



MINISTERIO  
DE TRANSPORTES, MOVILIDAD  
Y AGENDA URBANA



# HEMS, PINS-VFR and AMC/GM Reg 2021/2237

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Técnico superior de aviación civil  
Madrid, 9-mar-2023

1. New HEMS rules
2. PINS-VFR ops
3. AMC/GM March 2023



1. HEMS vs SAR
2. New HEMS concept
3. HEMS requirements for high-altitude operations
4. HEMS flights in a degraded visual environment





The Horn – Air Zermatt



*Cuando no llega ningún otro vehículo, llaman a los helicópteros*



## RESCUE OPERATIONS OTHER THAN SAR

Only under emergency situations

Member States may use the provisions of art 1 of the Basic regulation (scope) to define such operations as **'state or similar'**



USE OF HOIST IN HEMS: SPA.HHO applies





## RESCUE OPERATIONS OTHER THAN SAR

Only under emergency situations

Search  
and  
RESCUE!!!



HEMS



Air ambulance



# New HEMS concept

## new HEMS definition

immediate and rapid transportation is essential



emergency medical assistance

only under emergency situations

operation where a person faces an imminent or anticipated health risk posed by the environment and

medical personnel

medical supplies

ill or injured persons

person needs to be rescued or provided with supplies

persons, animals or equipment need to be transported



*Cuando no llega ningún otro vehículo, llaman a los helicópteros*

## new HEMS definition

Only under emergency situations

HEMS HEC operation

Hoist or cargo sling

CARGO SLING

Approved double cargo hook

Limit the operations to the technical phase of the flight for rescuing injured





# HEMS requirements for high-altitude operations

Non-hostile environment



## HEMS PC3

- operations to/from a **HEMS operating site** located above **7 000 ft**, using a helicopter certified under **Category A** (point SPA.HEMS.125(a)(1)); including at night
- operations that **do not require the transportation of medical personnel, medical supplies, or ill or injured persons**, using a helicopter certified under **Category A or that fulfils some specific conditions** (point SPA.HEMS.125(a)(2)); day VFR only
- operations to/from a **HEMS operating site** located above **8 000 ft**, under **certain conditions; day VFR only; day VFR only**



# HEMS requirements for high-altitude operations

— operations that **do not require the transportation of medical personnel, medical supplies, or ill or injured persons**, using a helicopter certified under **Category A or that fulfils some specific conditions** (point SPA.HEMS.125(a)(2));

**CAT.POL.H.420**

**Above 3 000 ft**

**Day VFR only**



**HEMS PC3**



# HEMS requirements for high-altitude operations

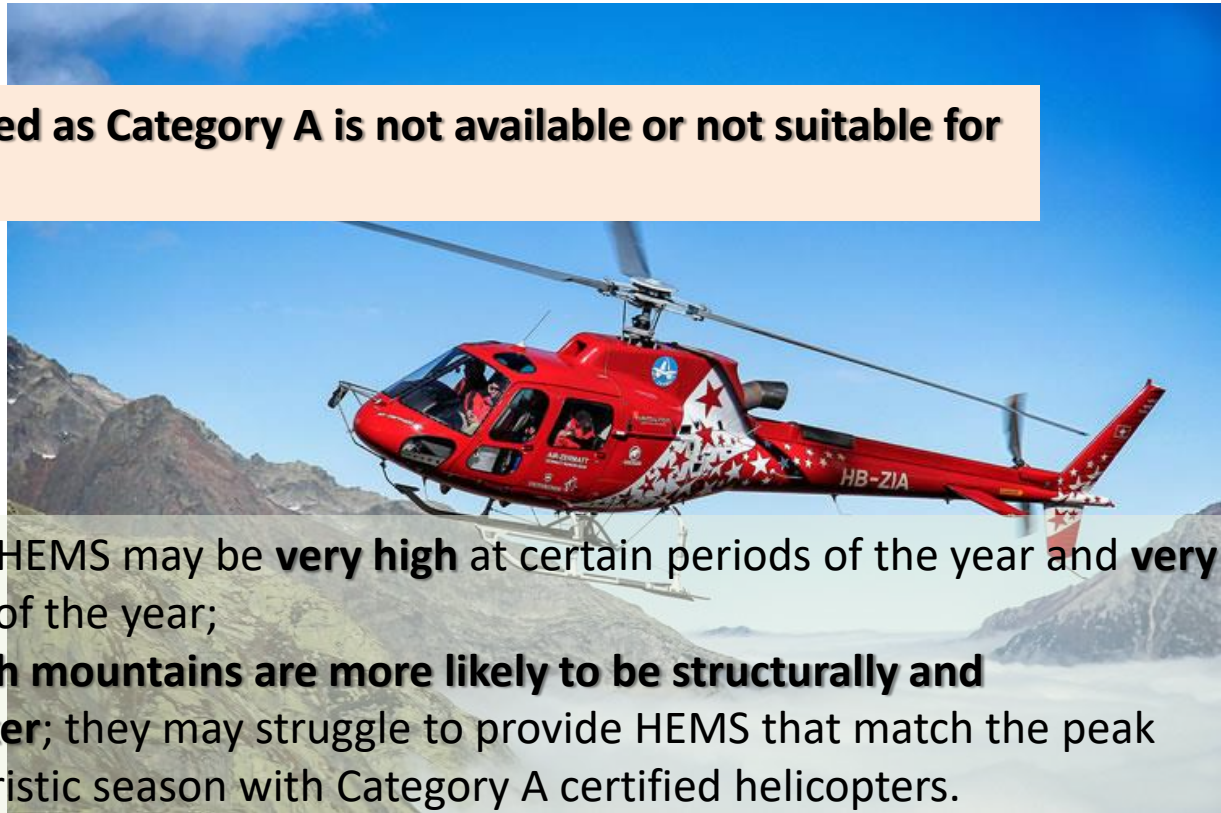
— operations to/from a **HEMS operating site** located above **8 000 ft**, under **certain conditions**

