Briefing on Update to FAA AC 150/5390-2D Heliports

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Airport Engineering Division

- Maintain over 80 of the airport series (150/5xxx) advisory circulars
  - Standards for airport design, safety, construction, equipment, airfield lighting, signage and marking, and airfield pavements that are required for projects using AIP funds
  - Global leadership in international standards through ICAO
  - Maintain engineering briefs for additional guidance for airport projects.
  - Approves requests for modification of design or construction standards for individual projects.
Caveat

This summary briefing presents preliminary draft information for the Heliport Design AC and is subject to change.

Industry review and comment period is pending once draft AC is distributed to helicopter industry organizations and interested parties.
Purpose of the Heliports Design AC

To provide a comprehensive guide on heliport design to heliport owners and operators for all types of heliports.
AC Table of Contents

Chapter 1: Introduction
Chapter 2: Heliport Design
Chapter 3: Heliport Taxiways, Taxi Routes and Helicopter Parking
Chapter 4: Heliport Markings and Lighting
Chapter 5: Heliport Facilities on Airports
Chapter 6: Instrument Operations
Chapter 7: Heliport Site Safety Elements
Schedule for Revised Heliport Design AC
Approximate Timeline for Completion of Draft AC

1. Industry Review period  *(January-April 2021)*
2. Adjudication of industry comments  *(May 2021)*
3. Complete final draft AC  *(June 2021)*
4. Legal review *(June-July 2021)*
5. Adjudication of Legal Review comments  *(August 2021)*
6. Publish final AC *(September 2021)*
Summary of Changes to Heliport Design AC
Summary of Changes to Heliports AC

1. Separate chapters on General Aviation, Transport and Hospital Heliports are now consolidated into one chapter
2. Eliminate redundant information
3. Clearly present design guidance for each heliport component
4. Add separate chapters for Taxiways / Heliport Marking and Lighting
5. Improve figures
6. Include Hyperlinks
### Table 2-1. TLOF/FATO Minimum Dimensions

<table>
<thead>
<tr>
<th>Dim</th>
<th>Item</th>
<th>GA</th>
<th>TRANSPORT</th>
<th>HOSPITAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>TLOF Length</td>
<td>1 RD</td>
<td>1 RD but not less than 50 ft (15 m)</td>
<td>1 RD but not less than 40 ft (12 m)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>TLOF Width</td>
<td>1 RD</td>
<td>1 RD but not less than 50 ft (15 m)</td>
<td>1 RD but not less than 40 ft (12 m)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>FATO Length</td>
<td>1 ½ D 🅱️</td>
<td>2 RD but not less than 200 ft (60 m)</td>
<td>1 ½ D 🅱️</td>
</tr>
<tr>
<td>E</td>
<td>FATO Width</td>
<td>1 ½ D</td>
<td>2 RD but not less than 100 ft (30 m)</td>
<td>1 ½ D</td>
</tr>
<tr>
<td>F</td>
<td>Separation between TLOF and FATO perimeters</td>
<td>¾ D – ½ RD</td>
<td>¾ D – ½ RD</td>
<td>¾ D – ½ RD</td>
</tr>
<tr>
<td>G</td>
<td>Safety Area Width</td>
<td>See Table 2-8</td>
<td>½ RD but not less than 30 ft (9 m)</td>
<td>See Table 2-9</td>
</tr>
</tbody>
</table>
Enhanced/Simplified Figures

Current AC figure

New AC figure

Note: Draw layout diagrams to scale with key dimensions shown as TLOF size, FATO size, safety area size, distances from safety area perimeter to property edges, etc.
Example of Consolidated Figures and Tables

Table 2-1. TLOF/FATO Minimum Dimensions:

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>TLOF Length</td>
<td>1 RD</td>
<td>1 RD but not less than 100 ft (30 m)</td>
<td>1 RD but not less than 40 ft (12 m)</td>
</tr>
<tr>
<td>B</td>
<td>TLOF Width</td>
<td>1 RD</td>
<td>1 RD but not less than 50 ft (15 m)</td>
<td>1 RD but not less than 40 ft (12 m)</td>
</tr>
<tr>
<td>C</td>
<td>FATO Length</td>
<td>1½ D</td>
<td>2 RD but not less than 100 ft (30 m)</td>
<td>1½ D</td>
</tr>
<tr>
<td>E</td>
<td>FATO Width</td>
<td>1½ D</td>
<td>2 RD but not less than 100 ft (30 m)</td>
<td>1½ D</td>
</tr>
<tr>
<td>F</td>
<td>Separation between TLOF and FATO perimeters</td>
<td>½ D – ½ RD</td>
<td>½ D – ½ RD</td>
<td>½ D – ½ RD</td>
</tr>
<tr>
<td>G</td>
<td>Safety Area Width</td>
<td>See</td>
<td>See</td>
<td>See</td>
</tr>
</tbody>
</table>

Note 1: See paragraphs 5.4 and 7.1.5 for adjustments for airport elevations above 5000' MSL.
Urban Air Mobility

- The FAA Office of Airports working with the FAA Technical Center engaged industry through a Request for Information (RFI) to solicit aircraft type and design information

- The RFI received nine submissions

- The FAA is engaging the RFI respondents and the broader VTOL industry to address questions pertaining to aircraft and infrastructure design considerations as well as their concept of operations
Comments and Questions??
• Adds infrared specifications for Aviation Obstruction Light Compatibility with Night Vision Goggles (NVGs) per Engineering Brief 98 to allow infrared emitters to be included in LED obstruction lighting fixtures.

• The specifications for the IR emitters support the operational requirement for LED-lit obstruction lights to be visible to operators in AC 7460-1 “Obstruction Marking and Lighting”.
LED Obstruction Light with IR under NVGs
Optional Monitoring:

1. If the IR emitter fails, the visible light is de-energized, and an alarm signal must be generated to provide an indication of the failure, (coupled).

OR

2. If the IR emitter fails, the visible light remains energized. The IR emitter is independently monitored in accordance with the monitoring requirements for FLASH/FAIL status of L-864, L-810 and L-885 visible light units. An alarm signal must be generated to provide an indication of the failure, (de-coupled).
# Infrared Specifications for red LED Obstruction Lights

<table>
<thead>
<tr>
<th>IR Wavelength (nominal)</th>
<th>Applicability</th>
<th>IR Vertical Beam Width</th>
<th>IR Radiant Intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>800-900 nm</td>
<td>L-810 (L)</td>
<td>$\geq 10^\circ$</td>
<td>Minimum: 4 mW/sr</td>
</tr>
<tr>
<td></td>
<td>L-864 (L) and L-885 (L)</td>
<td>$\geq 3^\circ$</td>
<td>Minimum: 246 mW/sr</td>
</tr>
</tbody>
</table>