

# Concept of Operations for Aids to Navigation in the CAR Region

Study Note NE/15 · Submitted by the Secretariat

Guatemala City, September 21-25, 2026

## WHAT'S PRESENTED

# First version of CONOPS NAVAID for the CAR Region

Draft available for now in English only. It is regional guidance: it does not replace SARPs, PANS or national safety approval processes.

01

### **GNSS as a primary medium**

Base of PBN operations en route, in terminal area and on approach.

02

### **Minimum Operational Network (MON)**

Terrestrial aids sized to maintain IFR continuity if GNSS degrades due to interference, spoofing or ionospheric effects.

03

### **Rationalization**

Preserve, modernize, relocate, add or withdraw each aid according to its operational value. It is not indiscriminate elimination.

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## GUIDING PRINCIPLE

**No critical NAVAID is retired without assessing its operational impact and without a validated, published and communicated alternative to users.**

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And the existence of a PBN procedure is not sufficient, in itself, to withdraw aid.

# What role does each type of aid have?



## **NDB** First candidates for retirement

They do not contribute to the PBN. Retirement is not automatic: keeping one requires documented justification and a transition strategy.



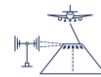
## **VOR/DME** Selectively conserve or modernize

Where they support main flows, international routes, alternative aerodromes or cross-border continuity.



## **DME/DME** Strategic component

Main non-GNSS RNAV rollback. In some places it may require more DME, not less.



## **ILS** Selectively conserve

It remains the main support for precision approach to GNSS.

# Roadmap in four phases

## 2025–2026

### Evaluation

Infrastructure baseline, GNSS dependency, DME/DME coverage, MON candidates, and interference data.

Almost complete

## 2026–2027

### Rationalization and Reversion Design

Decide what to keep, modernize, relocate, add, or remove. Define the initial MON CAR and the plan for each State.

Next phase

## 2027–2028

### Integration

PBN, ATC contingencies, AIM/NOTAM, surveillance backup, RFI reporting, instruction, and ATFM/CDM.

## 2028 +

### Monitoring and continuous improvement

Track performance, analyze events, and regularly review the MON.

# Problems States Reported

Feedback collected in CONOPS on the operation and maintenance of NAVAID. The document seeks to respond to real needs in the region.

|                                                       |                                      |
|-------------------------------------------------------|--------------------------------------|
| Insufficient spare parts and long purchases           | Factory repairs with long lead times |
| High cost of annual in-flight inspection              | High cost of calibration equipment   |
| Difficulty in attracting and training technical staff | Prolonged outages after hurricanes   |
| Mountainous terrain that limits the site              | Questions about how to disable NDBs  |

# The inventory needs validation from each State

162

Consolidated Facilities in  
Inventory

28

States and Territories with  
Registrations

154

facilities marked "Needs State  
validation"

2

Scope States Without Records:  
Mexico and Nicaragua

The association of each facility with its aerodrome was generated by automatic name matching. An empty cell means that the data was not in the source, not that it does not apply.

# Proposed targets and indicators

100 %

of designated alternative  
aerodromes with operational  
ILS

$\geq 95\%$

of critical CNS elements with  
remote monitoring

$\geq 99\%$

AIRAC Compliance Guidelines  
in the AIM Publication

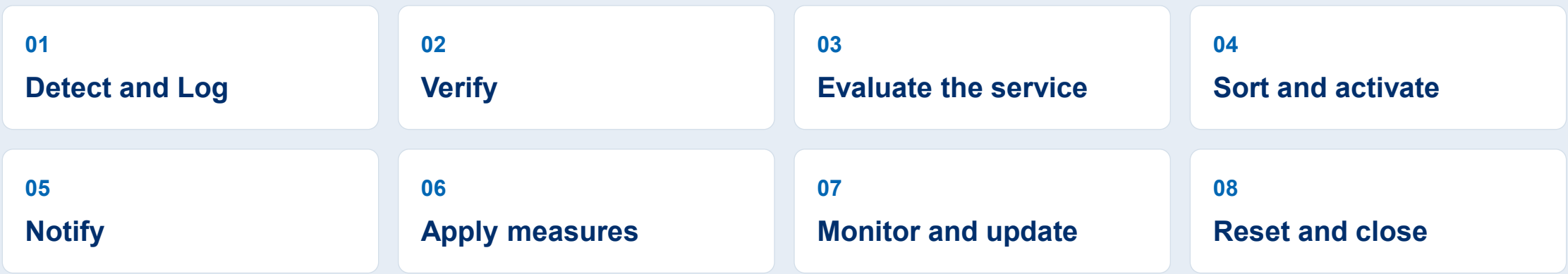
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Aerodromes without IFR approach  
published after a withdrawal