**CAT.POL.H.420**

**A helicopter certified as Category A is not available or not suitable for the operation**

**Day VFR only**

— the **demand** for HEMS may be **very high** at certain periods of the year and **very low** at other times of the year;  
— **regions with high mountains are more likely to be structurally and economically weaker**; they may struggle to provide HEMS that match the peak demand of the touristic season with Category A certified helicopters.



**HEMS PC3**

CLASIFICACION DE SEGURIDAD

SIG-GD-ITR01-F09 Ed. 02

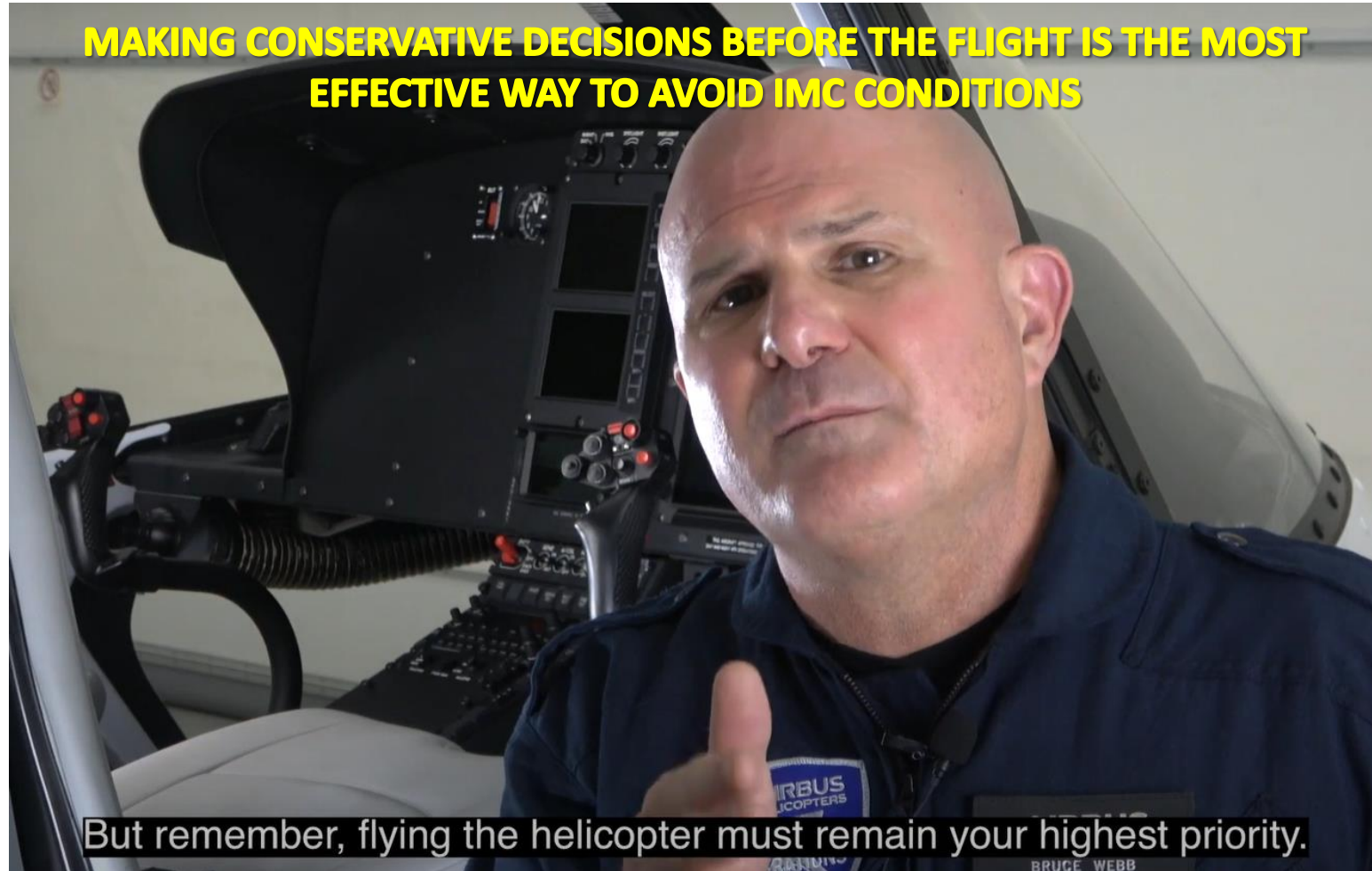


# HEMS flights in a degraded visual environment

## When IMC is imminent

**Bruce Webb (Airbus Helicopters)**

**MAKING CONSERVATIVE DECISIONS BEFORE THE FLIGHT IS THE MOST EFFECTIVE WAY TO AVOID IMC CONDITIONS**



But remember, flying the helicopter must remain your highest priority.





