

LED-Based Red Obstruction Lights

Presented to: Illuminating Engineering Society of North America
Aviation Lighting Committee

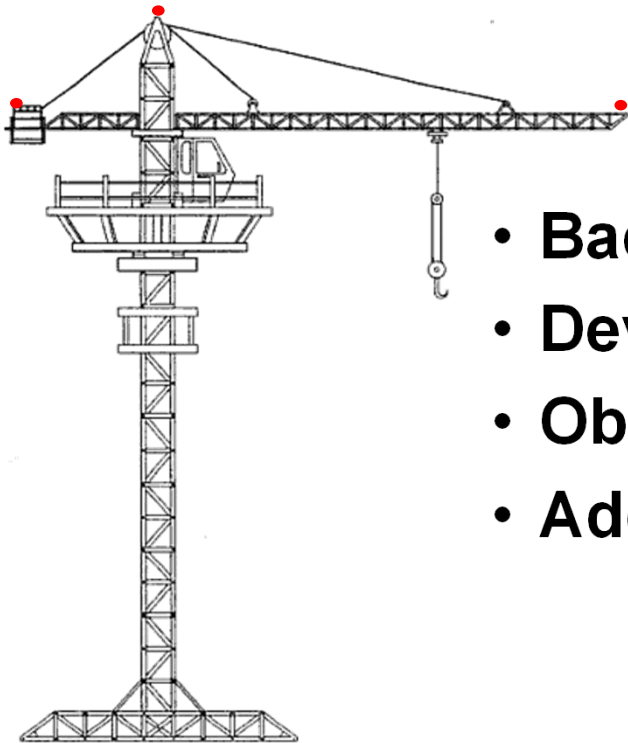
By: Michael Helvey

Date: October 22, 2019



**Federal Aviation
Administration**

Agenda



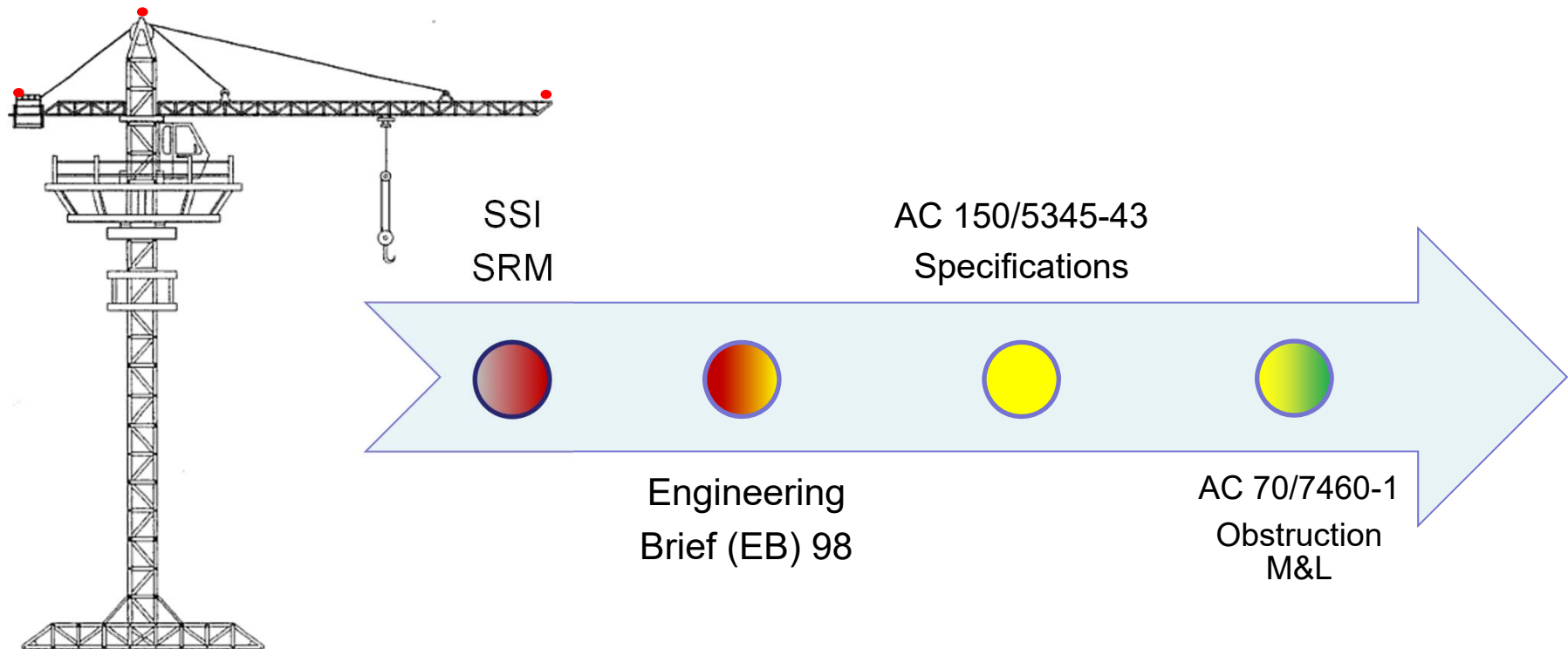
- **Background on LED Obstruction Lights**
- **Development of Standards**
- **Obstruction Marking and Lighting**
- **Additional Considerations**





