

# AERONAUTICAL CHARTING FORUM

## ICAO/IFPP COMMITTEE REPORT

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Washington, DC**



Federal Aviation  
Administration



# **BRIEFING OVERVIEW**

- **REVIEW OF LAST IFPP PLENARY MEETING ACTIVITIES RELATING TO PBN FOCUSING ON THE FOLLOWING CHARTING TOPICS**
- **GBAS DIFFERENTIALLY CORRECTED POSITIONING SERVICE (DCPS)**
- **GLS CHARTING ISSUE**
- **GBAS/GLS TERMINOLOGY**
- **HYBRID PROCEDURE CHARTING**
- **OTHER CHARTING TOPICS DISCUSSED BY THE INTEGRATION WG**
- **FUTURE MEETINGS OF THE IFPP AND ITS WORKING GROUPS**



# GBAS DCPS

- **AVIONICS STANDARDS AND ANNEX 10 SUPPORT DCPS**
- **RNAV REQUIRED FOR OTHER THAN THE GLS FINAL APPROACH SEGMENT**
  - **GBAS DCPS not Recognized in PBN Navigation Specifications**
  - **Place Holding Chapter in PANS OPS Requires Retitling**
- **COMMENTS FROM ICCAIA**
  - **At Least 800 Air Carrier Aircraft Equipped for the Service**
  - **Agreement the Service is not Recognized in the Navigation Specifications**

# GLS CHART TITLING ISSUE

- **PUSH BY ONE STATE TO CHANGE GLS PROCEDURE TITLING**
- **PANS OPS DEFINITION OF “GLS” CHALLENGED BY ENTAIRE (SPAIN) AND EUROCONTROL**
- **GBAS TERMINOLOGY INCONSISTENCIES ACROSS ICAO DOCUMENTATION**
  - **Lack of Recognition of the Definition of GLS**
  - **Biggest Issue is with Doc 4444 Air Traffic Management**
    - **Discussed in Later Slide**
  - **Some Amendments to Annex 10 Would Help the Situation**

# GLS CHART TITLING

Germany

LUFTFAHRHANDBUCH DEUTSCHLAND AIP GERMANY		AD 2 EDDW 4-7-1 14 NOV 2013	
INSTRUMENT	VAR 1° E	ELEV 14 OCH RELATED TO THR 27 ELEV 14	ATIS 132.375 RADAR 125.650
APPROACH			TOWER 120.325 GROUND 121.750
CHART - ICAO			BREMEN GLS RWY 27

US

NEWARK, NEW JERSEY		AL-285 (FAA)	13346
LAAS CH 22727 G04A	APP CRS 039°	Rwy ldg 8460 TDZE 10 Apt Elev 18	GLS RWY 4L NEWARK LIBERTY INTL (EWR)

Spain

LEMG/AGP COSTA DEL SOL	JEPESEN 30. MAY. 14 12-40	MALAGA, SPAIN GBAS Rwy 13
D-ATIS Arrival 120.37	MALAGA Approach 123.85	MALAGA Tower 118.15
		West Ground East 121.7 121.95



# ACTIONS CONCERNING TERMINOLOGY

- **IFPP AMENDING PANS OPS VOLUME II GBAS TEXT TO BE CONSISTENT WITH THE DEFINITION OF GLS**
  - **Paper is Available**
  - **General Agreement on the Proposals at the Last IFPP Plenary Meeting**
- **IFPP ATM WORKING GROUP TO ADDRESS DOC 4444 GLS/GBAS TERMINOLOGY ISSUES**
  - **Phraseology Confusion with “GLS” also Cited in the ENTAIRE Paper**
  - **Amending Doc 4444 Will Require Interaction with the ATM Panel**
- **SECRETARIAT TO COORDINATE CHANGES TO ANNEX 10 TO ELIMINATE INCONSISTENCIES WITH THE DEFINITION OF GLS:**
  - **Recognition of the PANS OPS Definition of “GLS” in Annex 10**
  - **Expansion of the Scope of the Definition of GARP with the Replacement of “GBAS” with “GNSS” Since the GARP is also Used in Establishing the SBAS Procedure Azimuth Reference Point**

