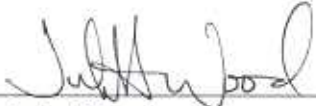
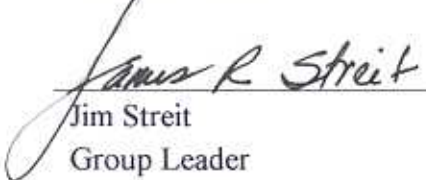


CRITERION 732


FIRE DOORS

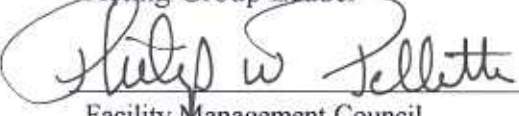
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RECORD OF REVISIONS

Revision No.	Date	Description
0	04/30/98	Initial Issue
1	05/31/01	This revision reflects the conversion from a WordPerfect document into a Microsoft Word document and additional clarification on how to develop criteria. This revision includes: <ul style="list-style-type: none">• The addition of a Table of Contents,• The use of basis statements in Sections 6, 7, and 9,• Revision to Section 9, “Required Documents,” and• Further clarification in the use of references.• Changes to Section 4.4 per Writer’s Guide change.
	7/12/02	
	7/29/02	Incorporation of wording changes from FM Council in Section 6.0

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CRITERION 732**FIRE DOORS****1.0 PURPOSE**

The purpose of this Criterion is to establish the minimum requirements and best practices for operation, maintenance and inspection of fire doors at LANL.

This document addresses the requirements of LIR 230-05-01(Ref 10.1), "Operations and Maintenance Manual" and the requirements of LIR 402-910-01.4, "LANL Fire Protection Program."

Implementation of this Criterion satisfies DOE Order 430.1A (Ref. 10.2), "Life Cycle Asset Management," Attachment 2 "Contractor Requirements Document," Paragraph 2, sections A through C, which in part require UC to "...maintain physical assets in a condition suitable for their intended purpose" and employ "preventive, predictive, and corrective maintenance to ensure physical asset availability for planned use and/or proper disposition." Compliance with DOE Order 430.1A is required by Appendix G of the UC Contract.

2.0 SCOPE

The scope of this Criterion includes the routine inspection, testing and preventive maintenance of fire doors. This Criterion does not address corrective maintenance actions required to repair or replace equipment. This Criterion applies to all LANL organizations owning fire doors.

3.0 ACRONYMS AND DEFINITIONS**3.1 Acronyms**

AHJ	Authority Having Jurisdiction
CFR	Code of Federal Regulations
DOE	Department of Energy
ITM	Inspection, Testing and Maintenance
LIR	Laboratory Implementing Requirement
LPR	Laboratory Performance Requirement

O&M	Operations and Maintenance
PP&PE	Personal Property and Programmatic Equipment
RP&IE	Real Property and Installed Equipment
SSC	Structures, Systems, and Components
SSS	Support Services Subcontractor
UC	University of California

3.2 Definitions

Management Level Determination (ML1, ML2, ML3, ML4) -A classification system for determining the degree of management control applied to facility work. See LIR 230-01-02 for definitions of each ML level.

Fire Door Assembly - Any combination of a fire door, a frame, hardware, and other accessories that together provide a specific degree of fire protection to the opening. Types of fire doors typically used at LANL include swinging fire doors, horizontal and vertical sliding fire doors, elevator doors, and rolling fire doors (other approved types of fire doors may be used).

4.0 RESPONSIBILITIES

4.1 FWO-Systems, Engineering and Maintenance (FWO-SEM)

4.1.1 FWO-SEM is responsible for the administrative content of this Criterion and monitoring the applicability and the implementation status of this Criterion and either assisting the organizations that are not applying or meeting the implementation expectations contained herein or elevating their concerns to the director(s).

Basis: LIR 301-00-01.11; Issuing and Managing Laboratory Operations Implementation Requirements and Guidance, Section 5.4, OIC Implementation Requirements.

4.1.2 FWO-SEM shall provide technical assistance to support implementation of this Criterion.

4.2 FWO-Fire Protection (FWO-FIRE)

4.2.1 FWO-FIRE is responsible for the technical content of this Criterion and assessing the proper implementation across the Laboratory.

4.2.2 FWO-FIRE shall provide technical assistance to support implementation of this Criterion.

4.2.3 FWO-FIRE is responsible for determining what doors are credited as fire doors, and for transmitting this information for incorporation into the Master Equipment List (MEL). To this extent, FWO-FIRE is responsible for the list of fire doors contained in the MEL. Changing the fire door information in the MEL must be approved by FWO-FIRE, including modifying existing fire doors, or adding or removing fire doors from the MEL.

4.3 Facility Manager

4.3.1 Responsible for operations and maintenance of institutional, or Real Property and Installed Equipment (RP&IE) under their jurisdiction, in accordance with the requirements of this document.

