

# MSC Guidelines for Review of Lighting Systems and Components

Procedure Number: E2-14

Revision Date: 01/28/00

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## References:

- a. Title 46 CFR 111.75 “Lighting Circuits and Protection”
- b. Title 46 CFR 112.43 “Emergency Lighting Systems”
- c. IEEE Std 45-1983, “Recommended Practice for Electric Installations on Shipboard”
- d. Navigation and Inspection Circular (NVIC) 2-89, “Guide for Electrical Installations on Merchant Vessels and Mobile Offshore Drilling Units”. (See <http://www.uscg.mil/hq/g-m/nvic/index.htm>)

## Disclaimer

These guidelines were developed by the Marine Safety Center staff as an aid in the preparation and review of vessel plans and submissions. They were developed to supplement existing guidance. They are not intended to substitute or replace laws, regulations, or other official Coast Guard policy documents. The responsibility to demonstrate compliance with all applicable laws and regulations still rests with the plan submitter. The Coast Guard and the U. S. Department of Transportation expressly disclaim liability resulting from the use of this document.

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## Contact Information

If you have any questions or comments concerning this document, please contact the Marine Safety Center by e-mail or phone. Please refer to the Procedure Number: E2-14.

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## General Review Guidance

- ❑ Lighting shall be arranged such that a fire in one main vertical zone does not interfere with the lighting in another fire zone. (Title 46 CFR 111.75-1(a))
- ❑ Lighting for machinery spaces shall be powered via two or more feeders; one of the feeders shall be from the ship’s service switchboards. (Title 46 CFR 111.75-1(b))

## MSC Guidelines for Review of Lighting Systems and Components (cont'd)

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- ❑ Branch circuits of a lighting distribution panel shall not exceed 30 amps. (Title 46 CFR 111.75-5(a))
- ❑ The connected load of a lighting branch circuit shall be less than 80% of the branch circuit overcurrent protection. (Title 46 CFR 111.75-5(b))
- ❑ Lighting fixtures must be powered by a lighting branch circuit and protected by overcurrent protection not to exceed 20 amps except:
  - ❑ 25 –30 amp circuits for fixed, nonswitched lighting fixtures for cargo holds or deck lighting with mogul type lampholders
  - ❑ Other lamps requiring 300 watts of power. (Title 46 CFR 111.75-5(c) - (e))
- ❑ Lighting circuits in passageways, public spaces and berthing compartments accommodating 25 or more persons shall be divided into two circuits; one may be an emergency lighting circuit. (Title 46 CFR 111.75-15(a))
- ❑ Lighting circuits for machinery spaces shall be arranged such that failure of a branch circuit does not leave an area without light. (Title 46 CFR 111.75-15(b))
- ❑ Lighting for survival and rescue craft launch stations shall be fed from an emergency power source. Adjacent launching stations shall be fed from separate branch circuits. (Title 46 CFR 111.75-16)
- ❑ Emergency lighting circuits shall not have a switch except for the breaker at the distribution panel or as required for hazardous spaces. (Title 46 CFR 112.43-1)
- ❑ The emergency lighting for open decks, navigation bridge ,chartroom, fire control room and navigation equipment room must be powered from a distribution panel located on the bridge. (Title 46 CFR 112.43-7)
- ❑ Separate emergency lighting feeders shall be provided for any two adjacent fire zones. The emergency lighting feeders shall be separated as widely as possible from the general lighting feeders. (Title 46 CFR 112.43-15)

## MSC Guidelines for Review of Lighting Systems and Components (cont'd)

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- ❑ Passenger and crew spaces shall be provided with adequate normal lighting and sufficient emergency lighting to provide for safe egress from each space and damage control. (Title 46 CFR 111.75-15(b))
  - ❑ Each crew berth must have a fixed berth light that is not wired with a flexible cord. (Title 46 CFR 111.75-15(d))
  - ❑ Lighting fixtures for non-hazardous locations must conform to one of the following standards: (Title 46 CFR 111.75-20(a))
    - ❑ UL 595 (expires May 3, 1999)
    - ❑ UL 1570
    - ❑ UL 1571
    - ❑ UL 1572
    - ❑ IEC 92-306
  - ❑ Each globe, lens or diffuser must be made of high strength material except in a accommodations space, bridge, gyro room, radio room, galley or other location where it is not subject to damage. (Title 46 CFR 111.75-20(b))
  - ❑ Lighting fixtures may not serve as a connection box for other than the branch circuit supplying the fixture. (Title 46 CFR 111.75-20(c))
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Attachments:

- ❑ None