# Survey on Information Items Needed for Fire Emergency Response

## Introduction

You are invited to participate in a research study conducted by Dr. Sanghoon Lee in the Department of Civil Engineering at the University of Hong Kong. The research study is called “A BIM and AI-driven intelligent system for collaborative fire emergency response”, which aims to understand the current response practice, identify potential places for improvement, and develop a prototype system to improve factors affecting the collaborative response. To this end, you will be invited to fill out the survey to give your opinion on the information items needed for fire emergency response.

The survey is expected to take approximately 15 minutes, and you can choose to terminate the survey at any time without negative consequences. All information collected in this survey will remain strictly confidential. Individual details will not be disclosed or identifiable from this survey. Data containing personal identifiers will be kept for five years after publication of the first academic paper arising from the project. Anonymized data will be kept indefinitely for research purposes with precaution taken in relation to the storage of the data, e.g., locking up and protecting the data using passwords. If you have any questions about this survey, please feel free to contact Dr. Sanghoon Lee or Mr. Mun On Wong. If you want to know more about the rights as a research participant, please contact the Human Research Ethics Committee for Non-Clinical Faculties, the University of Hong Kong (+852 2241 5267).

HREC Approval Expiration date: February 9, 2024

HREC Reference Number: EA1912098

## Informed consent

🞎 I understand the procedures described above and agree to participate in this study.

## Section 1 Personal information

In this section, you are asked to provide your personal information.

1. Occupation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Education level:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 🞎 High school | 🞎 Bachelor | 🞎 Master | 🞎 Doctoral | 🞎 Other:  \_\_\_\_\_\_\_\_\_\_\_\_ | 🞎 I prefer not to say |

3. Major: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***[Occupant only]***

4. The number of fire drills you participated in:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 🞎 0 | 🞎 1 | 🞎 2 | 🞎 3-5 | 🞎 6-8 | 🞎 9 and over |

***[Occupant only]***

5. The number of fire emergency response you experienced (including false alarm):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 🞎 0 | 🞎 1 | 🞎 2 | 🞎 3-5 | 🞎 6-8 | 🞎 9 and over |

***[Facility manager only]***

6. Years of fire engineering/facility management-related work experience:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 🞎 less than 3 | 🞎 3-5 | 🞎 6-8 | 🞎 9-11 | 🞎 12-15 | 🞎 more than 15 |

***[Facility manager only]***

7. Years of **on-site** fire emergency response-related work experience:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 🞎 less than 3 | 🞎 3-5 | 🞎 6-8 | 🞎 9-11 | 🞎 12-15 | 🞎 more than 15 |

***[Firefighter only]***

8. Years of fire emergency-related work experience:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 🞎 less than 3 | 🞎 3-5 | 🞎 6-8 | 🞎 9-11 | 🞎 12-15 | 🞎 more than 15 |

***[Firefighter only]***

9. Years of **on-site** response experience:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 🞎 less than 3 | 🞎 3-5 | 🞎 6-8 | 🞎 9-11 | 🞎 12-15 | 🞎 more than 15 |

## Section 2 Attributes identification, importance, and familiarity evaluation

In this section, you are asked to identify important attributes of different information items, as well as to evaluate their importance and your familiarity with them based on your experience of being a **building occupant/facility manager/firefighter**. The following figure shows an example for better understanding.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | ------------------------------------------Example------------------------------------------   |  |  |  | | --- | --- | --- | | Please select *the attributes of the fire extinguisher information* you consider are important and needed for fire emergency response: | | | | ✓ | ***Location*** | The location of the fire extinguisher for facilitating fire suppression. | | ✓ | ***Type*** | The type of the fire extinguisher, e.g., CO2, water, dry powder, clean agent, foam, fire blanket, or sand blanket. | | □ | ***Usage*** | The usage of the fire extinguisher, e.g., on electrical fires, flammable liquids, electronic equipment or documents. | | ✓ | ***Others: \_\_\_Volume\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | | | □ | ***None of the above*** | |   For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:   |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | | |  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 | | *Fire extinguisher info.* | 🞎 | 🞎 | 🞎 | | 🞎 | ✓ | 🞎 | ✓ | 🞎 | | 🞎 | 🞎 |   ------------------------------------------------------------------------------------------------ | |

The official question begins as follows.

