

WP 12-FP3001

Revision 5

Fire Protection Impairment

Management Control Procedure

EFFECTIVE DATE: 12/15/09

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APPROVED FOR USE

TABLE OF CONTENTS

INTRODUCTION 3

REFERENCES 3

PRECAUTIONS AND LIMITATIONS 4

PERFORMANCE 5

1.0 IMPAIRMENTS 5

2.0 DETERMINING THE FIRE WATCH 7

3.0 FIRE WATCH ACTIONS 9

Attachment 1 - Sample Impairment Tag Example (Front) 10

Attachment 2 - Sample Impairment Index 12

Attachment 3 - Fire Watch Log 13

INTRODUCTION ^{1,2}

This procedure establishes the control of impairments to fire protection and related loss control systems. It is designed to limit impairments to those which are essential, ensure that they are restored as quickly as possible, and ensure that adequate interim measures are taken during the impairment. Fire protection and related loss control systems include:

- Fire protection water supplies (fire pumps, storage tanks, mains, valves, hydrants, etc.)
- Fire suppression systems
- Fire evacuation and alarm signal systems
- Fire detection systems
- Fire doors, fire partitions, fire dampers, and penetration seals

The following activities are detailed in the Performance Section of this procedure:

- Impairments
- Determining the fire watch
- Fire watch actions

Performance of this procedure generates the following records, as applicable:

- Fire Watch Log, Attachment 3
- Fire Watch Impairment Index

REFERENCES

BASELINE DOCUMENTS

- WP 12-FP.01, WIPP Fire Protection Program

REFERENCED DOCUMENTS

- DOE/WIPP-07-3373, *Waste Isolation Pilot Plant Technical Safety Requirements*
- WP 04-AD3001, Facility Mode Compliance
- WP 04-AD3005, Administrative Control of System Lineups

- WP 04-AD3012, Temporary Plant Modification Control
- WP 12-FP0055, Monthly Surveillance for Fire Suppression System

PRECAUTIONS AND LIMITATIONS

The Technical Safety Requirements (TSRs) contain Limiting Conditions for Operation (LCOs) and Specific Administrative Controls (SACs) which provide specific preventative or mitigative limits and required actions for identified accident scenarios. Failure to comply with LCOs or SACs may constitute a violation and must be immediately reported to the Facility Shift Manager (FSM). The step affected by the LCO/SAC is followed by the LCO/SAC number in bold brackets (e.g., [**LCO 3.X.X**]). Applicable LCO/SAC Surveillance Data Sheets SHALL be completed as required by WP 04-AD3001.

- The Fire Protection Engineer (FPE), when available, and the FSM are responsible for the approval of fire protection impairments on the surface. The FPE, when available, and the Underground Facility Engineer (UFE) are responsible for the approval of fire protection impairments in the underground.
- Approval, application and removal of all fire protection impairments must be reported to the FSM and Central Monitoring Room (CMR).
- When the fire suppression system for the Waste Isolation Pilot Plant (WIPP) structure is inoperable, a fire watch shall be established.
- Planned fire protection impairments must be performed in conjunction with an approved procedure or work package.
- Fire protection impairments, which require a procedurally undefined alteration to system configuration, must be performed in accordance with WP 04-AD3012.
- Sections 1.0, 2.0, and 3.0 of this procedure may be performed independently of one another.
- A Fire Protection Impairment Tag shall be completed and posted prior to impairing a fire protection system for planned work activities greater than one hour.
- A Fire Protection Impairment Tag shall be posted for unexpected occurrences that reduce the capability of or render the fire protection system inoperable.
- Normal plant configuration is all fire water control valves open, and all fire alarm systems operable. An impairment is issued when a system or a part of a system is not in service.

- The impaired equipment shall include fire protection equipment or systems that may be, but shall not be limited to, the following:
 - Sprinkler systems
 - Standpipe systems
 - Fire hose systems
 - Underground fire service mains
 - Fire pumps
 - Water storage tanks
 - Fire service control valves
 - Alarm initiating devices such as pull stations
 - Alarm notification devices such as strobes and horns
 - Fire panels

- During routine maintenance, the impaired equipment or system shall NOT be left unattended until maintenance is completed or interim measures taken.

- For all impairments, a determination shall be made by the FPE, when available, and FSM as to any necessary interim measures.

PERFORMANCE

1.0 IMPAIRMENTS

NOTE

For all planned impairments, all necessary parts and personnel shall be assembled for the work activity prior to removing the protection system from service.

- 1.1 Requestor, perform the following:
- 1.1.1 Contact the FPE, when available, and FSM or FPE, when available, and UFE to determine if an impairment of a fire protection or loss control system is required prior to impairing a fire protection system or loss control system for planned work activities. When the FPE is unavailable the FSM/UFE is responsible for impairments on the surface/underground, respectively.
 - 1.1.2 Supply the following information:
 - What is planned and where
 - What equipment or buildings are affected
 - Why the impairment is required

- Expected duration
 - Who is requesting the impairment condition
 - Work package or procedure number (if available)
- 1.1.3 Obtain approval from the FPE, when available, and FSM, or FPE, when available, and UFE, based on location of impairment, and incorporate specific interim provisions if necessary.

