

AON SPRINKLER CERTIFICATION



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Aon Sprinkler Certification Technical Note		
Note Number: 08-02	Issue: 2¹	Date: 22 August 2008
Subject	Reporting on New Installation Inspections	
Notice: Aon Sprinkler Certification Technical Notes provide guidance notes which may be used in certification of sprinkler installations by Aon New Zealand Limited. If sprinkler installations are being certified by any other Sprinkler System Certifier, these Technical Notes may not apply.		

This Technical Note has been prepared so that all contractors are aware of Aon's requirements of accredited third party inspection bodies that carry out inspections of new systems as part of the Sprinkler Certification process.

This is a guidance document that has been forwarded to the Accredited Inspection Companies. Aon would welcome any suggestions for improvement.

1. Documentation

Field Inspections should only be carried out after the Design Parameters have been received and preferably reviewed. We understand that in certain cases, there are considerable delays between requesting that Storage Declarations are sent to the client, and their return. In such cases, it will be normally acceptable to submit the parameters on the basis that the storage declaration is submitted prior to final inspection and certification. An obvious exception to this will be many High Piled Warehouses, where the storage declaration is fundamental to the ability to approve design parameters.

Field Inspections can only be carried out against installation or as-built drawings. There is little, if any value for a third party inspection body to visit site unless they have such information available.

The Field Inspection should include an assessment as to whether the pipe work sizes and layout is in accordance with these plans. This is not a detailed assessment, but a gross check to ensure that the main pipes are as shown on the drawings, so that there is a reasonable expectation that the system will perform as designed.

The Field Inspectors will be expected to record and date their observations on their drawings, so that the inspection can be audited in the future.

2. Interim Inspections

Systems with concealed pipe work will, in most cases, need an interim inspection to ensure that concealed pipe work is checked in accordance with the requirements outlined in item 1 above, and that seismic bracing and pipe work support complies. While these inspections will not include the need for every piece of pipe work to be inspected, on a purely pragmatic basis, it is noted that it is reported that some contractors are inviting inspections after ceilings have been finished and the quality and compliance cannot be ascertained.

During these interim inspections, an assessment of the adequacy of any baffles in lieu of concealed space protection can be made. The drawings should indicate where the baffles are

¹ Reissued with minor grammatical error in section 6 corrected.

located, for both the new installation inspection, and for routine biennial inspections in the future.

3. Fire Separations

When a sprinkler design allows or adjoins unprotected fire cells, Field Inspectors are expected to review that these are adequate within reasonable bounds. For example, they will be expected to ensure that fire doors are labelled with the request fire ratings, that the integrity of the walls appear sound, and that penetrations are adequately sealed. This inspection is not expected to extend to items such as ensuring that the correct fire rated dry wall construction has been used – this being the responsibility of the BCA inspection system.

4. Water Supply Testing

Water supply tests shall be properly documented and a copy forwarded to Aon. This should include the date of the test, details of flow gauges used, and confirmation that calibration for flow gauges and pressure gauges is current.

Pump test results shall be documented, and shall include suction and discharge pressures, and for diesel engines, the engine speed, in addition to the installation pressure.

For supplemented towns main, the tank shall be partially drained, and the actual infill rate determined by measuring the time to refill the tank. In addition, the water supply characteristic shall be determined through the flow test connection, so that the future adequacy of the infill rate can be determined.

5. Special Hazard Systems

Accredited Inspection companies may need to review special hazard fire protection systems as part of their field system. This could include foam enhanced systems, water spray and deluge systems, and preaction systems.

Aon will normally outline their expectations for these systems, during the design parameter review process. Examples include:

- Foam Enhanced Systems – the need for low and high flow rate proportioning tests, to ascertain correct proportioning ratios.
- Deluge Systems – the need to carry out a discharge test and record the remote nozzle pressure, as well as adequacy of nozzle coverage. To this effect, contractors will be reminded of the need to provide a plugged gauge tapping point to allow gauges to be fitted.
- Preaction Systems – a functional test to ensure that the system operates as required.
- The adequacy of testing and maintenance instructions provided for testing and maintenance staff.

These tests will be required to be adequately documented and reported on.

6. Reporting

On completion of the project, the inspection company shall submit a brief report, which shall detail the following:

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- The date of the final inspection.
- Confirmation that progress inspections have been undertaken, which confirm items such as concealed space protection.
- Details of observations where the system deviates from the Standard.
- A copy of a Final Inspection Sprinkler System Check List
- A record of the water flow tests. This shall include details of any valves that were shut, and/or concurrent hydrant flows, and for pumps, suction, discharge and diesel engine speed.
- Copies of underground main flushing and testing certificates required by NZS4541:2007 or other documents.
- The recommendation, or otherwise, that a Sprinkler System Certificate of Compliance be issued, which may be subject to confirmation of brigade connection
- Any other pertinent information