



## STANDARD 14.7.4

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### FIRE EXTINGUISHING SYSTEMS FOR COMMERCIAL COOKING OPERATIONS

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*Please note that the District assumes no liability for any damages incurred directly or indirectly as a result of any errors, omissions, or discrepancies between this standard and any applicable law. It is the sole responsibility of the person or persons conducting any work pursuant to this standard to ensure their work complies with any and all applicable codes, ordinances, and regulations.*

#### CHAPTER 1 ADMINISTRATION

**1.1 Scope.** This standard applies to the design, installation, testing and inspection of Fire Extinguishing Systems for Commercial Cooking Operations within the jurisdiction of the Ventura County Fire Protection District (VCFPD). This standard shall be used in conjunction with the Ventura County Fire Code (VCFC), the 2010 California Building Code (CBC), UL 300, NFPA 17A-2009, NFPA 96 – 2008, and other applicable standards.

**1.2 Purpose.** This standard is prepared for the use and guidance of those charged with purchasing, designing, installing, testing, inspecting, approving, operating, or maintaining of pre-engineered wet chemical fire-extinguishing systems.

#### **1.3 Responsibility.**

**1.3.1 General.** All individuals and companies who intend to engage in the installation or alteration of Fire Extinguishing Systems for Commercial Cooking Operations are subject to the requirements of this standard.

**1.3.2 Design.** The design of a pre-engineered fire protection system shall only be performed by a State of California C-16 contractor or a registered Fire Protection Engineer.

**1.3.3 Installation.** The installation of a pre-engineered fire protection system shall only be performed by the C-16 contractor that designed and submitted the plans. If the plans were designed by a Fire Protection Engineer, any licensed C-16 contractor may perform the installation.

**1.3.4 Installing Contractor.** The design and installation of systems shall be performed only by persons properly trained and qualified to design and/or install the specific system being provided. The installer shall provide certification to the authority having jurisdiction that the installation is in complete agreement with the terms of the listing and the manufacturer's instructions and/or approved design. Contractors may only design systems that the firm has a contract to install.

**1.4 Permits.** A construction permit is required for the installation of or modification to a fire extinguishing system.

**1.4.1** Construction permits shall automatically become invalid unless an inspection authorized by such permit is commenced within 6 months of being issued.

**1.4.2** Construction permits shall require an inspection at a minimum of every 6 months or such permit shall become invalid.

**1.4.3** Construction permits that have become invalid may be re-issued, if all of the following conditions are met:

- (1) The permit was issued or an inspection has occurred within the previous 12 months.
- (2) No changes have been made or will be made in the original construction documents.
- (3) Previously approved construction documents shall be submitted to VCFPD.
- (4) Fees equal to one-half the amount for a new permit have been paid.

## **CHAPTER 2 DEFINITIONS**

**2.1 General.** The following words and terms shall, for the purposes of this standard and permit requirements of the VCFC, have the meanings shown herein.

**2.2 Ventura County Fire Code (VCFC).** The specified portions of the California Building Standards Codes known as California Code of Regulations, Title 24, Part 9, "California Fire Code (CFC)" as adopted by the State Fire Marshal (SFM) and; portions of The International Fire Code (IFC), 2009 Edition referenced by the California Building Standards Code and not adopted or modified by the SFM and; the VCFPD amendments contained in Ordinance 27 to the above-referenced codes.

## **CHAPTER 3 PLANS SUBMITTAL**

**3.1 General.** Plans and specifications shall be submitted to VCFPD, Fire Prevention Bureau as indicated elsewhere in this document.

**3.1.1** Obtain any permits from the appropriate **Building & Safety Department** to install the fire extinguishing system.

**3.2 Plans and Specifications Submittal.** At the time of building permit application for new structures designed to accommodate a fire extinguishing system, or for any installation of or modification to an existing fire extinguishing system, plans and specifications shall be submitted for review and approval. In addition to the information required by the applicable standard, the submittal shall include the information specified herein. Once approved, a copy of the approved plan shall be maintained on the premises.

**3.3 Submittal Requirements.** Submit a minimum of three sets of plans, one copy of the manufacturer's data sheets on all system components and devices, Fire Prevention Bureau incoming transmittal form and the appropriate fees to the Ventura County Fire Prevention Bureau located at 165 Durley Avenue, Camarillo CA 93010. Fire Prevention Counter hours are Monday through Friday, 8:00 a.m. to 5:00 p.m.

**3.4 Fees.** Appropriate fees can be found in the Ventura County Fire Protection District's Fee Schedule at <http://fire.countyofventura.org> or by calling the Fire Prevention Counter at (805)389-9738. Fees can be paid by check/money order, Visa or MasterCard. Plan Check fees include the original

plan check and one re-check. Please ensure that all corrections are made prior to re-submittal to avoid additional fees. All fees shall be paid at the time of plan submittal.

