

**SANTA ROSA FIRE DEPARTMENT**  
**FIRE PREVENTION BUREAU**  
**INSPECTION CHECKLIST**

July 1, 2010



**CLEAN AGENT FIRE EXTINGUISHING SYSTEM**  
**NFPA 2001**

<b>Address:</b>		<b>Permit #:</b>
<b>Inspector:</b>	<b>Date:</b>	<b>Status:</b>
<b>Inspector:</b>	<b>Date:</b>	<b>Status:</b>
<b>A-Approved, R-Re-inspection Required</b>		

**This Checklist outlines general requirements for Clean Agent Fire Extinguishing Systems. Information contained herein applies to typical instances and may not address all circumstances.**

**NOTE:** Additional requirements may apply based upon the scope of work. Omissions from these Guidelines do not relieve anyone of their responsibility to complete their project in a good and workmanlike manner.

**FILE REVIEW**

- Review plans, plan notes and F.D. plan review condition letter.
- Review Permits Plus notes and fees prior to final.

**REQUIRED INSPECTIONS**

- 1) Fire Alarm Rough-In (wiring type, size, locations) Inspection. **Prior to close in.**
- 2) Fire Alarm Initial Acceptance Testing and Final - NFPA 72, Chapter 10.
- 3) Fixed Fire Extinguishing System Acceptance Testing and Final – NFPA 2001

**PLANS**

- Approved plans and calculations shall be on site at time of inspection.
- The system owner shall maintain an instruction and maintenance manual, full set of system drawings and calculations on site.

Inspections shall be scheduled a minimum of 48 hours in advance. Directions for scheduling are found at: <http://ci.santa-rosa.ca.us/news/Pages/AutomatedFireInspectionRequestSystem.aspx>

**Note:** Referenced code numbers represent an NFPA 2001 code section unless otherwise specified.

**TESTING OF SYSTEMS**

- |    |                          |                          |  |
|----|--------------------------|--------------------------|--|
|    | <b>Y</b>                 | <b>N</b>                 |  |
| 1. | <input type="checkbox"/> | <input type="checkbox"/> | Verify that piping system is in compliance with the design, installation documents and approve plans. (7.2.2.1)  |
| 2. | <input type="checkbox"/> | <input type="checkbox"/> | Verify nozzles and pipe size are in compliance with design, installation documents and approved plans. (7.2.2.2)   |
| 3. | <input type="checkbox"/> | <input type="checkbox"/> | Verify piping joints, discharge nozzles and piping supports are securely fastened to prevent all unacceptable movement during discharge of the system. (7.2.2.3) |

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- |     | Y                        | N                        |   |
|-----|--------------------------|--------------------------|---|
| 4.  | <input type="checkbox"/> | <input type="checkbox"/> | Verify piping is inspected internally to detect any obstructions that may affect the agent distribution upon system activation. (7.2.2.4)   |
| 5.  | <input type="checkbox"/> | <input type="checkbox"/> | If installed verify nozzle deflectors are positioned to obtain maximum benefit. (7.2.2.6)   |
| 6.  | <input type="checkbox"/> | <input type="checkbox"/> | Verify nozzles, piping and mounting brackets are positioned as to not cause injury to personnel. (7.2.2.7)  |
| 7.  | <input type="checkbox"/> | <input type="checkbox"/> | Verify agent storage containers are located in compliance with design, installation documents and approved plans. (7.2.2.8)   |
| 8.  | <input type="checkbox"/> | <input type="checkbox"/> | Verify that all containers and mounting brackets are fastened securely in accordance with the manufacture's requirements. (7.2.2.9)   |
| 9.  | <input type="checkbox"/> | <input type="checkbox"/> | Verify the distribution piping and valves are pneumatically tested, prior to nozzle installation, to 40 pounds per square inch air pressure. Inspect joints using soap water solution. Maintain minimum test pressure for at least 10 minutes. If pressure drops more than 20 percent during test, repair leaks and retest. (7.2.2.12)  |
| 10. | <input type="checkbox"/> | <input type="checkbox"/> | Verify a flow test is performed using nitrogen or an inert gas on the piping network to ensure that flow is continuous and that the piping and nozzles are unobstructed. (7.2.2.13)   |
| 11. | <input type="checkbox"/> | <input type="checkbox"/> | Verify the enclosure integrity. The test is intended to identify and then seal any significant air leaks that could result in a failure of the enclosure to hold the specified agent concentration level for the specified holding period. Pressure test entire enclosure with test fan procedures per NFPA 2001, pressurizing protected area both under positive and negative conditions. Confirm that leakage is within system design allowance with a temperature of 70 degrees F. (7.2.3) |
| 12. | <input type="checkbox"/> | <input type="checkbox"/> | Verify all wiring systems are properly installed and that no alternating current or direct current wiring is combined in a common conduit or raceway unless properly shielded and grounded. (7.2.4.1)   |
| 13. | <input type="checkbox"/> | <input type="checkbox"/> | Verify all field circuits are free from ground faults and short circuits. (7.2.4.2)   |
| 14. | <input type="checkbox"/> | <input type="checkbox"/> | Verify power to the control unit is from a dedicated source that will not be shut down upon system operation. (7.2.4.3)   |
| 15. | <input type="checkbox"/> | <input type="checkbox"/> | Verify reliable primary and 24 hour minimum stand-by sources of energy are provided for the detection, signaling, control and actuation requirements of the system. (7.2.4.4)   |
| 16. | <input type="checkbox"/> | <input type="checkbox"/> | Verify all functions such as alarm sounding or displaying devices, remote annunciators, air-handling shut-downs and power shut-downs are tested for proper operation in compliance with the system design and specification. If possible, all air-handlings and power-cut off controls shall be of the type that once interrupted require manual restart to restore power. (7.2.4.5)  |
| 17. | <input type="checkbox"/> | <input type="checkbox"/> | Verify the detection devices are inspected for proper type and location as specified on the approved plans. (7.2.4.7)   |
| 18. | <input type="checkbox"/> | <input type="checkbox"/> | Verify detectors are not located near obstructions or air ventilation and cooling equipment that would affect their response characteristics. (7.2.4.8)   |
| 19. | <input type="checkbox"/> | <input type="checkbox"/> | Verify that manual pull stations are properly installed, readily accessible, accurately identified, and properly protected to prevent damage. (7.2.4.10)  |
| 20. | <input type="checkbox"/> | <input type="checkbox"/> | Verify all manual pull stations used to release agent are designed with two separate and distinct actions for operation, and they are properly identified. (7.2.4.11)   |

