

March 1996

## **PLAN SUBMITTAL REQUIREMENTS FOR KITCHEN HOOD AND DUCT EXTINGUISHING SYSTEMS**

### **PLAN REVIEW**

1. Submit a completed permit application and a minimum of three sets of shop-quality plans and calculations for the proposed system(s) to the San Jose Fire Department's Bureau of Fire Prevention. The Bureau of Fire Prevention is located at Four North Second Street, Suite 1100, San Jose, California. A maximum of four approved sets of plans will be returned. Submit sufficient copies of drawings so the Fire Department may retain one set.
2. The permit card and a stamped set of plans must be kept at the project site until the permit is finalized and shall remain in the possession of the owner.
3. If the last carbon copy page of the permit application is not legible, the application will not be accepted.
4. All plan check and permit fees will be collected when plans are submitted.
5. Permits are required for any alteration to or addition of a life safety system.
6. The exhaust hood and duct systems of all commercial ranges, fryers, broilers, and other cooking devices shall be protected by an automatic fire protection system incorporating full surface protection and automatic fuel shut-off. There shall be a remote activation device placed along the route of egress. If the building is equipped with a fire alarm system, the activation of the hood and duct system shall initiate an alarm with a separate zone.
7. The installation shall conform to NFPA 17A and/or NFPA 96, in accordance with Underwriters' Laboratory Standard 300, the requirement of the system's manufacturer, and meet the approval of the San Jose Fire Department.
8. Drawing must include:
  - Fully dimensioned plans;
  - Kitchen layout, including exits, pantry and access to dining area;
  - Hood dimensions;

- Exhaust duct and appliance dimensions, along with the interface of the fire extinguishing system detectors;
- Piping (size and length);

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**PLAN REVIEW** (Continued)

8. Drawing must include: (Continued)

- Nozzles (type and distance to the appliance);
- Fuel shut-off devices and their listing type;
- Agent storage container (type and size);
- Manual actuation device and related cable installation in the kitchen;
- Type and size of systems;
- Project name;
- Applicant/Owner;
- Street address, including suite or space number;
- City, State, Zip Code;
- Provide pipe length equivalency calculations;
- Provide flow point calculations;
- Point of compass;
- A graphical representation of the scale. Scale shall be suitable to provide legible drawings;
- Contractor's name, telephone number, address, California Contractor's and/or P.E. license;
- The owner's name, address and telephone number.

The plans shall be wet stamped and signed by the designer of record (installing contractor). The designer's name shall be clearly printed in the plans (no pseudonyms, acronyms, or aliases). Installation work shall be done by licensed, fully experienced, and responsible persons.

9. The designer of record is responsible for the entire system being worked on.
10. All equipment and devices shall be noted on the plans and shall be listed by a nationally recognized testing agency.

**NOTE:** The San Jose Fire Department reserves the right to disallow any listed product due to past performance.

11. All installing contractors shall have a valid Workers' Compensation certificate and indicate the certificate number on the permit application prior to issuance of an installation permit.
12. All installing contractors shall have a valid City of San Jose Business License.

13. Equipment and piping shall not be installed prior to approval of plans and issuance of permits.

**PLAN REVIEW** (Continued)

14. A legend shall be provided and the symbols used shall match the legend. Strike out any "typical" symbols and/or details which do not pertain.
15. Plans and all revisions to the plans shall be dated. If utilizing an existing drawing or a portion of a drawing, the area of work shall be highlighted and clouded with an appropriate revision symbol (Delta). Provide a revision list with symbol, date, description and initials.
16. A key plan of the building and/or complex indicating the street location and the area of work shall be provided. If the work to be performed is a revision to a previous submittal, the area of work shall be revised to indicate the area of work for the current submittal.
17. Plans shall indicate actual, maximum and minimum lengths of pipe and equivalent lengths. In addition, the actual and maximum vertical rise shall be indicated.
18. Branch line piping limitations shall be indicated showing compliance with manufacturer's design data. Reference design data by Chapter, page, and revision on plans and provide data sheet with submittal.
19. All power and fuel shall be shut down if located under the protected exhaust hood regardless of what the power or fuel source is located there for. Show all mechanical and/or electrical interrupts.
20. All systems shall be provided with clear directions.
21. Each appliance shall be provided with at least one detector unless located directly below the exhaust duct, in which case, one detector may be provided for two appliances provided this configuration is allowed by the system's manufacturer.
22. One set of manufacturer's product data cut sheets shall be submitted with the application for each submittal. All information not pertinent to the proposed project shall be "struck out" of the cut sheets. As a minimum, the following cut sheets are required:
  - Nozzle coverage and placement;
  - Cylinder sizing;
  - Piping limitations;

- Detector requirements;
- Multiple cylinder installation (if applicable).

**PLAN REVIEW** (Continued)

22. (Continued)

A duplicate set of cut sheets shall be provided to the system's owner, by the installing contractor, upon completion of installation.

