Organización de Aviación Civil Internacional
Oficina para Norteamérica, Centroamérica y Caribe

NOTA DE ESTUDIO

ANI/WG/3 — NE/19
30/03/16

Tercera Reunión del Grupo de Trabajo sobre implementación de Navegación Aérea para las Regiones NAM/CAR (ANI/WG/3)

Ciudad de México, México, 4 al 6 de abril 2016

Cuestión 4 del Orden del Día: **Seguimiento, evaluación de desempeño y monitoreo de las metas del Plan de Implementación de Navegación Aérea Basado en la Performance para las Regiones NAM/CAR (RPBANIP NAM/CAR)**

4.2 Evaluación del avance de la implementación de las metas de la Declaración de Puerto España y el RPBANIP

PROGRESO DE LAS METAS DEL RPBANIP

(Presentada por la Secretaría)

RESUMEN EJECUTIVO

Esta nota presenta los resultados de la encuesta realizada a las metas de navegación aérea, el prototipo del sitio web, el reporte actual suministrado al Grupo Regional de Planificación y Ejecución CAR/SAM (GREPECAS) y a la OACI; e invita a la Reunión a tomar acciones en la implementación de reportes periódicos y a través del análisis de metas regionales definidas en el RPBANIP.

Acción:	Las acciones sugeridas se presentan en la Sección 3.
Objetivos Estratégicos:	• Seguridad Operacional • Capacidad y eficiencia de la navegación aérea • Protección del medio ambiente
Referencias:	• Segunda Reunión del Grupo de Trabajo sobre implementación de Navegación Aérea para las Regiones NAM/CAR (ANI/WG/2), Puntarenas, Costa Rica, 1 al 4 de junio 2015 • Comunicación a los Estados Ref: NACC59843 - Estado de Implementación de las Metas de Navegación Aérea del Plan regional NAM/CAR de implementación de navegación aérea basado en la performance (RPBANIP), 7 de marzo de 2016 • Comunicación a los Estados Ref: AN 13/54-15/77 - Propuesta de quinta edición del Plan mundial de navegación aérea (GANP, Doc 9750), 1 de diciembre de 2015

1. Introducción

1.1 Desde la adopción de las mejoras basadas en la performance, a continuación de la metodología de Mejoras por bloques del sistema de aviación (ASBU) de la OACI (referencia: Plan regional NAM/CAR de implementación de navegación aérea basado en la performance (RPBANIP) versión 3.1), el Grupo de Trabajo sobre implementación de Navegación Aérea para las Regiones NAM/CAR (ANI/WG), en coordinación con esta Oficina Regional ha estado monitoreando y dando seguimiento al avance de las metas de navegación aérea acordadas en el RPBANIP para su implementación en las Regiones NAM y CAR. Tome nota que las metas principales del RPBANIP también fueron adoptadas como las metas de navegación aérea de la Declaración de Puerto España (PoS).

1.2 El Formato de Notificación de Navegación Aérea (ANRF) fue el formato adoptado al utilizar la metodología de Mejoras por bloques del sistema de aviación (ASBU). Durante la Reunión ANI/WG/2, la Secretaría expresó preocupación por la falta de uso de los ANRF adoptadas con el RPBANIP y propuso varias ideas para la revisión y mejoras para esta implementar forma, incluyendo un análisis de las métricas de navegación aérea. La Conclusión ANI/WG/2/20 - ADOPCIÓN DE NUEVO ANRF Y ENFOQUE DE NOTIFICACIÓN A LA IMPLEMENTACIÓN ASBU fue acordada.

1.3 Similarmente, durante la Reunión ANI/WG/2 se recordaron los acuerdos alcanzados por las reuniones ANI/WG/01 y NACC/WG/04 para monitorear la implementación a través del ANRF contenido en los módulos del ASBU, cuya información es parte de la contribución regional al seguimiento global realizado en el Informe Anual Mundial de Navegación Aérea (Informes Anuales 2015 y 2016) y la retroalimentación para el Plan mundial de navegación aérea (GANP) y los cuadros de mando regionales.

