

# **INTERTEK AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM**

## **IESALC Government Contacts Subcommittee Meeting**

**Virtual Meeting April 14, 2021**

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# INTRODUCTION



- **Purpose / Outline**

- Applicability of ALECP
- Update of Current Program Status
- Update on Current Initiatives



# AIRPORT LIGHTING EQUIPMENT CERTIFICATION

Certification Program covers all equipment specified in the FAA AC 150/5345 series:

- Rotating Beacons
- Obstruction Lights
- Wind Cones
- Isolation Transformers
- Taxiway/ Runway Inpavement and Elevated Lights
- Retroreflective Markers
- Cable Connectors
- Underground Cable
- Runway & Taxiway Signs
- Portable Runway Lights
- Light Bases
- Constant Current Regulators
- Precision Approach Path Indicators (PAPI)
- Runway End Identification Lights (REIL)





# ALECP PURPOSE AND APPLICABILITY

- **Purpose is to assist in enhancing aviation safety by:**
  - Insuring good quality, reliable, airfield lighting products
  - Verifying equipment performance so that all pilots receive reliable, standardized visual queues.
  
- **Applicability of ALECP Certification**
  - **Airfield Lighting Products:**
    - Only FAA acceptable means to satisfy Title 14 CFR Part 139 Section 139.311 Certification of Airports
    - Mandatory for all projects funded by Federal AIP for PFC monies
    - Widely used around the world to insure a standard level of performance

# ALECP PURPOSE AND APPLICABILITY

- **Applicability of ALECP Certification**

- **Obstruction Lighting Products:**

- **FAA Regulations - 14 CFR Part 77**

- 77.7 – Specifies the requirements for notifying the FAA of construction or alteration of an obstruction.
  - FAA Form 7460-1, Notice of Proposed Construction or Alteration
- 77.9 - Specifies what types of construction requires notification to the FAA.
- 77.17 – Provides the definitions of obstructions.
- 77.29 – Describes the aeronautical study that the FAA does to evaluate the impact of the proposed obstruction.
- 77.31 – Describes the determination that FAA makes for each obstruction.
  - Determination of No Hazard to Air Navigation is issued with conditions including the lighting and marking.
- 77.33 – Determination of No Hazard to Air Navigation is good for 18 months.





# ALECP PURPOSE AND APPLICABILITY

- **Applicability of ALECP Certification**

- **Obstruction Lighting Products:**

- **FAA AC 70/7460-1M**

- Describes how obstructions must be marked and lighted

- Section 15.4 states that lighting equipment should conform to the latest version of FAA AC 150/5345-43.

FAA AC 150/5345-53 lists the manufacturers that have demonstrated compliance

Other manufacturers' equipment may be used if it meets the requirements of -43



# CURRENT ALECP PROGRAM STATISTICS

- 57 program participants
  - (7 pending)
- 62 licensed manufacturing facilities
  - (8 pending)
- Certifications since the Spring Government Contacts Meeting in May 2020
  - 55 new or full re-qualification certificates
  - 46 revised certificates
  - 71 de-listings



# ALECP PROGRAM STATUS

## COVID – 19

Testing activity remains operational with necessary precautions

Client visits are possible with necessary precautions

Intertek visits at client facilities are possible with necessary precautions

Delayed inspections due to travel restrictions

Some inspections are being done remotely

Remote test witness available until 12/2021





# ALECP PROGRAM STATUS – COMMON QUESTION

## Lens / Light Transmitting Cover Compliance

- MIL-C-7989B (Covers, Light-Transmitting, For Aeronautical Lights, General Specification For) - 1971
  - Class B – 28H PAPI (LED PAPIs are exempt from the requirement)
  - Class B, C, or D – 46E Runway and Taxiway Lights
  - Class A for glass, D for plastic - 51B REILs and ODALs
  - Class B for glass, D for plastic – 12F Beacons
  - MIL-DTL-7989C (2006) – 43J Obstruction Lights