**3.5 Plans Approval.** Plans will be checked and if approved, will be stamped “**Acceptable**”, signed and dated. The Fire Department will retain one set.

**3.6 Case Number.** The Fire Department has instituted the use of a “**Case Number**” for tracking all projects submitted for review. To provide faster customer service, please refer to your Case Number when contacting this Department. Your Case Number will also be listed on the Fire Department approved plans.

**3.7 Field Changes.** **ANY** field changes **SHALL** require re-submittal of plans along with additional plan check fees.

## CHAPTER 4 PLANS SPECIFICATIONS

**4.1 Specifications.** Specifications for wet chemical fire extinguishing systems shall be drawn with care by a trained person.

**4.2 Size and Scale.** Plans shall be drawn on a minimum of 11” x 17” paper and shall be drawn to an indicated scale.

**4.3 Plans.** The following items shall be included in all Commercial Cooking Fire Extinguishing plan specifications:

- (1) Scope of work for the project.
- (2) Name of owner and/or occupant.
- (3) Location of project, including parcel #, street, number and city.
- (4) Applicable codes and standards used for the system design.
- (5) Sectional view of cooking appliances with dimensions of each piece of cooking equipment.
- (6) Specify the size and location of any back shelf installed.
- (7) If applicable to the appliances on site, specify the following:
  - (a) Whether or not the fryer has a drip board
  - (b) Type of char-broiler
  - (c) Depth of Wok
- (8) Floor plan layout that includes the location of the cooking equipment, exit doors, manual pull station, and other non protected appliances indicated.
- (9) Fire extinguishing protection is required for open pizza ovens. If the pizza oven is closed, and no protection is provided, this must be specified on the plan.
- (10) Hood, plenum, and duct dimensions.
- (11) An elevation view of the hood, plenum and all duct work to the exhaust point above the roof.  
Note: In some cases additional protection may be required.

- (12) Piping schematic that includes the equivalent pipe length calculation (if applicable), the number and type of nozzles, and the location, height and direction of nozzle placement over each piece of cooking equipment.
- (13) An 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/identifier, the total number of flow points used, and the number of flow points allowed for that size tank.
- (14) Detection schematic that includes the location of each fusible link for each protected appliance, temperature rating, the location of the manual pull, and the length of the detection system.

## CHAPTER 5 VERBATIM NOTES

**5.1 Verbatim Notes.** The following notes shall be completed and placed verbatim on the working fire extinguishing system plans.

**5.1.1** Construction permits shall automatically become invalid unless an inspection authorized by such permit is commenced within 6 months of being issued.

**5.1.2** Construction permits shall require an inspection at a minimum of every 6 months or such permit shall become invalid.

**5.1.3** This fire extinguishing system shall be designed, fabricated, and installed in accordance with the Ventura County Fire Code, 2010 California Building Code, NFPA 17A-2009 and NFPA 96-2008, UL300 and Ventura County Fire Protection District Standard 14.7.4

**5.1.4** Design and installation of fire extinguishing systems shall be performed **only** by persons properly trained and qualified to design and/or install the **specific system** being provided. The installer **shall provide certification** to the authority having jurisdiction that the installation is in complete agreement with the terms of the listing and the manufacturer's instructions and/or approved design. **(Per NFPA 17A Section 6.2)**

**5.1.5** All extinguishing system wiring shall be installed per National Electrical Code requirements.

**5.1.6** All non-essential wiring shall be contained in a junction box mounted outside of control unit enclosure.

**5.1.7** Fire Extinguishing Systems installed in buildings that require a **fire alarm system** shall be interconnected so that the activation of the fire extinguishing system shall sound the fire alarm and transmit a signal to the central station.

**5.1.8** Fire Extinguishing System shall be supervised when the building is equipped with a **fire sprinkler monitoring system. (Single tenant buildings only)**

**5.1.9** Installing contractor shall provide one "K" class fire extinguisher per hood system.

**5.1.10** Piping shall be rigidly supported to prevent movement.

**5.1.11** Appliances with wheels shall be secured in place to ensure that it is correctly positioned in relation to the appliance discharge nozzle during cooking operations.

**5.1.12** Manual pull stations shall be located no higher than 48 inches and no less than 42 inches above finished floor. A readily accessible means of manual activation shall be located in a path of egress and no more than 30ft from the hood.

**5.1.13** Where multiple manual pull stations are installed for protection of separate extinguishing systems, they shall be identified as to which extinguishing system each will activate.

**5.1.14** All sources of gas, electrical, and heat located under the hood shall shut down upon activation of the extinguishing system.

