



## Risk Control Solutions | Fire Protection Impairment

Properly caring for and maintaining fire protection equipment is essential to safeguarding your business from fire damage. Intact Inland Marine is pleased to offer solutions to help reduce the danger of loss when your fire protection equipment is impaired.

### Impairment Defined

An impairment exists when fire protection equipment is shut off and taken out of service or is taken out of the “automatic” mode and placed in “manual” mode.

### Include the Right Equipment

Any equipment within your facility that is used to detect, control or extinguish fires or explosions should be covered by your fire protection equipment impairment program.

#### Systems to monitor include:

- Automatic sprinkler systems
- Fire protection water supplies
- Fire pumps
- Gaseous extinguishing systems
- Chemical extinguishing systems
- Explosion suppression systems
- Standpipe systems
- Smoke, heat and fire detection systems
- Fire alarm systems

### How Do Fire Protection Systems Become Impaired?

Either planned or unplanned shutdowns can impair fire protection equipment.

#### Planned shutdown

You may need to take fire protection equipment out of service for scheduled maintenance or to accommodate new construction or renovations. Make the impairment handling procedure part of your planning to ensure that you minimize the duration and extent of any impairment.

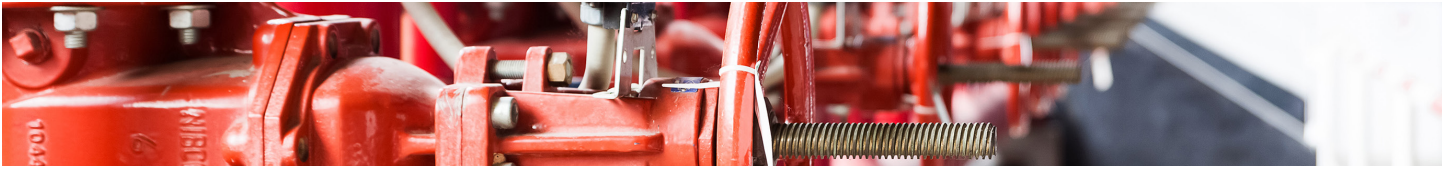
“Of the leading causes of sprinkler system failures, fire protection control valves account for 35.4 percent of unsatisfactory performance.”

- Fire Protection Handbook, 19th Edition, National Fire Protection Association Unplanned or emergency shutdown

#### Unplanned shutdown

An emergency may force fire protection equipment out of service resulting in an unplanned impairment. Your goal is to verify that the entire impairment procedure process will be completed, as conditions permit, to minimize the duration and extent of any impairment. Some common reasons for an unplanned or emergency shutdown include:

- system leakage
- frozen or ruptured piping
- interruption of water supply
- equipment failure



## Responsibility

Assign a qualified person to supervise proper implementation of the impairment procedures and maintain records of all impairments. The impairment coordinator should have a good understanding of the systems being impaired and the work being performed, and they should have sufficient authority to properly enforce compliance with applicable procedures.

## Documentation

Documenting that employees or contractors follow proper procedures and are properly supervised decreases the likelihood that they will ignore those procedures or implement them incorrectly.

### The impairment coordinator should...

- complete a record of the fire protection impairment prior to the impairment and following restoration of the affected systems. They should not allow work to begin without a properly signed impairment record at the site.
- keep a copy of the record as a reminder of the project. If the work will continue for more than one shift, a new record should be completed for the next shift.
- if the work lasts longer than four hours, verify at least once (approximately midway through the impairment) that employees or contractors continue to follow the proper procedures. The impairment coordinator should also update the impairment record at this time.

## Before an Impairment

1. **Notify top management.** Identify the system being impaired and the area it protects. Indicate when the impairment will start and when the system will be restored to automatic operation.
2. **Notify the public fire department** about the impairment so they can plan effectively.
3. **Notify the alarm company** and provide an estimate of how long the shutdown will last.
4. **Notify your Inland Marine Risk Control representative.** Be prepared to provide your name, phone number, company name and address, the system being impaired, the area it protects and an estimate of when you expect the system to be restored. Risk Control will contact you if we do not receive a notice of restoration or we have concerns about the restoration.

5. **Reduce impairment duration.** Do all excavating first. Have all necessary parts and equipment on hand before impairing the system. If possible, use emergency measures to keep as many sprinklers in service as possible. These measures can include the use of temporary connections to fire hydrants or to adjacent sprinkler systems.
6. **Notify department heads.** The department heads should tour the affected area to identify and correct any unsatisfactory housekeeping or special hazard conditions.
7. **Reduce hazards.** Shut down any hazardous processes or maintenance operations in order to eliminate the most likely ignition sources.
8. **Prepare manual fire protection equipment.** Have extra fire extinguishers or charged hose lines readily available. Make certain assigned personnel are properly trained to use the equipment.



