

CONTRACTOR MANAGEMENT

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## 1.0 SCOPE

This data sheet provides guidance for establishing an effective contractor management program. Developing, implementing, and adhering to such a program can help reduce the potential for losses contributed to, or caused by, contractors.

### 1.1 Hazard

Contractors are hired to perform everything from occasional tasks to urgent repairs, particularly in areas of specialized knowledge where retaining a full time employee is not cost-justified. Contractors can be utilized on specific projects or may also be used long-term to provide ongoing services.

Facilities are using contractors more frequently due to a variety of factors. Contractors typically do not know a facility's unique site conditions and hazards and may have less experience, training, safety knowledge and a higher rate of turnover compared to employees.

Establishing and adhering to an effective contractor management program can greatly reduce the risk of potential damage to a facility.

To understand the hazards addressed with contractor management, see the Understanding the Hazard (UTH) brochure entitled *Contractor Management* (P0110).

### 1.2 Changes

**January 2024.** This document has been completely revised.

## 2.0 LOSS PREVENTION RECOMMENDATIONS

### 2.1 Introduction

2.1.1 Use FM Approved equipment, materials, and services whenever applicable. For a list of products and services that are FM Approved, see the *Approval Guide*, an online resource of FM Approvals.

### 2.2 Human Factor

#### 2.2.1 General

2.2.1.1 Develop a formal written policy on contractor management.

2.2.1.1.1 Ensure relevant information is communicated to all affected employees and contractors.

2.2.1.2 Assign a responsible employee to implement the contractor management program.

2.2.1.3 Audit the policy regularly and update as necessary.

2.2.1.4 Ensure the policy addresses pre-incident and emergency response planning in accordance with FM Property Loss Prevention Data Sheet 10-1, *Pre-Incident and Emergency Response Planning*.

2.2.1.5 Ensure the policy addresses hot work management procedures in accordance with FM Property Loss Prevention Data Sheet 10-3, *Hot Work Management*.

2.2.1.6 Ensure the policy addresses fire protection impairment management procedures in accordance with FM Property Loss Prevention Data Sheet 10-7, *Fire Protection Impairment Management*.

#### 2.2.2 Contractor Selection and Review

Prior to the contractor selection, a detailed scope of work should be developed; include all aspects of the work that contractors will be required to complete. This will help identify potential areas of specialized knowledge and risk that may be associated with the project while also highlighting training and supervision needs.

2.2.2.1 Ensure that the contractor is qualified to perform the tasks outlined in the scope of work by confirming or reviewing the following, as needed:

A. Licenses

B. Training records

- C. Professional or trade association memberships
- D. Registrations required by local, state, and federal authorities
- E. Previous work experience
- F. Contacting references provided by the contractor
- G. Auditing a current work site

2.2.2.1.1 Keep a copy of relevant documents on file for a minimum period of three years.

2.2.2.2 Ensure that the contractor's liability insurance coverage is in accordance with the owner's or local management's requirements.

2.2.2.2.1 The contractor shall provide sufficient advance notification, as determined by the owner or local management, prior to cancellation of the contractor's liability insurance.

2.2.2.3 Review the contractor's safety and loss records, if possible. Some contracting companies will provide a work safety statement or safety policy which can be reviewed on request.

2.2.2.4 Subcontractors shall meet all of the same qualifications and requirements as the contractor.

2.2.2.4.1 The contractor shall obtain, prior to starting subcontracting work, written authorization from the owner or local management regarding the use of subcontractors.

### **2.2.3 Contractor Training Program**

The training program outlined below applies to individual contractor employees, not the contracting company. All contractor employees conducting work on a project shall be required to complete the appropriate training. Additionally, if the contractor employee participates in more than one project, the training requirements for each project shall be determined independently.

2.2.3.1 Train all contractor employees on relevant site policies and procedures before permitting access to the work site.

2.2.3.1.1 Training may include, but not be limited to, the following:

- Contractor site access and identification
- Hot work management procedures
- Fire protection impairment procedures
- Smoking policy
- Housekeeping
- Hazardous materials transportation, storage, use and disposal
- Reporting of incidents and property damage
- Emergency procedures
- Environmental protection
- Security
- Lockout/tag out
- Tools/equipment use on site
- Collection and disposal of trash, waste and spills

2.2.3.1.2 Provide any additional training necessary to ensure that the contractor employee is aware of unique building features, process hazards, or protection systems in work areas.

2.2.3.1.3 Ensure all contractor employees, and any site employees working with the contractor, have access to all relevant policies and procedures.

2.2.3.2 Conduct periodic refresher training at a maximum of every three years. The frequency of refresher training will vary depending on the subject matter and should be documented in the training program.

2.2.3.2.1 If a contractor employee has not worked on site within twelve months, or a lesser period as identified by the owner or local management, refresher training is recommended regardless of the date of initial training.

