FIRE PREVENTION & PUBLIC SAFETY BUREAU

REQUIREMENT #73: TEMPORARY FIRE PUMPS IN OCCUPIED BUILDINGS

Purpose: To standardize required actions to allow continued occupancy of a building when a major fire pump component serving a required sprinkler system is out of service. Major components include, but may not be limited to;

- Main fire water service to a building
- Fire pumps and/or controllers
- Water storage tank serving as the only supply for the fire pump system.
- Inoperative system pressure reducing valves.

Scope: Applies to all occupied buildings that are regulated by the City of Los Angeles.

Authority: Los Angeles Fire Code sections 901.6 and 901.7

General:

1. A privately owned pumper truck or temporary fire pump listed for fire service shall be provided when a required fire pump system is out of service if it is possible to provide system pressure into the system.
2. Temporary pump system is not required if the building has an operational redundant fire pump.
3. Temporary pump system is not required if the building fire pump system takes suction directly from a full water storage tank if the main fire service to the building has been disrupted.
4. Temporary pump system is intended to provide required volume and pressure for the fire sprinkler system. LAFD resources will provide standpipe requirements in the event of an actual emergency.
5. If the system condition is such that a temporary pump system would not be able to pump into the system, LAFD management shall make the decision if the building is to be vacated.

FIRE PREVENTION & PUBLIC SAFETY BUREAU

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Requirements:

1. Building shall be placed on Fire Watch. At a minimum one person shall remain at the fire alarm control panel or approved remote annunciator to contact the temporary pump operator to supply system pressure into the building upon fire alarm activation. Approved communication is required.

2. Where possible, water shall be maintained in the sprinkler piping.

3. Temporary pump systems shall be connected to an approved water source. Los Angeles Department of Water and Power (DWP) does not allow connection to potable water systems or access into domestic water vaults for buildings. A check valve assembly purchased from DWP shall be utilized for hydrant connections. The assembly has a DWP stamp on the body of the check valve. DWP can be contacted at (213) 367-2130 for information in regard to purchasing the check valve assembly. The responsible LAFD inspector shall place an approved tag, available at Fire Development Services Unit, on the check valve assembly once installed on the approved water source. The inspector shall seal a business card on the rear of the tag behind the clear adhesive cover. A new tag shall be placed on the check valve assembly for each new temporary pump connection. See attached photo on page 4.

4. The temporary pump system shall be connected to the Fire Department Connection (FDC) per direction from the responsible LAFD inspector. At least 50% of the FDC connection inlets shall remain available for LAFD emergency use. Occasionally, an approved improvised FDC may need to be provided.

5. A roof flow provided by the temporary pump system to meet the fire sprinkler requirements shall be witnessed by the responsible LAFD inspector as soon as possible after connections are made.

6. Los Angeles Department of Transportation (LADOT) shall be contacted by the temporary pump operator to inquire if a permit is required to park on the street during high traffic hours. LADOT can be contacted at (213) 847-6000.