# HELICOPTER PinS CRITERIA

- **CRITERIA PUBLISHED FOR PinS PROCEDURES**
  - **Departure “Proceed VFR”**
  - **Departure “Proceed Visually”**
  - **Approach “Proceed VFR”**
  - **Approach “Proceed Visually” Including LPV Criteria**
- **PinS CHARTING SPECIMENS NOW IN Doc 8697**

PinS "Proceed Visually" Approach Specimen Chart

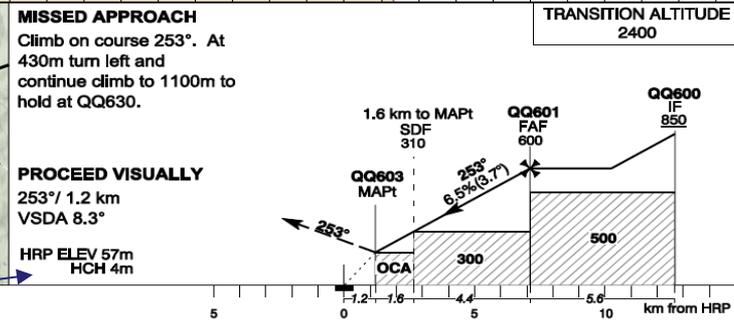
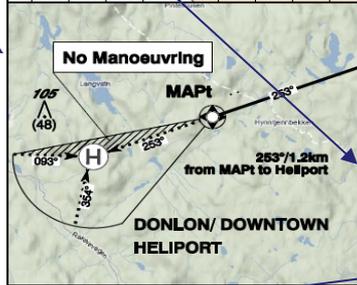
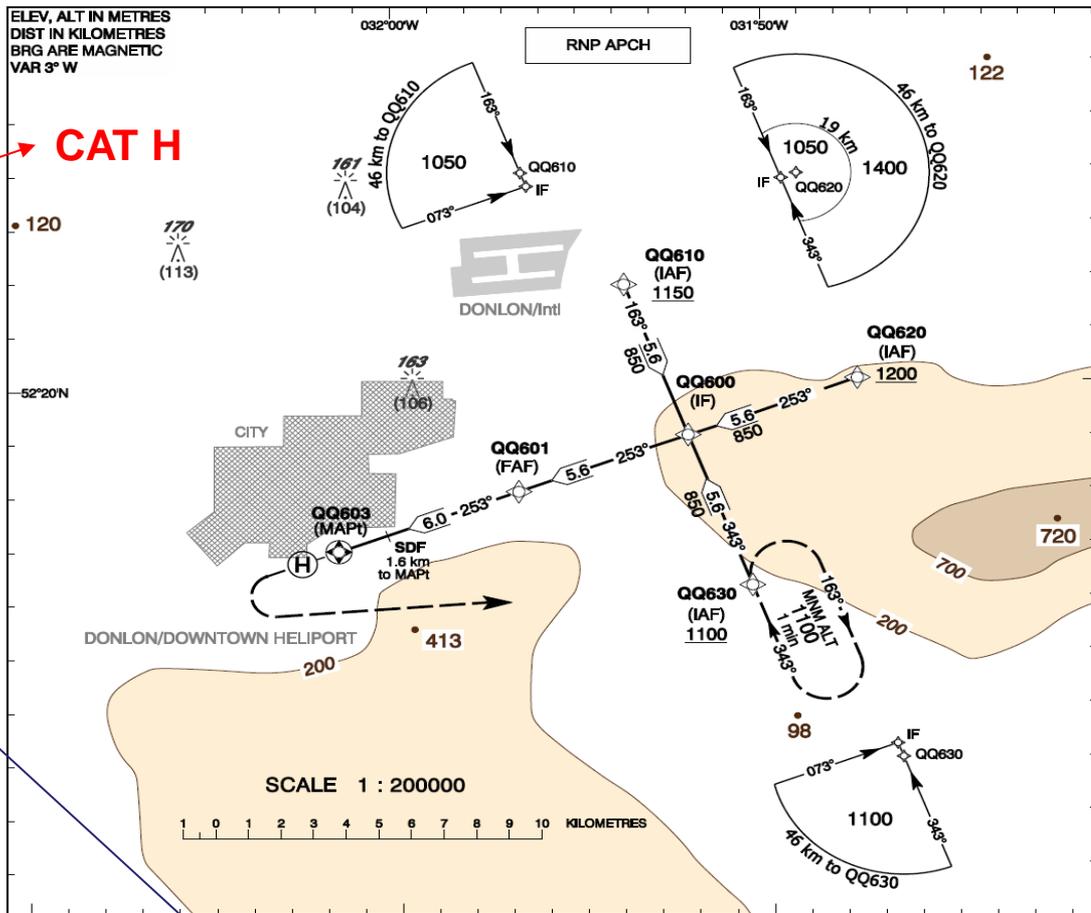
"CAT H" Missing In Specimen

