



# ANÁLISIS DE IMPACTO REGULATORIO PROY-NOM-091/2-SCT3-2018

# ADJUNTO 12.- PLAN REGIONAL NAM/CAR DE IMPLEMENTACIÓN DE NAVEGACIÓN AÉREA BASADO EN LA PERFORMANCE (NAM/CAR RPBANIP)





Dirección de Ingeniería de Normas y Certificación

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## Air Navigation Targets Background

Following the ICAO Assembly Resolution A35-15, Appendix B, the States and ICAO adopted the concept of Performance Framework for Air Navigation Systems, as well as the development of timely performance objectives and targets for the future system. The Third Meeting of North American, Central American and Caribbean Directors of Civil Aviation (NACC/DCA/3), held in Punta Cana, Dominican Republic, in September 2008, approved the NAM/CAR Regional Performance-Based Air Navigation Implementation Plan (NAM/CAR RPBANIP) and agreed that the RPBANIP would be the valid reference for air navigation implementation activities for the NAM and CAR Regions.

The RPBANIP was updated by the NAM/CAR Air Navigation Implementation Working Group (ANI/WG) in July 2013, aligning the activities and strategies of the RPBANIP with the ICAO Aviation System Block Upgrade (ASBU) methodology. The final version 3 was finalized by the Third Meeting of the North America, Central America and Caribbean Working Group (NACC/WG/03) in March 2014. The Fifth Meeting of North American, Central American and Caribbean Directors of Civil Aviation (NACC/DCA/5), held in Port of Spain, Trinidad and Tobago, in April 2014, approved the RPBANIP Version 3.

#### Introduction

The RPBANIP establishes the NAM/CAR regional priorities described as Regional Performance objectives (RPO) to be accomplished during the period 2013 to 2018, aligned with the global air navigation priorities, and agreed regional performance-based metrics and indicators, and the ICAO ASBU Air Navigation Reporting Forms (ANRFs).

The RPBANIP is a living document that can be reviewed every three years, allowing more periodic amendments in order to maintain the validity, accuracy, and applicability of the Plan. The NAM/CAR Regions adopted, in principle, the 18 Block 0 (B0) modules of the ASBU methodology.

The RPBANIP agreed regional performance-based metrics and indicators are shown in the table below.

If you require any further information, please contact Mr. Luis R. Sánchez, ICAO NACC Regional Officer, Aeronautical Meteorology/Environment (Isanchez@icao.int ) or Ms. Sybil Gómez, Assistant, (sgomez@icao.int).

| ASBU B0 Module  | Element                | Targets  |
|---|------------------------|--|
| B0-FRTO:Improved<br>Operations through<br>Enhanced En-Route | 1 Airspace Planning    | 100% of States to have completed a PBN plan by Dec. 2018                         |
| Trajectories  | 2Flexible Use Airspace | 50% of selected segregated airspaces available for civil operations by Dec. 2016 |





| B0-RSEQ: Improve<br>Traffic Flow Through<br>Runway Sequencing<br>(AMAN/DMAN)           | 3. AMAN And Time-<br>Based Metering  | 10% of selected aerodromes with AMAN and time based metering by Dec. 2016   |
|--|--|---|
|  | 4. Departure<br>Management (DMAN)  | 10% of selected aerodromes with DMAN<br>by Dec. 2016  |
|  | 5. Movement Area<br>Capacity Optimization  | 20% of selected aerodromes with Airport-<br>capacity calculated by Dec. 2016  |
| B0-TBO: Improved<br>Safety and Efficiency<br>through the initial<br>application of En- | 6. ADS-C Over Oceanic<br>and Remote Areas  | 80% of selected FIRs with ADS-C implemented by December 2016  |
| Route Data Link  | 7. CPDLC   | 80% of selected FIRs with CPDLC implemented by June 2018  |
| B0-APTA: Optimization of Approach Procedures Including Vertical                        | 8. APV with Baro VNAV  | 80% of instrument runways to have APV with Baro VNAV implemented by December 2016 – Service Providers and users                                   |
| Guidance   | 9. APV with SBAS<br>(WAAS)   | 20% of instrument runways to have APV with SBAS/WAAS implemented by December 2018– Service Providers and users                                    |
|  | 10. APV with GBAS  | 20% of instrument runways to have APV with GBAS by December 2018 – Initial implementation at some States (services providers)                     |
|  | 11. LNAV   | 60% of instrument runways to have LNAV procedure implemented by December 2016 – Service Providers and users as per Assembly Resolution A37-11     |
| B0-SURF Safety and Efficiency of Surface Operations (A- SMGCS Level 1-2)               | 12. Surveillance System<br>for Ground Surface<br>Movement (PSR, SSR,<br>ADS B or<br>Multilateration) | 30% of selected aerodromes with SMR/<br>SSR Mode S/ ADS-B/ Multilateration for<br>ground surface movement by June 2018<br>States/airport operator |