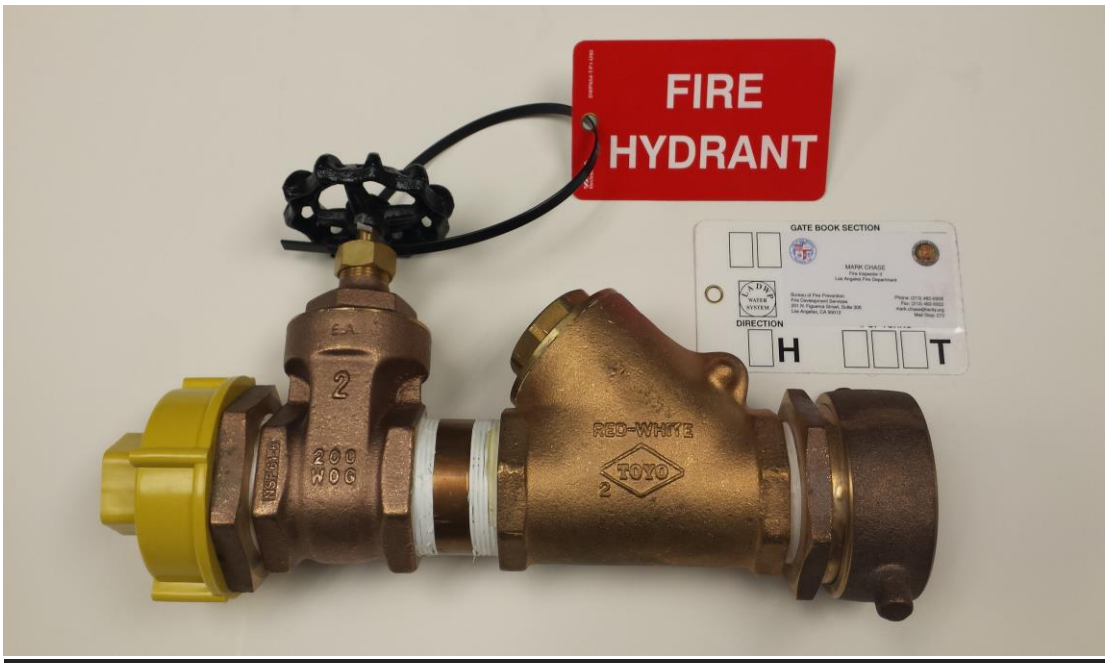
7. Responsible LAFD inspector shall issue violations addressing at a minimum:

    - Fire Watch requirements
    - Repair requirements for fire water system. Statement shall be included that plan check, permits, and/or testing may be required by LAFD/LADBS for repairs, depending on extent of repairs needed.

Notifications:

- FPB district inspector and FPB Development Services Unit.
- Local fire station and Battalion office.
- Metro fire dispatch to input temporary comments describing situation.
- LADBS Sprinkler Division

DWP approved check valve assembly for hydrant connection



LOS ANGELES FIRE DEPARTMENT

RALPH M. TERRAZAS
FIRE CHIEF

October 07, 2017

TO: FDS Inspectors and Plan Checkers

FROM: Hani G. Malki, Senior Fire Protection Engineer
Fire Development Services Section

SUBJECT: IDENTIFICATION OF PIPING IN FIRE PUMP ROOMS (Revised)

In an effort to standardize complex piping arrangements to assist emergency responders, building engineers, and system testers; the following piping identification method shall be utilized. As of the date of this communication, all buildings which have not received final Certificate of Occupancy shall comply with the requirements contained in this memorandum:

1. Painting of fire pump room piping shall be as follows:

    A. City supply piping shall be painted green in color
    B. Test header piping shall be painted blue in color
    C. Low zone discharge piping shall be painted yellow in color
    D. Mid zone discharge piping shall be painted orange in color
    E. High zone discharge piping shall be painted red in color (Buildings with single zone shall paint discharge piping red)
    F. Pump suction piping from water storage tank shall be painted white in color
    G. Tank fill piping (auto fill/city manual fill and FDC emergency tank fill piping) shall be painted green in color to match city supply piping

2. An approved piping color schedule shall be posted inside the fire pump room at the exit doorway. The schedule shall be protected from water damage.

3. Contractors shall coordinate painting of the piping inside the fire pump room with an LAFD Field Inspector and the LADBS Sprinkler Division Inspector. Contractors shall ensure that the LADBS Sprinkler Inspector requirements for pipe identification are complied with as per 2016 NFPA 13, Section 6.3.11. Fittings need not be painted.

4. Directional arrows shall be provided to indicate water flow on fire pump room piping per Los Angeles City Fire Code, Section 903.3.12

5. Approved identification signage shall be provided for all valves inside fire pump room.

Hani G. Malki, Sr. Fire Protection Engineer

LOS ANGELES FIRE DEPARTMENT

RALPH M. TERRAZAS
FIRE CHIEF

September 14, 2016

TO: Fire Development Services Plan Check and Field Inspection

FROM: Hani G. Malki, Sr. Fire Protection Engineer
Fire Development Services Section

SUBJECT: PENETRATIONS OF HIGH-RISE FIRE COMMAND CENTERS (FCC)

