Structure Fire Module: NFIRS-3

Objectives

After completing the Structure Fire Module the student will be able to:

1. Describe when the Structure Fire Module is to be used.
2. Demonstrate how to correctly complete various sections of the Structure Fire Module, given scenarios of hypothetical incidents.

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Pretest #3 - Structure Fire Module

1. All structures are buildings.

   (a) True.

   (b) False.

2. A Structure Fire Module is required to be completed for a hostile fire confined to a chimney.

   (a) True.

   (b) False.

3. The Structure Fire Module is a required NFIRS module if the fire occurs in or on a structure.

   (a) True.

   (b) False.

4. All buildings are structures.

   (a) True.

   (b) False.

5. A Structure Fire Module should be completed for all building fires that extend beyond a non-combustible container.

   (a) True.

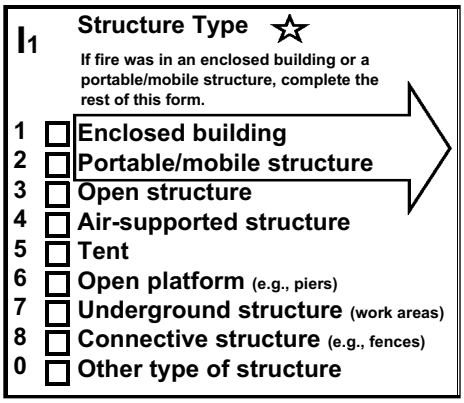
   (b) False.

Using the Structure Fire Module

The Structure Fire Module furnishes information regarding the buildings involved in the fire, how the fire started, and detection and suppression equipment present.

The Structure Fire Module (NFIRS-3) should be completed for all structure fires that extend beyond a noncombustible container. A structure is an assembly of materials forming a construction for occupancy or use to serve a specific purpose. This includes, but is not limited to, buildings, open platforms, bridges, roof assemblies over open storage or process areas, tents, air-supported structures, and grandstands. Like the other modules, the Structure Fire Module is divided into sections and further subdivided into blocks. The sections and blocks ask for information on different factors or items involved in the building fire.

Section I: Structure Type, Building Status, Building Height, Main Floor Size

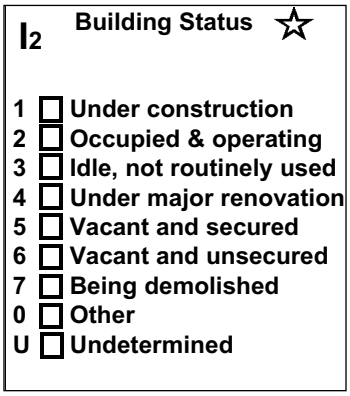


Block I_1 records information regarding the type of structure. If the fire is in an enclosed building, complete this entire module. The rest of the module would not be completed if the structure is

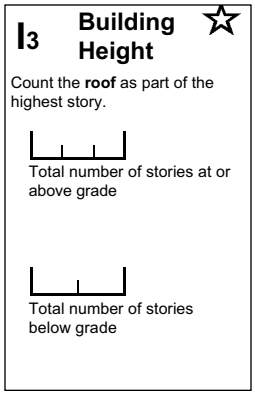
- an open structure - such as a bridge;
- an air-supported structure;
- a tent;
- an open platform - such as a pier, dock;
- a connective structure - such as a fence or pipeline; and/or
- an underground structure - such as flood tunnel.

Complete the Structure Fire Module for enclosed buildings. Examples include residential buildings, commercial buildings, subway station, or similar structures. It also must be completed for portable/mobile structures such as job-site trailers, portable offices, or similar structures.

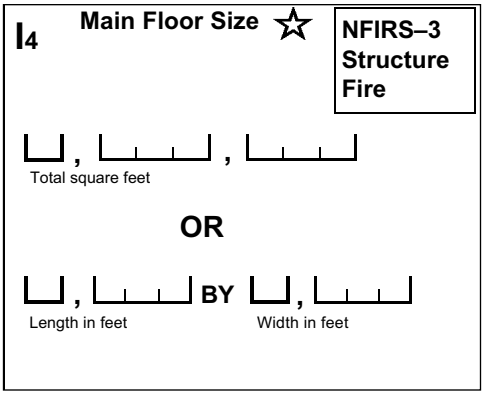
Information about the status of the building is collected in Block I_2.



Block I2 captures the status of the building involved in the fire.



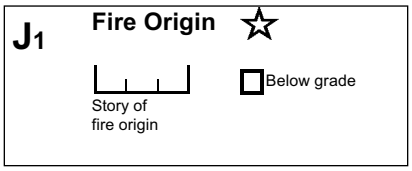
In Block I3 enter the total number of stories at or above grade level, then enter the total number of stories below grade level. Do not count normally inaccessible attics, attics with less than standing height, or the roof as a story. **Both parts of I3 must be completed without regard to how many floors were involved in the fire.**



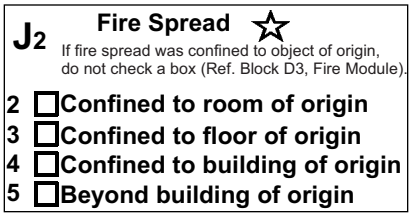
Block I4 offers two options for indicating the main floor size. Enter either the number of square feet on the structure's main floor or its length and width in feet.

Section J: Fire Origin, Fire Spread, Number of Stories Damaged by Flame

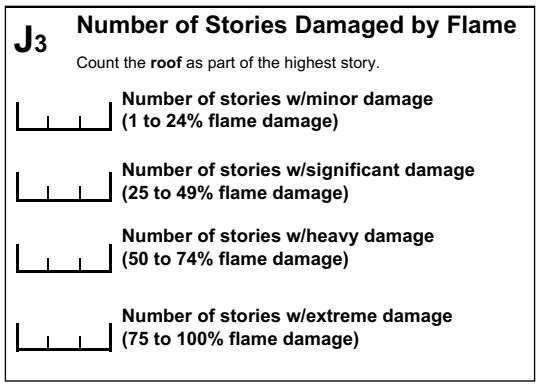
In Section J you will record data that will help describe where the fire started, whether or not it spread, and the percentage of the structure that was damaged by flame.



Enter the story on which the fire originated in Block J1. This story number is assumed to be at or above grade unless the Below Grade box is marked. Count the ground level as story 1. In case of most residential basements, you would enter "1" for the Story of fire origin and then check the box to indicate it was below grade.