### Warehouse Fire

A massive fire destroyed two large warehouse complexes and resulted in deaths of three firefighters. The buildings involved were heavily loaded with highly combustible contents.

The way the buildings were arranged created conditions that enabled the fire to grow very rapidly and spread—particularly in the building where the fire started, where the automatic sprinkler system was inoperative.

Source: U.S. Fire Administration Technical Report

## During an Impairment

1. Work continuously until the protection is restored.
2. Assign an individual to continuously patrol the affected area and notify the fire department in the event of a fire. This individual should also be prepared to open sprinkler control valves or manually operate the fire protection equipment if a fire occurs.
3. Prohibit smoking throughout the affected area.
4. Do not allow cutting and welding operations in affected area.

## After You Restore Protection

5. Verify that protection is fully restored. Conduct drain tests to verify that all sprinkler system control valves are wide open. Make certain equipment is place in the “automatic” mode. Remove and account for all impairment tags.
6. Notify top management, the fire department, the alarm company, the department heads and Intact Inland Marine.

Your Intact Inland Marine insurance policy requires you to notify us whenever you shut down a fire protection system. Failure to meet this requirement may result in denial of a submitted claim.



### Fire in Record Archive Building

A fire alarm sounded in an automatic sprinkler-protected records archive building in the early hours of an autumn morning. Before the local fire department declared it under control nearly 10 hours later, the fire had reached the fourth-alarm level, with a commitment of 17 engines, nine trucks and tower ladders, and several additional special pieces of equipment. The last fire company left the scene nine days later.

Damage consisted of the total loss of thousands of records; water and smoke damage to thousands of others; the loss of steel storage racks; and structural damage to the fire area and adjacent fire areas.

Damage was estimated at \$50 million. After the fire, inspectors found one of the automatic sprinkler control valves in the area of origin closed. They believe it was shut at the time of the ignition.

Source: U.S. Fire Administration Technical Report

### About Intact Insurance Specialty Solutions

Throughout the United States, Intact Insurance Specialty Solutions’ underwriting companies offer a broad range of specialty insurance products through independent agencies, regional and national brokers, wholesalers and managing general agencies. Each business is managed by an experienced team of specialty insurance professionals focused on a specific customer group or industry segment, and providing distinct products and tailored coverages and services. Targeted solutions include group accident and health; commercial and contract surety; entertainment; environmental; excess property; financial institutions; financial services; inland marine; management liability; ocean marine; public entities; technology; and tuition refund. For further information about U.S. products and services visit: [intactspecialty.com](http://intactspecialty.com).

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# Fire Protection Impairment Record



<b>Location:</b>	
<b>Type of Impairment:</b>	
<b>Reason for Impairment:</b>	
<b>Date of Shutdown:</b>	<b>Time of Shutdown:</b>
<b>By (name):</b>	<b>Supervisor:</b>

## PRECAUTIONS

<b>PRIOR TO IMPAIRMENT</b>	<input type="checkbox"/> Notify Fire Department <input type="checkbox"/> Notify Alarm Company <input type="checkbox"/> Notify Department Heads <input type="checkbox"/> Notify Intact Inland Marine <input type="checkbox"/> Equipment and Crew Ready	<input type="checkbox"/> Portable Fire Equipment Ready <input type="checkbox"/> Hazardous Operations Shut Down <input type="checkbox"/> Work Planned to Minimize Impairment Duration
<b>DURING IMPAIRMENT</b> <i>Assessed at beginning of impairment</i>	<b>Time:</b> _____ <input type="checkbox"/> Hot Work Practices Not Allowed <input type="checkbox"/> Smoking Not Allowed	<input type="checkbox"/> Regular Patrols of Affected Areas <input type="checkbox"/> Work Performed Continuously  <b>Supervisor Signature:</b> _____
<b>DURING IMPAIRMENT</b> <i>Assessed halfway thru impairment if duration last 4-8 hours</i>	<b>Time:</b> _____ <input type="checkbox"/> Hot Work Practices Not Allowed <input type="checkbox"/> Smoking Not Allowed	<input type="checkbox"/> Regular Patrols of Affected Areas <input type="checkbox"/> Work Performed Continuously  <b>Supervisor Signature:</b> _____
<b>AFTER PROTECTION IS RESTORED</b>	<input type="checkbox"/> Notify Fire Department <input type="checkbox"/> Notify Alarm Company <input type="checkbox"/> Notify Department Heads <input type="checkbox"/> Notify Intact Inland Marine <input type="checkbox"/> Restoration Verified	<input type="checkbox"/> Equipment in "Automatic" Mode <b>Drain Test Results (sprinklers)</b> Static Pressure: psi _____ Flow Pressure: psi _____

<b>Date of Restoration:</b>	<b>Time of Restoration:</b>
<b>Comments:</b>	