Los Angeles Fire Code, 2014 Edition, Section 508.1.2 requires that the FCC be separated from the remainder of the building by not less than a one-hour fire barrier. This separation prohibits the penetration of electrical, mechanical, or plumbing equipment, other than those associated with the FCC. These items include, but are not limited to, sprinkler/standpipe risers, domestic water piping, sanitary sewage piping/vent piping, roof drains, electrical panels not serving FCC life/safety systems, fans/motors or drives not serving the FCC ventilation system. Failure of piping systems could cause damage to life/safety panels within the FCC or accumulation of biohazards in the case of a failure of sanitary sewage piping. Failure of electrical components not serving the FCC could render the FCC non-functional.

Los Angeles Fire Code, 2014 Edition, Section 508.1.4 requires that the layout of the FCC be submitted for approval prior to installation. This shall include all items serving or penetrating the FCC.

Los Angeles Fire Code, 2014 Edition, Section 508.1.5 states:

> *"That the fire command center shall not be used for the housing of any boiler, heating unit, generator, combustible storage, or similar hazardous equipment or storage."*

"Hazardous" equipment shall be interpreted to include items that could expose the FCC to risk or loss. Los Angeles Fire Code, 2014 Edition, Section 508.1.5.1 states:

- *"That the fire command center shall not be used for any other purpose."*

This shall preclude the penetration of the FCC by any electrical, mechanical, or plumbing equipment not associated with the FCC.

This memo shall apply to all future projects and projects that have not received final Certificate of Occupancy.

Hani G. Malki

HANI G. MALKI, Sr. Fire Protection Engineer
Fire Development Services Section

LOS ANGELES FIRE DEPARTMENT

RALPH M. TERRAZAS
FIRE CHIEF

January 31, 2018

TO: FDS Inspectors and Plan Checkers

FROM: Hani G. Malki, Senior Fire Protection Engineer
Fire Development Services

SUBJECT: **FIRE PROTECTION WATER STORAGE TANK FILL SYSTEMS**

To minimize the risk of flooding due to overfill of fire protection water storage tanks, the requirements of this memo, in addition to the latest editions of the Los Angeles Plumbing Code, NFPA 22, and LADBS Information Bulletin P/PC 2014-010 shall be complied with. The requirements of this memo shall apply to all buildings that have not received final Certificate of Occupancy.

TANK FILL SYSTEMS:

- Detail drawing showing the fill and overflow systems shall be approved by the Fire Development Services (FDS) project inspector and LADBS sprinkler inspector. A proposed piping arrangement to facilitate testing and proposed test methods shall be indicated on the detail drawing.

- Tank fill systems can be provided with up to a maximum of four fill valves.

- Water storage tank overflow system shall be sized to accept overflow from the single fill valve, in a single valve design, or the largest fill valve volume serving the tank for multiple fill valve design. This applies to both gravity overflow systems and systems utilizing pumps to dispose of tank overflow.

- Automatic tank fill control panels and all associated wiring shall be approved by the LADBS electrical inspector.

- All automatic tanks fill control panels and associated equipment shall be connected to dedicated circuits on emergency power and provided with breaker locks.

- Each automatic tank fill valve shall be provided with an individual open and closed signal for each action.

- Provision shall be made to allow flow testing of each individual fill valve and collectively when all fill valves are open.

- Low and high water signals shall be monitored at the building fire alarm control panel as supervisory signals. Fire alarm matrix annunciators shall show low and high tank level statuses via separate yellow/amber LEDs. Low and high water monitoring status shall be provided with separate initiating devices.

- Low water level initiating devices shall be set 12" below the full water line and any setting to open a tank fill valve.

- High water initiating devices shall be set a minimum of 3" above the full water line and below the overflow level.

- Tank fill and water level monitoring probes installed in fire protection water storage tanks shall be connected to an adequate length of wiring contained within an approved raceway to allow the complete removal of the probes from the tank for the inspection and service of the probes.

- Approved water resistant diagram of the automatic tank fill system showing the tank levels and probe or float settings shall be posted adjacent to the tank fill panel.