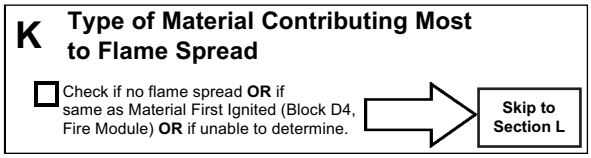
Block J2 captures the extent of fire spread in terms of how far the flame damage extended. The extent of flame damage is the area actually burned or charred and does not include the area receiving only heat, smoke, or water damage. Mark the box best describing the extent of fire spread. If the fire spread was confined to the object of origin (1) and the box in Block D3 on the Fire Module was marked, do not mark the box here.



Block J3 captures the number of stories damaged by flame spread. Flame damage is the area actually burned or charred and does not include areas receiving only heat, smoke, or water damage.

Enter the number of stories damaged by flame according to the indicated criteria. If the roof was the only part of the structure that burned, count it as part of the top story.

Section K: Material Contributing Most to Flame Spread



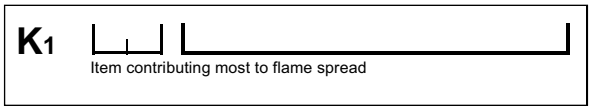
Section K is completed only if:

1. The flame spread is beyond the object of origin.
2. The material contributing most to the flame spread is **different** from the Item First Ignited (recorded in D_3 of NFIRS-2 - Fire Module).

If either one of these conditions does not apply, mark the box and skip the rest of the section.

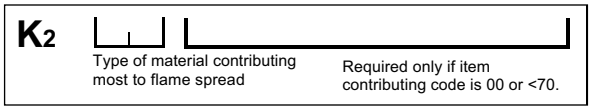
In Block K_1 you will enter the code for the Item Contributing Most to Flame Spread. Fill in this item only if:

1. The flame spread beyond the object of origin.
2. The item contributing most to flame spread is different from the Item First Ignited.



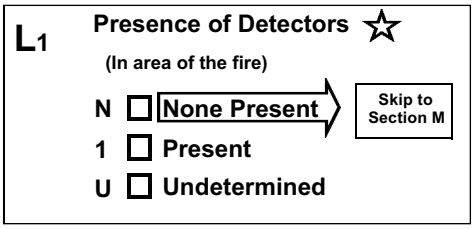
The codes used in this section are the same as those for the Item First Ignited and are found in the CRG.

You will use Block K_2 to record the Type of Material Contributing Most to the Flame Spread.

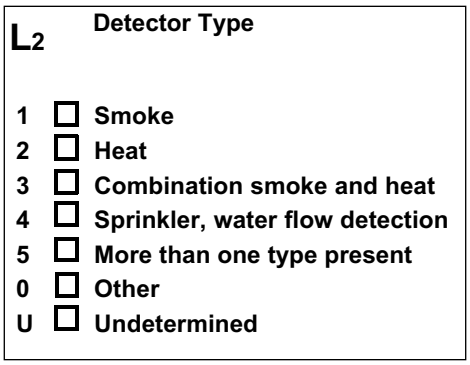


Complete this Block when the code for Type of Material is between 00 and 70. It is not necessary to supply this information when the type of material code is 70 or greater.

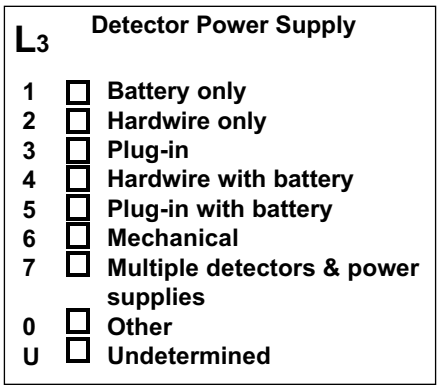
Section L: Presence of Detectors, Detector Type, Detector Power Supply, Detector Operation, Detector Effectiveness, Detector Failure Reason



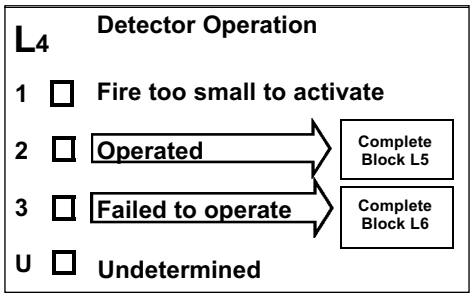
In Block L1 you should indicate the existence of detectors within their designed range of the fire. If no detectors were present, mark None Present and skip to Section M.



Use Block L2 Detector Type to identify the type of detector present in the area of fire origin. This field is **required** if the fire was within the area covered by the detector.



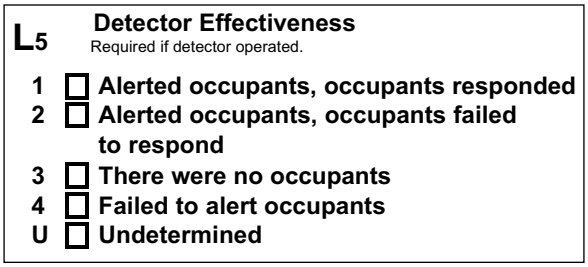
Use Block L3 to describe the power supply for the detector that was found. This field is **required** if the fire was within the designed range of the detector.



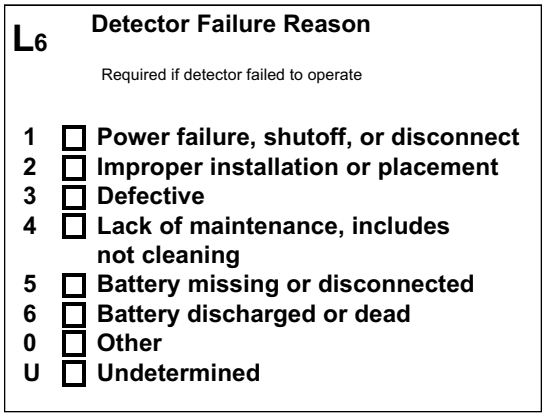
Block L4 identifies whether or not the detection equipment worked. This field is **required** if the fire was within the designed range of the detector.

If the fire was too small to activate the detection equipment or the detector operation was undetermined then skip to Section M.

When the Operated box (2) is marked, then a box in L5 is marked to indicate the detector's effectiveness, and Block L6 can be skipped. If the Failed to operate box (3) is marked, then skip to Block L6 to show the reason for detector failure.

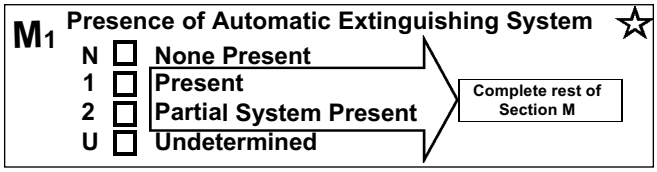


In Block L5 mark the box best describing the effectiveness of the detector. This field is **required** if you checked box (2) in L4 (Operated).

