

EC.02.03.05

FEATURES OF FIRE PROTECTION
ASSOCIATED WITH THE FIRE ALARM SYSTEM
(DEVICE IMAGES)

FEATURES OF FIRE SAFETY

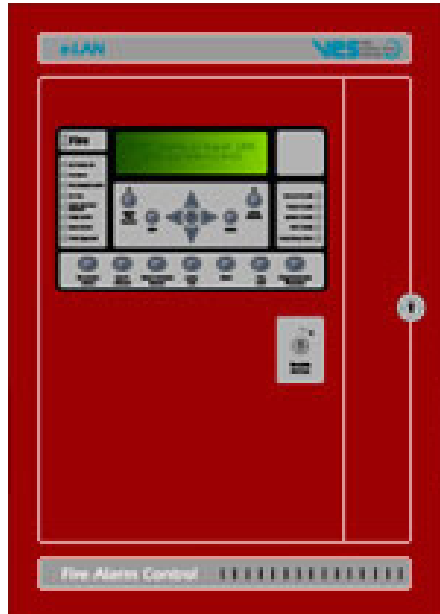
EC.02.03.05 Features of Fire Safety

- ❑ Buildings are protected from fire by a series of detection, notification and suppression devices
- ❑ Each feature of fire safety must be fully operational
- ❑ Each device must be tested to ensure it is functional and dependable
- ❑ The Joint Commission requires a working inventory of devices, so if one is not tested or fails it may be located
- ❑ REMINDER: the Joint Commission uses the 2000 edition of the Life Safety Code
 - NOT allowed as PFIs



EC.02.03.05 – EP1

SUPERVISORY SIGNAL DEVICES



- ❑ A device that sends a signal back to the main fire alarm panel (e.g., fire pump running, loss of power to fire pump, fire pump room temperature problems, etc.)
- ❑ Must be tested quarterly

EC.02.03.05 – EP2

WATER FLOW SWITCHES



- ❑ These devices alarm when the flow of water is detected in the sprinkler system – i.e., possibly a sprinkler head activated
- ❑ Must be tested quarterly
 - Semi-annually if not seeking deemed status

EC.02.03.05 – EP2

VALVE TAMPER SWITCHES

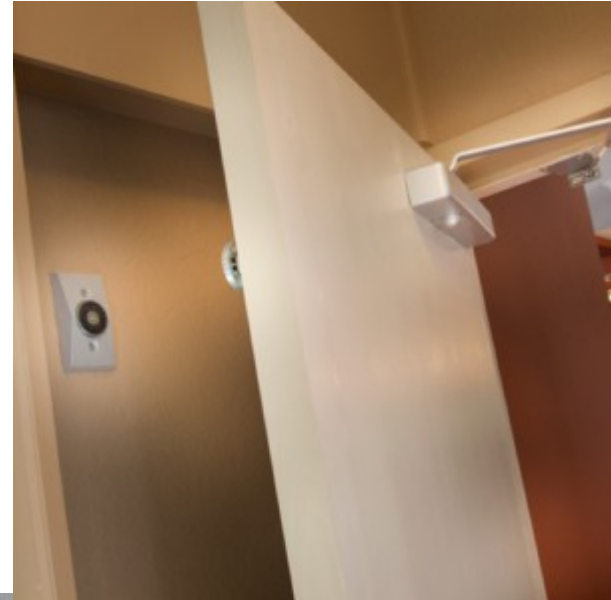
- ❑ Monitors sprinkler zone valves; a signal is sent to main fire alarm panel if attempt to close
- ❑ Must be tested semi-annually
- ❑ If a valve does not have a tamper switch, it must be locked in the open position



EC.02.03.05 – EP3

DETECTORS AND DOOR RELEASING DEVICES

- ❑ Includes duct/ heat/smoke detectors, manual pull stations, and magnetic door releasing devices.
- ❑ Must be tested annually



FIRE ALARM NOTIFICATION DEVICES



- ☐ Includes audible devices, speakers and visible devices
- ☐ Must be tested annually

