FAA Helicopter Operations Modernization

Presented to: 2021 USHST Infrastructure Summit
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Purpose

Outline Flight Standards strategy to move Helicopter Operations into the future

Process

• Heliport Evaluation
• 7480-1 Process
• Instrument Flight Procedures
• Orders/Criteria
• Roles and Responsibilities
• Deliverables
US Helicopter Needs
Level of Service Spectrum

Spectrum of IFR Operations

Point in Space Proceed VFR

Copter Routes

Point in Space Proceed Visually

Full IFR to/from the ground

Minimal Infrastructure Needs

Differing Infrastructure Needs

Greatest Infrastructure Needs
Heliport Evaluation

**Proponent**
- FAA Form 7480-1 Notice for Construction, Alteration, and de-activation of Airports
- FAA Form 5010-3 Airport Master Record

**Flight Technologies and Procedures Division (FT&PD)**
- Heliport Evaluation Checklist Job Aid FAA Order 8900.1
- LOC-ID Facilitation

**Flight Standards District Office (FSDO)**
- Heliport Evaluation Checklist Job Aid FAA Order 8900.1

**Procedure Evaluation Pilot (PEP)**
- Heliport Evaluation Checklist Job Aid FAA Order 8900.1
- Special Instrument Procedures
7480-1 Process

Current
- LOC-ID’s Long to Process
- Not specific to Heliports
- Information incorrect /5010

Future
- Improve processing timeliness
- Heliport Data Centric
- Reduce touch points
- Transparency between Proponent & FAA
Instrument Flight Procedures

VFR
• Lack of established Procedure in Less than ideal conditions
• Increased IIMC possibility

Point in Space (PinS)
• Proceed Visually
• Proceed VFR

IFR
• Non-Precision Approach to IFR Heliport
• Precision Approach to an IFR Heliport
• AC 150/5390-2 IFR Table
### AC 150/5390-2 IFR Table

<table>
<thead>
<tr>
<th></th>
<th>Precision approach to IFR heliport</th>
<th>Precision Approach to IFR heliport</th>
<th>Non-precision Approach to IFR Heliport</th>
<th>Approach to Point in Space Proceed Visually</th>
<th>Approach to Point in Space proceed VFR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Visibility Minimums</strong></td>
<td>1/4 SM</td>
<td>1/2 SM&lt;sup&gt;1&lt;/sup&gt;</td>
<td>HAL=250-600: ½ SM HAL=601-800: ¾ SM HAL&gt;800: 1 SM</td>
<td>¾ SM&lt;sup&gt;5&lt;/sup&gt;</td>
<td>¾ SM day, 1 SM night&lt;sup&gt;7&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Height above heliport</strong></td>
<td>200' AGL</td>
<td>200' AGL</td>
<td>250' AGL</td>
<td>≥250'</td>
<td>≥250'</td>
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<tr>
<td><strong>Heliport Type</strong></td>
<td>IFR</td>
<td>IFR</td>
<td>IFR</td>
<td>VFR</td>
<td>VFR</td>
</tr>
<tr>
<td><strong>Obstacle Clearance Surface</strong></td>
<td>34:1 Clear&lt;sup&gt;2&lt;/sup&gt;</td>
<td>34:1 Clear&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Std Non-precision ROC</td>
<td>8:1 Clear</td>
<td>8:1 Clear</td>
</tr>
<tr>
<td><strong>Heliport Size&lt;sup&gt;5&lt;/sup&gt;</strong></td>
<td>Helicopter size dependent</td>
<td>Helicopter size dependent</td>
<td>Helicopter size dependent</td>
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<tr>
<td><strong>Heliport Markings</strong></td>
<td>Standard</td>
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<td>Standard</td>
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<tr>
<td><strong>Heliport Lights&lt;sup&gt;3&lt;/sup&gt;</strong></td>
<td>Required</td>
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<tr>
<td><strong>Survey Required</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No&lt;sup&gt;6&lt;/sup&gt;</td>
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<tr>
<td><strong>Type Survey</strong></td>
<td>Module C</td>
<td>Module C</td>
<td>Module B</td>
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<td>VFR Certification</td>
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<td><strong>Approach Light System</strong></td>
<td>Yes</td>
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<td><strong>HPZ helicopter protection</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td><strong>Final Approach Reference Area (FARA)</strong></td>
<td>Yes</td>
<td>Yes&lt;sup&gt;4&lt;/sup&gt;</td>
<td>No</td>
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<td>No</td>
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</tbody>
</table>