"Proceed Visually"

Track and Distance From MAPt Visual Segment Descent Angle

Manoeuvring Area Inset

Heliport Reference Point Elevation Heliport Crossing Height



OCA/OCH	CAT H
LNAV	210 (153)

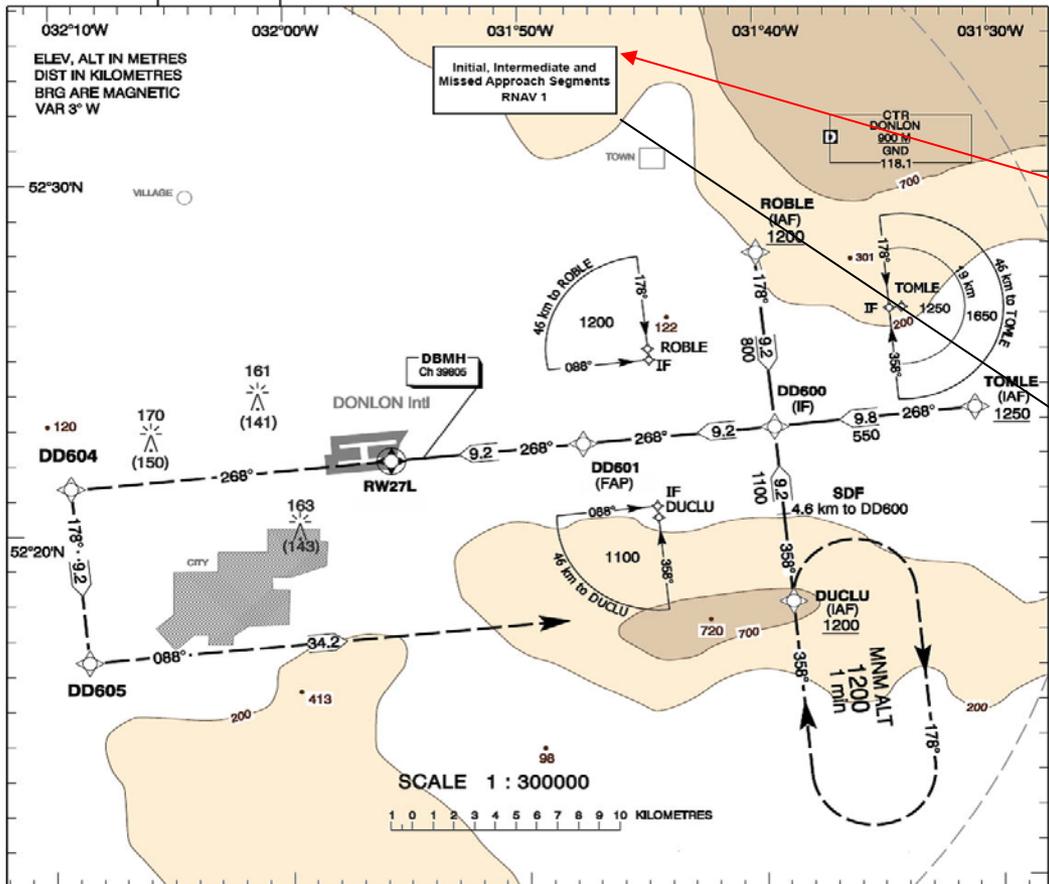
Ground speed	km/h	100	120	140	160	180
Rate of descent FAF-MAPt 6.5% (3.7°)	m/s	1.8	2.2	2.5	2.9	3.3