4.3.2 Responsible for operations and maintenance of those Personal Property and Programmatic Equipment (PP&PE) systems and equipment addressed by this document that may be assigned to the FM in accordance with the FMU-specific Facility/Tenant Agreement.

4.4 Group Leader

4.4.1 Responsible for operations and maintenance of those PP&PE systems and equipment addressed by this document, which are under their jurisdiction.

4.4.2 Responsible for system performance and subsequent replacement or refurbishment of assigned PP&PE.

4.5 Support Services Subcontractor

4.5.1 Responsible for providing ITM of the fire protection systems addressed in this Criterion at the request of the responsible Facility Manager.

4.5.2 Responsible for coordinating work with operating group and Facility Manager to conduct ITM in the affected area.

4.6 Authority Having Jurisdiction (AHJ) – Fire Marshal

4.6.1 The AHJ is responsible for providing a decision on a specific technical question regarding this Criterion.

4.6.2 The LANL Fire Marshal is the AHJ and the approval authority for any exceptions and variances to this Criterion.

- 4.6.3** The LANL Fire Marshal is the AHJ and approval authority for downgrading any existing fire doors to non-fire door status.

5.0 PRECAUTIONS AND LIMITATIONS

5.1 Precautions

This section is not intended to identify all applicable precautions necessary for implementation of this Criterion. A compilation of all applicable precautions shall be contained in the implementing procedure(s) or work control authorization documents. The following precautions are intended only to assist the author of a procedure or work control document in the identification of hazards/precautions that may not be immediately obvious.

5.2 Limitations

The intent of this Criterion is to identify the minimum generic requirements and recommendations for SSC operation and maintenance across the Laboratory. Each user is responsible for the identification and implementation of additional facility specific requirements and recommendations based on their authorization basis and unique equipment and conditions, (e.g., equipment history, manufacturer warranties, operating environment, vendor O&M requirements and guidance, etc.).

Nuclear facilities and moderate to high hazard non-nuclear facilities will typically have additional facility-specific requirements beyond those presented in this Criterion. Nuclear facilities shall implement the requirements of DOE Order 4330.4B (Ref. 10.3) (or 10 CFR 830.340, Maintenance Management, when issued) as the minimum programmatic requirements for a maintenance program. Additional requirements and recommendations for SSC operation and maintenance may be necessary to fully comply with the current DOE Order or CFR identified above.

6.0 REQUIREMENTS

Minimum requirements that Criterion users shall follow are specified in this section. Requested exceptions and variances to these requirements shall be prepared and submitted to FWO-SEM in accordance with LIR 301-00-02 (Ref. 10.4), "Variances and Exceptions to Laboratory Operations Requirements," for review and approval. The Criterion users are responsible for analysis of operational performance and SSC replacement or refurbishment based on this analysis. Laws, codes, contractual requirements, engineering judgement, safety matters, and operations and maintenance experience drive the requirements contained

in this section. Variances and exceptions to this Criterion shall be approved by the LANL Fire Marshal.

6.1 Operations Requirements

6.1.1 Operations Checklist

Fire doors must remain operational at all times. Fire doors shall be deemed operational when the following conditions are met:

- All fire doors and related hardware are in the required locations and in good physical condition.
- Each fire door is equipped with listed or approved hardware (hinges, latching device, holder and closer, smoke gasketing) as required.
- Opening and closing hardware is operational.
- Fire doors are closed unless provided with automatic releasing and closing devices.

Basis: NFPA 80, Standard for Fire Doors and Fire Windows, 1999 Edition

6.2 Inspection, Testing and Maintenance Requirements

6.2.1 Inspection

6.2.1.1 Conduct a monthly inspection to verify the fire doors are not blocked open, and that latching mechanisms are functioning properly. If fire doors are equipped with automatic releasing devices, verify that this hardware is in good repair.

6.2.1.2 Tinclad and Kalamein doors shall be inspected regularly for dry rot.

6.2.1.3 Chains, ropes or cables employed on suspended doors shall be inspected regularly for excessive wear and stretching.

6.2.1.4 Door openings and the surrounding areas shall be kept clear of anything that could obstruct or interfere with the free operation of the door. Blocking or wedging a door in the open position is prohibited.

6.2.1.5 Fusible links or other heat-actuated devices and release devices shall not be painted.

Basis: All of the requirements listed in Section 6.2.1 are based upon NFPA 80, Standard for Fire Doors, Fire Windows, 1999 Editions and LIR 402-910-01, LANL Fire Protection Program.

6.2.2 Testing

6.2.2.1 Annually test electric and pneumatic door closer devices and all horizontal or vertical sliding and rolling fire doors to check for proper operation and full closure.

6.2.2.2 Swinging doors, including those held in the open position and equipped with automatic closing devices, shall be operated monthly to ensure proper operation. Monthly operation shall include release of the door from the half-open position: the door must close and latch.