2. Discusión

Monitoreo de Metas

2.1 La lista de metas de navegación aérea se muestra en el **Apéndice A** *(disponible únicamente en inglés)*. Varias de las metas se han proporcionado a partir de los datos recolectados por los diferentes TF del ANI/WG, tal como está contenido en los diferentes planes de implementación. Similarmente, algunas metas serán revisadas a la luz de la actualización de las Normas y métodos recomendados (SARPs) de la OACI, como por ejemplo la implementación del ACAS II, en el que enero de 2017 es la fecha obligatoria para que todas las aeronaves estén equipadas (Anexo 10 – *Telecomunicaciones aeronáuticas* de la OACI, Enmienda 85).

2.2 Con el objetivo de apoyar el monitoreo y seguimiento de este avance y suministrar una referencia visual a todos los Estados y usuarios relevantes, la OACI desarrolló una página web bajo el sitio web de la Oficina Regional de la OACI. Esta página web es aún un prototipo (http://www.icao.int/NACC/Pages/Implementation-Targets.aspx). Se solicitó por medio de una encuesta que los Estados/Proveedor de servicios de navegación aérea (ANSP) y IATA proveyeran información de cada meta para asegurar que los datos incluidos estuvieran actualizados y fueran consistentes con las prioridad del Plan de Navegación Aérea Nacional de cada Estado. El **Apéndice B** (*disponible únicamente en inglés*) presenta los resultados de esta encuesta.

2.3 Una propuesta de quinta edición del Plan mundial de navegación aérea (GANP, Doc 9750) ha sido transmitida a los Estados miembros y a las organizaciones internacionales pertinentes para recabar sus comentarios. Esta propuesta de quinta edición del GANP figura como adjunto a la versión electrónica de esta comunicación. La edición propuesta del GANP también puede obtenerse, junto con otra documentación pertinente, incluida una copia electrónica del documento sobre las mejoras por bloques del sistema de aviación (ASBU), en el sitio web http://www.icao.int/airnavigation/Pages/GANP-Resources.aspx.

Reporte de Metas

2.4 A la fecha, el ANRF revisado no ha sido implementado y el reporte del progreso con respecto a las metas lo han hecho las Oficinas Regionales a GREPECAS, como se muestra en el **Apéndice C**. A pesar de que el ANRF revisado fue propuesto al Volumen III del eANP CAR/SAM, debido a la armonización de este volumen por la OACI, el nuevo Volumen III no será implementado hasta 2017.

2.5 El reporte periódico de las metas por cada Estado/ANSP es clave para la presentación adecuada de los datos y la identificación de los beneficios de la operación que acompaña al progreso.

2.6 A partir del compromiso de la OACI para asistir y tomar las acciones necesarias para apoyar a los Estados en la implementación de los formatos de notificación para asegurar la adecuada comprensión y el suministro de información para el monitoreo de la implementación, un taller de implementación ASBU está programado para agosto de 2016. Este taller busca para resolver cualquier dificultad de las Regiones/Estados para correlacionar sus planes con el marco de planeación del ASBU de la OACI, usando el documento de trabajo ASBU y los elementos para cada módulo. El análisis preliminar conducido en la Reunión ANI/WG/2 para completar las metas de navegación aérea será un ejemplo a seguir en este taller. Los objetivos de este taller son:

- Habilitar a los participantes la comprensión del proceso de planeación de la performance de navegación aérea a través de la Cuarta Edición del Plan Mundial de Navegación Aérea y la metodología del ASBU.
- Proveer a los participantes con conocimiento comprensivo de cada una de las prioridades de los módulos del ASBU bloque 0/bloque 1 aprobados como parte del Grupo de implementación de Navegación Aérea para las Regiones NAM/CAR.
- Asistir a los Estados en el desarrollo de sus planes de acción nacionales de performance con una visión más clara de cómo sobrellevar los retos y controles de implementación.
- Definir los datos/entradas a ser suministrados por los Estados y usuarios para monitorear los Indicadores clave de rendimiento (KPI).
- Desarrollar un marco de monitoreo/reporte y asegurar la aplicación del Formato de Notificación de Navegación Aérea (ANRF) propuesta por el Grupo de Implementación de Navegación Aérea para las Regiones NAM/CAR.

Siguientes pasos en la información y monitoreo de las metas

2.7 Las metas del RPBANIP y de la PoS deben ser revisadas por esta Reunión ANI/WG y posteriormente presentadas a los Estados en la próxima Reunión NACC/DCA/6 en Bahamas en mayo de 2016.

2.8 El seguimiento a estas métricas/metas será una actividad activa en la Estrategia Ningún País se Queda Atrás (NCLB) para asegurar la asistencia apropiada y oportuna a los Estados para lograr los beneficios operacionales previstos en estas metas.