# HEMS flights in a degraded visual environment

**Opinion**  
**08/2022**

A review of **HEMS accidents** that occurred during **2005–2014** confirmed that a **degraded visual environment** is a **major contributor to accidents in HEMS operations**, not only by night, but also by day.

**NTSB 2011** figures show that **45 of the 52 Inadvertent IMC (IIMC) accidents occurring that year were fatal** ....that is 86% giving you a 14% survivability rate if you go IIMC!

Comprehensive training on inadvertent flight into instrument meteorological conditions (IIMC) is necessary for all rotorcraft helicopter training.

This training should include, but not limited to:

1. Determination of en-route weather
2. Avoidance of inadvertent flight into instrument meteorological conditions
3. In-flight weather abort procedures
4. Recovery from inadvertent flight into instrument meteorological conditions



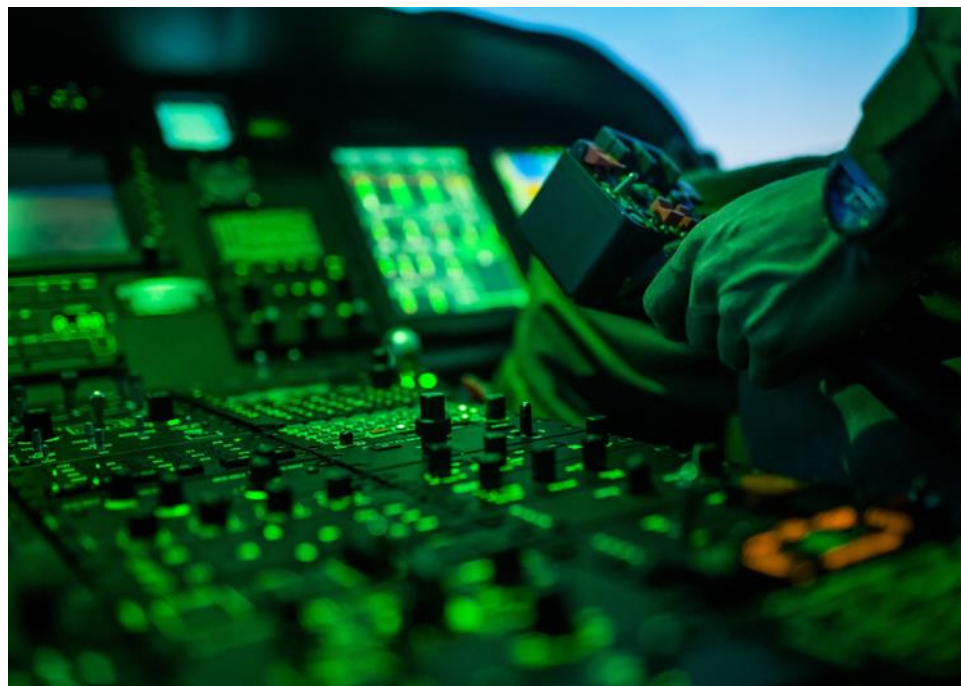


# HEMS flights in a degraded visual environment

## HEMS by night



**non-pre-surveyed HEMS operating sites  
outside well-lit urban areas**



**NVIS**

**Entry into force Regulation  
+ 3 years**

HEMS without NVISs is restricted to pre-surveyed operating sites and to well-lit urban areas



# HEMS flights in a degraded visual environment

## HEMS by night

IMC recency becomes a training

Training to proficiency aiming at escaping IMC conditions

Detailed manoeuvres to be practiced in IMC

Minimum duration 45 min per 6 months OR longer if necessary to become proficient.  
With use of automation every 12 months.

**FSTD**



**Use helicopter if no suitable FSTD is available**

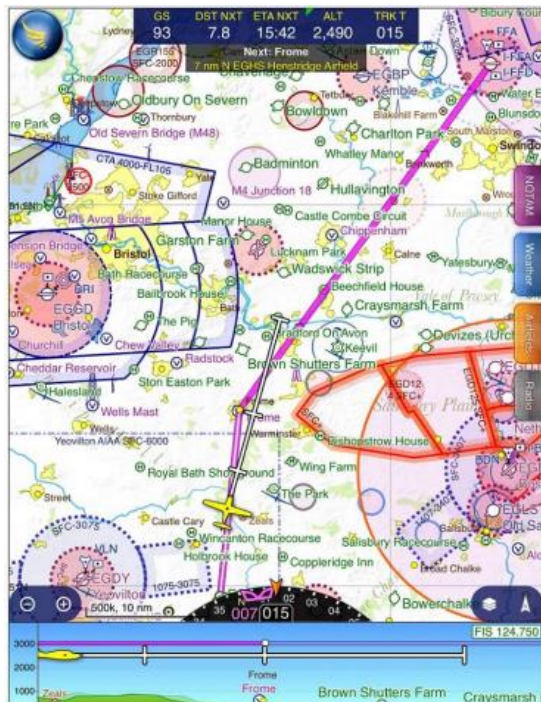


# HEMS flights in a degraded visual environment

## Moving map display

**HEMS VFR over routes navigated by reference to visual landmarks**

Helicopters shall be equipped with a device that provides a moving map display with own-ship position and obstacles