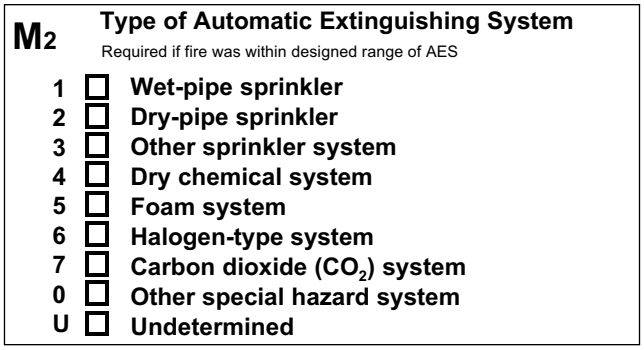


In Block L6 mark the box that best describes why the detector failed to operate or did not operate properly. This field is **required** if you checked box (3) in Block L4 (Failed to operate).

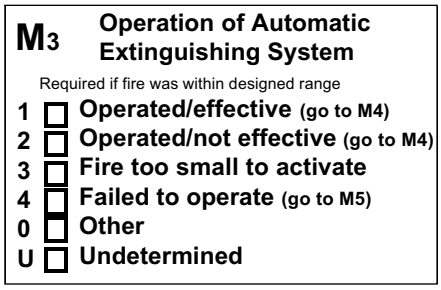
Section M: Presence of Automatic Extinguishing System, Type of Automatic Extinguishing System, Operation of Automatic Extinguishing System, Number of Sprinkler Heads Operating, Reason for Automatic Extinguishing System Failure



You must mark one of the boxes in Block M1. If no automatic extinguishing system was present, check the None Present box and skip the rest of Section M. Complete the other parts of Section M only if an extinguishing system was present.

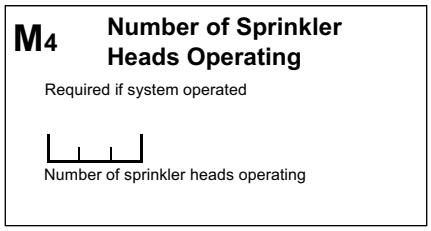


In Block M2 mark the box indicating the type of Automatic Extinguishment System (AES) present. If multiple systems are present, indicate the system designed to protect the area where the fire started. The field is **required** if the fire was within the designated range for the AES.

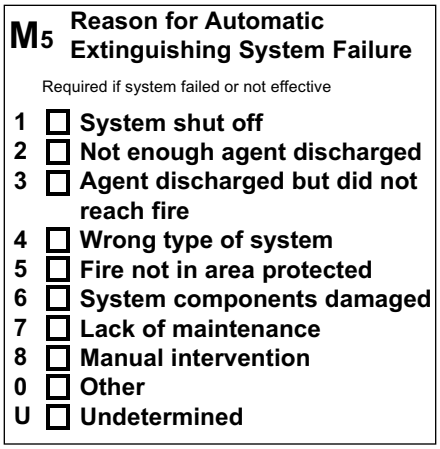


In Block M3 mark the box that indicates if the AES operated and was or was not effective. Effective does not necessarily mean complete extinguishment, but the system must at least contain and control the fire until the fire department can complete extinguishment.

If boxes 1 or 2 are marked in M3, use M4 to record the number of sprinkler heads that operated (regardless of their effectiveness).



In Block M4 fill in the total number of sprinkler heads that operated during the fire. This field is **required** if the sprinkler system activated.



In Block M5 mark the box that describes why the automatic extinguishing system failed to operate or did not operate properly. This field is **required** if the system failed to operate. If you indicated in Block M3 that the system Operated/not effective, box 2, or Failed to operate, box 4, it is required to record the reason for the problem in Block M5.

SUMMARY

The Structure Fire Module is used along with the Fire Module to gather detailed information about larger fire incidents that involve building or portable/mobile structures. Given the information presented, you should know how to document an incident that requires the completion of the Structure Fire Module.

EXAMPLE: Residential Fire

Directions: *Read the call information in the example below. Then look at the completed Structure Fire Module form. Look at each section and follow along with the proper use of the information as applicable to the Structure Fire Module.*

A smoke detector in the first-floor hallway alerted the residents of a single-family dwelling of a possible problem. They quickly exited out the front door and reported seeing smoke coming from the basement. Children playing with matches started a fire in a small stack of newspapers that were in the basement of a ranch-style home, 30 feet by 50 feet. Luckily they were uninjured. There was fire damage in the basement and smoke damage on the first floor. The detector was hardwired with a battery backup. There was a residential wet-pipe sprinkler system installed throughout the home. One sprinkler head activated and extinguished the fire.

I1 Structure Type ☆

If fire was in an enclosed building or a portable/mobile structure, complete the rest of this form.

1 [X] Enclosed building
2 [ ] Portable/mobile structure
3 [ ] Open structure
4 [ ] Air-supported structure
5 [ ] Tent
6 [ ] Open platform (e.g., piers)
7 [ ] Underground structure (work areas)
8 [ ] Connective structure (e.g., fences)
0 [ ] Other type of structure

I2 Building Status ☆

1 [ ] Under construction
2 [X] Occupied & operating
3 [ ] Idle, not routinely used
4 [ ] Under major renovation
5 [ ] Vacant and secured
6 [ ] Vacant and unsecured
7 [ ] Being demolished
0 [ ] Other
U [ ] Undetermined

I3 Building Height ☆

Count the **roof** as part of the highest story.

[0,0,1] Total number of stories at or above grade

[0,1] Total number of stories below grade

I4 Main Floor Size ☆

NFIRS–3 Structure Fire

[ ], [ ], [ ] Total square feet

OR

[0], [0,3,0] BY [0], [0,5,0]
Length in feet Width in feet

J1 Fire Origin ☆

[0,0,1] Story of fire origin [X] Below grade

J2 Fire Spread ☆

If fire spread was confined to object of origin, do not check a box (Ref. Block D3, Fire Module).

2 [X] Confined to room of origin
3 [ ] Confined to floor of origin
4 [ ] Confined to building of origin
5 [ ] Beyond building of origin

J3 Number of Stories Damaged by Flame

Count the **roof** as part of the highest story.