# ALECP PROGRAM STATUS – COMMON QUESTION

## Lens / Light Transmitting Cover Compliance

- MIL-C-7989B

Class A - Annealed Glass

Class B - Heat Resistant Glass

Class C - High Impact Strength Glass

Class D - Plastic



# ALECP PROGRAM STATUS – COMMON QUESTION

## Lens / Light Transmitting Cover Compliance

- MIL-C-7989B
  - NOT RELATED WEATHERING (UV or OZONE) RESISTANCE

requirement	paragraph	compliance verification
Preproduction test methods	4.5	qualification testing
visual examination	4.5.1	NA, covered by applicable FAA AC
Chromaticity and transmission or brightness ratio	4.5.2	NA, covered by applicable FAA AC
Coloring	4.5.3	NA, covered by applicable FAA AC
Dimensions	4.5.4	NA, covered by applicable FAA AC
Heat resistance	4.5.5.1	for class A, B, C; 1 hour operation, immersion or spray with 10C water
temperature shock	4.5.5.2	for class B and C; 100C, immersion in 0 to 5C water
Class D heat test	4.5.5.3	for class D only; 60C for 6 hours
Specific gravity	4.5.6	for class D only
water absorption	4.5.7	for class D only
Diffusion	4.5.8	brightness ratio of diffusing covers per MIL-C-25050



# NEW SPECIFICATIONS

## Cancelation dates:

Each new AC states that it cancels the previous version

## Effective dates:

FAA AC 150/5345-53D section 12.a.v

The previous equipment certificates automatically expire on the given effective date.

Effective dates are usually six months from the issue date.



# DRAFT SPECIFICATIONS

## FAA AC 150/5390-2D Heliport Design

Comments were due April 5, 2021

### Principal Changes

Complete re-organization

Incorporation of FAA EB87 (Heliport Perimeter Lights For Visual Meteorological Conditions (VMC)-January 2012) as Appendix F

# DRAFT SPECIFICATIONS



## FAA AC 150/5390-2D

### Applicable Lighting:

L-853 Retroreflective Markers (FAA AC 150/5345-39D)

L-806 Wind cones (FAA AC 150/5345-27E)

L-852T and L-861T Taxiway edge lights (FAA AC 150/5345-46E)

L-852 Taxiway centerline lights (FAA AC 150/5345-46E)

L-801H/802H Heliport beacon (FAA AC 150/5345-12F)

L-882/883 – VGSI (Visual Glideslope Indicator) (FAA AC 150/5345-52A)