HTAWS (RMT.0708)

display integrated in the cockpit

type B EFB software application

*Cuando no llega ningún otro vehículo, llaman a los helicópteros*



**Hard law → approx. April 2023**

**Soft law (AMC/GM) → approx. Q3 2023 (May – Sep)**

**Application → 1 year after publication (approx. Apr 2024)**

## Except:

NVIS at night

Crew composition for non-medical rescue

AP/SAS

Performance for non-medical rescue

approx.  
Apr 2026

approx.  
Apr 2028



1. Concept
2. Timelines
3. Air Ops requirements





The Point-in-Space (PinS) concept is a flight operation based on GNSS and designed for **helicopters only**. It relies on the possibility for the pilot to conduct flight under Instrument Meteorological Conditions (IMC) to/from a PinS and not directly to/from the heliport.

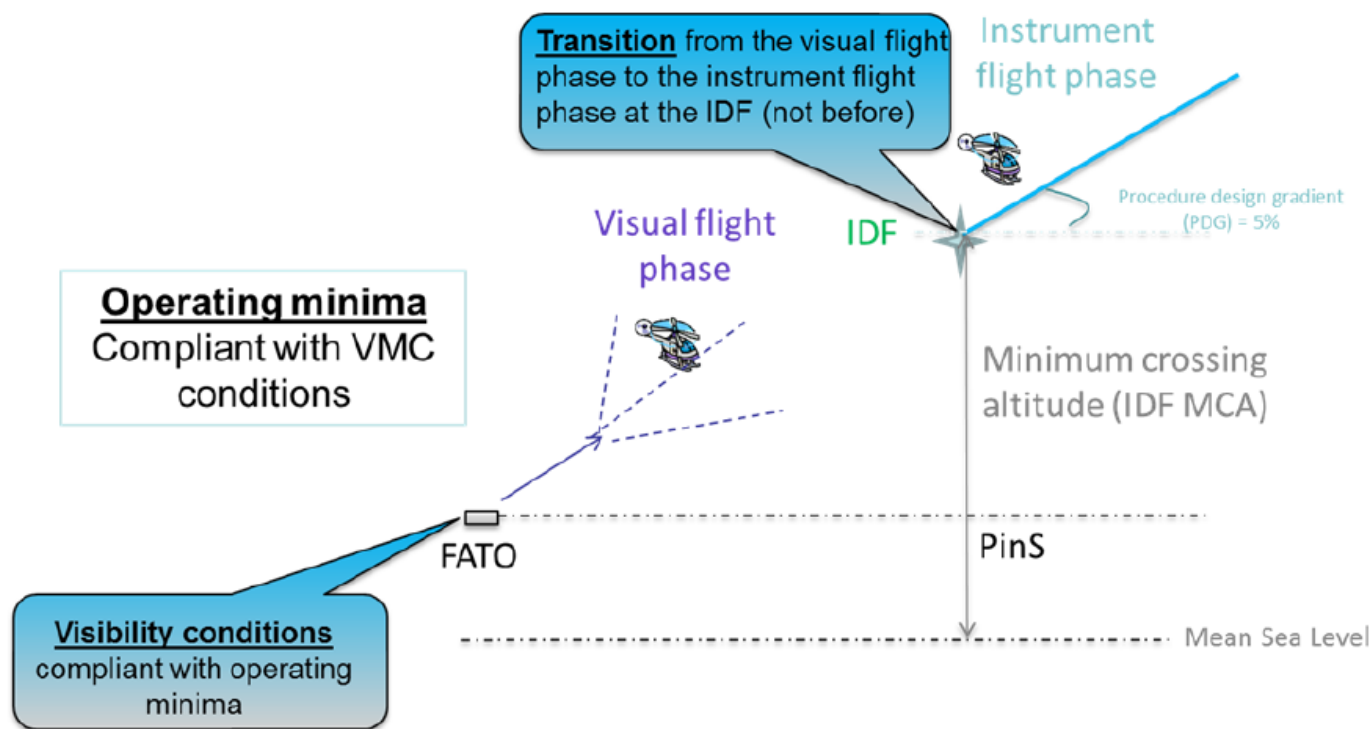


Figure 3-2: Example of PinS "proceed VFR" departure from the FATO



The Point-in-Space (PinS) concept is a flight operation based on GNSS and designed for **helicopters only**. It relies on the possibility for the pilot to conduct flight under Instrument Meteorological Conditions (IMC) to/from a PinS and not directly to/from the heliport.