3. Acciones Sugeridas

3.1 Se invita a la Reunión a:

a) revisar los resultados de la encuesta presentados en el Apéndice B y actualizar/agregar cualquier información adicional a los datos recolectados;

b) proveer cualquier comentario al prototipo de la página web como herramienta para reflejar el estado del logro de las metas;

c) analizar las metas, estado y formulación/criterios, de manera de proponer cambios o actualizaciones como sean necesarios;

d) proponer nuevas métricas/metas para reflejar los beneficios operacionales para las Regiones CAR/SAM y NAM; y

e) acordar cualquier otra acción que se considere apropiada por la Reunión.

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NAM/CAR RPBANIP AIR NAVIGATION TARGETS

Based on RPBANIP ver 3.1

Red text: POS Declaration Targets **Updated: Dec 2015 for Council WP**

ASBU B0 Module	Element	Targets	Progress up to December 2015
B0-10/FRTO: Improved Operations through Enhanced En-Route Trajectories	1. Airspace Planning	100% of States to have completed a PBN plan by Dec. 2018	90%
	2. Flexible Use Airspace	50% of selected segregated airspaces available for civil operations by Dec. 2016	40%
B0-15/RSEQ: Improve Traffic Flow Through Runway Sequencing (AMAN/DMAN)	3. AMAN And Time-Based Metering	10% of selected aerodromes with AMAN and time based metering by Dec. 2016	Not available- under development
	4. Departure Management (DMAN)	10% of selected aerodromes with DMAN by Dec. 2016	Not available- under development
	5. Movement Area Capacity Optimization	20% of selected aerodromes with Airport-capacity calculated by Dec. 2016	10%
B0-40/TBO: Improved Safety and Efficiency through the initial application of En-Route Data Link	6. ADS-C Over Oceanic and Remote Areas	80% of selected FIRs with ADS-C implemented by December 2016	38.5 %
	7. CPDLC	80% of selected FIRs with CPDLC implemented by June 2018	75 %
B0-65/APTA: Optimization of Approach Procedures Including Vertical Guidance	8. APV with Baro VNAV	80% of instrument runways to have APV with Baro VNAV implemented by December 2016 – Service Providers and users	65.2%
	9. APV with SBAS (WAAS)	20% of instrument runways to have APV with SBAS/WAAS implemented by December 2018– Service Providers and users	28.2%
	10. APV with GBAS	20% of instrument runways to have APV with GBAS by December 2018 – Initial implementation at some States (services providers)	28.2%
	11. LNAV	60% of instrument runways to have LNAV procedure implemented by December 2016 – Service Providers and users as per Assembly Resolution A37-11	79.9%
B0-75/SURF Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)	12. Surveillance System for Ground Surface Movement (PSR, SSR, ADS B or Multilateration)	30% of selected aerodromes with SMR/ SSR Mode S/ ADS-B/ Multilateration for ground surface movement by June 2018 States/airport operator	Not available- under development
	13. On-board Surveillance Systems (transponder with ADS-B capacity)	20% of aircraft on the NAM/CAR State registries to have surveillance system on board (SSR transponder, ADS B capacity) by June 2018 Aircraft operators	Not available- under development
	14. Vehicle Surveillance Systems	20% of vehicles at selected aerodromes with a cooperative transponder systems by June 2018 Vehicle operators	Not available- under development
	15. Visual Aids for Navigation	70% of selected aerodromes complying with visual aid requirements as per Annex 14 by December 2015 States/Airport operators	Not available- under development

