization does not have to occur for each and every disablement during the approved scope of work. However, the usual notifications required by this chapter are still necessary.*

4. The FSM group may suspend delegated privileges if the procedures are not followed satisfactorily – especially prompt re-enablement of affected systems.

FIRE DETECTION/SUPPRESSION SYSTEM LONG TERM DISABLEMENT REQUEST FORM

(For use when systems are out of service greater than 48 hours)

SYSTEM: Detection [ ] Sprinkler [ ] Suppression [ ]

Fire Sprinkler Water Supply [ ] Other [ ] _____

SYSTEM NUMBER (orange & black label): FP_____

LOCATION: _____

_____

AREA AFFECTED: _____

_____

REASON FOR DISABLEMENT: _____

_____

REQUESTED START DATE _____ ESTIMATED REENABLEMENT DATE _____

REQUESTOR _____ DATE _____ PHONE #_____

DIVISION/SECTION SENIOR SAFETY OFFICER _____ DATE _____
(signature)

DIVISION/SECTION HEAD _____ DATE _____
(signature)

TO BE COMPLETED BY FACILITY OPERATIONS & ENGINEERING

DISABLE TAG # _____ DATE _____

SYSTEM RESTORED TO NORMAL - DATE _____

NOTE: This form is to be completed by the requestor, and requestor is responsible for obtaining the required signature authorization prior to the request being submitted to FESS Fire Systems Maintenance (FSM) Technicians. The requestor shall be responsible for requesting re-enablement at the earliest opportunity. When the system is disabled, FSM Technicians shall distribute a copy of this request to the below listed personnel. When the system is re-enabled, the FSM Technicians shall send the completed request to the same individuals.

DISTRIBUTION: Requestor, Building Manager, Division/Section Senior Safety Officer, ES&H Fire Protection Engineer, Fermilab Fire Department Chief
FESS Fire Systems Maintenance – phone 2924 or on-site pager 0269