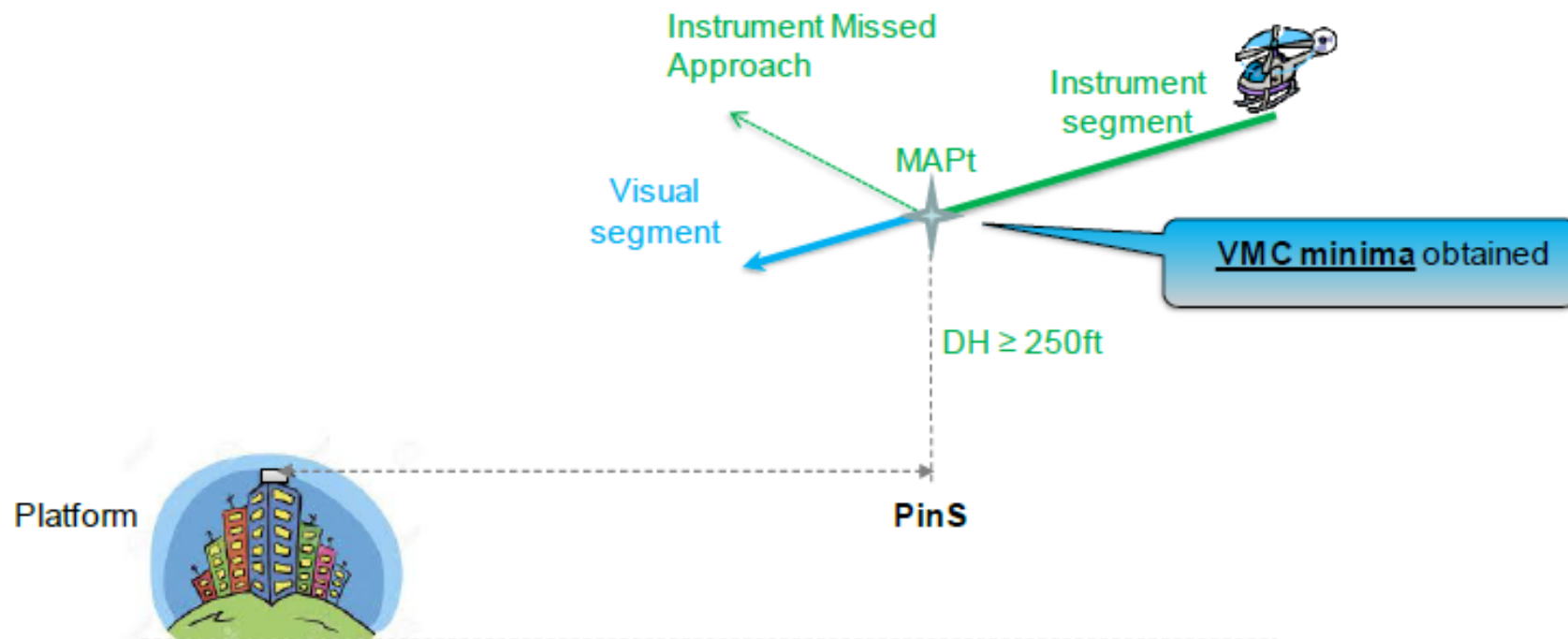
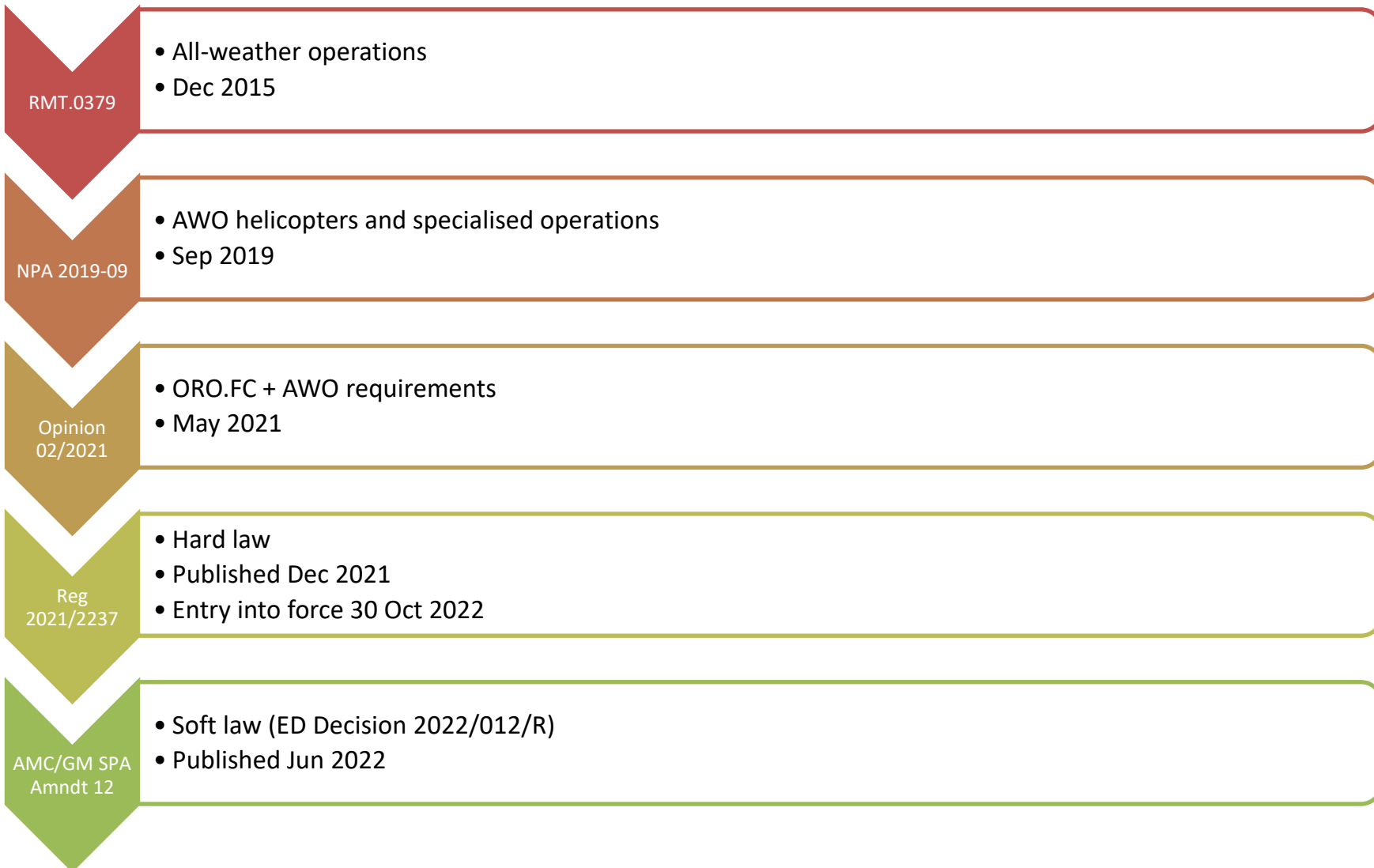


