



FIRE PREVENTION MANUAL

ADMINISTRATIVE REQUIREMENTS

401.013 CLEAN AGENT SYSTEM PLAN SPECIFICATIONS

EFFECTIVE: OCTOBER 2016

SCOPE

This policy clarifies the Fresno Fire Department (FFD or Department) requirements related to the preparation and submission of all clean agent system plans within the City of Fresno and contract service areas. These requirements apply to both required and voluntary systems.

PURPOSE

This policy has been established to provide direction for the requirements for the preparation and submission of all clean agent plans.

BACKGROUND

As noted in the *California Fire Code (CFC)*, the fire code official has the authority to formulate policies they deem necessary based upon local conditions related to plan submittals for all systems and installations.

REQUIREMENTS

Based upon the need for uniformity in application across the Department's diverse service delivery area, and after careful deliberation, the Department has determined the following:

1. Clean agent systems shall be drawn with care by a trained person meeting all of the requirements found within the applicable law, code, ordinance, or standard.
2. Plans shall be drawn on a minimum of 24 inch x 36 inch paper and shall be drawn to an indicated scale of not less than 1/8 inch = 1 foot.
3. All notes and information on each plan sheet shall be a minimum of 12 pt. font or larger. Fonts shall be Engineers font, Architects font, Arial font or Calibri font. Plans using unusual or difficult to read fonts will not be accepted. The Fire Marshal (or designee) shall make the determination of acceptability, and

the determination shall be final.

4. An area of no less than 4 inch x 6 inch, located in the bottom right hand corner of each plan sheet (excluding the title block), shall be left free of any text, mark, etc. to facilitate the marking of plans by Department staff.
5. Drawings shall generally be organized based upon the *United States Department of Energy, Fundamentals Handbook for Engineering Symbology, Prints, and Drawings* (Vols. 1 & 2) (1993 edition). Available for download at: <http://edtech2.boisestate.edu/jasonclemens/512/files/DOE-v1.pdf>
6. Drawing line weights, matchlines (where used) and legibility (including printed pages) shall be in accordance with either the *United States Department of Energy, Fundamentals Handbook for Engineering Symbology, Prints, and Drawings* (Vols. 1 & 2) (1993 edition), or the latest edition of the American Institute of Architects design guidelines.
7. All fire protection symbols shall be in accordance with *NFPA 170 – Standard for Fire Safety and Emergency Symbols* (2012 edition) where a symbol is provided. For each type of nozzle to be installed, a different symbol shall be used.
8. Each of the following items shall be included on the clean agent system plan submittal booklet (these items will be verified at the counter). Plans will be rejected when not present:
 - A. A detailed scope of work for the project including a description sufficient to clearly indicate the location, nature and extent of the work. A scope of work indicating “installation of a clean agent system”, or similar non-descript scoping is inadequate and plans will be rejected without review.
 - B. Name of owner, occupant, or contracted construction firm.
 - C. Location of the project, including the City of Fresno officially assigned address and the DARM Building Application number.
 - D. Name of the installing contractor, address, phone number, type of license and license number, with wet stamp and signature on each plan sheet.
 - E. The *California Building Code (CBC)* occupancy group and whether the building is sprinklered or not. Note: Unsprinklered buildings or rooms will be required to have reserve agent installed per FFD policy.
 - F. Equipment legend. Equipment legends shall be prepared in the format shown on the sample legend at the end of this policy.

- G. Indicate whether the installation will be using dedicated phone lines, cell or radio for signal transmission. If using cell or radio transmission, designer must note that transmitter used is for use as a single transmission path or as a secondary path (drawing must reflect the applicable installation).
9. Each of the following items shall be included on the clean agent system plan sheets (these items will be verified at the counter). Plans will be rejected when not present:
- A. A site plan of the location on the drawing. A site plan shall show the layout of the building relative to public streets and private drives. A location pin from mapping software does not meet the requirements of a site plan.
 - B. The *California Building Code (CBC)* occupancy group and construction type of the proposed building.
 - C. The room use, square footage measurements, room dimensions, finished ceiling heights and occupant loads (in assembly areas) within each space.
 - D. Concentration calculations. These are permitted to be in the submittal book in lieu of the plans.
 - E. Clean agent sequence of operation matrix. Matrices shall be prepared in the format shown on the sample matrix at the end of this policy.
 - F. Equipment legend. Equipment legends shall be prepared in the format shown on the sample legend at the end of this policy.
 - G. All equipment, including horns, strobes, abort switches, activation mechanisms, solenoids, etc.
 - H. HVAC system and/or damper interconnection and location of equipment. See *HVAC Shut Off Policy No. 407.004*.
 - I. Voltage drop calculations shall use a starting voltage of 20.4V.
 - J. If using an exception found in *NFPA 72*, *NFPA 2001* or the *CFC*, it is the designer/contractors responsibility to provide adequate and necessary documentation to use the exceptions per *CFC* Section 105. Alternate detector spacing, etc. shall be noted in a sufficient manner. The Fire Marshal (or designee) shall make the determination of acceptability, and the determination shall be final.
 - K. Complete riser diagram.

- L. Resubmittals: Revisions or changes shall be called out with a cloud or delta. Each re-submittal shall have a new numbered delta, and previous clouds or deltas shall be removed. Submittals, addendums, revisions, as-builts, etc. without proper clouding, an associated delta, or other substantial clarifying notes regarding the scope of work will be rejected without review.

10. Standard Notes:

- A. It is the contractor's responsibility to make work available for inspection.
- B. A copy of the approved plan set shall be on site during any fire department inspection.
- C. Contractor required to provide decibel meter during final acceptance testing to field verify audible characteristics." *No final will be given by FFD unless required audibility is field verified.
- D. Installation will comply with section 300.21 of *California Electrical Code (CEC)*, regarding penetrations through fire resistive assemblies to prevent the spread of fire and toxic products of combustion.
- E. All other extinguishing systems (i.e. commercial cooking, clean agent, etc.) will be/or are interconnected to the fire alarm control panel as required, including on the sequence of operation.
- F. Exterior components shall be mounted in a weather tight manner.
- G. A complete copy of the approved plan set shall be on site during any fire department inspection.
- H. All existing equipment. Existing equipment is to be noted with an (E) on all submittal documents (if applicable).
- I. Designer has verified all new fire alarm equipment to be installed is backward compatible with existing fire alarm equipment (if applicable).
- J. All applicable code references shall be provided (i.e. *NFPA 2001*, 2015 Edition w/ California Amendments).

REFERENCES

California Fire Code

California Building Code

NFPA 2001

NFPA 170

United States Department of Energy, Fundamentals Handbook for Engineering Symbology, Prints, and Drawings (Vols. 1 & 2) (1993 edition).