FIRE ALARM DEVICE TESTING INVENTORY

LOCATION	DEVICE TYPE	VISUAL CHECK	FUNCTIONAL TEST	PASS	FAIL
Nursing Unit 2 West	All strobes	X	X	X	
Nursing Unit 2 West	All horns	X	X	X	
Nursing Unit 2 East	All strobes	X	X	X	
Nursing Unit 2 East	All horns	X	X	X	
4th Floor West	All strobes	X	X	X	
4th Floor West	All horns	X	X	X	
4th Floor East	All strobes	X	X	X	
4th Floor East	All horns	X	X	X	
Surgery West	All strobes	X	X	X	
Surgery West	All horns	X	X	X	
Surgery East	All strobes	X	X	X	
Surgery East	All horns	X	X	X	



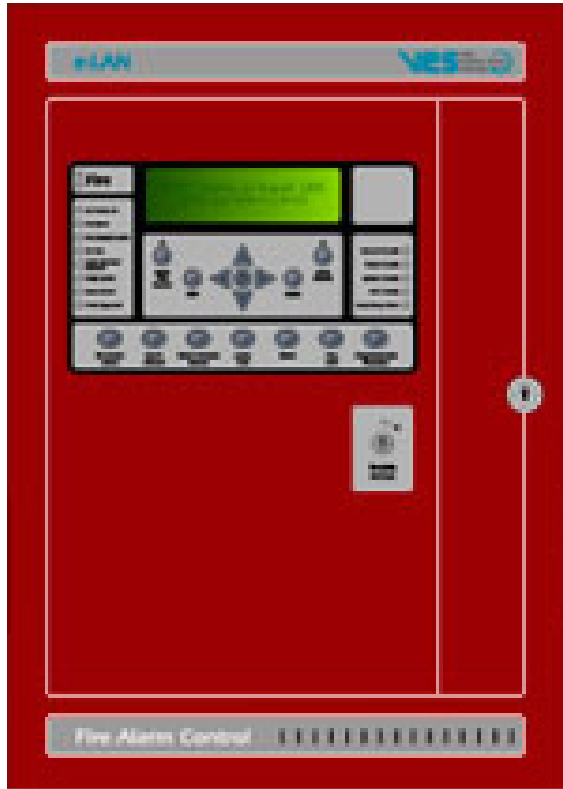
Device Specific

For example, if there were 132 devices and one was broken, how would you know which one was broken without an active and device specific inventory

LOCATION & S/N	DEVICE TYPE	VISUAL CHECK	FUNCTIONAL TEST	FACTORY SETTING	MEASURED SETTING	PASS	FAIL
1 BLDG 5 GND. FL. ROOM C	VISUAL ALARM	X	X			X	
1 BLDG 5 GND. FL. BY STAFF LOCKERS	HORN/STROBE	X	X			X	
1 BLDG 5 GND. FL. BY STAFF LOCKERS DOORS	HORN/STROBE	X	X			X	
1 BLDG 5 GND. FL. BY STAFF LOCKERS DOORS	HORN/STROBE	X	X			X	
1 BLDG 5 GND. FL. IN CONFERENCE RM	HORN/STROBE	X	X			X	
1 BLDG 5 GND. FL. BY OPERATIONS OFFICE	HORN/STROBE	X	X			X	
1 BLDG 5 GND. FL. BY EXAM 8	HORN/STROBE	X	X			X	
1 BLDG 5 GND. FL. BY EXAM 5	HORN/STROBE	X	X			X	
1 BLDG 5 GND. FL. RESTRM BY EXAM 6	HORN/STROBE	X	X			X	
1 BLDG 5 GND. FL. RESTRM BY EXAM 3	HORN/STROBE	X	X			X	

EC.02.03.05 – EP5

FIRE ALARM OFFSITE NOTIFICATION



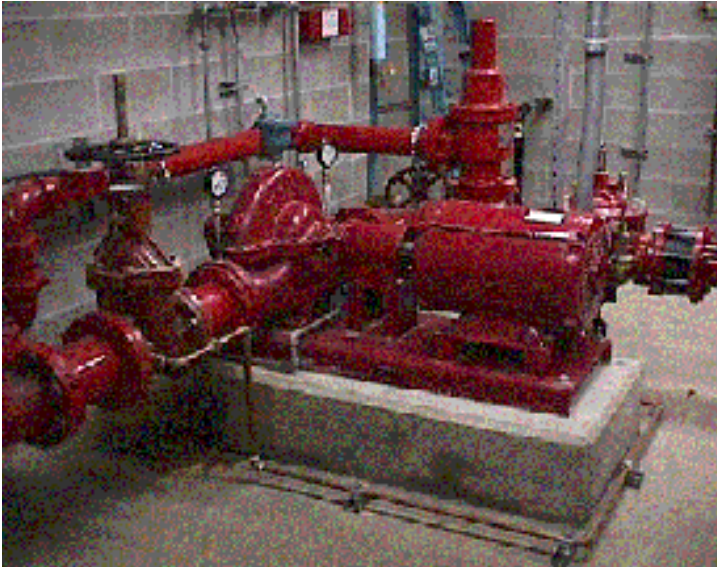
- ☐ If fire alarm panel is activated, the feature notifies off-site responders automatically
- ☐ Must be tested quarterly