ASBU B0 Module	Element	Targets	Progress up to December 2015
	16. Aerodrome Bird/Wildlife Organization and Control Programme	70% of selected airports with an aerodrome bird/wildlife organization and control programme by December 2018 Airport operators	Not available- under development
B0-80/ACDM Improved Airport Operations through Airport - CDM	17. Airport – CDM	60% of selected aerodromes with Airport-CDM by Dec. 2018 – Airport Operator, Stakeholders	Not available- under development
	18. Aerodrome Certification	48% of international aerodromes to be certified in the CAR Region by December 2016– State CAA	34.46%
	19. Heliport Operations	30% of selected Heliports with operational approval by Dec. 2018 – State CAA	Not available- under development
B0-84/ASUR: Initial Capability for Ground Surveillance	20. Implementation of ADS-B	30% of selected aerodromes with ADS-B implemented by Dec 2018	0 %
	21. Implementation of Multilateration	80% of multilateration system implemented in selected aerodromes by June 2018	0%
B0-101/ACAS: ACAS Improvements	22. ACAS II (TCAS Version 7.1)	10% of aircraft on NAM/CAR State registries equipped with ACAS II (TCAS Version 7.1) by Dec 2018	Not available- under development
B0-102/SNET: Increased Effectiveness of Ground-Based Safety Nets	23. Short-term Conflict Alert Implementation (STCA)	80% of selected ATS units with ground based safety nets (STCA) implemented by Dec 2015	Not available- under development
	24. Area Proximity Warning (APW)/ Minimum Safe Altitude Warning (MSAW)	70% of selected ATS units with ground based safety nets (APW) implemented / 70% of selected ATS units with ground based safety nets (MSAW) implemented by Dec 2015	Not available- under development
	25. Medium-term Conflict Alert (MTCA)	80% of selected ATS units with ground based safety nets (MTCA) implemented by Dec 2016	Not available- under development
B0-105/AMET: Meteorological Information Supporting Enhanced Operational Efficiency and Safety	26. WAFS	100% of States implementation of WAFS Internet File Service (WIFS) by December 2014	100 %
	27. IAVW	70% of MWOs with IAVW procedures implemented by December 2014. Volcanic Ash Advisory Centre, Washington USA and VAAC Montréal, Montréal, Canada	77.78 %
	28. Tropical Cyclone Watch	100% of MWOs with tropical cyclone watch procedures implemented by December 2014. Tropical Cyclone Advisory Centre, Miami, USA	100 %
	29. Aerodrome Warnings	50% of selected aerodromes/AMOs with Aerodrome warnings implemented by December 2014	Not available- under development
	30. Wind Shear Warnings and Alerts	20% of selected aerodromes/AMOs with wind shear warnings procedures implemented (MET provider services) by December 2015	Not available- under development
	31. SIGMET	90% of selected aerodromes/MWOs with SIGMET procedures implemented (MET provider services) by Dec. 2014	87.50 %
B0-25/FICE: Increased Interoperability,	32. MEVA III IP Network Implementation	100% implementation of MEVA III IP Network by MEVA Member States by August 2015	9.33%

ASBU B0 Module	Element	Targets	Progress up to December 2015
Efficiency and Capacity through Ground-Ground Integration	33. AMHS Implementation	4 States with Air Traffic Services Message Handling Services (AMHS) interconnected with other AMHS by December 2014	3
	34. AIDC Implementation	50% of FIRs within which all applicable ACCs have implemented at least one interface to use AIDC/OLDI with a neighbouring ACC by December 2016	81.82% (NAM/CAR) 42.86% (CAR)
	35. ATN Router Structure Implementation	70% of ATN router structure implemented by June 2016	50 %
B0-30/DAIM: Service Improvement through Digital Aeronautical Information Management	36. QMS - AIM	100 % of States QMS Certified by Dec.2016	35.89%
	37. e.TOD Implementation	10 % of States e-TOD Implemented by Dec.2018	Not available- under development
	38. AIXM 5.1 Implementation	40 % of States with AIXM 5.1 implemented by Dec.2018	18 %
	39. e-AIP Implementation	45 % of States with e-AIP implemented by Dec.2018	10.3%
	40. Digital NOTAM	35 % of States with Digital NOTAM implemented by Dec. 2018	2.56 %
B0-35/NOPS: Improved Flow Performance through Planning Based on a Network-Wide View	41. Air Traffic Flow Management	100% of FIRs within which all ACCs have ATFM measures available by Dec. 2018	Not available- under development
B0-05/CDO: Improved Flexibility and Efficiency in Continuous Descent Operations (CDOs)	42. CDO implementation	50% of selected. Aerodromes with continuous descent operations (CDO) implemented by Dec.2016	30%
	43. PBN STARs	80% of selected. Aerodromes with PBN STARs implemented by Dec.2016	60%
B0-20/CCO: Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCOs)	44. CCO Implementation	60 % of selected aerodromes with continuous climb operations (CCO) implemented by Dec.2016	30%
	45. PBN SIDs Implementation	60% of selected aerodromes with PBN SIDs implemented by Dec.2016	60%
	Results from 36-40	100% of Aeronautical Information Services (AIS) to implement AIM Roadmap – Phase I required elements by December 2016	79.49%
PBN related- RPBANIP environmental target	Result form PBN- IFSET	Reduce Regional CO2 emissions by 40,000 tons per year through PBN implementation by December 2016	Not available- under review in PBN implementation

