Industry Committee for Emergency Lighting

TECHNICAL STATEMENT

Recommended consultation between the duty holders, Project manager and the Emergency Lighting system engineers as per BS 5266-1: 2016

Aim to produce an emergency lighting system suitable for the User and Fire Risk Assessor.

The following input from the Duty holder and their risk assessor will assist the emergency lighting engineer to offer a system that not only complies with legal requirements but is also compatible with their operational needs.
These guidelines relate to both new buildings and evaluation of existing premises,
The principle is that as part of the consultation process

- The risk assessor should define the need and specific conditions to be met for the premises,
- The emergency lighting design engineer then makes a proposal supported by suitable justification of a system they recommend to meet the application.
- The duty holder should then check the design meets the site needs and agrees to its adoption as being appropriate in the risk assessment for the site

Information from the user/Duty holder that is ideally needed for all emergency lighting systems that should be agreed at the consultation stage to be achieved by the risk assessment.

Details of the premises including-

- Is it a new building or is it an upgrade of an existing premises?
- Drawings of the premises, if possible with details of changes of level of escape routes.
- The agreed exit routes.
- Details of passive protection and the siting of fire doors.
- Details of any building management or door entry systems
- Information of the normal lighting system and its lighting controls
- Any external hazards from the building which need protection.
- Any changes in the premises since the original design was produced

Details of premises occupants

- Numbers of occupants and hours of occupation
- Location of occupants to be protected. (It may be decided to exclude locked areas)
- Details of any disabled occupants and location of any disabled refuges and their communication facilities.
- Information on the protection of occupants such as the young or aged who may need assistance.

Details of specific activities

- Type of activities in the premises and any areas of hazard at very low light levels and particularly any areas of high risk hazard identified by a Health and Safety inspector.
- Details of any changes in use since the original system was designed.
- Details of any sleeping risk areas
- Details of any entertainment areas particularly those offering facilities for the consumption of alcohol or cinema or theatres requiring compliance with respective licensing.
- Sports facilities with details of types of sport and whether participants and /or spectators need protection and if the facility needs to be licensed.

Details of the user's operation procedures and preferences

- Should the system operate as a maintained or non-maintained system are any switching controls needed
- Should the system be designed for automatic testing or will it be acceptable to be manually tested.(automatic testing is strongly recommended by BS 5266-1 2016 for safety emergency systems as they rely on full design duration being available)

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Additional information needed for the safety emergency lighting consultation stage if the user intends to allow occupants to remain in the premises during a mains lighting supply failure

<u>BS 5266-1 2016 New Condition.</u> User action to be taken in normal mains lighting supply failure

- If the premises are to be evacuated immediately then emergency escape lighting is acceptable
- However, if either full or partial continued occupation of the premises is allowed, then in addition to emergency escape lighting additional emergency safety lighting is likely to be needed.

Emergency Safety lighting recommends procedures to protect these occupants these may include.

- Allow occupants to stay in a premise for 2 hours then evacuate them
- Use the emergency lighting to escort the occupants to a low risk location
- If the risk is minimal for example in daylight hours.

These systems may require higher light levels than for emergency escape lighting these higher light levels may be needed either for safety or to assist user's procedures the emergency lighting supplier can propose suitable luminaires to meet the light levels needed.
Typical emergency safety light levels are given in BS 5266-1 which are suitable for use in these emergency conditions they should however be risk assessed (they need to be above the mandatory escape requirements of EN 1838)

- Low light to enable occupants to observe and operate exit signs, fire, door entry controls and disabled refuge call points at least 5 lux at the device
- Medium light to enable occupants to read typed document for example a Doctors or hotel receptionist at least 15 lux at the object
- High light levels for more detailed activities at least 50 lux at the object

In addition to the light levels the activation response time and minimum duration should be decided upon BS 5266-1 2016 Annex E gives more information.

In the event of unusual application conditions, it may be appropriate to conduct field tests to confirm the appropriate lighting level for the application.

These activities are normal work activities but if physical risk is present then a health and safety expert should define the light levels required but they should be at least 10% of the normal mains lighting and be provided within 0.5 seconds of the normal lighting supply fails.

