

WORKSHOP – LOOKING AHEAD: LIGHTING FOR PREPAREDNESS

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Abstract

1. Motivation, specific objective

As a community associated with the research, design, application and operation of lighting, are we prepared for unusual or extreme events? At a micro scale, the level of individual buildings, then the answer is broadly yes. Emergency lighting is installed in many buildings to support occupant safety and egress in the event that a failure in electricity supply means there is no interior lighting. Emergency lighting has been the focus of research to establish what lighting qualities are needed, it has been the focus of life safety regulations, product design and installation, and is the ongoing focus of maintenance.

This workshop aims to initiate discussion about the macro scale by raising questions about the degree to which lighting is prepared for unexpected major events. In recent years, several events have occurred which placed large sections of society into crisis situations. The CIE needs to give guidance on how to governments, organizations, and individuals can plan ahead so that their lighting needs are met in times of unexpected circumstances.

One such major event was the Covid-19 pandemic. Here lighting has a direct role, with UV offering one means of infection control, and CIE responded by issuing a position statement to describe what should and should not be done with UV lighting (*Position Statement on the Use of Ultraviolet (UV) Radiation to Manage the Risk of COVID-19 Transmission*; available at cie.co.at/publications). Further discussion might be needed to consider how the CIE can support the world in having lighting that is ready for the next pandemic, and perhaps even to limit its effects.

In February 2023, a series of massive earthquakes hit Syria and Turkey, causing the collapse of many buildings. The immediate response to such an event is the search for survivors: a subsequent response is the provision of temporary accommodation for large numbers of displaced survivors. Preparation for this is unknown. For example, are there stockpiles of portable lighting to support the search for survivors? Are there suitable lighting systems ready for immediate use in temporary accommodation?

In addition to the immediate reaction, there may be a need to plan ahead for longer term responses. Some macro level events may cause disruption to the energy supply, either by increased costs or reduced availability: rather than switching off the road lighting in a city, CIE guidance might instead promote lower light levels, or the use of control systems to concentrate lighting on key transport routes so that the benefit of crash reduction is not entirely lost. There may be a need to plan for disruption to industry (and hence to national economies), requiring reconfiguration or repurposing of industrial and commercial spaces, requiring backup lighting systems in the same way that emergency lighting is installed for disruption to power supplies.

These are examples of circumstances for which preparations might be made, but there may be others. How the lighting community can assist in preparedness is a new topic to many of us.

2. Methods

This will be a workshop with a number of short presentations to set the scene, followed by a mediated open discussion.

3. Results

Output from the workshop to be fed as input into CIE Research Strategy and/or Divisional work plans.

4. Conclusions

The workshop will be considered successful if it leads participants to think about the preparedness of lighting.