|  | 13. On-board  | 20% of aircraft on the NAM/CAR State   |
|--|---|--|
|  | Surveillance Systems (transponder with ADS-B capacity)                  | registries to have surveillance system on<br>board (SSR transponder, ADS B capacity)<br>by June 2018                           |
|  |   | Aircraft operators   |
|  | 14. Vehicle Surveillance<br>Systems                                     | 20% of vehicles at selected aerodromes with a cooperative transponder systems by June 2018                                     |
|  |   | Vehicle operators  |
|  | 15. Visual Aids for<br>Navigation                                       | 70% of selected aerodromes complying with visual aid requirements as per Annex 14 by December 2015. States/Airport operators   |
|  | 16. Aerodrome<br>Bird/Wildlife<br>Organization and<br>Control Programme | 70% of selected airports with an aerodrome bird/wildlife organization and control programme by December 2018.Airport operators |
| B0-ACDM<br>Improved Airport<br>Operations through<br>Airport - CDM | 17. Airport – CDM   | 60% of selected aerodromes with Airport-<br>CDM by Dec. 2018 – Airport Operator,<br>Stakeholders                               |
|  | 18. Aerodrome<br>Certification  | 48% of international aerodromes to be<br>certified in the CAR Region by December<br>2016– State CAA                            |
|  | 19. Heliport Operations   | 30% of selected Heliports with operational approval by Dec. 2018 – State CAA   |
| B0-ASUR<br>Initial Capability for<br>Ground Surveillance           | 20. Implementation of ADS-B   | 30% of selected aerodromes with ADS-B implemented by Dec 2018  |
|  | 21. Implementation of<br>Multilateration                                | 80% of multilateration system implemented in selected aerodromes by June 2018  |





| B0-ACAS: ACAS<br>Improvements   | 22. ACAS II (TCAS<br>Version 7.1)   | 10% of aircraft on NAM/CAR State<br>registries equipped with ACAS II (TCAS<br>Version 7.1) by Dec 2018   |
|---|---|--|
| B0-SNET Increased Effectiveness of Ground-Based Safety Nets                               | 23. Short-term Conflict<br>Alert Implementation<br>(STCA)                       | 80% of selected ATS units with ground<br>based safety nets (STCA) implemented<br>by Dec 2015   |
|   | 24. Area Proximity<br>Warning (APW)/<br>Minimum Safe Altitude<br>Warning (MSAW) | 70% of selected ATS units with ground<br>based safety nets (APW) implemented /<br>70% of selected ATS units with ground<br>based safety nets (MSAW) implemented<br>by Dec 2015 |
|   | 25. Medium-term<br>Conflict Alert (MTCA)  | 80% of selected ATS units with ground<br>based safety nets (MTCA) implemented<br>by Dec 2016   |
| B0-AMET: Meteorological Information Supporting Enhanced Operational Efficiency and Safety | 26. WAFS  | 100% of States implementation of WAFS<br>Internet File Service (WIFS) by December<br>2014  |
|   | 27. IAVW  | 70% of MWOs with IAVW procedures implemented by December 2014. Volcanic Ash Advisory Centre, Washington USA and VAAC Montréal, Montréal, Canada                                |
|   | 28. Tropical Cyclone<br>Watch   | 100% of MWOs with tropical cyclone<br>watch procedures implemented by<br>December 2014. Tropical Cyclone<br>Advisory Centre, Miami, USA  |
|   | 29. Aerodrome<br>Warnings   | 50% of selected aerodromes/AMOs with<br>Aerodrome warnings implemented by<br>December 2014   |
|   | 30. Wind Shear<br>Warnings and Alerts   | 20% of selected aerodromes/AMOs with<br>wind shear warnings procedures<br>implemented (MET provider services) by<br>December 2015  |