Liaison between the Emergency lighting systems engineers and other fire protection suppliers should be conducted to ensure that the systems are compatible and support each other's functions.
(Either by information from the risk assessor or direct the other protection suppliers)

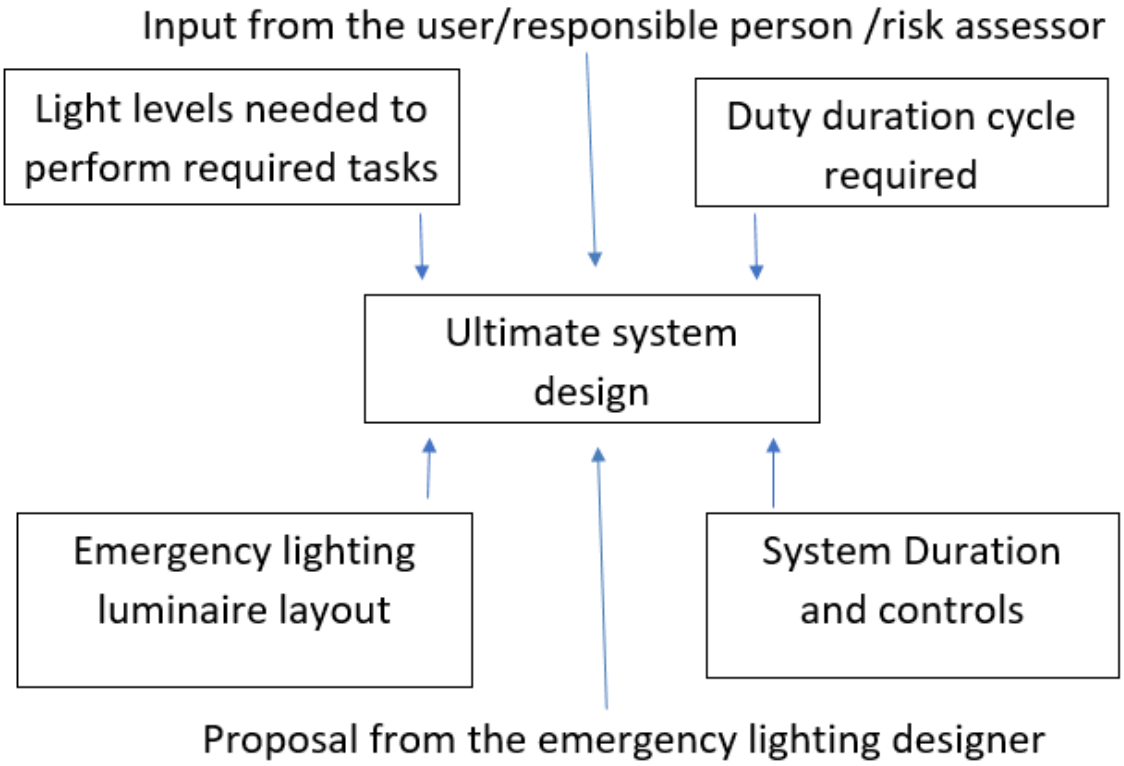
- Fire alarm location of control panels, repeaters and call points it is also useful to detail the fire alarm design category and confirm that the escape routes used in the fire alarm and the emergency lighting are consistent.
- Extinguisher design to confirm that the emergency lighting will show the location of the extinguisher and allow its format to be read.
- Electric door entry controls so they can be located in supply failures, if the system is under manual control for example by a building management system then adequate illumination is likely to be needed.

Based on this information the emergency lighting engineer should propose a system and be able to demonstrate how the design meets the customers' requirements
Information to be given by the emergency lighting supplier to enable the risk assessor to appreciate the options of protection available from emergency lighting systems.

To enable duty holders to justify their design of the emergency lighting to an inspecting authority they should –

- If required be able to demonstrate and be able to verify the light output levels of various product options
- Be able to demonstrate that both Self-contained and or Central systems and luminaires comply with the relevant product standards
- Be able to offer appropriate emergency lighting controls and testing systems.
- Be able to demonstrate how the proposed emergency lighting system is compatible with the other fire safety precautions designed for the premises.

Diagram of design liaison for safety emergency lighting systems



This design should be then evaluated against the risk assessment to confirm that it compensates for any risks identified on the site

In a typical specific location that needs an evaluation at the consultation phase on the protection needed to compensate for the risks using advice from the competent emergency lighting engineer.

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Example of how the risk assessment process applies to a specific application problem Balcony exit routes from flats or apartments.
Some factors to be considered

- **How difficult is it to travel from an occupant's front door to a place of safety?**

This would consider the length of the route the accessibility of stairs and the height above ground

- **What height is balcony above ground?**

And how difficult would access be for the rescue services.

- **Does the balcony route have normal mains lighting and if so is it timer controlled?**

If mains lighting is installed it is an indication that emergency illumination is also likely to be needed. (If not on safety grounds this should also be considered.)

- **Are the stairs enclosed or open to natural light?**

Changes of level are likely to be a major hazard

- **Is the route clear and unobstructed at all times?**

Some balconies are used to store plants or children's toys/prams these are likely to cause an obstruction requiring emergency illumination

- **Are any of the occupants disabled?**

If any occupants have mobility or vision difficulties

- **Is the balcony the only route for both normal and emergency use?**

If the route is only for emergency use have arrangements been made to ensure access is unimpeded at all times

- **What level of protection is needed from weather and possible vandals?**

The luminaires controls and wiring need to be suitably protected

- **Are there any other specific hazards that need consideration?**