



PREVENTION MANUAL

FIRE ALARM SYSTEMS

407.7 HIGH VOLUME LOW SPEED FANS

EFFECTIVE: OCTOBER 14, 2013

SCOPE

High volume low speed (HVLS) fan shutoff for fire alarm installations.

DEFINITION

A ceiling mounted fan which is larger than six feet in diameter (but not greater than twenty four feet) with a rotational speed of more than thirty revolutions per minute, (but not more than seventy revolutions per minute). These values reflect current approximations.

PURPOSE

The purpose of this policy is to clarify the Department's requirements related to HVLS shutdown when interconnected to a fire alarm.

BACKGROUND

The California Mechanical Code (CMC), Section 609.0, requires an HVAC automatic shutoff where air moving systems supply air in excess of 2000 cfm (944L/s). Where these systems are interconnected to the fire alarm system the fire detection or alarm system must supervise these systems.

The CMC however, does not provide requirements regarding HVLS fans circulating or re-circulating air in excess of 2000 cfm (944L/s).

Standard engineering guidelines note that HVAC systems may move smoke from one location in a building to another and potentially supply combustion air to a fire. It can also aid in detection, especially in an unoccupied area. The same guidelines also apply to HVLS fans.

REQUIREMENTS

Based upon the identified risks, the Department has determined that:

HVLS fans shall be interconnected to a fire alarm system when present. Where an HVLS fan(s) is interconnected to a fire alarm system (regardless of the number of actual fans) and a device initiates an alarm or supervisory signal, every HVLS fan in the building must shutdown.

NOTE

These requirements apply to both required and voluntary systems.