Figure 3-5: Example of PinS "proceed VFR" approach down to LPV minima with direct VFR segment





## Air Ops – Annex V Part-SPA

**SUBPART N: Helicopter POINT-IN-SPACE Approaches and Departures with reduced VFR minima (PINS-VFR)**

**SPA.PINS-VFR.100 Helicopter point-in-space (PinS) approaches and departures with reduced VFR minima**

**AMC1 SPA.PINS-VFR.100 Helicopter point-in-space (PinS) approaches and departures with reduced VFR minima**



SPA.PINS-VFR.100 Helicopter point-in-space (PinS) approaches and departures with reduced VFR minima

AMC1 SPA.PINS-VFR.100 Helicopter point-in-space (PinS) approaches and departures with reduced VFR minima

SPA.PinS-VFR is currently accessible to **CAT (including HEMS), NCC and SPO**



Operating sites

VFR heliports



After the adoption of the **Opinion 08/2022**: the **SPA.HEMS approval will cover the full scope of SPA.PinS-VFR**, and will be granted the option to fly lower minima

AMC1 SPA.HEMS.120(a) HEMS operating minima





## ICAO - INSTRUMENT APPROACH CHART

AD 3 LIKC 5-1

EGNOS  
CH 83044  
E36A

Padova ACC 120.725  
Padova FIC 124.150  
AFIS Trento Aerodrome Info 119.650  
AFIS Bolzano Aerodrome Info 120.600

HELIPAD ELEV  
2138

Cles Hospital  
(LIKC)  
RNP Z 356

CAT H ONLY

**Remarks:**

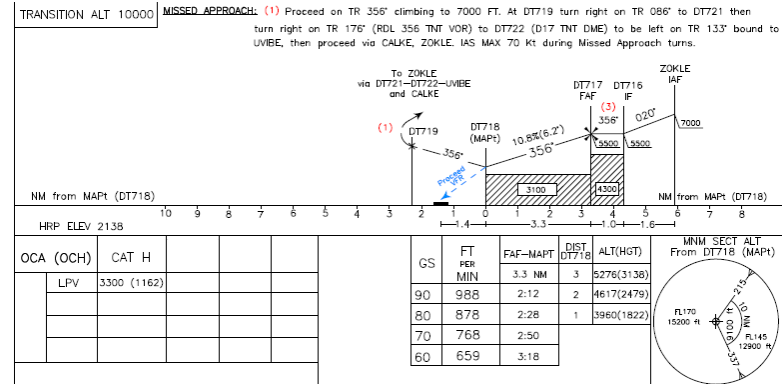
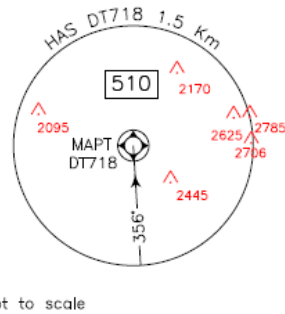
- (1) Missed Approach Climb Gradient not standard ICAO. Minimum Missed Approach Climb Gradient 670 FT/NM (11%) until passing 7000 FT, due to obstacles.
- (2) Speed limited to 90 KIAS for Initial and Intermediate Approach and to 70 KIAS for Final and Missed Approach.
- (3) Intermediate Approach Segment length not standard ICAO.
- (4) HEMS only
- (5) For other limitations see AD2 LIDT