Category 1 - Building Information

|  |  |  |
| --- | --- | --- |
| Please select *the attributes of the building general information* you consider are important and needed for fire emergency response: | | |
| □ | ***Use type*** | Use classification of the building, i.e., residential, hotel-like, institutional, commercial, assembly, industrial, carparks, and plant rooms-like. |
| □ | ***Construction material*** | The building material used in main body construction, e.g., wood, concrete, bricks. |
| □ | ***Building age*** | The age of the building. |
| □ | ***On-site status*** | The on-site status of the building, e.g., intact, falling debris, partial collapse. |
| □ | ***Number of stories*** | The number of stories in the building. |
| □ | ***Number of stairs*** | The number of stairs in the building. |
| □ | ***Number of elevators*** | The number of elevators in the building. |
| □ | ***Fire resistance rating (the capability to resist fires)*** | A metric (unit: minutes) to indicate the capability of the building to resist fires. |
| □ | ***Is a historical building or not*** | The building is listed as a historical building or not. |
| □ | ***Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | |
| □ | ***None of the above*** | |

For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | |
|  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 |
| *Building general info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |



|  |  |  |
| --- | --- | --- |
| Please select *the attributes of the floor information* you consider are important and needed for fire emergency response: | | |
| □ | ***Area size*** | The net planned area of each floor. |
| □ | ***Is the entrance level to the building or not*** | The floor is an entrance level to the building or not. |
| □ | ***Above ground or below ground*** | The floor is fully above ground (TRUE), or below ground (FALSE). |
| □ | ***Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | |
| □ | ***None of the above*** | |

For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | |
|  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 |
| *Floor info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |



|  |  |  |
| --- | --- | --- |
| Please select *the attributes of the space/room information* you consider are important and needed for fire emergency response: | | |
| □ | ***Type (usage)*** | The usage of the space, e.g., electricity room, refuge area. |
| □ | ***Area size*** | The net planned area of the space. |
| □ | ***Location*** | The location of the space in order to find paths for evacuation or rescue. |
| □ | ***Planned occupancy number*** | The planned number of people in each space. |
| □ | ***Public place for access or not*** | The space is designed to serve as a publicly accessible space for evacuation route planning or not. |
| □ | ***Handicapped can access or not*** | The space is designed to serve as an accessible space for handicapped people to evacuate or not. |
| □ | ***Fire risk level*** | The hazard classes indicate the fire risk level of the space’s goods, i.e., light hazard, ordinary hazard, high hazard. |
| □ | ***Serves as a storage of flammable material or not*** | The space is intended to serve as a storage of flammable material or not. |
| □ | ***Serves as an exit space or not*** | The space (e.g., corridor) is designed to serve as an exit space or not for fire escape purposes. |
| □ | ***Has air pressurization installation or not*** | The space is required to have pressurized air or not. |
| □ | ***Has sprinkler protection or not*** | The space is protected by the sprinkler installation or not. |
| □ | ***Has been searched for victims or not*** | The space has been searched or not to ensure there are no trapped individuals or victims. |
| □ | ***Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | |
| □ | ***None of the above*** | |

For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | |
|  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 |
| *Space/room info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |



|  |  |  |
| --- | --- | --- |
| Please select *the attributes of the door and window information* you consider are important and needed for fire emergency response: | | |
| □ | ***Fire rating (the capability to resist fires)*** | The fire rating of the door/window to indicate its capability for resisting fire (unit: minute). |
| □ | ***Location*** | The location of the door/window in order to plan routes for evacuation or rescue. |
| □ | ***Serves as an exit or not*** | The door/window is designed to serve as an exit or not in case of fire. |
| □ | ***Has smoke stop functions or not*** | The door/window is designed to provide a smoke stop function or not. |
| □ | ***Width [for door\* only]*** | The width of the door to calculate the evacuation flow. |
| □ | ***Is locked or not [for door\* only]*** | The door is locked or not to update the evacuation or rescue route. |
| □ | ***Handicapped can access or not [for door\* only]*** | The door is designed to be accessible by the handicapped or not for evacuation or rescue. |
| □ | ***Water tightness rating (resistance to water pressure) [for door\* only]*** | Door’s resistance to water pressure. |
| □ | ***Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | |
| □ | ***None of the above*** | |