[0,0,1] Number of stories w/minor damage (1 to 24% flame damage)

[0,0,0] Number of stories w/significant damage (25 to 49% flame damage)

[0,0,0] Number of stories w/heavy damage (50 to 74% flame damage)

[0,0,0] Number of stories w/extreme damage (75 to 100% flame damage)

K Type of Material Contributing Most to Flame Spread

[X] Check if no flame spread **OR** if same as Material First Ignited (Block D4, Fire Module) **OR** if unable to determine. → Skip to Section L

K1 [ ] [ ] Item contributing most to flame spread

K2 [ ] [ ] Type of material contributing most to flame spread. Required only if item contributing code is 00 or <70.

L1 Presence of Detectors ☆

(In area of the fire)

N [ ] None Present → Skip to Section M
1 [X] Present
U [ ] Undetermined

L2 Detector Type

1 [X] Smoke
2 [ ] Heat
3 [ ] Combination smoke and heat
4 [ ] Sprinkler, water flow detection
5 [ ] More than one type present
0 [ ] Other
U [ ] Undetermined

L3 Detector Power Supply

1 [ ] Battery only
2 [ ] Hardwire only
3 [ ] Plug-in
4 [X] Hardwire with battery
5 [ ] Plug-in with battery
6 [ ] Mechanical
7 [ ] Multiple detectors & power supplies
0 [ ] Other
U [ ] Undetermined

L4 Detector Operation

1 [ ] Fire too small to activate
2 [X] Operated → Complete Block L5
3 [ ] Failed to operate → Complete Block L6
U [ ] Undetermined

L5 Detector Effectiveness

Required if detector operated.

1 [X] Alerted occupants, occupants responded
2 [ ] Alerted occupants, occupants failed to respond
3 [ ] There were no occupants
4 [ ] Failed to alert occupants
U [ ] Undetermined

L6 Detector Failure Reason

Required if detector failed to operate

1 [ ] Power failure, shutoff, or disconnect
2 [ ] Improper installation or placement
3 [ ] Defective
4 [ ] Lack of maintenance, includes not cleaning
5 [ ] Battery missing or disconnected
6 [ ] Battery discharged or dead
0 [ ] Other
U [ ] Undetermined

M1 Presence of Automatic Extinguishing System ☆

N [ ] None Present
1 [X] Present
2 [ ] Partial System Present
U [ ] Undetermined
→ Complete rest of Section M

M2 Type of Automatic Extinguishing System

Required if fire was within designed range of AES

1 [X] Wet-pipe sprinkler
2 [ ] Dry-pipe sprinkler
3 [ ] Other sprinkler system
4 [ ] Dry chemical system
5 [ ] Foam system
6 [ ] Halogen-type system
7 [ ] Carbon dioxide (CO_2) system
0 [ ] Other special hazard system
U [ ] Undetermined

M3 Operation of Automatic Extinguishing System

Required if fire was within designed range

1 [X] Operated/effective (go to M4)
2 [ ] Operated/not effective (go to M4)
3 [ ] Fire too small to activate
4 [ ] Failed to operate (go to M5)
0 [ ] Other
U [ ] Undetermined

M4 Number of Sprinkler Heads Operating

Required if system operated

[0,0,1] Number of sprinkler heads operating

M5 Reason for Automatic Extinguishing System Failure

Required if system failed or not effective

1 [ ] System shut off
2 [ ] Not enough agent discharged
3 [ ] Agent discharged but did not reach fire
4 [ ] Wrong type of system
5 [ ] Fire not in area protected
6 [ ] System components damaged
7 [ ] Lack of maintenance
8 [ ] Manual intervention
0 [ ] Other
U [ ] Undetermined

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EXERCISE SCENARIO 3-1: Warehouse Fire

Directions: *Read the call information in the exercise below. Use the information provided to complete the Structure Fire Module form. Compare your work to the answers provided on the completed Structure Fire Module form. If your answers are different from the ones provided, read over the Structure Fire Module again.*

A fire occurred on the fifth floor of an eight-story, vacant and secured warehouse. The 200- foot by 100-foot fifth floor was damaged by the fire. The sixth story was damaged by smoke. The warehouse was protected by a wet-pipe sprinkler system. Smoke detectors were hardwired through the main power box on the building's north end. Power to the warehouse was knocked out by an electrical storm moving through the area. Because it was after eight in the evening, no one was in the building to notice that the power was off or that a fire had started near where welders had been working on storage racks. Fortunately, two sprinkler heads activated and quickly extinguished the fire.

I1 Structure Type ☆

If fire was in an enclosed building or a portable/mobile structure, complete the rest of this form.

1 ☐ Enclosed building
2 ☐ Portable/mobile structure
3 ☐ Open structure
4 ☐ Air-supported structure
5 ☐ Tent
6 ☐ Open platform (e.g., piers)
7 ☐ Underground structure (work areas)
8 ☐ Connective structure (e.g., fences)
0 ☐ Other type of structure

I2 Building Status ☆

1 ☐ Under construction
2 ☐ Occupied & operating
3 ☐ Idle, not routinely used
4 ☐ Under major renovation
5 ☐ Vacant and secured
6 ☐ Vacant and unsecured
7 ☐ Being demolished
0 ☐ Other
U ☐ Undetermined

I3 Building Height ☆

Count the **roof** as part of the highest story.

Total number of stories at or above grade

Total number of stories below grade

I4 Main Floor Size ☆

NFIRS–3 Structure Fire

Total square feet

OR

Length in feet BY Width in feet

J1 Fire Origin ☆

Story of fire origin

☐ Below grade

J2 Fire Spread ☆

If fire spread was confined to object of origin, do not check a box (Ref. Block D3, Fire Module).

2 ☐ Confined to room of origin
3 ☐ Confined to floor of origin
4 ☐ Confined to building of origin
5 ☐ Beyond building of origin

J3 Number of Stories Damaged by Flame

Count the **roof** as part of the highest story.

Number of stories w/minor damage (1 to 24% flame damage)

Number of stories w/significant damage (25 to 49% flame damage)

Number of stories w/heavy damage (50 to 74% flame damage)

Number of stories w/extreme damage (75 to 100% flame damage)

K Type of Material Contributing Most to Flame Spread

☐ Check if no flame spread **OR** if same as Material First Ignited (Block D4, Fire Module) **OR** if unable to determine. → Skip to Section L

K1 Item contributing most to flame spread

K2 Type of material contributing most to flame spread

Required only if item contributing code is 00 or <70.