**5.1.15** A hood exhaust fan **shall continue to operate** after the extinguishing system has been activated unless fan shut down is required by a listed component of the ventilation system or by the design of the extinguishing system.

**5.1.16** When a fire extinguishing system discharges, makeup air supplied **internally** to a hood **shall be shut off**.

**5.1.17** All deep fat fryers shall be installed with either a 16 inch clear space or a minimum 8 inch high stainless steel baffle between the fryer and surface flames from adjacent cooking equipment.

**5.1.18** All discharge nozzles shall be provided with caps, covers, or other suitable protective devices.

**5.1.19** All discharge nozzles shall be located and installed in relation to the protected appliance as shown in the manufacturer's listed installation manual.

**5.1.20** The inside edge of the hood shall overhang a horizontal distance of not less than 6 inches beyond the edge of the cooking surface on all open sides, and the vertical distance between the lip of the hood and the cooking surface shall not exceed 4 feet unless the manufacturer's specifications state otherwise.

## CHAPTER 6 INSPECTIONS

**6.1 General.** The inspection fee that is paid at the time of plan submittal will provide you with a pre-determined number of inspections to complete the project (see fee schedule). For projects that exceed this limit, inspection requests will not be accepted unless additional fees are paid prior to scheduling an inspection.

**6.2 Responsibility.** It is the responsibility of the installing contractor to be on the job site during the inspection with approved plans. Failure to do so will result in the cancellation of the inspection. Cancelled inspections will be counted as one inspection.

**6.3 Inspection requests.** Inspection requests can only be taken from the installing contractor. Inspections shall be requested Monday through Friday prior to 3:00 p.m., one business day prior to inspection.

**6.3.1** It is the intent of the Ventura County Fire Prevention Bureau to perform inspections one business day after the inspection has been requested. However due to training requirements, meetings, emergency services and other scheduled and non-scheduled events it cannot be guaranteed that all inspections will be conducted the next business day.

**6.4 Schedule by phone.** Call (805) 389-9744 one business day prior to inspection for scheduling an inspection. The inspection request line is open Monday through Friday between 8:00 a.m. and 3:00 p.m.

**6.5 Schedule by fax.** Inspections can be scheduled via fax at (805) 388-4356. Ventura County Fire Prevention Bureau Form FP13.1.3, found at <http://fire.countyofventura.org>, must be used to request inspections. Faxed inspection requests must be received prior to 3:00 p.m.

**6.6 Contact Information.** Be sure to leave your phone number, when you schedule an inspection by phone or fax, where the inspector can call you back, after 7:30 a.m. the day of the inspection, to notify you of your inspection time.

**6.7 Inspection times.** Inspection times are approximate and may vary because of delays at previous inspections or emergency response by Fire Department personnel. Please allow time on either side of the inspection time for the inspector to arrive.

## CHAPTER 7 ACCEPTANCE TESTING

**7.1 General.** Inspections of commercial fire extinguishing systems shall not be conducted prior to plans being approved.

**7.2 Pre-Test.** The contractor shall conduct a 100% pre-test of the system prior to inspection.

**7.3 Final Inspection.** The fire extinguishing system and all of the related components shall be tested and inspected by the Fire Prevention Bureau at the final inspection stage, prior to use of appliances or occupancy being granted.

**7.3.1** The system shall be tested utilizing an inert gas in lieu of the extinguishing product. Balloons shall be provided at each nozzle location to ensure equal distributions of the gas. The test shall be activated by a test link and again activated by the manual pull station. Where field conditions necessitate a change from the approved plans, the fire department shall be consulted and a revised set of plans shall be re-submitted for approval.

**7.3.2** Gas and or electric will be **required** for the inspection to ensure proper operation of gas shut off valves and shunt trips.

## CHAPTER 8 MAINTENANCE

**8.1 General.** Extinguishing systems shall be serviced at least **every six months** and/or after activation of the system. Maintenance shall be conducted in accordance with the manufacturer's listed installation and maintenance manual. Documentation shall be forwarded to Ventura County Fire Prevention Bureau utilizing **NFPA Forms 12-C and 12-D**. A copy of the forms will be kept on file in accordance with **California Fire Code Section 904.11.6.4**

**8.1.1** The hood ventilation system shall be operated at the required rate of air movement, and approved grease filters shall be in place when cooking equipment under a kitchen grease hood are operated.

**8.1.2** When grease extractors are installed they shall be operated with the commercial-type cooking equipment.

**8.1.3** Hoods, grease removal devices, fans, ducts, and other appurtenances shall be periodically cleaned to prevent grease accumulation. Cleanings shall be recorded and records shall state the extent, time, and date of cleaning. Such records shall be maintained on the premises for a period of two years.