- Water storage tank overflow connected to a system utilizing pumps shall meet the following requirements:

    - Be provided with primary and redundant pumps.
    - Each pump shall be sized to dispose water storage tank overflow, in addition to all other volume of water that the system is required to accommodate.
    - Pumps shall be on dedicated standby power circuits supplied by an approved emergency generator.
    - Discharge valves for pumps serving water storage tank overflow shall be secured in the open position with chain and breakaway locks.

GENERAL REQUIREMENTS:

- There shall be an approved normally closed tank fill valve supplied from City water and also from approved fire department connections to allow for the manually filling of the water storage tank from those sources.

- No visual water tank level monitoring device shall be installed in the fire pump room that could cause flooding to the fire pump room upon damage to the visual device.

- Approved control valves shall be provided to allow isolation and servicing of the automatic fill valves without impacting the automatic tank fill system.

- Control valves that are part of the tank fill system shall be connected to the building fire alarm system and monitored as supervisory signals.

- All control valves that are part of the tank fill system shall be provided with approved identification signage.

FIRE PREVENTION & PUBLIC SAFETY BUREAU

REQUIREMENT #102

LOCKING OF STAIRWELL DOORS PROVIDING ACCESS TO PENTHOUSE OR ROOF LEVELS FOR HIGH-RISE BUILDINGS LEVELS FOR HIGH-RISE BUILDINGS

Purpose: To standardize requirements for stairwell door lock systems at locations providing penthouse or roof access for high-rise buildings.

The contents of this requirement are intended to ensure the following:

- Maintenance of Required Exits
- Fire Department/First-Responder Emergency Access
- Provide a Level of Security for Building Owners and Occupants

Scope: Applies to all high-rise buildings regulated by the City of Los Angeles

Authority: 2014 Los Angeles Fire Code sections 1008.1.9.11 and 1008.1.9.11.1
2013 California Building Code section 403.5.3 and 1008.1.9.11

Requirements:

- Requests to lock roof or penthouse access doors shall be submitted to the Fire Development Services Unit on a “Request for Modification of Fire Code Ordinance.”
- LAFD plan check and LADBS electrical plan check required.
- The building shall be provided throughout with an approved automatic fire sprinkler system.
- Activation of the building fire alarm system shall automatically unlock the doors, and the doors shall remain unlocked until the fire alarm system has been reset.
- Activation of the building automatic sprinkler system or fire detection system shall automatically unlock the doors. The doors shall remain unlocked until the system has been reset.
- A system smoke detector shall be installed at the top of the secured stairwell.
- A remote master switch capable of unlocking the stairwell door locks shall be installed at the fire command center.

- Door locks shall be UL and California State Fire Marshal listed electrically fail-safe type locking mechanisms. The locking device shall automatically release upon activation of any fire alarm initiating device. Door locks shall unlock, but not unlatch upon activation.

- Loss of power to that part of the door lock system which locks the doors shall automatically unlock the doors.

- A two-way voice communication system, utilizing dedicated lines, shall be provided from each locked stairwell door accessing the roof or penthouse level to the 24-hour staffed location on site, annunciated as to location. Operating instructions shall be posted above each two-way communication device.

  EXCEPTION: When approved by Modification, a two-way voice communication system to an off-site facility may be permitted where means to remotely unlock the doors from the off-site facility are provided.

- An approved momentary mushroom-shaped palm button connected to the door lock and installed adjacent to each locked stairwell door to the roof or penthouse level shall be provided to unlock the door lock when operated by an individual in the locked stairwell. The lock shall be manually reset at the door. Mount palm button so that top of box is installed at 48-inches above the finished floor.

  - Provide a sign stating: “In case of emergency, push palm button, door will unlock and security alarm will sound.”

  - The sign lettering shall be 3/4 inch high letters by 1/8 inch width stroke on a contrasting background.

- A momentary (“dead-man”) switch may be installed at security console to temporary lock the door in the event of security breach. The door shall unlock upon the release of switch; activation of building fire alarm shall override the function of the momentary switch. Video camera shall be installed adjacent to locked penthouse door that continuously monitors the area while the switch is pressed.