

#### 4.23 Combination Fire Services (2016)

**Reference:** 2016 SFFC, § 903; 2016 NFPA 13, 13R, & 13D

**Purpose:** Combination fire services will be permitted only for limited area sprinkler systems and residential systems in accordance with § 903.3.5.1 of the San Francisco Fire Code (SFFC).

**Scope:** Combination fire services may be used only when the combined sprinkler system and domestic water demand through the meter will not exceed the manufacturer's listed maximum intermittent delivery rate. Combination fire services shall comply with San Francisco Public Utilities Commission (SFPUC) Rules and Regulations, Section A, Rule 5A\*. The following guidelines will be used in conjunction with this policy:

- I. Sprinkler System Design Criteria
  - A. Sprinkler systems supplied by the combination fire service must be hydraulically designed in accordance with NFPA 13D, 13R and/or 13 as required by the San Francisco Fire Code.
  - B. The domestic water demand must be included in the sprinkler flow at the domestic water system point of connection to the combination fire service line.
    1. Domestic water demand shall be at least 5 GPM per unit for two dwelling units or less.
    2. For three or more dwelling units, the domestic demand shall be as estimated using the Tables in NFPA 13R.
  - C. The maximum delivery rates for combination fire service are as follows
    1. 1 inch service = 50 GPM
    2. 1-1/2 inch service = 100 GPM
    3. 2 inch service = 160 GPM
- II. Combination Fire Service Pipe
  - For all sizes, the service line must be copper (Type K with brazed joints) from the meter to the sprinkler connection to minimize problems of tuberculation.
- III. The meter friction losses to be used in the hydraulic calculations are:

#### DELIVERY RATE

| Service Size | 25 GPM | 50 GPM | 75 GPM | 100 GPM | 125 GPM | 160 GPM |
|--------------|--------|--------|--------|---------|---------|---------|
| 1-inch       | 5 psi  | 9 psi  |        |         |         |         |
| 1½ -inch     | 1 psi  | 3 psi  | 7 psi  | 12 psi  |         |         |
| 2 - inch     | 1psi   | 1 psi  | 3 psi  | 5 psi   | 8 psi   | 12 psi  |

**\*San Francisco Public Utilities Commission (SFPUC) Rules and Regulations, Section A, Rule 5A. (Next Page)**

### **\*Combination Fire Service Rule 5A:**

Service for automatic fire sprinkler systems or for fire protection of any kind, when combined with a standard service, will be classed as a combination fire service subject to the following provisions:

1. Such service is required by or conforms to the regulations of the Fire Department or the underwriters having jurisdiction.
2. The fire service size shall be determined by the San Francisco Fire Department or other proper authority having fire jurisdiction.
3. The domestic service shall be sized in accordance with Department Rules based on demand and/or fixture unit count for the building or premises involved.
4. The combined fire and domestic service shall not be sized greater than two (2) meter sizes larger than that required to satisfy domestic requirements.
5. Maximum size of a combined service shall be 2-inch