For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | |
|  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 |
| *Door info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |
| *Window info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |



|  |  |  |
| --- | --- | --- |
| Please select *the attributes of the stair information* you consider are important and needed for fire emergency response: | | |
| □ | ***Fire rating (the capability to resist fires)*** | The fire rating of the stair to indicate its capability for resisting fire (unit: minute). |
| □ | ***Width*** | The width of the stair to calculate the evacuation flow. |
| □ | ***Location*** | The location of the stair in order to plan routes for evacuation or rescue. |
| □ | ***On-site usage*** | The usage of the stair assigned by firefighters, e.g., evacuation use or fire suppression use. |
| □ | ***Serves as an exit path or not*** | The stair is designed to serve as an exit path or not in case of fire. |
| □ | ***Handicapped can access or not*** | The stair is designed to be accessible by the handicapped or not for evacuation or rescue route planning. |
| □ | ***Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | |
| □ | ***None of the above*** | |

For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | |
|  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 |
| *Stair info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |



|  |  |  |
| --- | --- | --- |
| Please select *the attributes of the roof information* you consider are important and needed for fire emergency response: | | |
| □ | ***Fire rating (the capability to resist fires)*** | The fire rating of the roof to indicate its capability for resisting fire (unit: minute). |
| □ | ***Can bear loads or not*** | The roof is intended to carry loads or not. |
| □ | ***Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | |
| □ | ***None of the above*** | |

For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | |
|  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 |
| *Roof info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |



Category 2 - System Information

|  |  |  |
| --- | --- | --- |
| Please select *the attributes of the elevator information* you consider are important and needed for fire emergency response: | | |
| □ | ***Location*** | The location of the elevator in order to plan routes for rescue. |
| □ | ***Serves as a firefighting lift or not*** | The elevator is designed to serve as a firefighting lift or not to access the location of fire and to evacuate people. |
| □ | ***Capacity weight*** | The capacity of the elevator measured by weight. |
| □ | ***Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | |
| □ | ***None of the above*** | |

For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | |
|  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 |
| *Elevator info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |



***[Hydrant/standpipe and valve: for facility managers and firefighters only]***

|  |  |  |
| --- | --- | --- |
| Please select *the attributes of the hose reel, hydrant/standpipe, and valve information* you consider are important and needed for fire emergency response: | | |
| □ | ***Location*** | The location of the hose reel/hydrant/valve for fire suppression. |
| □ | ***Valve/inlet/pumper connection size*** | The size of a connection to an inlet/pumping unit. |
| □ | ***Type [for hose reel and hydrant\* only]*** | The type of the hose reel, e.g., rack, reel, as well as the type of the fire hydrant, e.g., dry barrel, wet barrel. |
| □ | ***Length [for hose reel\* only]*** | The length of the hose. |
| □ | ***Hose nozzle type [for hose reel\* only]*** | The type of the nozzle in terms of spray pattern, e.g., fog, straight stream. |
| □ | ***Hose diameter [for hose reel\* only]*** | The diameter of the hose. |
| □ | ***Real-time status (pressure) [for hydrant\* only]*** | The pressure measured from the hydrant. |
| □ | ***Discharge flow rate [for hydrant\* only]*** | The volumetric rate of fluid discharge. |
| □ | ***Flow class, e.g., ClassAA [for hydrant\* only]*** | An alphanumeric value indicating the flow class of a hydrant, e.g., Class AA, Class A, Class B, and Class C. |
| □ | ***Water is potable or not [for hydrant\* only]*** | The water flow from the hydrant is potable or not. |
| □ | ***Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | |
| □ | ***None of the above*** | |

