

## **19-07: Protection of Smokeproof Enclosure Ventilation Systems**

### **2014 OSSC 909.20.6.1**

**QUESTION 1:** What equipment, control wiring, power wiring and ductwork is included in the scope of 909.20.6.1?

**RESPONSE 1:** The smokeproof enclosure ventilation system is to be defined in the rational analysis and supported by the design drawings. The equipment associated with the smokeproof enclosure has been determined to include the mechanical equipment and ductwork directly providing air pressurization or exhausting of the smokeproof enclosures (stairways, exit passageways, and vestibules). Equipment and ductwork that is wholly separate from the enclosure, including systems used for relief air as part of the smoke control system, are not required to be protected by this code section. The design professional in responsible charge of the smoke control system design and the rational analysis may deem equipment, wiring, or ductwork to be essential to the smoke control system and require fire protection of these components.

- Equipment and ductwork: Supply, return, and exhaust fans and ductwork.
- Control Wiring: Control wiring includes the pathway from the fire alarm panel to the mechanical equipment serving the smokeproof enclosure. It does not include the wiring to the smoke detectors. The room in which the fire alarm panel is located, typically the Fire Command Center, may be reduced to one-hour fire protection.
- Power Wiring: Power wiring includes the pathways to all required power feeds, including the main power supply and the standby power supply, for the mechanical equipment serving the smokeproof enclosure. It does not include the closing devices for the stair shaft and vestibule doors provided the doors automatically close upon loss of power to the smoke detector or closing device.

**QUESTION 2:** Are there any alternative methods available for protection of the power wiring beyond the options listed in 909.20.6.1?

**RESPONSE 2:** Where the secondary power supply meets all requirements for Emergency Power under NEC 700, the power wiring may be protected by any of the options listed in NEC 700.10(D)(1).

“NEC 700.10(D)(1) Feeder-Circuit Wiring.

Feeder-circuit wiring shall meet one of the following conditions:

- 1. Be installed in spaces or areas that are fully protected by an approved automatic fire suppression system.
- 2. Be a listed electrical circuit protective system with a minimum 2-hour fire rating.
- 3. Be protected by a listed thermal barrier system for electrical system components with a minimum 2-hour fire rating.
- 4. Be protected by a listed fire-rated assembly that has a minimum fire rating of 2 hours and contains only emergency wiring circuits.
- 5. Be encased in a minimum of 50 mm (2 in.) of concrete.”

Change History:

Effective Date	Significant Changes	Employee Name
8/28/19	Implementation	Jody Orrison