



National
Operational
Guidance

Control measure

**Safe system of work: Above ground
structures**



NFCC
National Fire
Chiefs Council

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Control measure knowledge

An incident involving above ground structures can be complex due to the size, shape, purpose and surrounding area. It may be beneficial to use joint on-site training to identify and plan for potential incidents involving above ground structures. A risk assessment must be carried out before establishing any safe system of work.

Establishing the type of structure may identify additional hazards and control measures to consider, which can include:

- [People](#)
- [Electricity](#)
- Non-ionising radiation (Industry, awaiting publication)
- [Working near water or other liquids](#)
- [On-site machinery](#)
- [Noise](#)
- Falling objects

Structures, such as theme park rides, may also be below the ground, including tunnels, with the potential for confined spaces. Understanding the purpose of the structure and the overall layout will assist with identifying potential hazards and associated control measures.

With incidents involving these forms of above ground structures, a range of fire and rescue responses is possible. In general, the following are most likely to be appropriate:

- Aerial appliances
- Rope access and rescue teams
- Specialist urban search and rescue (USAR) teams

Because of the sometimes unique nature of above ground structures, other agencies may become involved or lead in rescue intervention, for example:

- Helicopter search and rescue teams
- Private rescue teams specially employed to provide emergency rescue cover for a structure, for example, the London Eye
- Internal company volunteers who provide emergency cover, such as those at power

generation companies

There may be a substantial delay in these agencies arriving and in most cases the fire and rescue service may be called on to attend in the first instance and then to assist.

Access and egress

As part of the information gathering and scene assessment, incident commanders should identify whether there are alternative routes to access the scene of operations.

Access to and egress from these structures may be via a single route. There may be an escape hatch that can be used in conjunction with rope equipment for an emergency exit.

Where an alternative emergency or escape route is not integral to the structure, incident commanders may need to consider not committing personnel and instead requesting specialist resources.

Communication

Incident commanders must establish contingency arrangements for alternative methods of communication in case radio communications are compromised

Communication systems should be appropriate for the environment in which they are used. Radio communications will not always be possible, and the use of 'line' communications or line of sight, hand or whistle signals may be required.

Where possible, line of sight between incident supervisors and operators should be maintained. In some circumstances, using hand or whistle signals will be appropriate. If put in place, all personnel must be aware of the system employed and there must be sufficient personnel for it to be effective.

Whichever method of communication is selected, it needs to be effective. For further information refer to [Incident command: Effective communication](#).

Strategic actions

Fire and rescue services should:

- Consider using joint on-site training to identify and plan for potential incidents involving above ground structures attendance
- Ensure they have appropriate communication systems for foreseeable events involving above ground structures

Tactical actions

Incident commanders should:

- Establish the type of above ground structure to identify additional hazards
- Consider requesting specialist resources if access and egress to an above ground structure is limited
- Identify and evaluate all potential routes of access and egress before working at an above ground structure
- Establish and maintain safe means of access and egress when working at above ground structures
- Establish an effective system of communication for above ground structures, considering distances and the working environment
- Maintain visual contact with responders working on above ground structures if possible and use agreed hand or whistle signals
- Establish and regularly monitor the effectiveness of communications with personnel operating in above ground structures