For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | |
|  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 |
| *Hose reel info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |
| *Fire hydrant/ standpipe info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |
| *Valve info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |



***[Sprinkler, alarm, and sensor: for facility managers and firefighters only]***

|  |  |  |
| --- | --- | --- |
| Please select *the attributes of the sprinkler, alarm and sensor information* you consider are important and needed for fire emergency response: | | |
| □ | ***Location*** | The location of the sprinkler/alarm/sensor for fire suppression. |
| □ | ***Working status*** | The sprinkler/alarm/sensor is working normally or not. |
| □ | ***Coverage area [for sprinkler and sensor\* only]*** | The area that the sprinkler/sensor is designed to protect/sensed. |
| □ | ***Activation temperature/Set point [for sprinkler and sensor\* only]*** | The temperature/concentration at which the sprinkler/sensor is designed to activate/measure. |
| □ | ***Discharge flow rate [for sprinkler\* only]*** | The volumetric rate of fluid discharge. |
| □ | ***Maximum working pressure [for sprinkler\* only]*** | Maximum pressure that the sprinkler is manufactured to withstand. |
| □ | ***Residual flowing pressure [for sprinkler\* only]*** | The residual flowing pressure in the pipeline at which the discharge flow rate is determined. |
| □ | ***Sensor type [for sensor\* only]*** | The type of the sensor, e.g., fire sensor, gas sensor. |
| □ | ***Type of gas detected [for sensor\* only]*** | The gas that is being detected, e.g., CO, CO2, and O2. |
| □ | ***Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | |
| □ | ***None of the above*** | |

For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | |
|  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 |
| *Sprinkler info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |
| *Alarm info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |
| *Sensor info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |



|  |  |  |
| --- | --- | --- |
| Please select *the attributes of the fire extinguisher information* you consider are important and needed for fire emergency response: | | |
| □ | ***Location*** | The location of the fire extinguisher for facilitating fire suppression. |
| □ | ***Type*** | The type of the fire extinguisher, e.g., CO2, water, dry powder, clean agent, foam, fire blanket, or sand blanket. |
| □ | ***Usage*** | The usage of the fire extinguisher, e.g., on electrical fires, flammable liquids, electronic equipment or documents. |
| □ | ***Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | |
| □ | ***None of the above*** | |

For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | |
|  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 |
| *Fire extinguisher info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |



***[Tank: for facility managers and firefighters only]***

|  |  |  |
| --- | --- | --- |
| Please select *the attributes of the water/fuel tank information* you consider are important and needed for fire emergency response: | | |
| □ | ***Location*** | The location of the tank for finding water sources or handling dangerous fuels. |
| □ | ***Capacity*** | The volumetric capacity of the tank. |
| □ | ***Storage type*** | The general material intended to be stored, e.g., ice, water, rainwater, wastewater, potable water, fuel, oil, etc. |
| □ | ***Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | |
| □ | ***None of the above*** | |

Please determine how **important** the *water/fuel tank information item* is in order to support your fire emergency response:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 🞎 Not at all important | 🞎 Slightly important | 🞎 Moderately important | 🞎 Very important | 🞎 Extremely important |

For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | |
|  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 |
| *Water/fuel tank info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |



***[Emergency generator and lighting system: for facility managers and firefighters only]***

|  |  |  |
| --- | --- | --- |
| Please select *the attributes of the emergency generator and lighting system information* you consider are important and needed for fire emergency response: | | |
| □ | ***Location*** | The location of the emergency generator/lighting system. |
| □ | ***Working status*** | The generator/lighting system is working normally or not. |
| □ | ***Maximum power output [for generator\* only]*** | The maximum output power rating of the generator. |
| □ | ***Backup supply, e.g., central battery [for lighting\* only]*** | The type of backup supply system of the emergency lighting system, e.g., local battery, central battery, etc. |
| □ | ***Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | |
| □ | ***None of the above*** | |

For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | |
|  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 |
| *Emergency generator info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |
| *Emergency lighting system info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |



