

**FUEL FIRED MECHANICAL & FIRE DETECTION SYSTEMS
SUBMITTAL REQUIREMENTS LIST**

[\[Rule 0780-02-03-.02\(7\)\(a\)\]](#)

General

1. Provide required drawings & related documentation through the electronic plans submittal portal **or** provide one (1) full size paper copy of drawings (minimum is the building's basic floor plan indicating location(s) of equipment.) & related documentation along with a CD/DVD containing each document in Adobe PDF format accompanied with a letter of certification stating that the digital (pdf) copies are identical to the paper copies. The related documents submitted are to include the manufacturer's cut sheets for all new units, panels, devices & associated equipment. [2006 IBC 106.1.1] This Division may require registered engineer designed plans and specifications for review and approval prior to construction based on the size and complexity of the project. [Rule 0780-02-03-.02(7) (a)]
2. All work must be meet the minimum State of Tennessee adopted codes and standards. Provide the following current minimum codes & standards for fire prevention, fire protection and building construction on the cover sheet of the plans:
 - a. International Building Code (excluding Chapters 11 and 27), 2006 edition.
 - b. International Fire Code, 2006 edition.
 - c. International Mechanical Code, 2006 edition.
 - d. NFPA 70, National Electrical Code, 2008 edition.
 - e. **For public buildings:** Tennessee Public Building Accessibility Act, 2010 ADA Standards For Accessible Design.
 - f. **For state buildings, educational occupancies, and any other occupancy requiring an inspection by the state fire marshal for initial licensure:** NFPA 101, Life Safety Code, 2006 edition.

[a.,b.,c.,f. [Rule 0780-02-02-.01](#)] [d. [Rule 0780-02-01-.02](#)] [e. [T.C.A 68-120-204](#)]

3. Provide a detailed Scope of Work for the project.
4. Identify use of rooms and spaces that will be included in the scope of work on all drawings.

Mechanical

1. Provide a table listing the weight of each old unit along with weight of each replacement unit.
2. If any units are being placed on or supported by the structure and are of a greater weight that the existing unit being replaced, provide plans from a Tennessee registered structural engineer **or** an evaluation report sealed, signed, and dated from a Tennessee registered structural engineer. The drawings/evaluation report must show the design loads for the roof as required by International Building Code. [IBC1603, 1603.1.5]

3. HVAC systems greater than 2,000 cfm must have a duct mounted smoke detector mounted in the return air stream duct or plenum upstream of any filters, exhaust air connections, outdoor air connections, or decontamination equipment and appliances. [IMC 606.2.1] These smoke detectors must be wired to a fire alarm system when one is provided in a constantly attended location for supervisory signals. [IMC 606.4.1] See requirements for buildings not equipped with an approved fire alarm system. [NFPA 90A, 6.4.2.1]
4. HVAC return air riser systems that serves two or more stories and serve any portion of a return air system having a design capacity greater than 15,000 cfm must have duct mounted smoke detector shutdown at each story. [IMC 606.2.3] These smoke detectors must be wired to a fire alarm system, when one is provided, in a constantly attended location for supervisory signals. [IMC 606.4.1]
5. Provide information showing how combustion air and ventilation are provided for any room containing fuel fired equipment. Show size, free area, location of vents within 12 in. above finished floor and 12 in. below ceiling. [IMC 701.2] Provide corrosion-resistant exterior screen for combustion air openings to the outside. [IMC 710.1 & Table 401.5]
6. Provide ground fault interrupters for receptacles in outside (each unit or group of units). [2008 NFPA 70 210.8]
7. Show the location of connections of all air handling shutdowns to fire alarm on plans. [IBC 907.11]