TIP: Many times this test is completed and documented as part of quarterly fire drills

EC.02.03.05 – EP6

FIRE PUMP WEEKLY RUN TEST (NO FLOW)

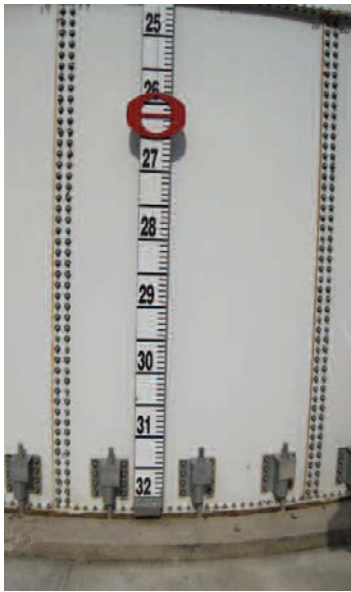


- ❑ Purpose of test is to verify pump is in operating condition
- ❑ Pump needs to run for a minimum of ten minutes (water flow is not required)

EC.02.03.05 – EP7 and EP8

Water Storage Tanks for Automatic Sprinkler Systems

In rare situations, water to automatic sprinkler systems are supplied by tanks that are mounted on roofs of buildings



- ❑ Must test high/low water alarms semiannually

- ❑ Must test water temperature alarms monthly in cold weather



Failure to maintain adequate heat in a tank during cold weather months may lead to catastrophe

EC.02.03.05 – EP9

MAIN DRAIN TEST

- ❑ Conducted to determine a change in the condition of water supply piping or control valves
- ❑ Must be conducted annually



EC.02.03.05 – EP10

FIRE DEPARTMENT CONNECTIONS

- ❑ These are connections through which the fire department can pump supplemental water into the building sprinkler system or standpipe system
- ❑ Visible and Accessible
- ❑ Caps in place
- ❑ Must be inspected quarterly



EC.02.03.05 – EP11 **R**

FIRE PUMP ANNUAL TEST UNDER FLOW



- ☐ Purpose of test is to verify that pump can provide the needed amount of water
- ☐ Length of pump test time is based upon pump's rating

- ☐ Evaluate against previous test



EC.02.03.05 – EP12

5 YEAR STANDPIPE TEST



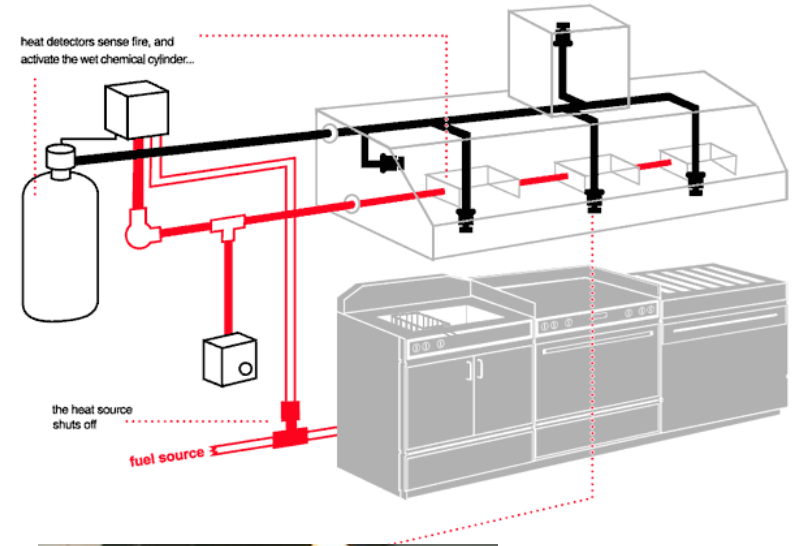
- ❑ Purpose of flow test is to verify the water supply provides design pressure at the required flow
- ❑ Hydrostatic test required on dry standpipes for two hours



