Visual Search

Scope

This guidance document outlines the options and alternatives available to an incident commander via the search manager and other personnel responsible for managing visual technical search operations. It details the advantages and disadvantages for each of the relevant techniques for visual search.

Introduction

Search operations for locating victims using visual search techniques must be initiated at a very early stage of the incident. Consideration must be given to the environment that the search operative is likely to be working in, along with the potential hazards. Dedicated safety officers must be used for each search team when operating in a high hazard area.

Potential hazards include:

- Secondary collapse and instability of the work area
- Unstable ground with the potential for unknown voids
- Hazardous materials including oxygen deficient atmospheres
- Live services present such as gas, electricity and water
- General dust and debris within work area

Identification and the maintenance of safe access and egress must be employed at the work site at all times. All personnel must be familiar with the evacuation signal and be able to respond should action be necessary. Any personnel carrying out a task that involves the loss of audible communication, i.e. using ear protection, headsets or undertaking high noise operations (drilling etc), should have a dedicated safety officer nominated.

Advantages of the Visual Technical Search

- It is possible to extricate victims sooner
- We instinctively like to use our eyes for search.
- Visual search equipment is an extension to sight.
- Visual search equipment is designed to probe into voids by using existing cracks and openings within the debris pile.
- It is the preferred method of search if there is access into voids.
- The void can be explored or assessed, i.e. light penetrating into the void may indicate other access points.
- The type of collapse can be identified.
- Shoring and breeching requirements can be assessed
- Positive visual location of victims can be made including those who are unconscious or unable to respond**.**
- Victims out of sight can still be detected by using the built in audio facility.
- Once victims have been positively identified no secondary search is necessary.
- Victim assessment can be carried out from the first moment of contact.
- The victim's level of consciousness can be determined and medical needs assessed.
- Visual search devices fitted with an audio system can be used to communicate with the victim.

Disadvantages of the Visual Technical Search

- Most visual search equipment is not intrinsically safe. Avoid any electrical hazards. Cameras will conduct electricity.
- Limited penetration of the equipment into the void space.
- Limitation of the light source to illuminate the void space.
- Limited field of view means an increase in the time to conduct a thorough search.
- Visual space size up is required for orientation of the camera and to minimise visual distortion by confirming scale from known objects.
- Additional access points via core holes may be needed. This will require further resources and equipment.
- Operators working in high-risk areas require additional safety officers to enable them to concentrate on the task in hand.
- All cameras are battery operated and therefore require careful management of a charging regime to ensure that sufficient batteries are immediately available for use.

The Incident Command structure must be aware of the capabilities and limitations of visual search equipment. Simultaneous search activities with visual search equipment will help to develop an effective rescue plan. This will ensure that rescue teams are able to prioritise the rescue of any trapped victims.

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