

# Office of Airport Safety and Standards Update

IESALC Spring Meeting  
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# Agenda

- Overview
- FAA LED Significant Safety Issue (SSI)
- Advisory Circular Updates
- Engineering Brief Updates
- AC 150/5345-53D Addendum (Certification Process)



# Function within the Office of Airports (ARP)

- **ARP Functions:**
  - Planning and Programming
  - Financial Assistance
  - **Airport Safety and Standards**
- **Office of Airport Safety and Standards (AAS)**
  - Engineering Standards
  - Operational Safety and Inspections



# Engineering Standards

- **Standards and Guidance**
  - Advisory Circulars (ACs) / Engineering Briefs (EBs)
- **Subjects**
  - Airport/Heliport/Seaplane Base Design and Construction
  - Pavement Design and Management
  - Lighting, Markings and Signs
  - New Technology



# Standards and Guidance

- Advisory Circulars (ACs) / Engineering Briefs (EBs)

The screenshot shows the FAA website's 'Series 150 Advisory Circulars (ACs) for Airport Projects' page. The page features a search bar, navigation tabs, and a table of 'New & Revised ACs'. The table lists the following ACs:

Number	Title	Publication Date
<a href="#">150/5370-17</a>	Airside Use of Heated Pavement Systems (posted 3/31/2011)	3/29/2011
<a href="#">150/5340-1K</a>	Standards for Airport Markings (posted 3/22/2011)	9/3/2010

Below the table, there is a section for 'Draft ACs' with a table that includes columns for 'Number', 'Title', and 'Deadline for Comments'. The page also includes a 'View All' section with options for 'Current', 'Cancelled', 'Drafts', and 'Other FAA ACs', and a 'Top Requests' section listing various ACs.

[http://www.faa.gov/airports/resources/advisory\\_circulars/](http://www.faa.gov/airports/resources/advisory_circulars/)



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# Administrator's Strategic Initiative

- In FY15, FAA LOBs (ATO, AVS, ARP) established formal, repeatable processes to identify Significant Safety Issues (SSI) as part of Activity 2b within the Risk-Based Decision Making (RBDM) Strategic Initiative.
- An FAA SSI Team established a process to prioritize the LOB/SO lists and developed a prioritized list of 10 FAA-level, cross-organizational SSI.
- The FAA SMS Executive Council agreed to apply cross-organizational resources to conduct comprehensive safety risk assessments for:
  - Light Emitting Diodes (LED) Lighting of Airfields, Obstacles, and Aircraft



# LED SSI Preliminary Hazard Analysis (PHA)

- LED SSI PHA Team was assembled in Nov 2015 to conduct a safety analysis on the LED SSI and identify hazards.
- Team conducted preliminary hazard analysis (PHA) on the LED SSI, including:
  - Broad look at entire LED SSI issue
  - Identification of hazards
  - Risk analysis
  - Recommended prioritization of hazards
- Team is conducting an in-depth study on those hazards that fell in the "yellow" to develop mitigation strategies and risk controls for the hazards identified.



# Hazards being studied

- AAS-100 is the Office of Primary Responsibility (OPR) for the following hazards.
  - i. FY15\_SSI\_LEDPHA\_01: LED-lit Obstacle Detection (with NVGs)
  - ii. FY15\_SSI\_LEDPHA\_05: Stroboscopic Effect
  - iii. FY15\_SSI\_LEDPHA\_06: Loss of Sight of LED Airport Lighting





# Advisory Circular Updates



# AC 150/5340-1L

- New guidance on NO-TAXI islands to mitigate runway incursion



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## Advisory Circular

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**Subject:** Standards for Airport Markings

**Date:** 9/27/2013

**AC No:** 150/5340-1L

**Initiated by:** AAS-100

**Change:**

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1. What is the purpose of this advisory circular (AC)?

This advisory circular (AC) contains the Federal Aviation Administration (FAA) standards for markings used on airport runways, taxiways, and aprons.