L1 Presence of Detectors ☆

(In area of the fire)

N ☐ None Present → Skip to Section M
1 ☐ Present
U ☐ Undetermined

L2 Detector Type

1 ☐ Smoke
2 ☐ Heat
3 ☐ Combination smoke and heat
4 ☐ Sprinkler, water flow detection
5 ☐ More than one type present
0 ☐ Other
U ☐ Undetermined

L3 Detector Power Supply

1 ☐ Battery only
2 ☐ Hardwire only
3 ☐ Plug-in
4 ☐ Hardwire with battery
5 ☐ Plug-in with battery
6 ☐ Mechanical
7 ☐ Multiple detectors & power supplies
0 ☐ Other
U ☐ Undetermined

L4 Detector Operation

1 ☐ Fire too small to activate
2 ☐ Operated → Complete Block L5
3 ☐ Failed to operate → Complete Block L6
U ☐ Undetermined

L5 Detector Effectiveness

Required if detector operated.

1 ☐ Alerted occupants, occupants responded
2 ☐ Alerted occupants, occupants failed to respond
3 ☐ There were no occupants
4 ☐ Failed to alert occupants
U ☐ Undetermined

L6 Detector Failure Reason

Required if detector failed to operate

1 ☐ Power failure, shutoff, or disconnect
2 ☐ Improper installation or placement
3 ☐ Defective
4 ☐ Lack of maintenance, includes not cleaning
5 ☐ Battery missing or disconnected
6 ☐ Battery discharged or dead
0 ☐ Other
U ☐ Undetermined

M1 Presence of Automatic Extinguishing System ☆

N ☐ None Present
1 ☐ Present
2 ☐ Partial System Present
U ☐ Undetermined

→ Complete rest of Section M

M2 Type of Automatic Extinguishing System

Required if fire was within designed range of AES

1 ☐ Wet-pipe sprinkler
2 ☐ Dry-pipe sprinkler
3 ☐ Other sprinkler system
4 ☐ Dry chemical system
5 ☐ Foam system
6 ☐ Halogen-type system
7 ☐ Carbon dioxide (CO_2) system
0 ☐ Other special hazard system
U ☐ Undetermined

M3 Operation of Automatic Extinguishing System

Required if fire was within designed range

1 ☐ Operated/effective (go to M4)
2 ☐ Operated/not effective (go to M4)
3 ☐ Fire too small to activate
4 ☐ Failed to operate (go to M5)
0 ☐ Other
U ☐ Undetermined

M4 Number of Sprinkler Heads Operating

Required if system operated

Number of sprinkler heads operating

M5 Reason for Automatic Extinguishing System Failure

Required if system failed or not effective

1 ☐ System shut off
2 ☐ Not enough agent discharged
3 ☐ Agent discharged but did not reach fire
4 ☐ Wrong type of system
5 ☐ Fire not in area protected
6 ☐ System components damaged
7 ☐ Lack of maintenance
8 ☐ Manual intervention
0 ☐ Other
U ☐ Undetermined

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I1 Structure Type ☆

If fire was in an enclosed building or a portable/mobile structure, complete the rest of this form.

1 [X] Enclosed building
2 [ ] Portable/mobile structure
3 [ ] Open structure
4 [ ] Air-supported structure
5 [ ] Tent
6 [ ] Open platform (e.g., piers)
7 [ ] Underground structure (work areas)
8 [ ] Connective structure (e.g., fences)
0 [ ] Other type of structure

I2 Building Status ☆

1 [ ] Under construction
2 [ ] Occupied & operating
3 [ ] Idle, not routinely used
4 [ ] Under major renovation
5 [X] Vacant and secured
6 [ ] Vacant and unsecured
7 [ ] Being demolished
0 [ ] Other
U [ ] Undetermined

I3 Building Height ☆

Count the **roof** as part of the highest story.

[0,0,8] Total number of stories at or above grade

[0,0] Total number of stories below grade

I4 Main Floor Size ☆

NFIRS–3 Structure Fire

[ ], [ ], [ ] Total square feet

OR

[0], [2,0,0] BY [0], [1,0,0]
Length in feet Width in feet

J1 Fire Origin ☆

[0,0,5] Story of fire origin [ ] Below grade

J2 Fire Spread ☆

If fire spread was confined to object of origin, do not check a box (Ref. Block D3, Fire Module).

2 [ ] Confined to room of origin
3 [X] Confined to floor of origin
4 [ ] Confined to building of origin
5 [ ] Beyond building of origin

J3 Number of Stories Damaged by Flame

Count the **roof** as part of the highest story.

[0,0,1] Number of stories w/minor damage (1 to 24% flame damage)

[0,0,0] Number of stories w/significant damage (25 to 49% flame damage)

[0,0,0] Number of stories w/heavy damage (50 to 74% flame damage)

[0,0,0] Number of stories w/extreme damage (75 to 100% flame damage)

K Type of Material Contributing Most to Flame Spread

[X] Check if no flame spread **OR** if same as Material First Ignited (Block D4, Fire Module) **OR** if unable to determine. → Skip to Section L

K1 [ ] [ ] Item contributing most to flame spread

K2 [ ] [ ] Type of material contributing most to flame spread. Required only if item contributing code is 00 or <70.

L1 Presence of Detectors ☆

(In area of the fire)

N [ ] None Present → Skip to Section M
1 [X] Present
U [ ] Undetermined

L2 Detector Type

1 [X] Smoke
2 [ ] Heat
3 [ ] Combination smoke and heat
4 [ ] Sprinkler, water flow detection
5 [ ] More than one type present
0 [ ] Other
U [ ] Undetermined

L3 Detector Power Supply

1 [ ] Battery only
2 [X] Hardwire only
3 [ ] Plug-in
4 [ ] Hardwire with battery
5 [ ] Plug-in with battery
6 [ ] Mechanical
7 [ ] Multiple detectors & power supplies
0 [ ] Other
U [ ] Undetermined

L4 Detector Operation

1 [ ] Fire too small to activate
2 [ ] Operated → Complete Block L5
3 [X] Failed to operate → Complete Block L6
U [ ] Undetermined

L5 Detector Effectiveness

Required if detector operated.