2.2.3.3 Require all trainees to acknowledge, in writing, that they have completed training and they understand and agree to follow site policies and procedures.

2.2.3.4 Maintain complete training records that include the following, at a minimum:

- A. Name of person who supervised the training
- B. Date of initial training
- C. Required date for re-training, if applicable

2.2.3.4.1 Retain training records for a minimum period of three years.

#### 2.2.4 Contractor Supervision

2.2.4.1 Assign a responsible employee to oversee the contractor, monitor work quality, and verify adherence to company policies and procedures.

2.2.4.1.1 The responsible employee should arrange meetings with the contractor to discuss and view the work progress. The frequency of these meetings may be project-dependent and shall be determined by the owner or local management.

2.2.4.1.2 Document any recommendations or concerns raised during these meetings.

2.2.4.2 Provide a formal supervision program for the responsible employee that includes information on the following:

- A. Scope of contractor activities
- B. Contractor training program
- C. Procedure for communicating any concerns or issues with the contractor and the owner or local management, as applicable.

2.2.4.3 Ensure that the contractor is easily identifiable. For example, wearing specific clothing or security tags which clearly identify them as a contractor.

2.2.4.4 Require all contractors to log in at designated points. The log should record the allowed location of all contractors while they are on site and should be available for review at all times.

2.2.4.5 Ensure only responsible employees impair site fire protection equipment using the FM Red Tag Permit procedures in accordance with Data Sheet 10-7.

2.2.4.5.1 A contractor employee may impair fire protection equipment if additional procedures are implemented including, but not limited to, the following:

- A. Communication to the owner or local management regarding planned impairments prior to the start of the work
- B. Supervision of contractors by a responsible employee during impairment
- C. Confirmation that impairments have been rectified upon completion of work

2.2.4.6 Ensure that only responsible employees can issue hot work permits in accordance with Data Sheet 10-3.

2.2.4.6.1 In the absence of a responsible employee, establish specific procedures for the contractor regarding authorization of hot work permits prior to the commencement of the work.

2.2.4.7 Upon completion of the work, the owner or local management shall conduct a review and assessment to confirm that work has been completed in accordance with the project scope. The review may include a review of the contractor records, a walk-through of the job site, or other means of assessing the project work.

2.2.4.8 Retain the following project related documents for as long as the building and/or equipment remain in place, or until they are modified and covered by new documents.

- A. Basis of design (BOD) documentation, blueprints, as-built drawings
- B. Product manuals and warranty information

2.2.4.8.1 Retain additional project related documents for a minimum of three years or as required by applicable law, whichever is longer. Relevant documents may include:

- A. The original scope of work and any modifications or change orders made during the project
- B. Purchase orders

- C. Invoices
- D. Copies of contractor qualification documentation as outlined in Section 2.2.2.1
- E. Copies of contractor insurance certificates as outlined in Section 2.2.2.2
- F. Contractor training records
- G. Correspondence

### 3.0 SUPPORT FOR RECOMMENDATIONS

#### 3.1 Contracts

A contract is a legally binding agreement between parties setting out the specific terms of engagement for a business transaction or relationship. The objective of contract wording is to set forth the parties' rights and obligations under the contract, protect their interests and allocate risk. The decision on whether to include, and the wording of, any particular contractual clause may depend on the nature of the services being contracted for and the risks involved in such services. FM does not provide guidance on contracts except when a claim is filed in the event of a loss. All parties should consult with their own attorney prior to entering into a written contract to determine whether the terms of the contract are sufficient and suitable for the contemplated engagement.

#### 3.2 Illustrative Losses

##### 3.2.1 Contractor's Negligence Activates Sprinklers

A contractor was cleaning ceiling tiles in a hospital when a pendent sprinkler was hit and damaged allowing water to flow into the space. The engineering department was notified of an alarm within the fire protection system and immediately responded to the fire pump room. While trying to determine why the fire pump was running, the water was actively filling the room of origin and several adjacent spaces. After approximately 30 minutes, personnel notified the engineering team of the location of the alarm. Personnel immediately responded to isolate the sprinkler control valve controlling the area to stop water flow.

The owner had an internal emergency response plan for this situation. However, the plan was not followed by the on-site personnel; and it also lacked information regarding response to water damage caused by the fire protection system.

##### 3.2.2 Contractor Causes Hot Work Fire

A fire occurred at a manufacturing facility within a cooling tunnel. At the time of the fire, a contractor was conducting high-energy hot work operations with a plasma cutter and MIG welder from an elevated surface above the cooling tunnel, which contained plastic parts. The ceiling-level sprinkler system actuated to control the fire. However, top steel panels of the tunnel prevented water from reaching the fire plume. The fire department arrived on site and eventually extinguished the fire. Hot work permit precautions that required removal or protection of combustibles via fire-resistive covers within 35 ft (10.5 m) of any hot work activity were not followed. In addition, fire-resistive covers were not suspended beneath hot work operations.