	Target	COCESNA		CUBA		República Dominicana		Trinidad y Tobago		French West Indies	
1. Airspace Planning	100% of States to have completed a PBN plan by Dec. 2018	YES		YES		YES	Completed	Yes		YES	LPV implementation on the 2 airports tfff and tffr in 2016. Review of the SID STAR RNAV organisation. Participation with PIARCO new airways organisation
2. Flexible Use Airspace	50% of selected segregated airspaces available for civil operations by Dec. 2016			YES		NO	Ongoing, Dec 2016	Not mentioned	Not applicable within state of Trinidad and Tobago.	no	no military zones
3. AMAN And Time-Based Metering	10% of selected aerodromes with AMAN and time based metering by Dec. 2016			NO	NO SELECCIONADO POR CUBA	NO	Completed	Not mentioned	Trinidad and Tobago has acquired an ATFM system which provides arrival demand information. At this point in time an arrival metering system is not required.	no	
4. Departure Management (DMAN)	10% of selected aerodromes with DMAN by Dec. 2016			NO	NO SELECCIONADO POR CUBA	NO	Completed	Not mentioned	Trinidad and Tobago has acquired an ATFM system which provides departure demand information. At this point in time a departure metering system is not required	no	
5. Movement Area Capacity Optimization	20% of selected aerodromes with Airport-capacity calculated by Dec. 2016			NO	NO SELECCIONADO POR CUBA	NO	Ongoing. Dec 2016	Not mentioned	At this point this is not required.	no	Not necessary at this time
6. ADS-C Over Oceanic and Remote Areas	80% of selected FIRs with ADS-C implemented by December 2016	YES		NO	NO APLICA	NO	N/A	No	Information to be updated. Trinidad and Tobago will meet this requirement by December 2016	no	TMA
7. CPDLC	80% of selected FIRs with CPDLC implemented by June 2018	YES		NO	NO APLICA	NO	Ongoing June 2018	No	Information to be updated. Trinidad and Tobago will meet this requirement by December 2016	no	TMA
8. APV with Baro VNAV	80% of instrument runways to have APV with Baro VNAV implemented by December 2016 – Service Providers and users			YES		NO	Ongoing Dic.2018	Not mentioned	Information to be updated TTPP – LNAV Approaches for both runway ends (10/28) are implemented. BARO-VNAV Approaches to be implemented by December 2016. TTCP – LNAV Approaches for both runway ends (11/29) are implemented. BARO-VNAV Approaches to be implemented by December 2016.	YES	In progress

	Target	COCESNA		CUBA		República Dominicana		Trinidad y Tobago		French West Indies	
9. APV with SBAS (WAAS)	20% of instrument runways to have APV with SBAS/WAAS implemented by December 2018– Service Providers and users			NO	WAAS NOT AVAILABLE LEGALLY	NO	[Ongoing Dic.2018	Not mentioned	At this point in time this is not required.	no	
10. APV with GBAS	20% of instrument runways to have APV with GBAS by December 2018 – Initial implementation at some States (services providers)			NO	NO REQUIREMENT OPERATIONAL	NO	Ongoing Punta Cana Airport.Dic.2016	Not mentioned	At this point in time this is not required.	no	
11. LNAV	60% of instrument runways to have LNAV procedure implemented by December 2016 – Service Providers and users as per Assembly Resolution A37-11			YES		NO	Completed	Not mentioned	Information to be updated. TTPP – LNAV Approaches for both runway ends (10/28) are implemented. TTCP – LNAV Approaches for both runway ends (11/29) are implemented.	yes	1
12. Surveillance System for Ground Surface Movement (PSR, SSR, ADS B or Multilateration)	30% of selected aerodromes with SMR/ SSR Mode S/ ADS-B/ Multilateration for ground surface movement by June 2018 States/airport operator			YES		NO	N/A	Not mentioned	At this point in time this is not required.	no	Not planified French over seas
13. On-board Surveillance Systems (transponder with ADS-B capacity)	20% of aircraft on the NAM/CAR State registries to have surveillance system on board (ADS B capacity) by June 2018 Aircraft operators			DIA	[Add the % of registered aircraft that is equipped with ADS-B capacity]	YES	Ongoing Regulation. Dic 2018	No	Caribbean Airlines have taken steps to have 10% of their fleet ADS-B compliant by June 2018 in accordance with the TTCAA instructions. Caribbean Airlines have indicated that they are still putting their plan in place for ADS-B out on the ATR but will comply with the TTCAA mandate for the fleet. Bristow Caribbean fleet are ABS-B compliant.	yes	More than 50%
14. Vehicle Surveillance Systems	20% of vehicles at selected aerodromes with a cooperative transponder systems by June 2018 Vehicle operators			NO	NO SELECCIONADO POR CUBA	YES	N/A	Not mentioned	At this point in time this is not required.	no	airport operator