6.2.2.3 All horizontal and vertical sliding and rolling fire doors shall be inspected and tested annually to check for proper operation and full closure. Resetting the release mechanism shall be done in accordance with the manufacturer's instructions. A written record shall be maintained and shall be made available to the AHJ upon request.

Basis: All of the requirements listed in Section 6.2.2 are based upon NFPA 80, Standard for Fire Doors, Fire Windows, 1999 Editions and LIR 402-910-01, LANL Fire Protection Program.

6.2.3 Maintenance

6.2.3.1 Guides and bearings shall be kept well lubricated to facilitate operation.

6.2.3.2 Chains, ropes or cables on biparting, counterbalanced doors shall be checked frequently and adjustments made to ensure proper latching and to keep the doors in proper relation to the opening.

6.2.3.3 Where holes are left in a door or frame due to changes or removal of hardware or plant-ons (ex. kick-plates or security features), the holes shall be repaired by installing steel fasteners that fill the holes.

6.2.3.4 Repair other deficiencies in accordance with manufacturer's recommendations. Breaks in the face covering of doors shall be repaired immediately.

Basis: All of the requirements listed in Section 6.2.3 are based upon NFPA 80, Fire Doors and Fire Windows, Chapter 15, 1999 Edition and LIR 402-910-01, LANL Fire Protection Program.

6.3 Impairments and Modifications

6.3.1 If one or more of the operability requirements listed in Section 6.1.1 are not maintained, follow the actions outlined in Criterion 733, Fire Protection System Impairment Control Program.

6.3.2 Visually inspect the door before returning it to service following an impairment, maintenance, or modification.

6.3.3 Conduct an operational test of the door after completing any repairs or modifications.

Basis: All of the requirements listed in this section are based upon NFPA 80, Standard for Fire Doors, Fire Windows, 1999 Editions and [Notice 0070, Fire Protection System and Component Impairments](#).

6.4 Alarm Verification

Alarm verification will be conducted by SSS personnel, in compliance with LIR 402-910-01, Section 6.0

Basis: LIR 402-910-01.4, LANL Fire Protection Program

7.0 RECOMMENDED GOOD PRACTICES

The information provided in this section is recommended based on acceptable industry practices and should be implemented by each user based on his/her unique application and operating history of the subject systems/equipment

7.1 Operations Recommendations

7.1.1 Operational testing of fire doors as required by this document may be conducted by persons other than SSS Fire Protection Maintenance personnel.

7.2 Maintenance Recommendations

7.2.1 Persons other than SSS Fire Protection Maintenance personnel may conduct visual inspection requirements identified in this document.

Basis: LIR 402-910-01.4, LANL Fire Protection Program

8.0 GUIDANCE

8.1 Operations Guidance

No operations guidance available.

8.2 Maintenance Guidance

No maintenance guidance available.

9.0 REQUIRED DOCUMENTATION

Maintenance history shall be maintained by the Facility Manager for fire doors to include, as a minimum, the parameters listed in the Table 9-1 below:

Table 9-1 Documentation Parameters

MAINTENANCE HISTORY DOCUMENTATION PARAMETERS				
PARAMETER	ML 1	ML 2	ML 3	ML 4
Fire Doors Maintenance Activities				
Repair / Adjustments	X	X	X	X
PM Activities	X	X	X	X
Fire Doors Equipment Problems				
Failure Dates	X	X	X	X
Failure Root Cause	X	X	X	X
Fire Doors Inspection Results (per this Criterion)				
Inspection Date	X	X	X	X
SSC Condition	X	X	X	X

Basis: Documentation of the parameters listed in Table 9-1 above satisfies the requirements of LPR 230-07-00, Criteria 2, (Ref. 10.5) which states;

“Maintenance activities, equipment problems, and inspection and test results are documented.

10.0 REFERENCES

- LIR 230-05-01.0, Operations and Maintenance Manual.
- DOE O 430.1A, Attachment 2 “Contractor Requirements Document” (Paragraph 2, Sections A through C), a requirement of Appendix G of the UC Contract.
- DOE Order 4330.4B, Maintenance Management Program, Section 3.4.9
- LIR 301-00-02.0, Variances and Exceptions to Laboratory Operation Requirements
- LPR 230-07-00, Maintenance History, Performance Criteria [2].
- LIR 402-910-01.4, LANL Fire Protection Program
- NFPA 80, Standard for Fire Doors and Fire Windows, 1999 Edition
- Notice 0070, Fire Protection System and Component Impairments

Fire Door Inspection Checklist

(Monthly)

- Fire doors are not blocked open such that closure would be prevented.
- Door openings and surrounding area are kept clear of anything that could obstruct or interfere with free operation of the door.
- Fire door latching mechanism is functioning properly.
- Automatic release mechanism (if provided) is in good condition.
- Tinclad and Kalamein doors are not exhibiting signs of dry rot.
- Chains, ropes and cables on suspended doors are not showing excessive wear or stretching.
- Fusible links or other heat-actuated devices (if provided) are not painted.