NOTE

Control of fire water system configuration shall be performed in accordance with WP 04-AD3005 and configurations which impact TSR controls shall be performed in accordance with the primary and alternate valve line-ups in WP 12-FP0055. **[LCO 3.1.1]**

- 1.1.4 Plan and schedule work so that downtime of the affected fire protection system(s) is held to a minimum.
- 1.1.5 FSM/UFE/FPE, supply impairment information to Emergency Services Technicians (ESTs).
- 1.2 EST, perform the following:
- 1.2.1 Prepare a Fire Protection System Impairment Tag(s) (Sample, Attachment 1).
- 1.2.2 Notify the FSM/UFE prior to the placement of Fire Protection System Impairment Tag(s) and obtain concurrence.
- 1.2.3 Enter the impairment in the Fire Impairment Index (Attachment 2) and post bottom part of tag on the impairment board located in the CMR.
- 1.2.4 Post top part of tag on, or near, the impaired equipment/system.
- 1.2.5 **IF** the impairment is for the fire suppression system or fire protection water supply for the Waste Handling Building (i.e., fire pumps, storage tanks, mains, valves, hydrants), **THEN** notify Site Environmental Compliance.
- 1.2.6 FSM/EST, track the progress of the impairment and ensure that all steps are taken to reduce the impairment period.
- 1.3 FSM/UFE, notify EST when the fire protection system is ready to be returned to service.

1.4 EST, perform the following:

- 1.4.1 Verify return of the fire system or equipment capability prior to completion of any impairment by successfully completing a retest in accordance with the work instructions or other method approved by the FSM/UFE.
- 1.4.2 If the retest fails, update the impairment information on both portions of the impairment tag, and determine corrective action.
- 1.4.3 Notify the FSM and CMR upon restoring the impaired equipment, or if the system will remain impaired.
- 1.4.4 If retest passes, remove the posted impairment tag from the formerly impaired system/equipment.
- 1.4.5 Complete the back portion/top half of the impairment tag.
- 1.4.6 Remove impairment tag from the impairment board in the CMR.
- 1.4.7 Record the restoration completion in the Fire Impairment Index.
- 1.4.8 Forward both halves of the impairment tag to FPE for review.

2.0 DETERMINING THE FIRE WATCH

2.1 **IF** any of the following Fire Protection Systems are out of service for more than 4 hours in a 24-hour period,
THEN, notify FSM/UFE and EST/FPE:

- Fire Water Supply System
- Automatic Sprinkler System
- Fire Detection and Alarm System
- Fixed Fire Extinguishing System

NOTE

Some interim measures which can be taken by the FSM/UFE include evacuating the affected area or the building, posting an approved fire watch, by-passing broken lines using a fire hose, and/or utilization of available and operating detectors, sprinkler systems, fire alarm panel or radio fire alarm reporter, pull stations, etc.

- 2.2 FSM or UFE, perform the following:
- 2.2.1 Determine, in concurrence with the FPE (when available), the necessary and appropriate interim measures.
 - 2.2.2 Determine the frequency and type (Continuously Monitoring or Roving Fire Watch) of fire watch service with consideration of the following:
 - The potential life safety risk
 - Importance of the facility and program it supports
 - The potential property loss
 - The potential impact to the environment
 - 2.2.3 Assign qualified personnel to conduct fire watch (EST, Facility Operations operators, or Underground Operations operators, etc. as available).
- 2.3 Central Monitoring Room Operator (CMRO), log the fire watch implemented.
- 2.4 FSM or UFE, inform the Fire Watch of the nature of the impairment and the frequency of inspections required.
- 2.5 Notify the Cognizant Engineer (CE) and the FPE if a fire protection system is out of service for more than 4 hours.
- 2.6 FSM or UFE, complete **AND** sign top portion of the Fire Watch Log (Attachment 3).
- 2.7 CMRO, log fire watch has been terminated.

3.0 FIRE WATCH ACTIONS

NOTE

A fire watch **TOUR** shall be at least once every 2 hours.

3.1 Fire Watch, perform the following:

- 3.1.1 Tour all areas affected by the system outage at a frequency determined by the FSM or UFE.
- 3.1.2 Maintain communications with CMR.
- 3.1.3 Immediately inform the CMR if a fire is discovered.
- 3.1.4 Record the following on Attachment 3:
 - When tour was started
 - When tour was completed
- 3.1.5 Remain on Fire Watch status until one of the following occurs:
 - Relieved from duty by another Fire Watch
 - Notified the impairment has been closed
 - Notified by FSM/UFE that fire watch is no longer required
- 3.1.6 Forward the completed Fire Watch Log to FSM for review and signature.
- 3.1.7 Forward a copy of the Fire Watch Log to FPE.
- 3.1.8 Facility Operations/FSM, forward original Fire Watch Log to the Operations Records Coordinator.