**Pending:** DME/DME coverage targets will be set after the regional baseline is completed.

# A common contingency framework

Events are tiered (Normal, Advisory, Degraded, and above) and handled by the navigation service that is still available, not just the status of a computer.



Each State must convert it into approved national procedures and agree on arrangements with adjacent FIRs before using them.

# Settings identified in the draft

| Theme            | What to fix                                                                                                                           |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Deadline         | Paragraph c) says December 30 and the "When" field says December 15, 2026.                                                            |
| Appendix letters | The grade assigns C to Gantt and D to contingencies; in CONOPS C is contingencies, D is the matrix of Annex 10 and there is no Gantt. |
| Phase 1 Status   | "Almost completed" in the note; "Completed" in Chapter 8.                                                                             |
| Table A.2        | Bahamas is listed with a total of 1, but its members add up to 13.                                                                    |
| Template Text    | Uncompleted instructions in chapters 5, 8, 10, 11, and 12.                                                                            |
| Edition          | 'Cocept', 'Charter 13', version control table and page numbering of appendices.                                                       |
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# Actions to be agreed upon during the Meeting

- a) Take note of the first version of CONOPS NAVAID for the CAR Region.
- b) Agree that validation of all CAR States is required before finalizing it.
- c) Establish the ad hoc working group to complete the CONOPS and its appendices: map of the network, technical data, schedule and contingencies.
- e) Set a specific date for receiving comments, mission information and national data.
- j) To approve the draft conclusion, with the unified deadline.

## Follow-up actions

| Action                                                                               | Responsible                   | Term                      |
|--------------------------------------------------------------------------------------|-------------------------------|---------------------------|
| Designate specialists for the ad hoc group                                           | States and ANSP               | As soon as possible       |
| Review CONOPS and submit comments and mission information                            | States, Territories and ANSPs | Date Fixed at the Meeting |
| Validate Record-by-Record Appendices A and B against AIP                             | Each State and Territory      | Same date                 |
| Incorporate data from Mexico and Nicaragua                                           | Those States / Secretariat    | Same date                 |
| Consolidate contributions, develop the schedule and the MON, correct inconsistencies | Ad hoc group / Secretariat    | Before distribution       |
| Circulate the revised CONOPS for final validation                                    | Secretariat                   | Dec 15 or 30. 2026        |
| Organize familiarization workshop                                                    | Secretariat                   | After validation          |

# Validation and finalization of the CONOPS on aids to navigation in the CAR Region

|                                                                                                                                              |                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>a)</b></p> <p>States, Territories and ANSP CARs review and validate CONOPS, verify NAVAID information and provide recommendations.</p> | <p><b>b)</b></p> <p>An ad hoc group consolidates the contributions and completes the CONOPS: map, technical data, roadmap, contingencies and regional MON.</p> |
| <p><b>c)</b></p> <p>The Secretariat is circulating the revised version for final regional validation.</p>                                    | <p><b>d)</b></p> <p>The Secretariat organizes a familiarization workshop with the validated CONOPS.</p>                                                        |

**Who:** all CARs and ICAO States and Territories · **When:** to be unified (December 15 or 30, 2026)

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## WHAT WE ASK OF EACH STATE AND TERRITORY

- 1 Designate your specialists for the ad hoc group.
- 2 Validate your NAVAID data against the AIP and submit comments by the agreed date.
- 3 Do not recall any NAVAID without safety assessment, validated alternative, AIM publication, instruction and contingency procedures.