

**Moreno Valley Fire Department  
Fire Prevention Bureau**

**Fire Extinguishing Systems for  
Commercial Cooking Operations**



Approved and Authorized By:

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# Fire Extinguishing Systems for Commercial Cooking Operations

## PURPOSE

This guideline has been prepared to assist those responsible for the design, installation, testing, and inspection of wet chemical fire extinguishing systems used to protect commercial cooking appliances to comply with 2021 NFPA 17A; 2022 California Fire Code (CFC) Chapter 9, Section 904.5; and the 2022 California Mechanical Code (CMC) Chapter 5.

## SCOPE

This guideline applies to any fixed fire suppression systems for commercial cooking for appliances producing grease laden vapors. This guideline defines protection for cooking surfaces, deep fat fryers, griddles, upright broilers, charbroilers, range tops and grills, open face ovens, salamanders, cheese melters, woks, open face pizza ovens, and other similar cooking appliances. Protection shall also be provided for the enclosed plenum space within the hood, above filters, and in exhaust ducts serving the hood.

## SUBMITTAL REQUIREMENTS

Submit your digital plans through the City of Moreno Valley's [SimpliCITY](#) portal. Plans shall be scaled, complete technical data sheets/manufacturers' specifications, and a copy of the manufacturers' design and installation manual. Fees are based on the number of fire extinguishing systems installed, rather than the number of hoods. These plans shall contain the following information and items:

1. **Scope of work** for the project.
2. **Business/ Contractor Information** shall be provided and include: job site name, address, owner's contact name, owner's phone number; submitting company's name, address, contact name and number.
3. **Plan design statement** shall state: These plans have been designed in accordance with NFPA 17A (2021 edition), UL 300 Standard, 2022 California Fire Code, and the manufacturers design and installation manual.
4. **Contractors license and Certifications** shall be provided and include a current contractor's license, current manufacturer's certification, copy of installer's certification (blank), a sample of contractor service tag and manufacturers' distribution certificate if required by the manufacturer.
5. **Suppression system manufacturer** shall be included on the plans.
6. **Floor Plan**- Please provide a detailed floor plan indicating the location and height of all operating devices associated with the hood including; manual actuators, automatic detectors, portable extinguishers, shut-off devices requiring manual resetting, exits and the path of egress. Please indicate suitable dimensions and

- scale (width, and depth) of all cooking surfaces, ducts, plenums, and include any fixtures that will affect egress.
7. **Piping design-** Show maximum flow points allowable by the manufacturer and a detailed description of flow points that are installed for each hood and total for each system. On plans include the size, length, methods of joining, method of support, and arrangement of hood piping. Include detailed descriptions on of distribution piping requirements, or discharge volume requirements according to the manufacturer's specifications. The details shall include the max allowed 90s, Ts, or volume and shall show proposed actual numbers that does not exceed manufacturer's specifications. Please provide the applicable page and detail number to support the proposed application.
  8. **Equipment legend** for each supply tank (multiple cylinders supplying the same nozzles shall be combined on legend). The legend shall include the type of nozzles that are connected to that tank, the tip number and/or identifier, the total number of flow point used, and the number of flow points allowed for that size tank.
  9. **Detection schematic** that includes the location of each fusible link for each protected equipment, the location of the manual pull, and the length of the detection system.
  10. **Cross Section** Detail that accurately shows the height of all protected equipment, the nozzle distance in relation to protected equipment in accordance with the manufacturers' installation manual.
  11. **Automatic/Manual Detection** details to reflect the manual and automatic actuation systems. Details for the installation of the automatic detectors shall be shown in the listed locations and include all devices for that system in accordance with the listed manufacturer's manual. Details for the manual release system shall also be provided.
  12. **Fire Alarm Connection** details for the Fire alarm connection. Fire alarm contractor must be onsite with approved plans during the hood acceptance test (if applicable).
  13. **Pizza Ovens** require fixed fire protection. If the pizza oven is closed, and no protection is provided, this must be specified on the plan.
  14. **Fryer Separation**, all deep-fat fryers shall be installed with at least a sixteen inch space between the fryer and surface flames from adjacent cooking equipment or a baffle installed in accordance with California Mechanical Code and NFPA 96.

## TESTING REQUIREMENTS

The system shall be pre-tested prior to fire inspection to determine that the system is properly installed and functions in accordance with the approved plans, the manufacturer's installation and maintenance manual. Testing during the fire inspection shall include: a manual and automatic activation via fusible link, a shutdown of all electrical and gas cooking equipment, verification of nozzle type and height, and orientation relative to placement of cooking appliances will also be verified during the inspection.

## Fire Department Inspection and Testing Notes

Fire Department Notes for Fire Extinguishing Systems are required to be added to plans verbatim.

1. **Certifying Installations** - The installer will certify that the system has been installed in accordance with the approved plans and the manufacturer's listed installation and maintenance manual. NFPA 17A, 6.4.2
2. **Exhaust Fans** - The hood exhaust fans shall continue to operate at the required rate of air movement after the extinguishing system has been activated. (Unless exhaust shut down is required by listed component of the hood.)
3. **Alarm Connection** - An audible or visual indicator shall be provided to show that the system has operated, that personnel response is needed, and that the system is in need of recharge. The extinguishing system shall be connected to the fire alarm system, if provided, in accordance with the requirements of *NFPA 72, National Fire Alarm Code, and CFC 904.3.5* so that the actuation of the extinguishing system will sound the fire alarm as well as provide the function of the extinguishing system.
4. **Class K-Extinguisher** - When hazard areas include deep fat fryers, listed Class K Portable fire extinguishers shall be provided in accordance with *Title 19 California Code of Regulations, Chapter 3* per the CFC 2022 Section 906.4. Please also show the location of the **4-A 80-BC** fire extinguisher in accordance with NFPA 10.
5. **Fire Extinguisher Placard**- A placard identifying the use of the extinguisher as secondary backup means to the automatic fire suppression system shall be conspicuously placed near each portable fire extinguisher in the cooking area in accordance with *The California Mechanical Code 2022* section 513.2.1.
6. **Manual Pull** – A manual actuation device shall be located at or near a means of egress from the cooking area a minimum of 10 feet and a maximum of 20 feet from the kitchen exhaust system. The manual actuation device shall be installed not more than 48" nor less than 42" above the finished floor and shall clearly identify the hazard protected. The manual actuation shall require a maximum force of 40 lbs and a maximum movement of 14 inches to actuate the fire suppression system per 2022 CFC Section 904.13.1
7. **Installation Manual** - An installation manual shall be available at the time of inspection.
8. **System Interconnection** – The actuation of the fire extinguisher system shall automatically shut down the fuel or electrical power supply to the cooking equipment. The fuel and electrical supply reset shall be manual per the 2022 CFC Section 904.13.2
9. **Securing of Equipment** - Moveable cooking equipment shall be provided with a means to ensure that it is correctly positioned in relation to the appliance discharge nozzle during cooking operations. Per NFPA 17A 5.6.4.
10. **Moving of Cooking Appliances**- Cooking appliances requiring protection shall not be moved, modified, or rearranged without prior re-evaluation of the fire-extinguishing system by the system installer or servicing agent, and approved by the authority having jurisdiction 2022 CMC 515.1.1.1.
11. **Nozzles** - All discharge nozzles shall be provided with caps or other suitable devices to prevent the entrance of grease vapors, moisture, or other foreign materials into the piping. Per NFPA 17A 4.3.1.5.

**For additional assistance please call Fire Prevention at (951) 413-3370**