**WARNING (B):**  
High and mountainous terrain surrounding the helipad

**WARNING (A):** Procedure outside controlled airspace and interfering with Bolzano and Trento instrument flight procedures: for more details see AD 2 LIDT and AD 2 LIPB

Cles Hospital Helipad Elev 2138 FT  
46°21'38"N 011°02'00"E

Proceed VFR from DT718 (MAPt)  
295° /1.4NM  
from DT718 (MAPt)  
to Heliport



CHANGE: CLES ICAO CODE ADDED

DOC 8168 ED. 6 - 2014 AMDT 7 (1) (3)

SI



# Air Ops requirements



NORSK LUFTAMBULANS

ENMK **XX XX XXXX XX-X**

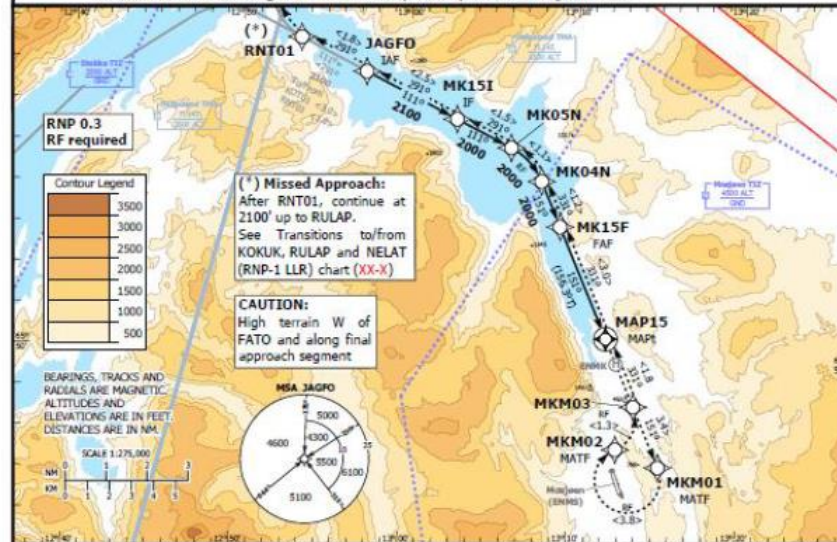
Mosjøen Hospital, Norway  
Copter RNP 151° (LNAV, LPV)

ENMS AFIS 123.400	ENMS APP 127.900	ENMS VDF 123.400	EGNOS CH 52322 E15A	RNAV APCH designation ENMK GPS 151
Final Apch Crs <b>151°</b>	Procedure Alt <b>MK15F</b> 2000 (1964)	DA(H) LPV <b>MAP15</b> 426 (390)	MDA(H) LNAV <b>MAP15</b> 1660 (1624)	Heliport FATO Elev 36 FT VAR 5.1°E (2018) Annual Change 12 E
QNH: ENMK HEMS WX ENMS AFIS				

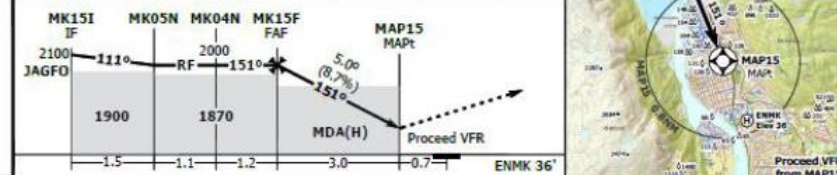
**MISSED APCH:** Climb straight to MKM01, then turn right and follow the RNP missed approach at 2100'.

**CONTINGENCY PROC:** XXXXX.

**NOTES:** RNP 0.3 and RF required. Set CDI to 0.3 NM. Final approach MAX IAS 70 KTS.  
Missed approach MAX IAS 85 KTS until MKM03. Required MACG 8.0% (486 ft/NM, 4.6°).  
Procedure below Helgeland TMA and partially inside Mosjøen TIZ.



<b>PROFILE</b>	NM to MAPt	FAF	2.5	2.0	1.5	1.0	0.5	0.0
Vertical Profile 5.0°	ALT	2000	1760	1490	1220	960	690	426



LPV	DA(H)	426 (390)	50	60	70	80	90
	LNAV	MDA(H)					
VIS VFR		Gnd speed-Kts	50	60	70	80	90
		Descent Gr (ft/min) FAF-MAPt 5.0° (8.7%)	440	530	620	710	800

