

# AI Brief Summary:

## Duct Detection Membership Meeting

Discussion 9/12/2024

This is an informal discussion regarding the interpretation of the codes and standards. **This is NOT a formal interpretation of codes and standards, nor should it be used as such.** Open discussion forum for industry leaders summarized with AI assistance

### Objective

- **Topic:** Education on MN Mechanical and Fuel Gas Code, NFPA 72, focusing on duct detection.

### References:

- **By Code:** Section 606, 2020 MN Mechanical and Fuel Gas Code.
- **By Specification:** Specifying engineer, UL 268A and 268 compliance.
- **By AHJ:** Ask for code reference of compliance.

### Where Duct Detection is Required

- **Single Room:** Not required if smoke can't spread beyond walls.
- **Multiple Rooms:** Required.
- **MN vs. NFPA 90 Conflict:** MN follows ICC rules (return air over CFM); NFPA 90 requires detection on supply side.
  - **Exception:** Not required if space has smoke detectors.

### Key Points

- **Smoke Detection:**
  - **Smoke Alarms:** Residential, with sounders, 10-year lifespan.
  - **Smoke Detectors:** Connected to Fire Alarm Control Unit.
- **The purpose of duct Detection:** to Control smoke spread to other areas of the building.
- **Units Under 2000 CFM:** May avoid duct detectors unless part of a common plenum over 2000 CFM.
- **Units 2000 CFM and greater:** May avoid duct detectors if the area is protected with smoke detection.
- **Units and common Plenums 2000 CFM or Greater with multiple rooms:** require duct detection and unit shutdown.

- **Multi-story Systems:** Requires detection on each floor for systems >15K CFM.
- **Damper Motors:** Industry best practice is to combine damper motor shutdown with unit shutdown. Avoid duct damage and adhere to compliance by avoiding General Alarm as a means to control damper motors. Should be specific to detection and HVAC unit.
- **Fire Alarm System vs Dedicated function system using a fire alarm control unit:** understand the difference, Duct Detection is required to be connected to Fire Alarm system but may not need to be connected to a Dedicated function system like fire sprinkler monitoring.

#### **Installation Compliance (NFPA 72)**

- **Coverage:** Location, Accessibility, Cabling, Signal Management, Maintenance, Power.
- **Purpose:** Prevent smoke spread, shut down HVAC units and dampers.
- **Integration:** Must report as supervisory with no FD dispatch. Test for power loss, tamper, dirty, missing, and battery backup scenarios. Power Duct Detection units from Fire Alarm Control Unit.
- **Damper Management:** Ensure correct operation with HVAC units.

#### **Final Notes**

- **Ask for code section compliance when unsure:** AHJ or specifying engineer to identify the code section requiring work or request.
- **Write RFI and push back:** Those specification requiring duct detection to be provided by mechanical contractor and powered from HVAC unit or other source other than fire alarm control unit.
- **Dedicated function VS Fire Alarm System:** Is duct detection required by 606 required to be connected to the system. reference occupancy type and type of control system installed.