Attachment 1 - Sample Impairment Tag Example (Front)



**Waste Isolation Pilot Plant
FIRE PROTECTION SYSTEM
IMPAIRMENT TAG**

Building Number: _____ Date: _____
 Area: _____ Impaired By: _____
 System Impaired: _____
 How Impaired: _____
 Reason for Impairment: _____

 Expected Restoration: _____
 Actual Restoration Date: _____ By: _____
 Plant Work Request Number: _____
 № 11704

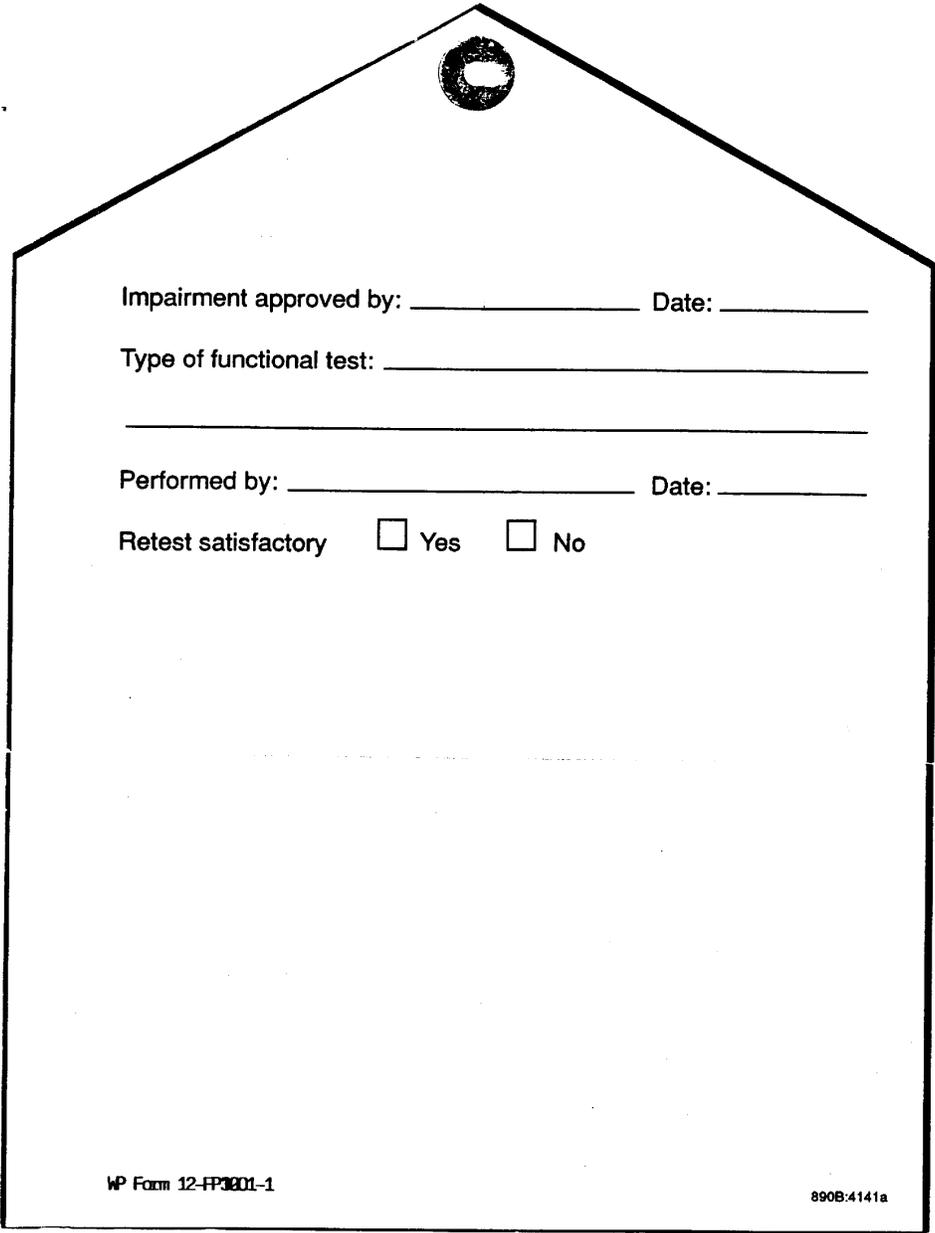
IMPAIRMENT OF A FIRE PROTECTION SYSTEM

Building Number: _____ Date: _____
 Area: _____ Impaired By: _____
 System Impaired: _____
 How Impaired: _____
 Reason for Impairment: _____

 Expected Restoration: _____
 Plant Work Request Number: _____ Reviewed By FPE: _____
 № 11704 WP Form 12-FP3001-1

890B:4141

Attachment 1 - Sample Impairment Tag Example (Back)



The form is a rectangular tag with a pointed top, resembling a house shape. At the top center, there is a circular hole for a fastener. The form contains several fields for text entry and a checkbox section.

Impairment approved by: _____ Date: _____

Type of functional test: _____

Performed by: _____ Date: _____

Retest satisfactory Yes No

WP Form 12-FP3001-1 890B:4141a

Attachment 2 - Sample Impairment Index

Impairment #	Date	Building/Area	System/Reason	Impaired By	Approved By	Restored By and Date