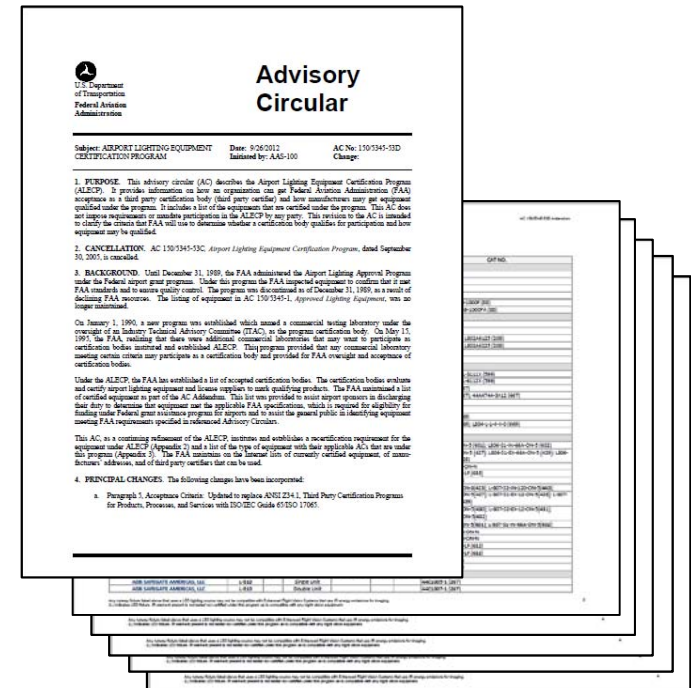
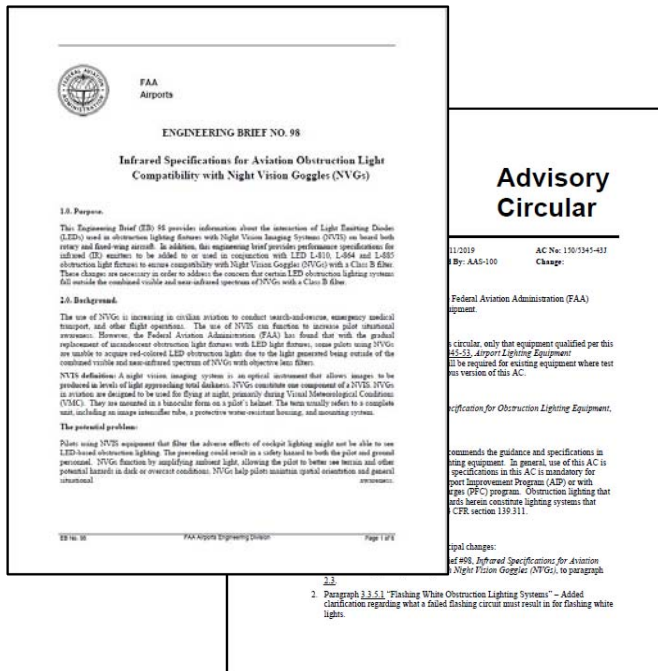
Figure 1. Radio Tower Night. Adapted from Deviant Art, 2019. Retrieved from:
<https://www.deviantart.com/mclelun/art/Radio-Tower-Night-681637195>

