



National
Operational
Guidance

Hazard

Entrapment and entanglement



NFCC
National Fire
Chiefs Council

Developed and maintained by the NFCC



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Hazard - Entrapment and entanglement

Hazard Knowledge

Entrapment and entanglement are hazards that may affect members of the public and responders. Entrapment or entanglement in static or semi-static water is hazardous as it may be difficult to escape without assistance and may lead to long term immersion which could cause hypothermia. Entrapment or entanglement in flowing water may also cause personnel or casualties to lose their footing or be pulled under the water. Once submerged, the force of water and the environment may make it difficult keep the head above water, increasing the risk of drowning unless released.

Entrapment and entanglement may be caused by:

- Strainers
- Lines in the water
- Submerged street furniture and displaced drainage covers during flooding
- Debris
- Loose rocks and unstable ground conditions



Control measure - Clean line principle

Control measure knowledge

Fixed lines can pull responders underneath the water and untreated lines may sink and snag on sub-surface objects when saturated. Any fixed line may hold a responder or casualty in a hazardous position.

All lines used in the water environment should be designed and treated for use in water. All lines should be easily releasable at all times. Responders should have other means of releasing lines that present a hazard to casualties or responders.

The use of collective or personal work restraint systems that completely remove the risk of accidental entry when working near water may be considered where appropriate. The use of work restraint systems should be risk-assessed considering any reasonably foreseeable actions that may be required. If the risk of entry cannot be entirely removed, the clean line principle should be



followed.

Strategic actions

Fire and rescue services should:

- Provide lines and equipment suitable for use in the water environment

Tactical actions

Incident commanders should:

- Use the clean line principle when working at incidents involving water



Control measure - Remove entrapment and entanglement hazards

Control measure knowledge

Potential entanglement and entrapment hazards should be removed from the water where possible. This may involve cutting lines, removing debris or otherwise changing the environment to eliminate the risk.

Strategic actions

Tactical actions

Incident commanders should:

- Consider removing entrapment and entanglement hazards from the water



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- Consider cutting rescue lines if necessary