1 [ ] Alerted occupants, occupants responded
2 [ ] Alerted occupants, occupants failed to respond
3 [X] There were no occupants
4 [ ] Failed to alert occupants
U [ ] Undetermined

L6 Detector Failure Reason

Required if detector failed to operate

1 [X] Power failure, shutoff, or disconnect
2 [ ] Improper installation or placement
3 [ ] Defective
4 [ ] Lack of maintenance, includes not cleaning
5 [ ] Battery missing or disconnected
6 [ ] Battery discharged or dead
0 [ ] Other
U [ ] Undetermined

M1 Presence of Automatic Extinguishing System ☆

N [ ] None Present
1 [X] Present
2 [ ] Partial System Present
U [ ] Undetermined
→ Complete rest of Section M

M2 Type of Automatic Extinguishing System

Required if fire was within designed range of AES

1 [X] Wet-pipe sprinkler
2 [ ] Dry-pipe sprinkler
3 [ ] Other sprinkler system
4 [ ] Dry chemical system
5 [ ] Foam system
6 [ ] Halogen-type system
7 [ ] Carbon dioxide (CO_2) system
0 [ ] Other special hazard system
U [ ] Undetermined

M3 Operation of Automatic Extinguishing System

Required if fire was within designed range

1 [X] Operated/effective (go to M4)
2 [ ] Operated/not effective (go to M4)
3 [ ] Fire too small to activate
4 [ ] Failed to operate (go to M5)
0 [ ] Other
U [ ] Undetermined

M4 Number of Sprinkler Heads Operating

Required if system operated

[0,0,2] Number of sprinkler heads operating

M5 Reason for Automatic Extinguishing System Failure

Required if system failed or not effective

1 [ ] System shut off
2 [ ] Not enough agent discharged
3 [ ] Agent discharged but did not reach fire
4 [ ] Wrong type of system
5 [ ] Fire not in area protected
6 [ ] System components damaged
7 [ ] Lack of maintenance
8 [ ] Manual intervention
0 [ ] Other
U [ ] Undetermined

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EXERCISE SCENARIO 3-2: Cary Street Fire

Directions: *Read the call information in the exercise below. Use the information provided to complete the entire Structure Fire Module form and the other required forms. Compare your work to the answers provided in Appendix A. If your answers are different from the ones provided, read over the Structure Fire Module again.*

The Alberta Fire Department (FDID #92188) received a call for a reported house fire at 5 East Cary Street, Brunswick, Virginia 23351, on May 1, 2005. The dispatcher assigned the incident (#5433) to Engine 1, Engine 2, and Truck 1 from Shift A. The units received the alarm at 12:53 p.m. and arrived at the scene at 1:05 p.m. Each unit was staffed with four firefighters.

The owner of the single-family dwelling, Mrs. Christy Gordon, said that she was warming her lunch on the stove when the grease from the pan began to burn. The gas stove was a Whirlpool, Model RF330PXVN, Serial Number F925888840, Year 2000. The fire spread from the pan to the curtains. She had fallen asleep upstairs and was alerted when the hardwired smoke detector activated. The flame damage was confined to the kitchen. The 2,000-square-foot, two-story home was filled with smoke in the other rooms. She called 911. The firefighters extinguished the fire and removed smoke from the other rooms. The fire was brought under control at 1:25 p.m. There was $24,000 fire loss to property and $9,600 content loss. The value of the property was $161,000 and the content value was $80,400. The last unit cleared the scene at 2:40 p.m. FF1 Adam C. Wallner, Badge No. 224, completed the report after returning to Station No. 2. Captain Tonya S. Gordon, Badge No. 105, was the officer in charge. The incident was in Census Tract 5011-12, District A12.

A FDID ☆ | State ☆ | Incident Date (MM DD YYYY) ☆ | Station | Incident Number ☆ | Exposure ☆ | ☐ Delete ☐ Change ☐ No Activity | **NFIRS–1 Basic**

B Location Type ☆ | ☐ Check this box to indicate that the address for this incident is provided on the Wildland Fire Module in Section B, "Alternative Location Specification." Use only for wildland fires. | Census Tract

☐ Street address
☐ Intersection
☐ In front of
☐ Rear of
☐ Adjacent to
☐ Directions
☐ US National Grid

Number/Milepost | Prefix | Street or Highway | Street Type | Suffix

Apt./Suite/Room | City | State | ZIP Code

Cross Street, Directions or National Grid, as applicable

C Incident Type ☆ — Incident Type

D Aid Given or Received ☆ ☐ None

1 ☐ Mutual aid received
2 ☐ Auto. aid received
3 ☐ Mutual aid given
4 ☐ Auto. aid given
5 ☐ Other aid given

Their FDID | Their State | Their Incident Number

E1 Dates and Times — Midnight is 0000

Check boxes if dates are the same as Alarm Date.

	Month	Day	Year	Hour	Min
Alarm ☆ (ALARM always required)					
☐ Arrival ☆ (ARRIVAL required, unless canceled or did not arrive)					
☐ Controlled (CONTROLLED optional, except for wildland fires)					
☐ Last Unit Cleared (LAST UNIT CLEARED, required except for wildland fires)					

E2 Shifts and Alarms — Local Option

Shift or Platoon | Alarms | District

E3 Special Studies — Local Option

Special Study ID# | Special Study Value

F Actions Taken ☆

Primary Action Taken (1)

Additional Action Taken (2)

Additional Action Taken (3)

G1 Resources ☆

☐ Check this box and skip this block if an Apparatus or Personnel Module is used.

	Apparatus	Personnel
Suppression		
EMS		
Other		

☐ Check box if resource counts include aid received resources.

G2 Estimated Dollar Losses and Values

LOSSES: Required for all fires if known. Optional for non-fires. ☐ None

Property $ ☐
Contents $ ☐

PRE-INCIDENT VALUE: Optional

Property $ ☐
Contents $ ☐

Completed Modules

☐ Fire–2
☐ Structure Fire–3
☐ Civilian Fire Cas.–4
☐ Fire Service Cas.–5
☐ EMS–6
☐ HazMat–7
☐ Wildland Fire–8
☐ Apparatus–9
☐ Personnel–10
☐ Arson–11

H1 ☆ Casualties ☐ None

	Deaths	Injuries
Fire Service		
Civilian		

H2 Detector — Required for confined fires.

1 ☐ Detector alerted occupants
2 ☐ Detector did not alert them
U ☐ Unknown

H3 Hazardous Materials Release ☐ None

1 ☐ **Natural gas:** slow leak, no evacuation or HazMat actions
2 ☐ **Propane gas:** <21-lb tank (as in home BBQ grill)
3 ☐ **Gasoline:** vehicle fuel tank or portable container
4 ☐ **Kerosene:** fuel burning equipment or portable storage
5 ☐ **Diesel fuel/fuel oil:** vehicle fuel tank or portable storage
6 ☐ **Household solvents:** home/office spill, cleanup only
7 ☐ **Motor oil:** from engine or portable container
8 ☐ **Paint:** from paint cans totaling <55 gallons
0 ☐ **Other:** special HazMat actions required or spill > 55 gal (Please complete the HazMat form.)

