



Fire Protection System Impairment

Risk Control Services

Water-based fire protection systems are critical in protecting property. There are various reasons, however, that these systems might become impaired. This includes planned maintenance and unplanned failure. There are guidelines on how to prepare for and how to react to impairments in order to minimize the increased risks and their duration. The most responsibility in these guidelines falls under the impairment coordinator. These are the minimum requirements for a water-based fire protection system impairment program.

Impairment

Emergency impairment includes the interruption of water supply, frozen or ruptured piping, and equipment failure. Emergency impairment follows the same steps as planned impairment. Planned impairment is considered to be the removal from service of any water-based fire protection system, or part thereof. This includes, but is not limited to, the following:

- Sprinkler systems
- Standpipe systems
- Fire hose systems
- Underground fire service mains
- Fire pumps
- Water storage tanks
- Water spray fixed systems
- Foam-water systems
- Water mist systems
- Fire service control valves

First, an impairment coordinator must be assigned. All preplanned impairments shall be authorized by the impairment coordinator once the following has been verified:

- Extent and expected duration of the impairment has been determined.
- Areas/buildings involved have been inspected and increased risks determined.
 - Recommendations to mitigate any increased risks have been submitted to management.
- The fire department, supervisors in affected areas, insurance carrier, alarm company, property owner, and other authorities having jurisdiction have been notified.
- All necessary tools and materials have been brought to the impairment site.
- A tag impairment system has been implemented. Figure 1 shows the Aon impairment tag.

Restoring

When systems are restored the impairment coordinator shall verify the following:

- Necessary inspections and tests have been conducted to verify restored operation.
- The following parties have been notified that protection is restored: supervisors, fire department, property owner or designated representative, insurance carrier, alarm company, and other authorities having jurisdiction.
- The impairment tag(s) have been removed.

Important information

The information contained herein may relate to typical regulations, codes and standards applicable in Canada. Additional requirements as required by the provincial/territorial authorities and/or applicable municipal bylaws should also be reviewed.

The image shows a two-page Aon Impairment Tag form. The left page is titled 'VALVE CLOSED' and includes the Aon logo and 'Nº 1901'. It contains instructions to attach the tag to a valve and not to remove it until the valve is reopened. It has several fields for recording valve information: Valve No., Area, Closed (at ___ a.m. / ___ p.m.), By, To be closed only until (at ___ a.m. / ___ p.m.), Reason for closing, Closing authorized by (at ___ a.m. / ___ p.m.), and Opened on (at ___ a.m. / ___ p.m.). A note at the bottom states: 'After opening valve return this tag to Plant Manager or person in charge of fire protection.' The right page is titled 'VALVE OPENING NOTICE' and also features the Aon logo and 'Nº 1901'. It instructs the user to hang the card in the office of the person in charge of fire protection. It includes fields for Valve No., Area affected, which was closed on (at ___ a.m. / ___ p.m.), and was reopened wide (at ___ a.m. / ___ p.m.). It also has a section for 'Drain test made by' and 'Reason for closing'. A 'Precautions taken (Please check)' section includes checkboxes for: Public/plant fire department advised, Watchman Patrol, Hot Work discontinued in area, Fire hose laid from hydrant to area, and Extra extinguishers on hand. A signature line for the Plant Manager or Supervisor is at the bottom.

Figure 1: Aon Impairment Tag