	Target	COCESNA		CUBA		República Dominicana		Trinidad y Tobago		French West Indies	
15. Visual Aids for Navigation	70% of selected aerodromes complying with visual aid requirements as per Annex 14 by December 2015 States/Airport operators			DAD	[Add aerodromes that should be included in this target]	NO	Completed	Yes	Both international airports comply. Approach lights for RWY 10 in TTPP (Piarco) and RWY29 in TTCP(Robinson) not available. PAPIS not available RWY 29 TTCP. PAPIS on test RWY 28 TTPP	yes	100% PAPI
16. Aerodrome Bird/Wildlife Organization and Control Programme	70% of selected airports with an aerodrome bird/wildlife organization and control programme by December 2018 Airport operators			YES	[Add airports that should be included in this target]	NO	Completed	No	No Wildlife/Bird strike plan in place. Plans are in draft form. Adhoc wildlife/bird strike management is done. May 2017 should be effective date.	yes	100% airport operator
17. Airport – CDM	60% of selected aerodromes with Airport-CDM by Dec. 2018 – Airport Operator, Stakeholders			NO	NO SE HA INICIADO	YES	Ongoing. ACDM process of Implementation along with ATFM. Dic 2018	Not mentioned	Trinidad and Tobago not listed on dashboard however, CDM established at both international airports. (Airport Safety Management/Operations Committee Meeting)	no	
18. Aerodrome Certification	48% of international aerodromes to be certified in the CAR Region by December 2016– State CAA			YES		NO	Ongoing. 5 out of 8 in Certification Process. Dic 2016.	Yes	Both international airports certified annually.	yes	Civil aviation authorities
19. Heliport Operations	30% of selected Heliports with operational approval by Dec. 2018 – State CAA			NO	NO APLICA	NO	Completed	No	All operational heliports/helipads certified annually. Average 65 per year.	YES	Civil aviation authorities
20. Implementation of ADS-B	30% of selected aerodromes with ADS-B implemented by Dec 2018			YES		NO	Ongoing. Dic. 2018	Not mentioned		yes	Trials in 2017
21. Implementation of Multilateration	80% of Multilateration system implemented in selected aerodromes by June 2018			YES		NO	N/A	Not mentioned		no	Not planified French over seas
22. ACAS II (TCAS Version 7.1)	10% of aircraft on NAM/CAR State registries equipped with ACAS II (TCAS Version 7.1) by Dec 2018			DIA		NO	Ongoing. Dic. 2018	No	Caribbean Airlines have TCAS II installed on all B737 aircraft and have taken steps to have 10% of the 737 version 7.1 compliant by June 2018 in accordance with the TTCAA regulations. Currently all ATR are in compliance with the TTCAA instructions and TCAS11version 7.1		Civil aviation authorities