I Mixed Use Property ☐ Not mixed

10 ☐ Assembly use
20 ☐ Education use
33 ☐ Medical use
40 ☐ Residential use
51 ☐ Row of stores
53 ☐ Enclosed mall
58 ☐ Business & residential
59 ☐ Office use
60 ☐ Industrial use
63 ☐ Military use
65 ☐ Farm use
00 ☐ Other mixed use

J Property Use ☆ ☐ None

Structures

131 ☐ Church, place of worship
161 ☐ Restaurant or cafeteria
162 ☐ Bar/tavern or nightclub
213 ☐ Elementary school, kindergarten
215 ☐ High school, junior high
241 ☐ College, adult education
311 ☐ Nursing home
331 ☐ Hospital
341 ☐ Clinic, clinic-type infirmary
342 ☐ Doctor/dentist office
361 ☐ Prison or jail, not juvenile
419 ☐ 1- or 2-family dwelling
429 ☐ Multifamily dwelling
439 ☐ Rooming/boarding house
449 ☐ Commercial hotel or motel
459 ☐ Residential, board and care
464 ☐ Dormitory/barracks
519 ☐ Food and beverage sales
539 ☐ Household goods, sales, repairs
571 ☐ Gas or service station
579 ☐ Motor vehicle/boat sales/repairs
599 ☐ Business office
615 ☐ Electric-generating plant
629 ☐ Laboratory/science laboratory
700 ☐ Manufacturing plant
819 ☐ Livestock/poultry storage (barn)
882 ☐ Non-residential parking garage
891 ☐ Warehouse

Outside

124 ☐ Playground or park
655 ☐ Crops or orchard
669 ☐ Forest (timberland)
807 ☐ Outdoor storage area
919 ☐ Dump or sanitary landfill
931 ☐ Open land or field
936 ☐ Vacant lot
938 ☐ Graded/cared for plot of land
946 ☐ Lake, river, stream
951 ☐ Railroad right-of-way
960 ☐ Other street
961 ☐ Highway/divided highway
962 ☐ Residential street/driveway
981 ☐ Construction site
984 ☐ Industrial plant yard

Look up and enter a Property Use code and description only if you have NOT checked a Property Use box.

⇨ Property Use Code

Property Use Description

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K1 Person/Entity Involved

Local Option

Business Name (if applicable) | Area Code | Phone Number

☐ Check this box if same address as incident Location (Section B). Then skip the three duplicate address lines.

Mr., Ms., Mrs. | First Name | MI | Last Name | Suffix

Number | Prefix | Street or Highway | Street Type | Suffix

Post Office Box | Apt./Suite/Room | City

State | ZIP Code

☐ **More people involved? Check this box and attach Supplemental Forms (NFIRS–1S) as necessary.**

K2 Owner

Local Option

☐ Same as person involved? Then check this box and skip the rest of this block.

Business Name (if applicable) | Area Code | Phone Number

☐ Check this box if same address as incident Location (Section B). Then skip the three duplicate address lines.

Mr., Ms., Mrs. | First Name | MI | Last Name | Suffix

Number | Prefix | Street or Highway | Street Type | Suffix

Post Office Box | Apt./Suite/Room | City

State | ZIP Code

L Remarks:

Local Option

Fire Module Required?

Check the box that applies and then complete the Fire Module based on Incident Type, as follows:

☐ **Buildings 111**	**Complete Fire & Structure Modules**
☐ **Special structure 112**	**Complete Fire Module & Section I, Structure Module**
☐ **Confined 113–118**	**Basic Module Only**
☐ **Mobile property 120–123**	**Complete Fire Module**
☐ **Vehicle 130–138**	**Complete Fire Module**
☐ **Vegetation 140–143**	**Complete Fire or Wildland Module**
☐ **Outside rubbish fire 150–155**	**Basic Module Only**
☐ **Special outside fire 160**	**Complete Fire or Wildland Module**
☐ **Special outside fire 161–163**	**Complete Fire Module**
☐ **Crop fire 170–173**	**Complete Fire or Wildland Module**

ITEMS WITH A ☆ MUST **ALWAYS** BE COMPLETED!

☐ **More remarks? Check this box and attach Supplemental Forms (NFIRS–1S) as necessary.**

M Authorization

Officer in charge ID | Signature | Position or rank | Assignment | Month | Day | Year

Check box if same as Officer in charge. ⇨ ☐

Member making report ID | Signature | Position or rank | Assignment | Month | Day | Year

A FDID ☆ | State ☆ | Incident Date (MM DD YYYY) ☆ | Station | Incident Number ☆ | Exposure ☆ | ☐ Delete ☐ Change | **NFIRS–2 Fire**

B Property Details

B1 ☐ Not Residential
Estimated number of residential living units in building of origin *whether or not all units became involved*

B2 ☐ Buildings not involved
Number of buildings involved

B3 , Acres burned (outside fires)
☐ None
☐ Less than one acre

C On-Site Materials or Products ☐ None
Complete if there were any significant amounts of commercial, industrial, energy, or agricultural products or or materials on the property, *whether or not they became involved*

Enter up to three codes. Check one box for each code entered.

On-site material (1)
On-site material (2)
On-site material (3)

On-Site Materials Storage Use
1 ☐ Bulk storage or warehousing
2 ☐ Processing or manufacturing
3 ☐ Packaged goods for sale
4 ☐ Repair or service
U ☐ Undetermined

D Ignition

D1 Area of fire origin ☆

D2 Heat source ☆

D3 Item first ignited ☆ 1 ☐ Check box if fire spread was confined to object of origin.

D4 Type of material first ignited
Required only if item first ignited code is 00 or <70

E1 Cause of Ignition ☆
☐ Check box if this is an exposure report. → Skip to Section G

1 ☐ Intentional
2 ☐ Unintentional
3 ☐ Failure of equipment or heat source
4 ☐ Act of nature
5 ☐ Cause under investigation
U ☐ Cause undetermined after investigation

E2 Factors Contributing to Ignition ☆ ☐ None

Factor contributing to ignition (1)
Factor contributing to ignition (2)

E3 Human Factors ☆ **Contributing to Ignition**
Check all applicable boxes ☐ None

1 ☐ Asleep
2 ☐ Possibly impaired by alcohol or drugs
3 ☐ Unattended person
4 ☐ Possibly mentally disabled
5 ☐ Physically disabled
6 ☐ Multiple persons involved
7 ☐ Age was a factor

Estimated age of person involved
1 ☐ Male 2 ☐ Female

F1 Equipment Involved in Ignition
☐ None → If equipment was not involved, skip to Section G

Equipment Involved
Brand
Model
Serial #
Year

F2 Equipment Power Source
Equipment Power Source

F3 Equipment Portability
1 ☐ Portable
2 ☐ Stationary
Portable equipment normally can be moved by one or two persons, is designed to be used in multiple locations, and requires no tools to install.

G Fire Suppression Factors ☐ None
Enter up to three codes.