EC.02.03.05 – EP13

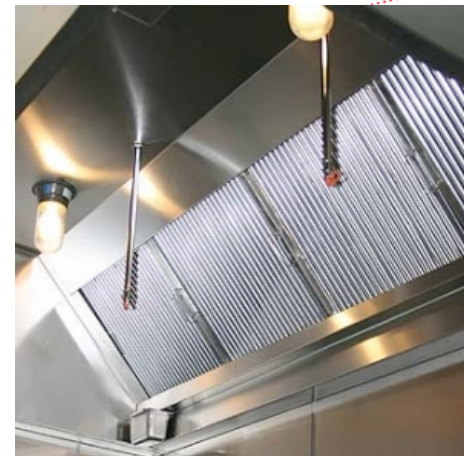
KITCHEN AUTOMATIC EXTINGUISHMENT

- ❑ Shuts off fuel source automatically
- ❑ Connected to fire alarm panel
- ❑ Must be inspected every 6 months
- ❑ Actual discharge is not required
- ❑ K Type portable fire extinguisher



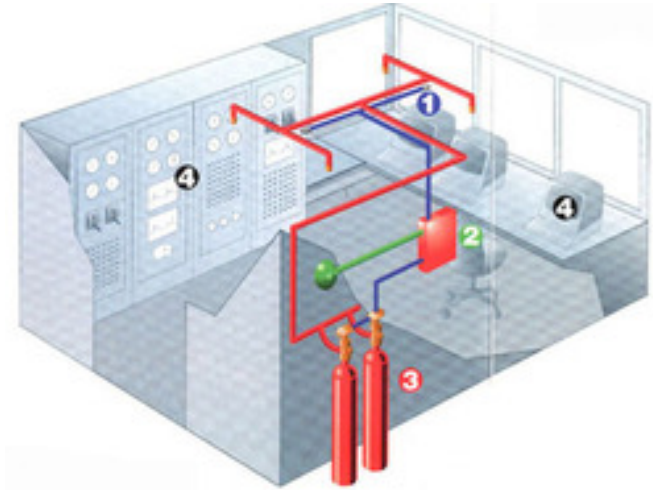
Class K Fire Extinguishers

use a wet, potassium acetate-based, low pH agent to put out "cooking" fires in which there are animal or vegetable oils and fats.



CARBON DIOXIDE & OTHER GASEOUS AUTOMATIC SYSTEMS

- ❑ Must be inspected annually
- ❑ Actual discharge is not required



EC.02.03.05 – EP15 AND EP16


PORTABLE FIRE EXTINGUISHERS

- ☐ Monthly Visible Inspection
 - ☐ Accessible
 - ☐ Fully charged
 - ☐ Any Parts broken
 - ☐ Correct type
 - ☐ **DO NOT COUNT DAYS, BUT ENSURE MONTHLY INSPECTION**
- ☐ Annual Maintenance by a licensed Fire Protection service company



EC.02.03.05

PORTABLE FIRE EXTINGUISHERS TYPES

A		Common Combustibles	Wood, paper, cloth etc.
B		Flammable liquids and gases	Gasoline, propane and solvents
C		Live electrical equipment	Computers, fax machines (see note!)
D		Combustible metals	Magnesium, lithium, titanium
K		Cooking media	Cooking oils and fats

Note: The installation of a wrong type of extinguisher can be scored at LS.02.01.35 EP 14 (e.g., no K type in the kitchen) or EC.02.03.01 EP 1 (business occupancies)

FIRE EXTINGUISHER: DATING

Month, day, year and initials of inspector as per NFPA 10-1998

4-3.4 Inspection Recordkeeping.

4-3.4.1 Personnel making inspections shall keep records of all fire extinguishers inspected, including those found to require corrective action.

4-3.4.2 **At least monthly, the date the inspection was performed and the initials of the person performing the inspection shall be recorded.**

4-3.4.3 Records shall be kept on a tag or label attached to the fire extinguisher, on an inspection checklist maintained on file, or in an electronic system (e.g., bar coding) that provides a permanent record.

