**Impairments to Fire Protection Systems**

 **I. Introduction**

A protection impairment happens when fire protective systems (e.g. sprinklers, fire pumps, fire alarms, or supervisory equipment) are shut off or taken out of service. When this happens, these protective systems cannot provide fire protection. Risk Management Division understands impairments can be necessary while constructing, repairing, or maintaining a facility, however it must be understood that a facility is in jeopardy during an impairment.

Many large losses can be reduced or eliminated when a fire protection system is in working order. Whether an impairment is planned or not, precautions must be taken to provide temporary protection, reduce hazards, and ensure prompt restoration.

**Background**

There are three types of impairments: Emergency, Planned, and Hidden.

An ***Emergency Impairment*** occurs when an unforeseen incident or accident partially or totally impairs the effectiveness of a protective system. A system shutdown to repair a sudden break in the piping is an example.

A ***Planned Impairment*** occurs when it is necessary to shut down a fire or explosion protective system for maintenance or modification. Shutting down a sprinkler system to add sprinklers is an example. While this may seem to be a straightforward operation, previous loss experience has shown that it is not so simple.

**In fact, Planned Impairments that are improperly handled greatly increase the extent of loss that occurs while the system is impaired.**

A ***Hidden Impairment*** is one which is not known to exist and is, therefore, the most serious type.

Examples include:

* A system shut down and inadvertently left out of service upon completion of work
* A system shut down without proper notification
* A system maliciously shut down

Proper impairment notification and handling procedures can reduce the chance of experiencing this type of impairment. A good inspection program can reveal the Hidden Impairment, thus allowing prompt restoration of vital protective equipment.

**II. Impairment Program Implementation Guidelines**

1. **Assign Impairment Coordinator**

To maintain the integrity of your fire protection systems, an impairment handling program should be implemented to control situations when the fire protection system must be shut down. A responsible person should be assigned to maintain the fire protection system in service at all times and handle the situation when the system must be shut down. If you are a tenant in a leased building, this program shall still be used.

The coordinator's responsibilities shall be:

• Complete the steps for handling an impairment (see Section C below).

• Inform supervisors that fire protection systems will be shut off. Areas affected by impairments should have a roving fire watch and any hazardous operations should be curtailed until protection is restored.

• Relocate combustible materials from impaired sprinkler area to an area protected with sprinklers, if possible.

• Enforce no smoking regulations throughout the affected area.

• Provide additional manual protection in impaired area with portable extinguishers and/or charged fire hose.

• Have everything ready before shutting off protection. Have necessary parts available before initiating repairs.

• Work continuously until repairs are completed and protection is restored.

• Physically check the valve after reopening.

1. **Impairment Tag**

Fire Protection System Impairment hang tags shall be used to monitor all impairments. To request a supply of hang tags, please email risk.management@state.mn.us

1. **Steps for Handling an Impairment**

When the need arises and a fire protection system must be shut down, the following steps

shall be followed:

1. Notify the alarm company.
2. Notify the public fire department or dispatch center, indicating where protection is impaired.
3. Attach the Fire Protection System Impairment tag to the shut sprinkler control valve or other impaired equipment.