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- | Y                            | N                        |  |
|------------------------------|--------------------------|--|
| 21. <input type="checkbox"/> | <input type="checkbox"/> | Verify that systems using abort switches are designed with a dead man type switch requiring constant manual pressure, they are properly installed, readily accessible within the hazard area and are clearly identified. Also verify that manual pull stations override abort switches. (7.2.4.13) |
| 22. <input type="checkbox"/> | <input type="checkbox"/> | Verify the alarm system communicates a signal to the alarm monitoring company for dispatch notification. 7.2.5.1(1))   |
| 23. <input type="checkbox"/> | <input type="checkbox"/> | Verify the release circuit functions either electrically or pneumatically. (7.2.5.1(2))  |
| 24. <input type="checkbox"/> | <input type="checkbox"/> | Verify each detector is tested for proper response. (7.2.5.1(3))   |
| 25. <input type="checkbox"/> | <input type="checkbox"/> | Verify that polarity has been observed for all polarized alarm devices and auxiliary relays. (7.2.5.1(4))  |
| 26. <input type="checkbox"/> | <input type="checkbox"/> | Verify that the end of line resistors have been installed across the detection and alarm bell circuits – where required. (7.2.5.1(5))  |
| 27. <input type="checkbox"/> | <input type="checkbox"/> | Check all supervised circuits for proper trouble response. (7.2.5.1(6))  |
| 28. <input type="checkbox"/> | <input type="checkbox"/> | Verify that all alarm functions occur according to design specification operating a detection initiating circuit. (7.2.5.2(1))   |
| 29. <input type="checkbox"/> | <input type="checkbox"/> | Verify that all audible and visual pre-discharge alarms are provided within the protected area to give positive warning of impending discharge. (4.3.5.2)  |
| 30. <input type="checkbox"/> | <input type="checkbox"/> | Verify operation of the warning devices continues after agent discharge until positive action can be taken to acknowledge the alarm and proceed with appropriate action. (4.3.5.2)   |
| 31. <input type="checkbox"/> | <input type="checkbox"/> | Verify that all second alarm functions occur according to design specifications operating the necessary circuit to initiate a second alarm circuit. (7.2.5.2(2))   |
| 32. <input type="checkbox"/> | <input type="checkbox"/> | Verify manual release functions occur according to design specifications. (7.2.5.2(3))   |
| 33. <input type="checkbox"/> | <input type="checkbox"/> | Verify that abort functions occur according to design specifications. Confirm that visual and audible supervisory signals are received at the control panel. (7.2.5.2(4))  |
| 34. <input type="checkbox"/> | <input type="checkbox"/> | Verify time delay with pre-discharge alarm allow sufficient time for personnel to evacuate prior to system discharge. (4.3.5.6.1)  |
| 35. <input type="checkbox"/> | <input type="checkbox"/> | Verify operation of all automatic valves unless testing the valve will release agent of cause damage to the valve. (7.2.5.2(5))  |
| 36. <input type="checkbox"/> | <input type="checkbox"/> | Verify operation of all pneumatic equipment where required for integrity to ensure proper operation. (7.2.5.2(6))  |
| 37. <input type="checkbox"/> | <input type="checkbox"/> | Verify remote operations – operate one of each type of input device while on standby power. Verify that an alarm signal is received at the remote panel after device is operated. Reconnect primary power supply. (7.2.5.3(1))   |
| 38. <input type="checkbox"/> | <input type="checkbox"/> | Verify trouble condition at remote station by operating each type of alarm condition on each signal circuit. (7.2.5.3(2))  |
| 39. <input type="checkbox"/> | <input type="checkbox"/> | Verify that the control panel is connected to a dedicated circuit and labeled properly. This panel should be readily accessible, yet restricted from unauthorized personnel. (7.2.5.4(1))  |
| 40. <input type="checkbox"/> | <input type="checkbox"/> | Verify primary power failure in accordance with the manufacture's specifications with the system fully operated on standby power. (7.2.5.3(2))   |

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**SIGNAGE**

- |     | <b>Y</b>                 | <b>N</b>                 |   |
|-----|--------------------------|--------------------------|---|
| 41. | <input type="checkbox"/> | <input type="checkbox"/> | Verify warning signs and instructions signs are posted at entrances to and inside of protected areas. (4.3.5.5) |
| 42. | <input type="checkbox"/> | <input type="checkbox"/> | Verify all system equipment is clearly labeled and identified. (4.3.5.5.1)                                      |