DO NOT COUNT DAYS, BUT ENSURE MONTHLY INSPECTION



EC.02.03.05 – EP17

FIRE HOSES

- ❑ Must be hydrostatically tested 5 years after installation and every 3 years thereafter

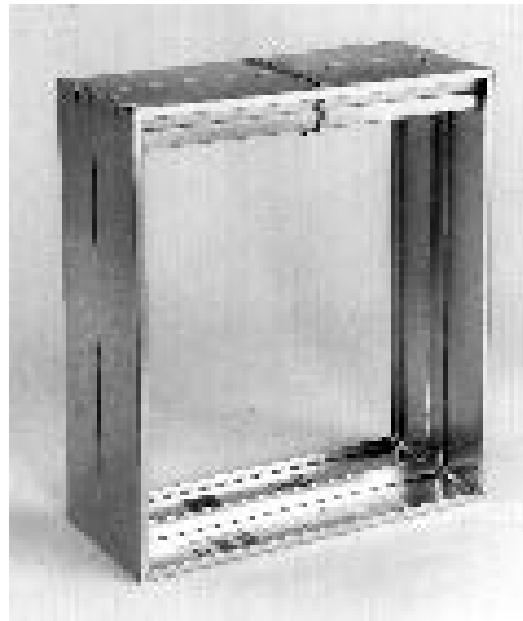


Note: Most fire departments do not rely on these hoses, because they bring their own hoses. They can only be removed if written approval is given by local fire department with an equivalency given by The Joint Commission.

EC.02.03.05 – EP18

FIRE DAMPERS

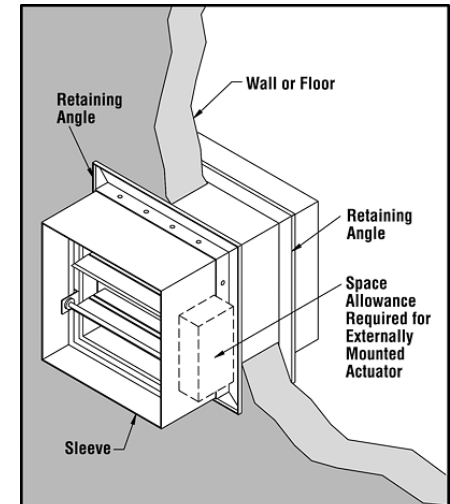
- ❑ Stops the passage of fire through ventilation ductwork
- ❑ Activated by fusible link
- ❑ Inspected and tested within one year of installation and every six years thereafter



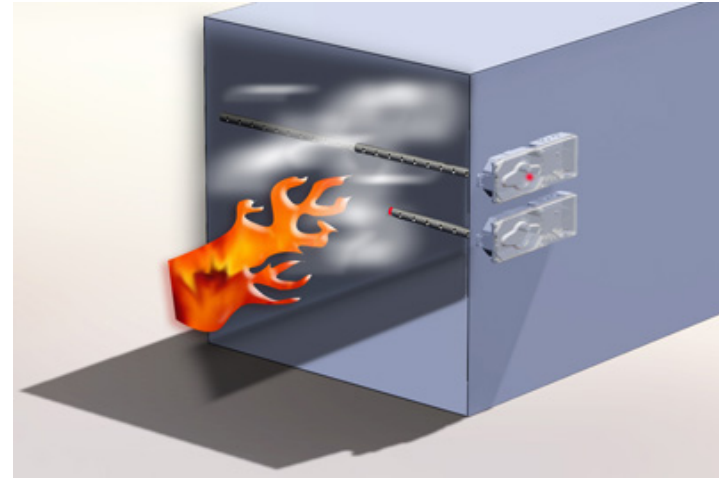
EC.02.03.05 – EP18

SMOKE DAMPERS

- ❑ Stops the passage of smoke through ventilation ductwork
- ❑ Activated by external smoke detector
- ❑ Must be installed within 24 inches of smoke partitions
- ❑ Inspected and tested after one year of installation and then every six years



VENTILATION SHUT DOWN DEVICES



- ☐ If smoke is sensed, device stops ventilation fans from spreading smoke throughout the building
- ☐ Located in air handler equipment room in the ductwork of ventilation units
- ☐ Must be tested annually