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# AC 150/5340-30J

- Changes are made to light spacing to support new taxiway fillet geometry



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## Advisory Circular

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**Subject:** Design and Installation Details  
for Airport Visual Aids

**Date:** DRAFT  
**Initiated by:** AAS-100

**AC No.:** 150/5340-30J  
**Change:**

1. **Purpose.**  
This advisory circular (AC) provides guidance and recommendations on the installation of airport visual aids.



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# AC 150/5345-43H

- New “Flashing” red obstruction light, L-810 (F) introduced to meet the new requirements in the FAA AC 70/7460-1L



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## Advisory Circular

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**Subject:** Specification for Obstruction Lighting  
Equipment

**Date:** 9/28/2016

**Initiated By:** AAS-100

**AC No:** 150/5345-43H

**Change:**

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1 **Purpose.**

This advisory circular (AC) contains the Federal Aviation Administration (FAA) specification for obstruction lighting equipment.



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DRAFT EB-XX

“Aviation Obstruction and Ground Lighting  
Visibility with Night Vision (NVIS) Systems”



# DRAFT EB-XX

- Engineering Brief - “Aviation Obstruction and Ground Lighting Visibility with Night Vision Imaging Systems (NVIS)”
  - Draft Engineering Brief allows infrared emitters to be optionally included in LED obstruction lighting fixtures.
  - FAA Airport Safety R&D Section is conducting research to determine performance specifications for IR emitters to be incorporated into LED obstruction light fixtures.
  - The specifications for the IR emitters will support the operational requirement for LED-lit obstruction lights to be visible to operators in AC 7460-1 “*Obstruction Marking and Lighting*”.
  - AAS-100 plans to incorporate the research findings and release the IR Engineering Brief for internal FAA and industry review.



# EB-83

## “In Pavement Light Fixture Bolts”



# EB-83 Updates

- Update clamping load required based on newer larger aircraft in fleet mix.
- Airport shall determine the torque necessary for their system.
- Update based on re-evaluation of the number and thickness of spacer rings.





## DRAFT EB-95

“Additional Siting and Survey considerations for Precision Approach path Indicator (PAPI) and Other Visual Glide Slope Indicators (VGSI)”



# New requirements in FAA Order 8200.1D

- **FAA Order 8200.1D, *United States Standard Flight Inspection Manual*, defines PAPI Obstacle Clearance Surface (OCS) penetration evaluation criteria to be checked by the flight inspectors during the PAPI commissioning process. The updated document defines two new requirements:**
  - FAA Flight Inspection will evaluate OCS penetrations to 8 nm from threshold for Type L-880 (4-box) PAPI, and may be reduced to 4 nm for a Type L-881 (2-box) PAPI.
  - Extends the evaluation of the obstacle clearance within the lateral limits of the visible light beam, even if it means going outside the standard 10 degree to 10 degree obstacle protection area centered on the runway.



# DRAFT EB-95

- **The new OCS penetration evaluation criteria defined in the updated FAA Order 8200.1D has caused several failed FAA flight inspections during airport PAPI commissioning.**
- **AAS-100 is developing a new Engineering Brief - EB 95 to clarify the new OCS penetration evaluation criteria.**
  - EB-95 will define a new survey methodology to ensure that there is no obstruction inside the “lateral limit of the visible light beam”
  - EB-95 will define appropriate baffle angles to meet the new PAPI OCS penetration evaluation requirements.



# **AC 150/5345-53D Addendum, *Airport Lighting Equipment Certification Program Addendum***

- Contains a complete update of the certified equipment and manufacturers lists.
- Equipment not listed here, but listed in prior addendums to the advisory circular are no longer certified.



# AC 150/5345-53D Addendum

October 16, 2013

AC150/5345-53D Appendix 1 Addendum

## APPENDIX 1. THIRD PARTY CERTIFICATION BODIES.

**The following Third Party Certification Bodies (Third Party Certifiers) have met the requirements contained in ADVISORY CIRCULAR 150/5345-53D, AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM, dated 09/26/12 and have been accepted as Third Party Certifiers under the Airport Lighting Equipment Certification Program.**

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