***[Control panel and other electricity system/device: for facility managers and firefighters only]***

|  |  |  |
| --- | --- | --- |
| Please select *the attributes of the control panel and other electricity system/device information* you consider are important and needed for fire emergency response: | | |
| □ | ***Location*** | The location of the control panel or the electricity system/device. |
| □ | ***Working status*** | The control panel or the electricity system/device is working normally or not. |
| □ | ***Type of equipment controlled [for control penal\* only]*** | The type of equipment controlled by the panel. |
| □ | ***Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | |
| □ | ***None of the above*** | |

For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | |
|  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 |
| *Control panel info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |
| *Other electricity device (e.g., transformer) info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |



***[Damper and other venting system/device: for facility managers and firefighters only]***

|  |  |  |
| --- | --- | --- |
| Please select *the attributes of the damper and other venting system/device information* you consider are important and needed for fire emergency response: | | |
| □ | ***Location*** | The location of the venting device. |
| □ | ***Working status*** | The venting device is working normally or not. |
| □ | ***Automatic operation or not [for damper\* only]*** | The operational mechanism for the damper operation, e.g., automatic, manual, etc. |
| □ | ***Fire resistance rating [for damper\* only]*** | Measure of the fire resistance rating of the damper in hours. |
| □ | ***Fusible link temperature [for damper\* only]*** | The temperature that the fusible link in the damper melts. |
| □ | ***Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | |
| □ | ***None of the above*** | |

For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | |
|  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 |
| *Damper info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |
| *Other venting device info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |



***[Pump and other fuel-related system/device: for facility managers and firefighters only]***

|  |  |  |
| --- | --- | --- |
| Please select *the attributes of the pump and the other fuel-related system/device information* you consider are important and needed for fire emergency response: | | |
| □ | ***Location*** | The location of the pump or the fuel supply system/device. |
| □ | ***Working status*** | The pump or the fuel supply system/device is working normally or not. |
| □ | ***Flow rate range [for pump\* only]*** | Allowable range of volume of fluid of the pump. |
| □ | ***Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | |
| □ | ***None of the above*** | |

For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | |
|  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 |
| *Pump info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |
| *Other fuel-related device info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |



|  |  |  |
| --- | --- | --- |
| Please select *the attributes of the valuable belongings/equipment information* you consider are important and needed for fire emergency response: | | |
| □ | ***Location*** | The location of the valuable property for protection. |
| □ | ***Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | |
| □ | ***None of the above*** | |

For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | |
|  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 |
| *Valuable properties info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |



Category 3 – Participant Information

|  |  |  |
| --- | --- | --- |
| Please select *the attributes of the building occupant information* you consider are important and needed for fire emergency response: | | |
| □ | ***Identity*** | The identity of the building occupant. |
| □ | ***Contact*** | The phone number of the building occupant for contact. |
| □ | ***Location*** | The location of the building occupant to plan routes for evacuation or rescue. |
| □ | ***Age*** | The age of the building occupant. |
| □ | ***Disability*** | The disability of the building occupant, e.g., disabled, non-disabled. |
| □ | ***Real-time status*** | The status of the building occupant, e.g., injured, trapped. |
| □ | ***Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | |
| □ | ***None of the above*** | |

For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | |
|  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 |
| *Building occupant info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |



|  |  |  |
| --- | --- | --- |
| Please select *the attributes of the facility manager information* you consider are important and needed for fire emergency response: | | |
| □ | ***Identity*** | The identity of the facility manager. |
| □ | ***Contact*** | The phone number of the facility manager for contact. |
| □ | ***Location*** | The location of the facility manager to assist in evacuation or rescue. |
| □ | ***Role/capability*** | The role/capability of the facility manager, e.g., hazardous materials handling, entry control, properties protection. |
| □ | ***Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | |
| □ | ***None of the above*** | |