	Target	COCESNA		CUBA		República Dominicana		Trinidad y Tobago		French West Indies	
23. Short-term Conflict Alert Implementation (STCA)	80% of selected ATS units with ground based safety nets (STCA) implemented by Dec 2015	YES		YES		NO	Completed	Yes		yes	1
24. Area Proximity Warning (APW)/ Minimum Safe Altitude Warning (MSAW)	70% of selected ATS units with ground based safety nets (APW) implemented / 70% of selected ATS units with ground based safety nets (MSAW) implemented by Dec 2015			YES		NO	Completed	Yes		yes	1
25. Medium-term Conflict Alert (MTCA)	80% of selected ATS units with ground based safety nets (MTCA) implemented by Dec 2016	YES		YES		NO	Completed	Yes		no	Not planified French over seas
26. WAFS	100% of States implementation of WAFS Internet File Service (WIFS) by December 2014			YES		YES	Completed	Yes		?	
27. IAVW	70% of MWOs with IAVW procedures implemented by December 2014. Volcanic Ash Advisory Centre, Washington USA and VAAC Montréal, Montréal, Canada			YES		YES	Completed	Yes		yes	
28. Tropical Cyclone Watch	100% of MWOs with tropical cyclone watch procedures implemented by December 2014. Tropical Cyclone Advisory Centre, Miami, USA			YES		YES	Completed	Yes		yes	MET services
29. Aerodrome Warnings	50% of selected aerodromes/AMOs with Aerodrome warnings implemented by December 2014			YES		YES		Not mentioned	The Trinidad and Tobago Meteorological Service will be taking action for full Implementation of the provision of aerodrome warnings by 1st of June 2016.	yes	MET services
30. Wind Shear Warnings and Alerts	20% of selected aerodromes/AMOs with wind shear warnings procedures implemented (MET provider services) by December 2015			YES		YES	Possible implementation in Punta Cana Airport. Dec 2018	Not mentioned	Wind shear alerts to be provided with the implementation of the AWOS (Automatic Weather Observing System). Work is in progress.	no	AIREP

	Target	COCESNA		CUBA		República Dominicana		Trinidad y Tobago		French West Indies	
31. SIGMET	90% of selected aerodromes/MWOs with SIGMET procedures implemented (MET provider services) by Dec. 2014			YES		NO	Completed	Yes		Yes	1
32. MEVA III IP Network Implementation	100% implementation of MEVA III IP Network by MEVA Member States by August 2015	YES		YES		YES	Completed	Not mentioned	Not applicable	?	
33. AMHS Implementation	4 States with Air Traffic Services Message Handling Services (AMHS) interconnected with other AMHS by December 2014	PROJECT IN PROGRESS	Probably will ready for Central America States and COCESNA, December 2016.	NO	Since the beginning of 2014 Cuba and the United States conducted tests for the implementation of the AMHS. It must be concluded the pre-operational test on september 2016	YES	Completed	Yes	Trinidad and Tobago and the United States are currently engaged in interoperability message set testing. To be completed by July 2016.	no	2018 comsoft
34. AIDC Implementation	50% of FIRs within which all applicable ACCs have implemented at least one interface to use AIDC/OLDI with a neighbouring ACC by December 2016	YES		YES		NO	Ongoing. Testing with FAA. Dic. 2016	Yes	Trinidad and Tobago and the United States (New York Oceanic) will be engaged in testing of AIDC messages and it should be implemented by December 2016	no	2018 new ATM system
35. ATN Router Structure Implementation	70% of ATN router structure implemented by June 2016			YES		YES	Completed	No	ECAR AFS network 100% ATN/IP implemented.		
36. QMS - AIM	100 % of States QMS Certified by Dec.2016	YES		YES		YES	Completed	Yes		yes	
37. e.TOD Implementation	10 % of States e-TOD Implemented by Dec.2018			YES		YES	Ongoing Dec.2018	Yes		yes	
38. AIXM 5.1 Implementation	40 % of States with AIXM 5.1 implemented by Dec.2018	PROJECT IN PROGRESS	Probably will ready for Central America States and COCESNA, December 2016.	YES		YES	Ongoing. Dec 2018	No	Trinidad and Tobago is compliant.	yes	
39. e-AIP Implementation	45 % of States with e-AIP implemented by Dec.2018	PROJECT IN PROGRESS	Probably will ready for Central America States and COCESNA, December 2016.	YES		YES	Ongoing. Dec. 2018	No	Trinidad and Tobago is compliant.	yes	1
40. Digital NOTAM	35 % of States with Digital NOTAM implemented by Dec. 2018			NO	DIGITAL NOTAM IN PLANNING FOR NOVEMBER 2020	YES	Ongoing. Dec 2018	Yes	Compliance by December 2018	no	
41. Air Traffic Flow Management	100% of FIRs within which all ACCs have ATFM measures available by Dec. 2018	YES		YES		NO	Ongoing. Dic 2016	No	ATFM procedures utilized in the Piarco FIR. An ATFM system will be in place by July 2016.	yes	