# HYBRID PROCEDURES

- A FIRM DEFINITION OF A HYBRID PROCEDURE IS REQUIRED IN PANS OPS
- A “HYBRID” PROCEDURE IS A PROCEDURE COMBINING PBN PROCEDURES WITH AN xLS FINAL SEGMENT
- A GLS PROCEDURE REQUIRES PBN APPROACH & MISSED APPROACH SEGMENTS
  - **A GLS Procedure is a Hybrid Procedure**
- “HYBRID” PROCEDURE CHARTING
  - **PBN Requirements Box Shall be Charted Like on a PBN Procedure**
    - **Nav. Spec. Used In Design of Procedure**
    - **Navigation Accuracy Requirement (If different than standard)**
    - **Special Requirements Such as “RF Required”**
- ICAO DOC 8697 GLS CHART SPECIMEN

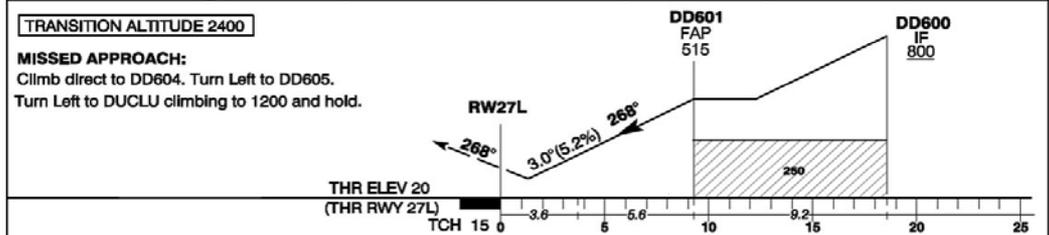
**SPECIMEN GLS CHART**

**PBN Requirements Box**



**Initial, Intermediate and Missed Approach Segment RNAV 1**

KM to NEXT WPT	RW27L	2	4	6	8	9.2
ALTITUDE		140	245	350	455	515



**NOTE:**  
Km to/from THR RWY 27L

OCA / OCH	A	B	C	D	E
GLS CAT I			100(80)		

# RELOCATION & RENAMING OF SIGNIFICANT POINTS

- PAPER PRESENTED BY THE US PROPOSES ANNEX 11 AMENDMENTS
- ESTABLISHES A THRESHOLD DISTANCE OF 1 NM BEFORE SIGNIFICANT POINTS MUST BE RENAMED
- RELOCATION MUST STILL BE REPORTED REGARDLESS OF DISTANCE THE POINT IS RELOCATED
- AGREEMENT IN PRINCIPLE. PAPER TO BE REVISED TO ADDRESS:
  - **Rationale for 1 NM Threshold**
  - **Area of Application is Both En Route and Terminal**
  - **Paper Scope to Include Amendments for PANS OPS Addressing Points Identified by Other than 5LNCs**

# CHARTING OF CONV. NAV. AIDS ON PBN PROCEDURES

- PAPER IS WORK IN PROGRESS
- AMENDMENTS SHOULD BE PRESENTED AT IFPP/13

*Update Symbol Matrix in Appendix 2 to include a sample of the Conventional NAVAID in PBN Procedure Label:*

## RADIO NAVIGATION AIDS\*

99	<p>Basic radio navigation aid symbol  <i>Note.— This symbol may be used with or without a box to enclose the data.</i></p> <p>Any radio navigation aid symbol when used on PBN Procedure includes boxed data.</p>		107	Collocated VOR and TACAN radio navigation aids	VORTAC	
					PLAN VIEW	R

# CLASSIFICATION OF ATS ROUTES

- **ANNEX 15 ROUTE CLASSIFICATION**
  - **Lower ATS Routes**
  - **Upper ATS Routes**
  - **Area Navigation Routes**
  - **Helicopter Route**
- **ANNEX 15 CALLS FOR IDENTIFICATION OF ROUTE NAVIGATION SPECIFICATION ACCURACY REQUIREMENTS FOR ALL ROUTES**
- **ANNEX 11 AND PANS OPS, CORRECTLY, ONLY CALL FOR IDENTIFICATION OF THE NAVIGATION ACCURACY REQUIREMENTS FOR AREA NAVIGATION ROUTES**
- **CHARTING OF THE REQUIREMENT REMAINS AN ISSUE TO BE ADDRESSED**
  - **By Airspace?**
  - **Charting by Exception?**

# QUESTIONS?

**OR DO WE HAVE A CLEAR VISION FORWARD?**