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<sup>1</sup> Visibility Minimums

<sup>2</sup> Height above heliport

<sup>3</sup> Heliport Type

<sup>4</sup> Obstacle Clearance Surface

<sup>5</sup> Heliport Size

<sup>6</sup> Heliport Markings

<sup>7</sup> Heliport Lights

<sup>8</sup> Survey Required

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February 24, 2021
Orders and Criteria

• FAA Order 8260.42 does not move helicopter operations into the future
  • outdated and limited to VFR heliports
  • does not apply PBN concepts
  • only allows for legacy RNAV operations

• Need to modernize helicopter operations
  • Develop IFR heliport infrastructure and criteria for Non-PinS and PinS procedures
  • Allow for PBN and Ground Based Navaids
Orders and Criteria

Establish criteria and infrastructure to enable IFR operations to/from IFR and VFR designated heliports.

- Update Directives
- Improve Infrastructure
- Define Airspace, Data, IFP Automation requirements

Efforts designed to:

- Support HR Bill 302 Sec 314 and other Agency needs
- Allow for LEVEL OF SERVICE directed process
Orders and Criteria

FAA Order 8260.42: United States Standard for Helicopter Area Navigation (RNAV)

- Incorporated into FAA Order’s 8260.3, 8260.19, 8260.46, and 8260.58
- Cancellation upon incorporation into FAA Orders

FAA Order 8260.3: United States Standard for Terminal Instrument Procedures (TERPS)

- Incorporated applicable approach and departure design criteria for VFR and IFR heliports
- Established Diverse and DP routes, and Conventional DP from heliport
- Defined Types of Approach (IFR to VFR Heliport, IFR to IFR Heliport, IFR to VFR Runway, IFR to Unmarked Landing Area)
- Defined term Unmarked Landing Area and included criteria to arrive and depart from them
Orders and Criteria

FAA Order 8260.19: Flight Procedures and Airspace
- Authorized RNP 0.3 (Terminal Routes and ATS Routes "TK")
- Established Heliport Planning Section
- Copter CAT II charting
- Visual Area step over of obstacle
- Documentation requirements (PinS to multiple heliports, Fictitious Helipoint (FHP), Airspeed restriction notes, coding)
- Clarified that Copter procedures do not contain circling minima

FAA Order 8260.46: Departure Procedure (DP) Program
- Updated App F (Copter RNAV PinS, Reorganize to match the order of the 8260.15B)
- Applied hover height allowance on Table 2-1-1
- Added PBN RNP 0.3 requirements
- Added Copter DP from IFR heliport to App D and E
- Added MSA’s for DP’s
Orders and Criteria

FAA Order 8260.58: United States Standard for Performance Based Navigation (PBN) Instrument Procedure Design

- Implemented Performance Based Navigation (PBN)
- Clarified Reference Datum Point (RDP) on LPV approach
- Established Missed Approach Climb Gradient of 600 FT/NM before requiring approval
- Established RNAV Departure Procedure (DP) from IFR Heliport
- Redefined Initial Departure Fix Segment on PinS DP
Roles and Responsibilities

ARP, FS, and ATO


- FS: Criteria Rewrite, Heliport Insp, Heliport Data Entry, Heliport Planning, VFR Heliport Survey Standards, Specials Oversight and Processing

- ATO: Heliport Planning, IFP Validation, Automation, Data Validation, NFDD / AIRNAV, Procedure Development and Oversight, Charting
Combined FS and LOB’s Deliverables

- Criteria updated
- Improved Helicopter App/DP Capabilities
- Improved 7480-1 Process
- Improved Heliport Inspection Process (8900.1)
- Improved Data Process (ADIP)
- Heliport Survey Standards added to Survey AC
- Standards for IAP added to Heliport Design AC
- Established Heliport Infrastructure
- Defined Automation Requirements
QUESTIONS