



# GRC Fire Protection Impairment Notification System

## What's an impairment?

A fire protection system impairment occurs when a fire protection system is in a state where all of the following conditions are present:

1. *The system is not immediately capable of performing its intended function, e.g., fire control for sprinkler systems, fire detection for smoke detection systems, fire suppression for gaseous extinguishing systems, etc.*
2. *The system cannot be quickly returned to effective service, e.g., more than just opening a valve or flipping a switch is needed to activate the system*
3. *The system is not being continuously monitored so it is not possible to restore the system to effective service within 60 seconds.*

Like all other mechanical and electrical systems, fire protection systems need to be maintained, the system may not be able to function as intended. For example:

- *A sprinkler system that is shut down to relocate heads during a remodel cannot automatically operate to control a fire. It is impaired.*
- *A smoke detection system that has had several points disabled to prevent alarm signals that would cause a building evacuation while hot work is being performed in the area is impaired.*
- *A gaseous extinguishing system that is undergoing annual maintenance with the tank disconnected so it can be weighed is impaired.*

Note that typical inspection and testing activities on fire protection systems are usually not considered to be impairments. During those activities, the main function of the system(s) is normally maintained (see item 1, above). When that is not the case, item 2 or 3 usually applies. For example:

- *When testing water flow alarms, the sprinkler system is still active and will be effective in controlling a fire.*
- *Testing of most fire alarm systems does not disable detection devices. The person monitoring the alarm panel will report the unexpected alarm signal, initiating appropriate response as if the alarm signal had been received during normal operation.*
- *Flowing a fire pump is done only when qualified personnel are present and does not disable alarms. When an alarm is raised, any valve that may be isolating the pump from the distribution system can be quickly opened or the back-up fire pump can be quickly started.*

The key component of all these exceptions is that trained personnel are working on a system and, when indication of a real fire is received, can quickly return it to normal service.