Fire damage occurred to the cooling tunnel and nonthermal damage occurred to the surrounding production areas. Production for the affected manufacturing was shut down for several months.

##### 3.2.3 Contractor Severs Buried Electrical Cables

A contractor, using an excavator, was digging to expose underground piping in order to complete piping tie-ins. The excavator contacted and damaged a buried electrical cable, severing the buried power line and site communications cable. The cable short circuited, which should have caused a "trip" or opening of the cable circuit breaker. The fault was not cleared by any of the circuit breakers because control power was not being supplied to the breakers at that time. A fire resulted, involving cables. Two transformers were reportedly damaged internally and rendered inoperable. The fault continued for nearly three minutes until an operator manually intervened. After the incident, operation was 100% interrupted because of the lack of power to operations. Repairs took approximately six months before the facility was operating at the same levels as it was pre-incident.

### 3.2.4 Contractor Overpressurizes and Damages Equipment

During a planned shutdown, a contractor was performing a hydrostatic test on a piece of equipment. The hydrostatic test is a routine test as part of the periodic jurisdictional inspection of the vessel. The mechanics reported problems with getting the vessel pressurized and attempted for more than three hours using different equipment. The hydrostatic test required 255 psi (17.6 bar), but in reality, they applied a pressure of 755 psi (52 bar) to the vessel. This too-high pressure led to plastic deformation of the vessel beyond repair. Communication between the team members proved to be poor when no radios were used. The mechanics worked autonomously with only high-level employee supervision. The loss of the equipment reduced the output of the facility by approximately 23%.

### 3.2.5 Contractor Causes Electrical Fire

A contractor was hired to replace an old lighting panel in a motor control center (MCC) located above the lighting transformer. The initial lock out procedure only required locking out the lighting panel disconnect as work could be safely performed with a live 600V bus located behind the bolted isolating plate in the lighting panel. The contractor, while attempting to install the new lighting panel into the lighting cabinet, found that the new panel was of different dimensions and difficult to insert. He improvised the work requirement and disassembled the isolating back plate. The 600V bus behind the isolating back plate was live. While inserting the back plate along with the new panel, the panel made a direct contact with the bus. The resulting phase to ground fault led to arcing. The fault persisted and caused extensive damage to MCCs and cable feeds. The arc and fire were contained within the MCC, but damaged the cabinets and nearby cables.

### 3.2.6 Contractor Improperly Installs Fittings

A contractor was hired to install new in-line ball valves and a new pressure pump system on the domestic water loop located in the 24th floor mechanical room. Approximately four hours after work was completed, personnel noticed water flowing down a stairwell and entering multiple floors through the exit doors leading into the stairwell. Maintenance personnel quickly discovered the origin of the water and shut off the newly installed water pumps. Water wetted areas from the 24th floor down to the 9th floor. Most of the water flowed down the stairwell and out onto the various floors under the exit doors. Water also went through the pipe chases and wetted the equipment and supply room on the 23rd floor. The flex hose used by the contractor became detached from the fittings threaded onto the rigid piping. Local management indicated that the hose clamps used to help secure the flex hose to the fittings were not properly tightened.

## 4.0 REFERENCES

### 4.1 FM

Data Sheet 10-1, *Pre-Incident and Emergency Response Planning*

Data Sheet 10-3, *Hot Work Management*

Data Sheet 10-7, *Fire Protection Impairment Management*

Understanding the Hazard: *Contractor Management* (P0110)

## APPENDIX A GLOSSARY OF TERMS

**Contractor:** A company or individual who enters into a binding agreement to perform a certain service or provide a certain product in exchange for valuable consideration.

**Contractor Employee:** An individual who is employed by the contractor.

**Responsible Employee:** An individual who is employed by the owner or local management and has been identified as having the knowledge and training to complete a required task.

**Subcontractor:** A company or person that carries out work for another company as part of a larger project. The subcontractor may be directly hired by the contractor.

**APPENDIX B DOCUMENT REVISION HISTORY**

The purpose of this appendix is to capture the changes that were made to this document each time it was published. Please note that section numbers refer specifically to those in the version published on the date shown (i.e., the section numbers are not always the same from version to version).

**January 2024.** This document has been completely revised.

**January 2007.** First publication of this document.

**APPENDIX C BIBLIOGRAPHY**

*Preventing Damage to Buildings and Facilities Under Construction, Alteration or Demolition (P7933)*

*Managing Change (P9201)*

*Working with Contractors (P9207)*

*Human Factor Management: How to Make Your Program Work (P9703)*

Property Loss Prevention Data Sheet 1-0, *Safeguards During Construction, Alteration, and Demolition*

Property Loss Prevention Data Sheet 10-0, *The Human Factor of Property Conservation*

Understanding the Hazard: *Alteration, Demolition, and Construction Operations (P0309)*

Understanding the Hazard: *Construction Projects (P0292)*

Understanding the Hazard: *Hot Work (P0032)*