Background



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Development of Standards



Obstruction Marking and Lighting



Advisory Circular

Subject: Obstruction Marking and Lighting Date: 8/1/18
Initiated By: [Redacted]

1. Purpose. This Advisory Circular (AC) sets forth standard obstruction marking and lighting requirements that have been determined to be a hazard to aircraft operations. The date of the change material is located at the top of 70/7460-1L, is effective September 6, 2018.

2. Principal Changes.

a. Page 5-2. Addition of Paragraph 2. In response to a Safety Risk Assessment of LED Lighting in Aircraft Operations, the FAA has established IR specifications for LED-based red obstruction lights. Specifications are contained in Airport Engineering Brief 98, *Infrared Specifications for Aviation Obstruction Light Compatibility with Night Vision Goggles (NVGs)*, published December 18, 2017, and AC 150/5345-43H, *Specification for Obstruction Lighting Equipment*, dated September 28, 2016.

b. Reporting Requirements. Updated AE Figure in

3. Application.

The FAA recommends the guidelines and standards in proper way to light and mark obstructions affecting aircraft operations. The FAA does not intend to establish a regulatory requirement, in general, to use new reporting and type of construction or alterations of a National Airspace System (NAS) is required under the Federal Aviation Regulations to notify the FAA by completing Obstruction or Alteration Data (FAA Form 7460-1), mandatory as part of the FAA's determination and decision to issue a permit, as required.

4. Comments or Suggestions.

Direct comments or suggestions regarding this AC to: Manager, Obstruction Evaluation Group Federal Aviation Administration ATTN: APT-15 800 Independence Avenue, S.W. Washington, DC 20591

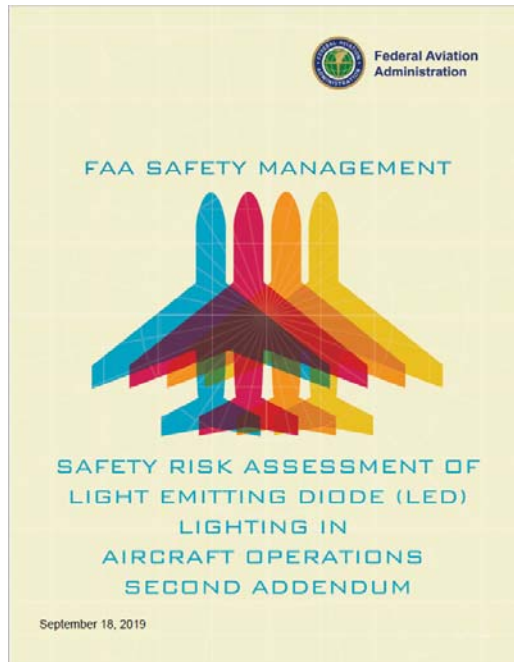
Note: In response to a Safety Risk Assessment of LED Lighting in Aircraft Operations, the FAA has established IR specifications for LED-based red obstruction lights. Specifications are contained in Airport Engineering Brief 98, *Infrared Specifications for Aviation Obstruction Light Compatibility with Night Vision Goggles (NVGs)*, published December 18, 2017, and AC 150/5345-43H, *Specification for Obstruction Lighting Equipment*, dated September 28, 2016.

AC 70/7460-1L Change 2



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Additional Considerations



- 1. New structures**
- 2. System replacement**
- 3. Fixture replacement**
- 4. Subcomponent replacement**



For more information on FAA's OE Program

https://www.faa.gov/air_traffic/obstruction_evaluation/



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