23. Indicate the actual surface dimension being protected, not just the size of the unit (e.g., 36" griddle with 30" x 24" cooking surface).
24. Use the same terminology as in the design manual (i.e., "range" not "stove" or "burner," "griddle" not "grill" or "plate," etc.). Be specific (e.g., radiant broiler, synthetic rock broiler, chain broiler, etc.).
25. The shutdown of make-up or supply air is recommended upon system actuation but is not required.
- 26 Exhaust fan(s) in the ventilation system should remain on during system discharge as they assist the dispersion of chemical through the ventilating system. The system shall be UL Listed with or without exhaust fan shutdown.
27. All appliances shall be locked in place. If appliances must be moveable for cleaning, location markers shall be permanently installed to indicate the approved location of the appliance (e.g., permanently mark the floor with appliance outline and footing location).
28. If technical expertise is unavailable within the Fire Department because of new technology, process, products, facilities, materials and uses attending the design, operation or use of a building or premises, the Fire Department may require the applicant to provide, without charge to the Fire Department, a technical opinion and report, or plan review. The opinion and report or plan review shall be prepared by a qualified engineer, specialist, laboratory, or fire-safety specialty organization acceptable to the Fire Department and the applicant and shall analyze the design, operation or use of the building or premises as it relates to required codes and ordinances.
29. Field inspections may be scheduled at the counter after approval of the permit submittal. For inspection scheduling or for general information, please call (408) 277-5357. You will not be able to schedule an inspection until a permit number

has been issued. **Allow one to two weeks notice when requesting inspections.**

### **CERTIFICATION**

1. Installation of systems shall be made only by persons trained and certified to install the specific systems being provided.
2. The installer shall certify to the Fire Department, through a letter on company letterhead, that the installation is in complete agreement with the terms of the listing and the manufacturer's instructions and/or approved design.
3. The installer shall further certify to the Fire Department, through a letter on company letterhead and acceptable at the time of final inspection, that the installation has been pretested and, having passed the test, is now fully functional. The inspection is not, however, waived with the presentation of the letter.

### **INSPECTION/TESTING**

1. The Fire Department shall be given one to two weeks advanced notice when scheduling final test and shall approve the test before the system is placed in service.
  - A. Approval test shall include:
    - A discharge of expellant gas through the piping and nozzles;
    - Observations shall be made for serious gas leakage and for continuity of piping with free, unobstructed flow;
    - Observations shall be made of the flow of expellant gas through all nozzles;
    - Piping shall not be hydrostatically tested;
    - Where pressure testing is required, it shall be by means of a dry gas;
    - The labeling of devices with proper designations and instructions shall be checked
    - Strainer assemblies shall be disassembled and proven to be clean and clear.
  - B. The Fire Department reserves the option to require a discharge test, requiring full discharge of the chemical extinguishing agent. The test may be required

to show the discharge pattern and/or discharge into suitable receptacles for weighing the results prior to acceptance.

## **GENERAL**

### **1. Portable Extinguishers**

In addition to the fixed system, a dry chemical portable extinguisher which is a rating of not less than 40-B shall be installed near the food processing equipment. For additional portable extinguishers, see UFC Standard No. 10-1.

### **2. Operation and Maintenance**

The ventilation system in connection with hoods shall be operated at the required level and grease filters shall be in place when equipment under kitchen grease hood is used. If grease extractors are installed, they shall be operated when the food heat processing equipment is used. Extinguishing systems shall be serviced at least every six months or after the activation of the system. Inspection shall be by qualified individuals and a certificate of inspection shall be forwarded to the San Jose Fire Department upon completion. Fusible links and automatic sprinkler heads shall be replaced at least annually, and other protection devices shall be serviced or replaced in accordance with the manufacturer's instructions.

### **3. Posting Operation Instructions**

Instructions for manually operating the fire extinguishing systems shall be posted at a conspicuous location within the kitchen. Hoods, grease removal devices, fans, ducts, and other appurtenances shall be cleaned at frequent intervals.

### **4. MAINTENANCE MANUAL**

The owner shall be provided with a copy of the manufacturer's listed installation and maintenance manual or listed owner's manual. The manual shall contain, as a minimum, the following additional information:

- A copy of the "finalized" permit card;
- As built drawing(s);
- Copies of correspondence with the Fire Department;
- Copies of certification;
- The duplicate set of cut sheets required by #20 above.

## **EXISTING DRY CHEMICAL SYSTEMS**

1. All new installations shall have been tested to the UL Standard for Fire Extinguishing Systems for Protection of Restaurant Cooking Areas, UL300 and be Listed by Underwriters Laboratories, Inc.

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## **EXISTING DRY CHEMICAL SYSTEMS** (Continued)

2. Existing unmodified hood and duct extinguishing systems may continue to be utilized (classified as "existing non-conforming" systems) provided they comply with their original listing requirements.
3. Existing non-conforming systems may be modified to accommodate rearrangement of the equipment under the hood or the addition of equipment under the hood provided:
  - The hood and duct system is capable of supporting the additional air flow requirements;
  - The existing extinguishing system is capable of supporting the additional equipment in accordance with the listing requirements of the system at the time the original permit was issued;
  - The modifications do not constitute an addition of more than one-third of the existing capacity of the system (i.e., an existing 12-flow point system may be expanded by the addition of up to four flow points provided the total flow points utilized after the modifications does not exceed 12). Modifications which required the addition of more than one-third the capacity of the existing system shall be upgraded to listed UL300 protection.
  - The modification is not for the addition of a deep-fat fryer. Existing fryers may continue to be protected by the existing non-conforming system. However, any modifications or additions of a fryer shall require the extinguishing system associated with the fryer to be upgraded to listed UL300 protection.
  - The owner and/or occupant is notified, in writing by the installing contractor, that the existing extinguishing system does not conform to current listing and/or code requirements. The document must indicate that the existing system may not provide adequate fire protection. This document must bare an owner/occupant's signature line under a statement which indicates that the owner/occupant understands the ramifications of utilizing a non-conforming system. Further, that the owner/occupant agrees to except all liabilities associated with the modification and continued use of the system. A copy of

this document, with wet signatures of the installing contractor and the owner/occupant shall accompany any application for permit submittal proposing modification of an existing non-conforming hood and duct extinguishing system.

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