For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | |
|  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 |
| *Facility manager info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |



|  |  |  |
| --- | --- | --- |
| Please select *the attributes of the firefighter information* you consider are important and needed for fire emergency response: | | |
| □ | ***Identity*** | The identity of the firefighter. |
| □ | ***Contact*** | The phone number of the firefighter for contact. |
| □ | ***Location*** | The location of the firefighter to find paths for rescue and fire suppression. |
| □ | ***Role/capability*** | The role/capability of the firefighter, e.g. fire suppression, rescue, hazardous material handling, properties protection, ventilation. |
| □ | ***Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | |
| □ | ***None of the above*** | |

For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | |
|  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 |
| *Firefighter info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |



|  |  |  |
| --- | --- | --- |
| Please select *the attributes of the utility services technician information* you consider are important and needed for fire emergency response: | | |
| □ | ***Identity*** | The identity of the utility services technician. |
| □ | ***Contact*** | The phone number of the utility services technician for contact. |
| □ | ***Capability*** | The role and capability of the utility services technician, e.g., Electricity handling, fuel supply handling, venting handling. |
| □ | ***Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | |
| □ | ***None of the above*** | |

For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | |
|  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 |
| *Utility services technician info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |



Category 4 – Hazard information

|  |  |  |
| --- | --- | --- |
| Please select *the attributes of the fire information* you consider are important and needed for fire emergency response: | | |
| □ | ***Duration*** | The duration time of the fire. |
| □ | ***Location*** | The location of the fire. |
| □ | ***Real-time status, e.g., No. 5 Alarm Fire*** | The status of the fire, e.g., No. 5 Alarm Fire. |
| □ | ***Spread trend*** | The spread trend of the fire. |
| □ | ***Cause*** | The cause of the fire, e.g., food stuff, electrical faults, miscellaneous, cigarette ends, matches, candles. |
| □ | ***Temperature*** | The temperature of the fireground. |
| □ | ***Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | |
| □ | ***None of the above*** | |

For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | |
|  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 |
| *Fire info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |



|  |  |  |
| --- | --- | --- |
| Please select *the attributes of the smoke information* you consider are important and needed for fire emergency response: | | |
| □ | ***Location*** | The location of the smoke. |
| □ | ***Spread trend*** | The spread trend of the smoke. |
| □ | ***Main composition*** | The main composition of the smoke, e.g., CO2, water vapor, CO, PM, NO, NO2, CN. |
| □ | ***Temperature*** | The temperature of the smoke. |
| □ | ***Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | |
| □ | ***None of the above*** | |

For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | |
|  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 |
| *Smoke info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |



|  |  |  |
| --- | --- | --- |
| Please select *the attributes of the hazardous materials/goods information* you consider are important and needed for fire emergency response: | | |
| □ | ***Location*** | The location of the hazardous materials/goods. |
| □ | ***Type, e.g., Category 1*** | The type of the hazardous materials/goods in accordance with the regulation classification, e.g., Category 1. |
| □ | ***Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** | |
| □ | ***None of the above*** | |

For the following information items, please determine how **important** they are and how well you **get familiar with** them when responding to fire emergencies:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Not at all important | | | Extremely important | | | Not familiar at all | | | Extremely familiar | | |
|  | 1 | 2 | 3 | | 4 | 5 | 1 | 2 | 3 | | 4 | 5 |
| *Hazardous materials info.* | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | 🞎 | 🞎 |

## Section 3 Holistic evaluation

In this section, you are asked to give your opinions on your response to fire emergencies.

1. Overall, are you satisfied with the information available in the current practice to support your response to fire emergencies? ***[Please select only one option]***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 🞎 Strongly dissatisfied | 🞎 Dissatisfied | 🞎 Neutral | 🞎 Satisfied | 🞎 Strongly satisfied |

2. For the following issues, which ones do you think that usually occur to hinder your response to fire emergencies? ***[Please select one or multiple option(s)]***

🞎 Lack of critical information for decision making

🞎 The information is not updated in time

🞎 Too much irrelevant information

🞎 Difficult to interpret the information/The information is presented unclearly

🞎 Lack of information sharing and collaboration

🞎 I do not have any afore-mentioned issues

🞎 Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Comments or suggestions about this project:

|  |
| --- |
|  |

----This is the end of the survey. Thank you for your participation! ----