HILS (Heliport Instrument Lighting System) – 200W PAR 56

HALS (Heliport Approach Lighting System, or lead-in lights) - 200W PAR 56

L-860HR - Raised heliport perimeter light

L-860HS - Semi-flush heliport perimeter light

# DRAFT SPECIFICATIONS

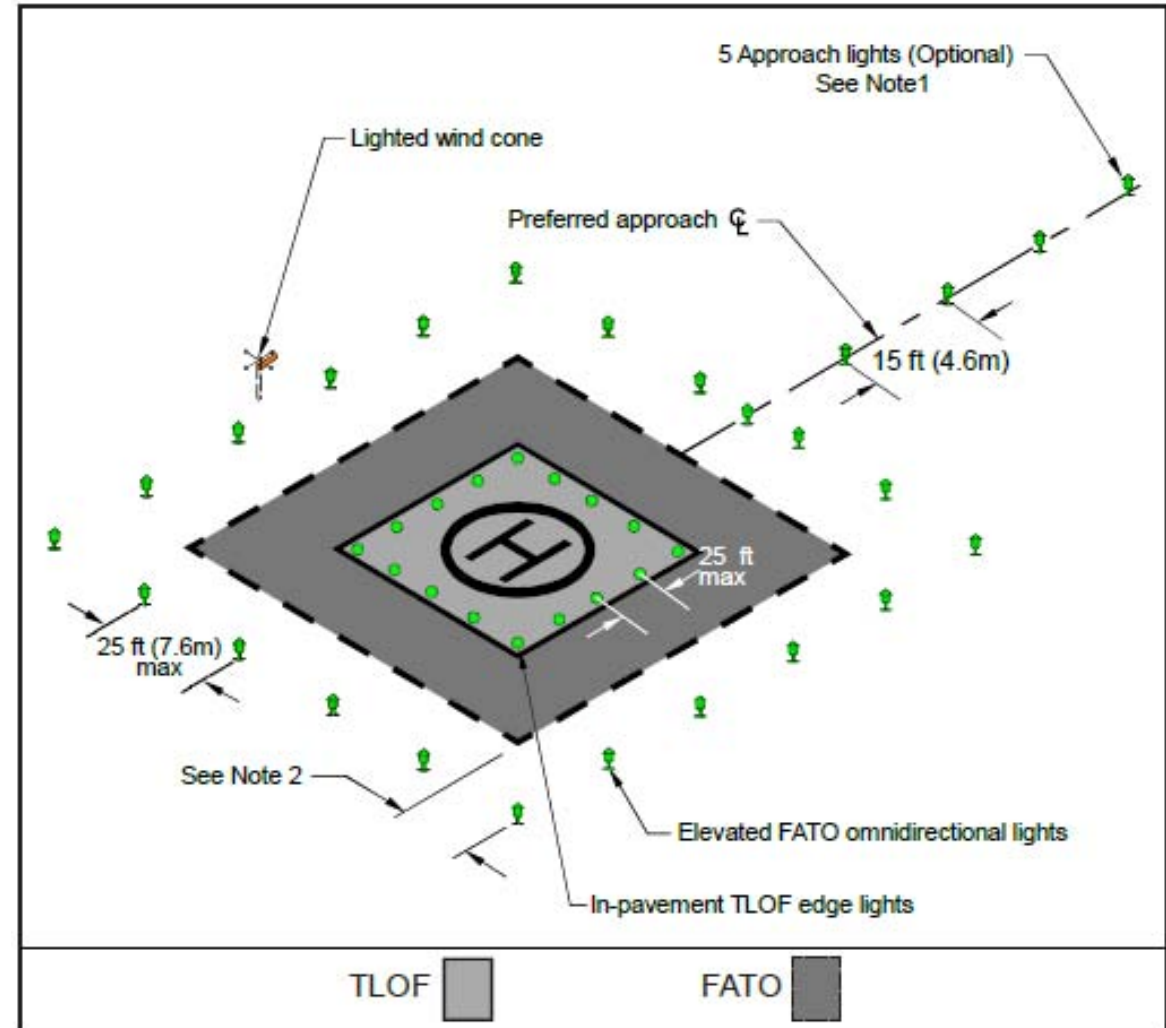


FAA AC 150/5390-2D (continued)

FAA EB 87 / Appendix F

- L-860HR – raised heliport perimeter light
- L-860HS - semi-flush heliport perimeter light

Figure 4-10. TLOF In-pavement and FATO Elevated Perimeter Lighting





# DRAFT SPECIFICATIONS

## FAA AC 150/5390-2D (continued)

### FAA EB 87 / Appendix F

- L-860HR – raised heliport perimeter light
- L-860HS - semi-flush heliport perimeter light

Photometric and configuration requirements are provided.

Field testing is required after laboratory verification.

Design and testing requirements found in FAA AC 150/5345-46E and FAA EB67D apply.

FAA AC 150/5340-30J and FAA AC 150/5345-42J are referenced for installation.



# DRAFT SPECIFICATIONS



## FAA AC 150/5345-27F

Comments were due in November 2020.

### **Principal changes:**

Just minor editorial and formatting changes included in the draft.

No additional testing required unless items are introduced through review process.



ILLUMINATING ENGINEERING SOCIETY  
AVIATION LIGHTING COMMITTEE