Fire Detection Systems

1. The system designer shall design the system per the following codes in addition to minimum codes & standards listed previously. 2006 NFPA 101 *Life Safety Code* (when applicable) 2002 NFPA 72, 2008 NFPA 70, 2002 NFPA 90A, 2005 NFPA 92A, 2005 NFPA 92B, 2002 NFPA 13, 2002 NFPA 13R, 2002 NFPA 13D, 2003 NFPA 14, & 1999 NFPA 20.
2. Provide complete shop drawings along with manufacturer's data sheets of equipment for the detection system from a Tennessee licensed alarm contractor that includes, but is not limited to the following:
 - A. Provide emergency power source. [NFPA 10112.3.4.1, IBC 907.2, 2002 NFPA 72 4.4, IFC 907.2 & 907.5]
 - B. Provide a manual fire alarm initiation system (see Exceptions). [IBC 907.2 & IFC 907.2]
 - C. Provide audible and visible signal alarm notification. [NFPA 101 9.6.3, 9.6.3.5, 2002 NFPA 72 7.5, IBC 907.9 & IFC 907.10]
 - D. Fire alarm occupant notification for assembly occupancies over 300 occupants such as gymnasiums, auditoriums, and cafeterias must be by visual signals and pre-recorded evacuation signal. [NFPA 101 9.6.3.7, 9.6.3.9, 12.3.4.3, 12.3.4.3.4, IBC 907.2.1 and IFC 907.2.1]

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- E. Emergency forces notification is required and must transmit the alarm automatically. [NFPA 101 9.6.4, IBC 907.14 and IFC 907.15]
 - F. Location of connections of all air handling shutdowns. [IBC 907.11]
 - G. Location of connections to the kitchen hood fire extinguishing system that activates the fire alarm system.
 - H. Location of all connections for required cooking equipment shutdowns such as shunt trip circuit breakers and gas solenoid valves unless a mechanical gas line shut-off is specified.
 - I. Location of flow switch or alarm check valve connection to the general building alarm and central station or fire department.
 - J. Location of supervisory alarm connection from tamper switches on fire protection system control valves.
 - K. Location of supervisory alarm
3. Location of automatic smoke detection or heat detection for the fire alarm control panel (excludes annunciator panels) in areas not continuously occupied that contain controlling equipment. [2002 NFPA 72 4.4.5]
 4. Provide details of connections and operation of smoke detectors controlling hold open devices located in accordance with 2002 NFPA 72, 5.14.6. Hold open devices must release in accordance with NFPA 101 7.2.1.8.1 and must be supervised by the fire alarm system. [NFPA 101 9.6.3.2.3, IBC 715.4.7.3 & IFC 703.2.2]
 5. Smoke-activated doors. Automatic-closing doors installed in the locations listed in IBC 715.4.7.3 shall be automatic closing by the actuation of smoke detectors installed in accordance with IBC 907.10 or by loss of power to the smoke detector or hold-open device. Doors that are automatic closing by smoke detection shall not have more than a 10-second delay before the door starts to close after the smoke detector is actuated. [IBC 715.4.7.3]
 6. Provide dBA ratings of all audible notification devices on drawings next to each notification device. [2002 NFPA 72 7.4 and Table A.7.4.2, IBC 907.9.2, and IFC 907.10.2.
 7. Provide the candela (cd) rating of all visible notification devices on drawings next to each signaling device. [2002 NFPA 72 7.5, Table 7.5.4.1.1, IBC 907.9.1 & IFC 907.10.1]
 8. The fire alarm control panel or an annunciating device must be located in an area where trouble signals can be monitored (audibly and visually). [2002 NFPA 72 4.4.3.5, 4.4.6]
 9. A zoning indicator panel and the associated controls shall be provided in an approved location. IBC 907.8.1 and IFC 907.9.1]

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10. Each floor must be zoned separately, and no zone may exceed 22,500 square feet for the fire alarm system in non-sprinklered buildings. [IBC 907.8 & IFC 907.9]
11. Provide note on drawings stating the following: "All required documentation regarding the design of fire detection, alarm, and communications systems and the procedures for maintenance, inspection, and testing of fire detection, alarm, and communications systems shall be maintained at an approved, secured location for the life of the system." [NFPA 101 9.6.1.9 and IFC 901.6.2.1]
12. The Fire Alarm Control Panel circuit disconnecting means shall have a red marking, shall be accessible only to authorized personnel, and shall be identified as "FIRE ALARM CIRCUIT." The location of the circuit disconnecting means shall be permanently identified at the fire alarm control unit. [2002 NFPA 72 4.4.1.4.2.2 and 4.4.1.4.2.3]