EMERGENCY SERVICES TIMES

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Use of chemical lights at incidents

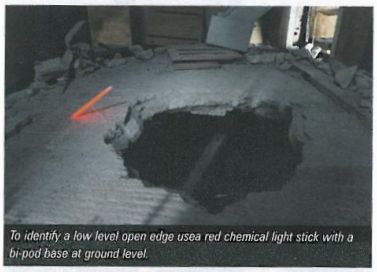
The Fire and Rescue Service (FRS) National Resilience, Urban Search and Rescue (USAR) Capability is assisted by a team of technical lead officers. These officers, who are drawn from teams across the UK, have expertise and knowledge in the various disciplines that make up the capability and are integral to the ongoing maintenance and development of USAR. One such area for development has been scene assessment and the use of chemical lights.

Words: ***Jim Taylor, USAR Technical Lead Scene Assessment, Tyne and Wear Fire and Rescue Service.***

The technical lead for scene assessment was tasked with producing a standard operating procedure (SOP) aimed at standardising the use of chemical lights at incidents.

"The SOP is available to share with other agencies to ensure continued interoperability."

In developing the SOP, other capabilities, such as High Volume Pumps and Mass Decontamination were consulted as to their possible use of light sticks, with the final SOP being shared across FRS National Resilience. In addition, liaison with other agencies was carried out and the SOP has been referenced in the Concept of Operations and SOP for USAR support to UK Disaster Victim Identification (DVI).



To identify a low level open edge usea red chemical light stick with a bi-pod base at ground level.

Two main areas

The SOP was produced considering two main areas:

1. Safety: The primary consideration was the safety of all personnel, by detailing safe routes hazardous areas etc crew safety will be enhanced
2. Simplicity: utilising five colours a simple colour coding system was developed.

The SOP states, 'The health and safety of all personnel deployed to incidents is paramount, by utilising chemical lights access and egress (safe routes), hazards and areas of specific interest can be identified and controlled. Chemical lights can also be used for additional scene lighting or emergency lighting in the case of a sudden loss of lighting'.

Various colours and shapes of lights are available and the following guidance is intended to standardise their use across capabilities and agencies.

RED	Hazard, No entry
Green	Safe route
Orange	Marking areas of interest
Blue	Specialist Use (for example identifying monitoring equipment)
White	General illumination

Hazards

General hazards can be identified using chemical light sticks (RED).

Specific hazards such as trip hazards, open edges, overhanging hazards should be identified accordingly:

- Low level – trip or open edge – Use red light stick with a bi-pod base at ground level, this will draw the eye to the ground identifying the hazard.
- High level – overhanging hazards – hang red chemical light stick from the ceiling or any available high level point using duct tape, cable ties or magnetic base from steelwork; this again draws the eye to the hazard.

Red chemical light circle markers may be made more informative with markings identifying the hazards such as hazmats, eg:

Restricting entry into hazardous areas

Red and green chemical light pads can be used as indicators of GO / NO GO areas. The red pad should be stuck to the wall at the entry point to the room/void if entry is not allowed; the reason for the restriction may be written on the pad, eg:

Safe route

Chemical lights can be utilised to assist in the identification of safe access and egress routes.

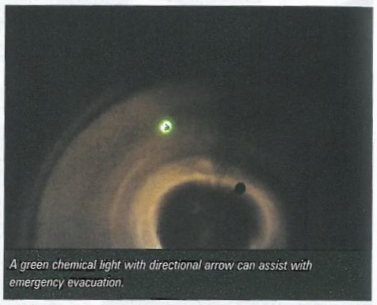
Evacuation routes: as crews work their way into the risk they can fix a green chemical light circle marker (marking with an arrow pointing the way out if appropriate) to the walls at regular intervals. This will assist in the emergency evacuation.

Safe entry into the area: if chemical lights are utilised to give permission to access the area, ie GO / NO GO, the GO should be denoted by a Green light pad indicating GO, additional information can also be written onto the pad.

Areas of interest

If there is an area of particular interest to the fire and rescue service Officer in Charge, or another agency, an orange chemical light stick and/or circle marker can be used.

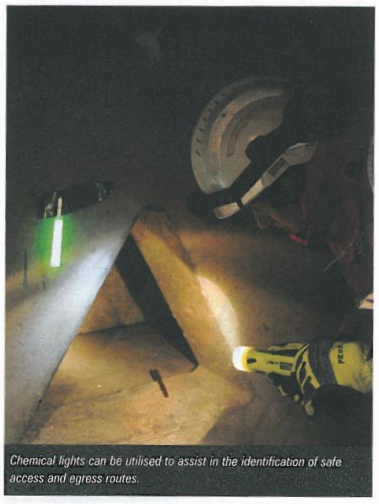
Search operations: specific areas identified by USAR technical search teams that require further search or rescue operations, such as possible or confirmed casualty locations can be identified by orange chemical light sticks.



A green chemical light with directional arrow can assist with emergency evacuation.

Disaster Victim Identification (DVI): an orange light circle placed adjacent to a deceased casualty will be used to direct body recovery teams to the location, for example.

This information should be given to the Police (DVI) Senior Identification Manager (SIM) and other relevant agencies as appropriate.



Chemical lights can be utilised to assist in the identification of safe access and egress routes.

Specialist use

Blue chemical light sticks and circle markers should only be used for specific tasks. They will be used to identify areas that USAR team members should avoid due to specialist tasks being carried out and where inadvertent interference could have an adverse effect on the incident outcomes or even safety.

The SOP and associated equipment information note, risk assessment including COSHH and environmental assessments are now available on the FRS National Resilience website. The intention of the SOP has been to standardise the use of chemical lights across capabilities at an operational incident and it is available to share with other agencies to ensure continued interoperability.

www.fireresilience.org.uk

A clear advantage for USAR and ISAR

Continuous improvement in tactics, training, techniques, equipment and innovation are obviously key elements of USAR strategy. All situations, even the most unpredictable, should be considered, trained for and anticipated.

Standardising training and operational equipment for USAR and ISAR is one solution to reducing risk. Marking hazards, safe areas or equipment with chemiluminescent products in preselected colours will bring a clear advantage for USAR and ISAR.

Cyalume® lighting solutions

Cyalume Light Technology asserts its position as the reliable safety partner for the safety market and more specifically for USAR and ISAR. The wide range of emergency light solutions provides improved security for both crewmembers and those injured people awaiting rescue.

As a world leader in chemiluminescent light for safety and security applications and holding more than 40 international patents, Cyalume Technologies provides 100 percent reliable lights, without any flame, spark, heat or gas emission. The company's goal is to develop solutions designed to save people's life with easy to use products.

All devices can be used in confined spaces, including ATEX environments, come with a five-year shelf life and contain no batteries. The Snaplight™ is always ready to use, works every time and is maintenance free!

Cyalume® commitments

Cyalume Technologies' constant investments in R&D contribute to a greener, safer environment; new patented formulations are non-toxic, non-flammable and phthalate free. Moreover, all Cyalume products are compliant with European REACH regulation on chemicals and their safe use.

The ISO 9001 production based in Massachusetts in the US, and France, meets and exceeds the highest level of technology requirements. In fact, Cyalume maintains its position as the sole manufacturer authorised to display NATO Stock Numbers (NSN) on its Chemlights.

The company's customer services in Europe and US ensure swift deliveries and help organisations find the correct solution for their needs.

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