DUCT DETECTOR TESTING

AIR HANDLER SHUT DOWN



LOCATION & S/N	DEVICE TYPE	VISUAL CHECK	FUNCTIONAL TEST	FACTORY SETTING	MEASURED SETTING	PASS	FAIL
CONV 6TH FLOOR NORTH HALLWAY	Photo Detector		X			X	
CONV 6TH FLOOR NORTH HALLWAY	Photo Detector		X			X	
CONV 6TH FLOOR NORTH HALLWAY	Photo Detector		X			X	
CONV 6TH FLOOR NORTH HALLWAY	Photo Detector		X			X	
CONV 6TH FLOOR NORTH HALLWAY	Photo Detector		X			X	
CONV 6TH FLOOR NORTH HALLWAY	Photo Detector		X			X	
CONV 6TH FLOOR NORTH HALLWAY	Photo Detector		X			X	
CONV 6TH FLOOR NORTH HALLWAY	Photo Detector		X			X	
CONV 6TH FLOOR NORTH HALLWAY	Photo Detector		X			X	
CONV 6TH FLOOR NORTH HALLWAY	Ionization Detector		X			X	
CONV 6TH FLOOR NORTH HALLWAY	Ionization Detector		X			X	
CONV 6TH FLOOR NORTH HALLWAY	Ionization Detector		X			X	
CONV 6TH FLOOR NORTH HALLWAY	Ionization Detector		X			X	
CONV 6TH FLOOR SOUTH HALLWAY	Ionization Detector		X			X	
CONV 6TH FLOOR SOUTH HALLWAY	Ionization Detector		X			X	
CONV 6TH FLOOR FAN ROOM S6	Duct Photo Detector		X			X	
CONV 6TH FLOOR FAN ROOM S4	Duct Photo Detector		X			X	
CONV 6TH FLOOR FAN ROOM S6	Duct Photo Detector		X			X	
CONV 6TH FLOOR FAN ROOM S7/8	Duct Photo Detector		X			X	
CONV 6TH FLOOR FAN ROOM S7/8	Duct Photo Detector		X			X	
CONV 6TH FLOOR FAN ROOM S7/8	Duct Photo Detector		X			X	
CONV 6TH FLOOR FAN ROOM S1	Duct Photo Detector		X			X	
CONV 6TH FLOOR FAN ROOM S7/8	Duct Photo Detector		X			X	
CONV 6TH FLOOR FAN ROOM S7/8	Duct Photo Detector		X			X	



Focus	Hardware	Trend	Alarm
Attribute	Value		
Object			
Name	DD-6-4-21		
Description	6.0m Fx Fan RD-4 Duct Smoke		
Object Type	B		
Object Category	Fire		
Status			
Out Of Service	False		
Reliability	Reliable		
Alarm State	Normal		
Engineering Values			
Item Reference	BMCN4E08H2 Thru 1 Fire Panel 6 ALD 4 Binary Inputs DD-6-4-21		
Version	1.0		
COS Count	4		
COS Time	11:24:53 AM Tuesday, January 24, 2012		
Elapsed Active Time	2159 seconds		
Active Time Reset	Unspecified		
State Count Reset	Unspecified		
Display			
Smoke Test	Normal Alarm		

Best Practice

This form documents detector testing only – Not compliant

Use Building Automation to Document

- Alarm activation
- Fan status (supply and return)
- Return to normal

EC.02.03.05 – EP20

ROLLING FIRE DOORS

- ❑ Activated by fusible link
- ❑ Fusible link shall not be painted
- ❑ Must be tested annually



EC.02.03.05 EP 25



■ For hospitals that use Joint Commission accreditation for deemed status purposes:

- ❑ Documentation of maintenance, testing, and inspection activities for fire alarm and water-based fire protection systems includes the following:

Note: For additional guidance on documenting activities:

- ❑ NFPA 25, 1998 edition (Section 2-1.3)
- ❑ NFPA 72, 1999 edition (Section 7-5.2)


EC.02.03.05 EP 25

Continued Text:

- ☐ Name of the activity
- ☐ Date of the activity
- ☐ Required frequency of the activity
- ☐ Name and contact information, including affiliation, of the person who performed the activity
- ☐ NFPA standard(s) referenced for the activity
- ☐ Results of the activity



EC.04.01.01 EP 9

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- Based on its process(es), report and investigate
 - ❑ Fire safety management problems, deficiencies, and failures
 - Fire drill critiques
 - Staff performance per plan
 - Equipment
 - Contractor management

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