Chart Version: 1.2

PLD WISSESS LTD

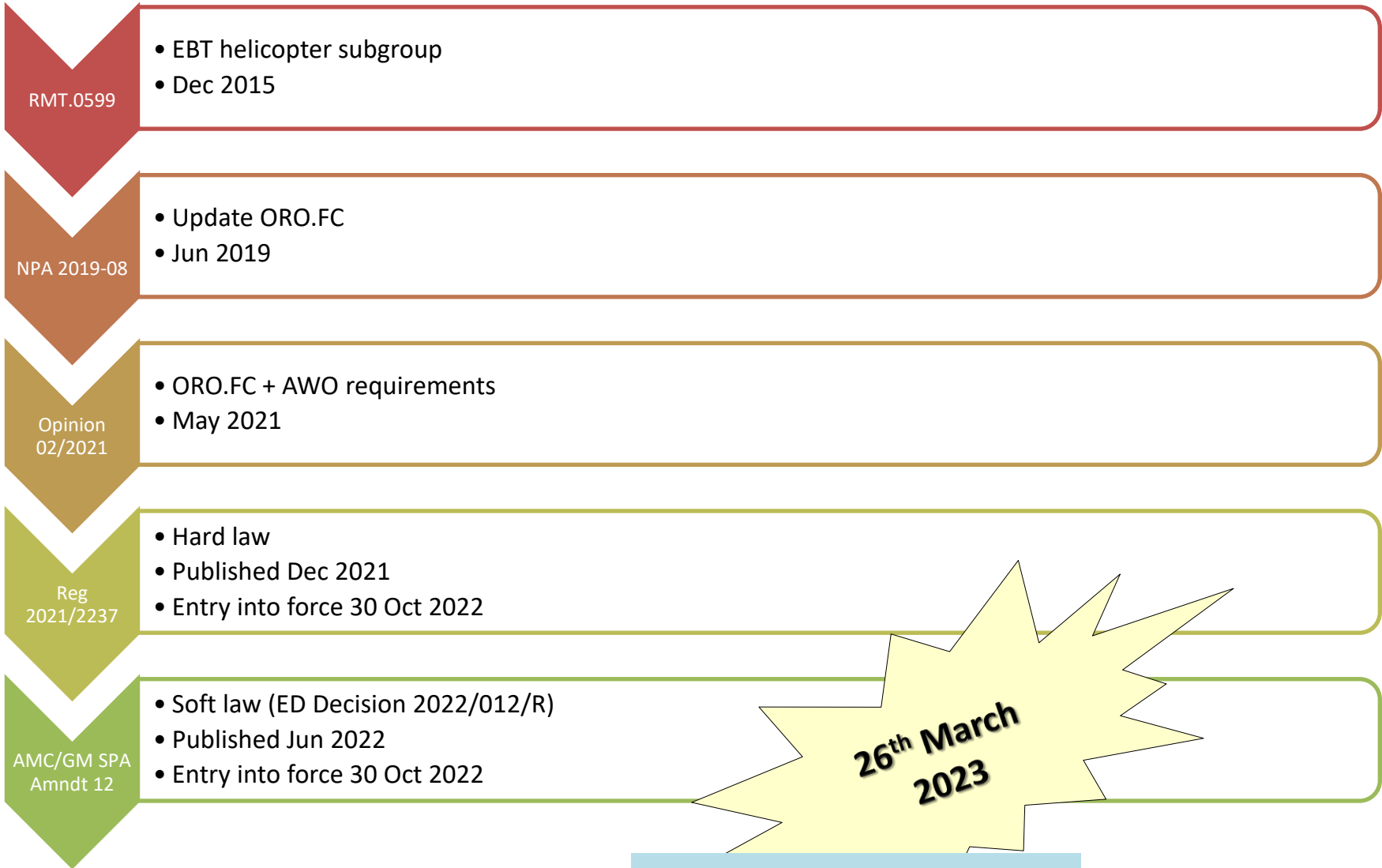
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1. Timelines
2. Kindly reminder





Soft law

26 marzo 2023



Operador CAT

Contenido de los cursos de la parte D

Entrenamiento combinado OPC – distinción fases  
Ítems cubiertos  
Duración mínima  
Medios de instrucción  
Personal instructor y verificador  
Adicional según complejidad del curso

Availability and accesibility - FSTD

- (1) 'Available FSTD' refers to any flight simulation training device (FSTD) that is **vacant for use by the FSTD operator or by the customers** irrespective of any time consideration.
- (2) 'Accessible' refers to a device that **can be used by the operator to conduct training or checking** pertaining to this Subpart, and by the nominated person conducting the training or checking.

CRM trainer – nuevos requisitos





Soft law

26 marzo 2023



Operador CAT

CONVERSIÓN: contenido ground training, EEYS sin CC, listado de procedimientos anormales y emergencia que forman parte de la OPC en helicópteros, feedback SMS...

PERIÓDICO:

- Ground training debe contener:
  - planificación de vuelo, operaciones tierra y en vuelo
  - Performance y W&B
  - Política combustible
  - Procedimientos anormales y de emergencia
- Entrenamiento en vuelo:
  - Uso del simulador en helicópteros
  - Major failures repartidos 3-year period (avión y helicóptero)
- OPC (helicópteros)
  - Uso del simulador
  - Major failures repartidos 3-year period
  - Cómo se deben definir los major failures
- Feedback SMS



Gracias por su atención

[www.seguridadaerea.gob.es](http://www.seguridadaerea.gob.es)

