

2.03 Submittal Requirements for Clean Agent Fire Suppression Systems (2025)

Reference: 2025 SFBC, 2022 NFPA 2001

Purpose: This bulletin describes the information to be provided on plans submitted for a building permit to install or modify a clean agent system.

I. GENERAL REQUIREMENTS (THE FOLLOWING ITEMS MUST BE INCLUDED IN THE PLANS)

1. **Owner/Occupant Information.** Name(s) and Phone Number(s) of Owner and Occupant / Tenant.
2. **Address Information.** Address of Building, Including Assessor's Block and Lot Number.
3. **Contractor Information.** Contractor's Name, Address, Telephone Number, and License Number.
4. **Compass and Symbols.** Include Point of Compass and Symbol List.
5. **Scale and Documentation.** When permit plans are submitted for clean agent fire suppression systems, the plans shall be drawn to an indicated scale (not smaller than 1/8" = 1') with a graphic scale indication. All fonts on all sheets shall be a minimum 1/8" font size. All plans shall be of uniform size (11" x 17" minimum), with a plan of each floor. Plans must be clear with legible text and symbols so they could be electronically scanned. For Electronic Plan Review (EPR) via Bluebeam: The applicant shall follow all DBI specific requirements for EPR submission and shall provide all the required information included in this section in electronic format. The requirements of this bulletin shall apply to both paper plans and EPR submittals.
6. **Stamp and Signature.** Two sets of plans are needed with the designer professional stamp and wet signature on each page. All fonts throughout the plans shall not be smaller than 1/8" in size.
7. **Occupancies and Hazards.** Description of occupancies and hazards being protected. Designate whether or not the enclosure is normally occupied.
8. **Exposures.** Description of exposures surrounding the enclosure.
9. **Enclosure Walls.** Location and construction of protected enclosure walls, indicating fire rated walls, FSD, and HVAC.
10. **Cross Section, Full Height, Schematic Diagram.** Enclosure cross section, full height or schematic diagram, including location and construction of building floor/ceiling assemblies above and below raised access floor and suspended ceiling.
11. **Protected Area.** Plan view of the protected area showing enclosure partitions (full and partial height), agent distribution system, pipe hangers, fire alarm system, controlled devices (e.g., S/F dampers), and instructional signs.

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II. SUPPRESSION

1. **Clean Agent Type.** Type of clean agent being used, including manufacturer's specifications, and design standards used (2022 NFPA 2001, etc.).
2. **Agent Storage Containers.** Description and specifications of the agent storage containers used, including internal volume, storage pressure and nominal capacity expressed in units of agent mass, or volume at standard conditions of temperature and pressure. Include calculations which determine enclosure volume, size of tank and quantity of agent.
3. **Nozzles.** Description and specifications of nozzles used, including size, orifice port configuration and equivalent orifice area.
4. **Pipe and Fittings.** Description of pipe and fittings used, including material specifications, grade and pressure rating.
5. **Pipe Length Calculations.** Show pipe length calculations with the following items:
 - A. **Lengths.** Indicate actual, maximum and minimum lengths of pipe and equivalent lengths.
 - B. **Vertical Rise.** Show the actual and maximum vertical rise.
 - C. **Limitations.** Show branch line limitations.
 - D. **Node Reference.** Include isometric view of agent distribution with node reference numbers.
6. **Bracing.** Detail the bracing for both the storage tank and the rigid piping, showing how each is secured to the building.
7. **Pipe Supports.** Provide a detail of the pipe supports/hangers and their locations.

III. FIRE DETECTION SYSTEM FOR THE CLEAN AGENT SUPPRESSION SYSTEM

1. **Equipment.** Equipment list showing quantity, make, model, and CSFM listing sheet of each fire alarm device.
2. **Detector Mounting Methods.** Indicate the detector mounting methods used.
3. **Wire/Cable/Conduit.** Including the following items for wires, cable, and conduit:
 - A. **Type.** Type and size of wire, cable and conduit (include conduit fill ratio).
 - B. **Class.** Show class and/or style designation of circuits.
 - C. **Termination.** Detail the required method of wire termination.
4. **Scale.** Scale drawing showing the layout of the annunciator panel.

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5. **Point-to-Point Wiring.** Point-to-point wiring diagram showing connections from all circuits to the control panel, annunciator and external or add-on relays.
6. **Voltage Drop Calculations.** Include voltage drop calculations on the plans.
7. **Backup Battery Calculations.** Include battery backup calculations on the plans.
8. **Sequence of Operations.** Include sequence-of-operation description or matrix, including functioning of abort and maintenance switches, delay timers, and emergency power shutdown.
9. **Clean Agent Releasing Panel.** Location of clean agent releasing panel. The releasing panel shall be outside of the hazard area being protected unless approved in an alternate location by the Fire Department and a smoke detector shall be above the releasing panel.
10. **Alarm.** Audible alarm generated when the clean agent system discharges. The audible alarm shall not interfere with the building's fire alarm.
11. **Connection To The Building Fire System Where Provided.** The following shall apply:
 - A. **Alarm Signal.** The clean agent releasing panel and detection system shall be connected to the building fire alarm system where provided and shall activate an alarm signal upon releasing of the suppression agent.
 - B. **Trouble/Supervisory Signals.** The clean agent releasing panel shall report trouble and supervisory signals associated with the clean agent suppression system to the building fire alarm system. These signals shall generate supervisory signals on the building fire alarm system.
 - C. **Permit Plan Submittals.** Permit plan submittals for the interface between the clean agent suppression system and the building fire alarm system shall require a separate fire alarm permit.