|  | <u> </u>                                      |   |
|--|---|---|
|  | 31. SIGMET                                    | 90% of selected aerodromes/MWOs with<br>SIGMET procedures implemented (MET<br>provider services) by Dec. 2014   |
| B0-FICE: Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration | 32. MEVA III IP Network<br>Implementation     | 100% implementation of MEVA III IP<br>Network by MEVA Member States by<br>August 2015   |
|  | 33. AMHS<br>Implementation                    | 4 States with Air Traffic Services Message<br>Handling Services (AMHS)<br>interconnected with other AMHS by<br>December 2014                            |
|  | 34. AIDC<br>Implementation                    | 50% of FIRs within which all applicable<br>ACCs have implemented at least one<br>interface to use AIDC/OLDI with a<br>neighbouring ACC by December 2016 |
|  | 35. ATN Router<br>Structure<br>Implementation | 70% of ATN router structure implemented by June 2016  |
| B0-DAIM:<br>Service  | 36. QMS - AIM                                 | 100 % of States QMS Certified by Dec.2016   |
| Improvement<br>through Digital<br>Aeronautical<br>Information                                  | 37. e.TOD<br>Implementation                   | 10 % of States e-TOD Implemented by<br>Dec.2018   |
| Management   | 38. AIXM 5.1<br>Implementation                | 40 % of States with AIXM 5.1 implemented by Dec.2018  |
|  | 39. e-<br>AIP Implementation                  | 45 % of States with e-AIP implemented<br>by Dec.2018  |
|  | 40. Digital NOTAM                             | 35 % of States with Digital NOTAM implemented by Dec. 2018  |
| B0-NOPS: Improved Flow Performance through Planning Based on a Network- Wide View              | 41. Air Traffic Flow<br>Management            | 100% of FIRs within which all ACCs have<br>ATFM measures available by Dec. 2018   |





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| B0-CDO: Improved Flexibility and Efficiency in Continuous Descent Operations (CDOs)                                   | 42. CDO<br>implementation      | 50% of selected. Aerodromes with continuous descent operations (CDO) implemented by Dec.2016                                   |
|---|--------------------------------|--|
|   | 43. PBN STARs                  | 80% of selected. Aerodromes with PBN<br>STARs implemented by Dec.2016  |
| B0-CCO:<br>Improved<br>Flexibility and<br>Efficiency Departure<br>Profiles - Continuous<br>Climb Operations<br>(CCOs) | 44. CCO<br>Implementation      | 60 % of selected aerodromes with continuous climb operations (CCO) implemented by Dec.2016                                     |
|   | 45. PBN SIDs<br>Implementation | 60% of selected aerodromes with PBN<br>SIDs implemented by Dec.2016  |
| AIM Phase I   | 46. Results from 36-40         | 100% of Aeronautical Information<br>Services (AIS) to implement AIM<br>Roadmap – Phase I required elements by<br>December 2016 |

Fuente: <a href="https://www.icao.int/NACC/Pages/Implementation-Targets.aspx">https://www.icao.int/NACC/Pages/Implementation-Targets.aspx</a>