Fire suppression factor (1)
Fire suppression factor (2)
Fire suppression factor (3)

H1 Mobile Property Involved ☐ None

1 ☐ Not involved in ignition, but burned
2 ☐ Involved in ignition, but did not burn
3 ☐ Involved in ignition and burned

H2 Mobile Property Type and Make

Mobile property type
Mobile property make
Mobile property model
Year
License Plate Number
State
VIN

Structure fire? Please be sure to complete the Structure Fire form (NFIRS–3).

Local Use

☐ Pre-Fire Plan Available
Some of the information presented in this report may be based upon reports from other agencies:

☐ Arson report attached
☐ Police report attached
☐ Coroner report attached
☐ Other reports attached

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I1 Structure Type ☆

If fire was in an enclosed building or a portable/mobile structure, complete the rest of this form.

1 ☐ Enclosed building
2 ☐ Portable/mobile structure
3 ☐ Open structure
4 ☐ Air-supported structure
5 ☐ Tent
6 ☐ Open platform (e.g., piers)
7 ☐ Underground structure (work areas)
8 ☐ Connective structure (e.g., fences)
0 ☐ Other type of structure

I2 Building Status ☆

1 ☐ Under construction
2 ☐ Occupied & operating
3 ☐ Idle, not routinely used
4 ☐ Under major renovation
5 ☐ Vacant and secured
6 ☐ Vacant and unsecured
7 ☐ Being demolished
0 ☐ Other
U ☐ Undetermined

I3 Building Height ☆

Count the **roof** as part of the highest story.

Total number of stories at or above grade

Total number of stories below grade

I4 Main Floor Size ☆

NFIRS–3 Structure Fire

Total square feet

OR

Length in feet BY Width in feet

J1 Fire Origin ☆

Story of fire origin

☐ Below grade

J2 Fire Spread ☆

If fire spread was confined to object of origin, do not check a box (Ref. Block D3, Fire Module).

2 ☐ Confined to room of origin
3 ☐ Confined to floor of origin
4 ☐ Confined to building of origin
5 ☐ Beyond building of origin

J3 Number of Stories Damaged by Flame

Count the **roof** as part of the highest story.

Number of stories w/minor damage (1 to 24% flame damage)

Number of stories w/significant damage (25 to 49% flame damage)

Number of stories w/heavy damage (50 to 74% flame damage)

Number of stories w/extreme damage (75 to 100% flame damage)

K Type of Material Contributing Most to Flame Spread

☐ Check if no flame spread **OR** if same as Material First Ignited (Block D4, Fire Module) **OR** if unable to determine. → Skip to Section L

K1 Item contributing most to flame spread

K2 Type of material contributing most to flame spread

Required only if item contributing code is 00 or <70.

L1 Presence of Detectors ☆

(In area of the fire)

N ☐ None Present → Skip to Section M
1 ☐ Present
U ☐ Undetermined

L2 Detector Type

1 ☐ Smoke
2 ☐ Heat
3 ☐ Combination smoke and heat
4 ☐ Sprinkler, water flow detection
5 ☐ More than one type present
0 ☐ Other
U ☐ Undetermined

L3 Detector Power Supply

1 ☐ Battery only
2 ☐ Hardwire only
3 ☐ Plug-in
4 ☐ Hardwire with battery
5 ☐ Plug-in with battery
6 ☐ Mechanical
7 ☐ Multiple detectors & power supplies
0 ☐ Other
U ☐ Undetermined

L4 Detector Operation

1 ☐ Fire too small to activate
2 ☐ Operated → Complete Block L5
3 ☐ Failed to operate → Complete Block L6
U ☐ Undetermined

L5 Detector Effectiveness

Required if detector operated.

1 ☐ Alerted occupants, occupants responded
2 ☐ Alerted occupants, occupants failed to respond
3 ☐ There were no occupants
4 ☐ Failed to alert occupants
U ☐ Undetermined

L6 Detector Failure Reason

Required if detector failed to operate

1 ☐ Power failure, shutoff, or disconnect
2 ☐ Improper installation or placement
3 ☐ Defective
4 ☐ Lack of maintenance, includes not cleaning
5 ☐ Battery missing or disconnected
6 ☐ Battery discharged or dead
0 ☐ Other
U ☐ Undetermined

M1 Presence of Automatic Extinguishing System ☆

N ☐ None Present
1 ☐ Present
2 ☐ Partial System Present → Complete rest of Section M
U ☐ Undetermined

M2 Type of Automatic Extinguishing System

Required if fire was within designed range of AES

1 ☐ Wet-pipe sprinkler
2 ☐ Dry-pipe sprinkler
3 ☐ Other sprinkler system
4 ☐ Dry chemical system
5 ☐ Foam system
6 ☐ Halogen-type system
7 ☐ Carbon dioxide (CO_2) system
0 ☐ Other special hazard system
U ☐ Undetermined

M3 Operation of Automatic Extinguishing System

Required if fire was within designed range

1 ☐ Operated/effective (go to M4)
2 ☐ Operated/not effective (go to M4)
3 ☐ Fire too small to activate
4 ☐ Failed to operate (go to M5)
0 ☐ Other
U ☐ Undetermined

M4 Number of Sprinkler Heads Operating

Required if system operated

Number of sprinkler heads operating

M5 Reason for Automatic Extinguishing System Failure

Required if system failed or not effective

1 ☐ System shut off
2 ☐ Not enough agent discharged
3 ☐ Agent discharged but did not reach fire
4 ☐ Wrong type of system
5 ☐ Fire not in area protected
6 ☐ System components damaged
7 ☐ Lack of maintenance
8 ☐ Manual intervention
0 ☐ Other
U ☐ Undetermined

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Structure Module Test

1. What is the building height of a house with two stories, full unfinished attic (two rooms), and a full basement?

   (a) Two stories.

   (b) Three stories.

   (c) Four stories.

   (d) Two stories above grade; one story below grade.

2. The main floor size of a building is calculated by

   (a) Multiplying the number of stories by the building length.

   (b) Multiplying the building width by the building height.

   (c) Multiplying the building height by the building width divided by the building length.

   (d) Multiplying the building length by the building width.

3. Battery and hardwire are examples of this data element.

   (a) Equipment Involved in Ignition.

   (b) Detector Operation.

   (c) Detector Power Supply.

   (d) Detector Type.

4. Under construction and being demolished are examples of these data element.

   (a) Actions taken.

   (b) Building status.

   (c) Structure type.

   (d) Cause of ignition.

5. A fire on a pier needs these modules.

   (a) Basic and Fire.

   (b) Basic, Fire, and only Structure Type on the Structure Module.

   (c) Basic, Fire, and Structure.

   (d) Basic.