	Target	COCESNA		CUBA		República Dominicana		Trinidad y Tobago		French West Indies	
42. CDO implementation	50% of selected. Aerodromes with continuous descent operations (CDO) implemented by Dec.2016			YES		No	Completed	Not mentioned	CDOs will be implemented at TTPP and TTCP by December 2017.	no	In progress for 2017
43. PBN STARs	80% of selected. Aerodromes with PBN STARs implemented by Dec.2016			YES		NO	Completed	Not mentioned	PBN STARs will be implemented at TTPP and TTCP by December 2017.	no	In progress for 2017
44. CCO Implementation	60 % of selected aerodromes with continuous climb operations (CCO) implemented by Dec.2016			YES		NO	Completed	Not mentioned	CCOs will be implemented at TTPP and TTCP by December 2017.	no	
45. PBN SIDs Implementation	60% of selected aerodromes with PBN SIDs implemented by Dec.2016			YES		NO	Completed	Not mentioned	PBN SIDs will be implemented at TTPP and TTCP by December 2017.	no	In progress for 2017
Results from 36-40	100% of Aeronautical Information Services (AIS) to implement AIM Roadmap – Phase I required elements by December 2016	YES	Excluding eTOD implementation because is a State´s responsibility.	YES		YES	Completed	Yes		yes	100% Phase 1
Result form PBN-IFSET	Reduce Regional CO2 emissions by 40,000 tons per year through PBN implementation by December 2016	YES	To be calculated based on PBN improvements	YES	To be calculated based on PBN improvements	YES	Ongoing. To be calculated. Dec. 2016		Trinidad and Tobago is in the process of implementing a PBN Redesign of the Upper Level /Lower Level of the Piarco FIR airspace. This may be only partially implemented by September 2016. Trinidad and Tobago has also submitted an environmental action plan to ICAO and is currently in the process of collecting data to analyse.	yes	calculated by Eurocontrol

APÉNDICE C

FORMATO PARA SEGUIMIENTO DEL AVANCE EN LOS INDICADORES Y METAS PARA LAS REGIONES CAR/SAM POR PARTE DE GREPECAS
Revisión: Julio 2015

Indicadores		CAR		SAM	
		Valor Actual	**Meta Diciembre 2016**	**Valor Actual**	**Meta Diciembre 2016**
1. PBN TERMINAL	% de pistas con aproximación por instrumentos APV con Baro VNAV, de acuerdo a la Resolución A-37/11	84.8%	80%	65.88%	100%
2. PBN ENRUTA	% de rutas ATS con PBN	N/A	N/A	58%	60%
	% de aeródromos internacionales con SID/ STAR PBN	N/A	N/A	64.29%	60%
3. CDO	% de aeródromos internacionales/TMAs con CDO	N/A	N/A	4,52%	40%
4. CCO	% de aeródromos internacionales/TMAs con CCO	N/A	N/A	4,52%	40%
5. Ahorro de Combustible / C02	Reducción de emisiones basados en IFSET	No disponible	Reducción anual de 40,000Ton de CO2	2014- 51,132 Tons de CO2	Reducción anual de 40,000Ton de CO2
6. ATFM	% de centros de control de áreas (ACCs) que proveen servicio de gestión de afluencia del tránsito aéreo (ATFM)	60%	100% (a Diciembre 2018)	52%	100%
7. AIM	% de elementos necesarios (Mapa de ruta del AIS al AIM) facilitando la transición del AIS al AIM que tienen implementada la Fase I	80%	100% Meta de la Fase 1 compuesta por 4 elementos	84%	100%
8. AMHS interconexión	% interconexiones AMHS a nivel regional	N/A	N/A	20%	100%
9.Interconexion de sistemas automatizados (intercambio de comunicaciones de datos entre instalaciones ATS (**AIDC**)	% de interconexiones de sistemas automatizados	81.82% (NAM/CAR)	50% De los ACC con al menos 1 interfaz (AIDC/OLDI)	12%	100%
10. Implementación de las redes nacionales IP	% de Estados SAM con redes de comunicación IP implementadas	N/A	N/A	40%	80%

Indicadores		CAR		SAM	
		Valor Actual	**Meta Diciembre 2016**	**Valor Actual**	**Meta Diciembre 2016**
11. Certificación de aeródromos (*).	% de aeródromos certificados	35%	48%	12%	20%

(*) Tema de seguridad operacional pero manejado por GREPECAS

— FIN —