



Agenda Item 2: Air Navigation Matters
2.1 Implementation of the NAM/CAR Regional Performance-Based Air Navigation Implementation Plan (NAM/CAR RPBANIP)

AIR NAVIGATION SERVICES OPERATIONAL IMPLEMENTATION SCENARIO

(Presented by the Secretariat)

SUMMARY This Working Paper presents an operational implementation scenario, taking into account the update of the Performance Based Air Navigation Implementation Plan for the NAM/CAR Regions (NAM/CAR RPBANIP). This update envisages that the operational scenario will include strategic operational improvements (SOI) to facilitate the development and harmonization of air navigation systems implementation plans by the CAR/SAM States/Territories/International Organizations. Suggested action for the meeting is presented in paragraph 3.1	
References: • Report of the Thirty-First Eastern Caribbean Working Group Meeting (E/CAR/WG/31), St. John's, Antigua, 5 to 8 October 2009 • Report of the Twenty Second Meeting of Directors of Civil Aviation of the Eastern Caribbean (E/CAR/DCA/22), Port of Spain, Trinidad and Tobago, 8 to 11 December 2009	
Strategic Objectives	<i>This working paper is related to Strategic Objectives A and D.</i>

1. Introduction

1.1 As a result of the E/CAR/WG/31 Meeting, the NAM/CAR RPBANIP was reviewed and finally approved by the E/CAR/DCA/22 Meeting. After several meetings of the Subregional Working Groups, 15 performance objectives were successfully integrated, including operational enhancements in all the air navigation fields as follows:

1. en-route airspace ATS route structure optimization
2. terminal airspace ATS route structure optimization
3. RNP approaches implementation
4. improvements to civil-military coordination and co-operation
5. alignment of upper airspace classification
6. improvement of demand-capacity balance (ATFM)
7. improvement of ATM situational awareness

8. implementation of the new flight plan format
9. improvement of the SAR system
10. improvement of the capacity and efficiency of aerodrome operations
11. protection and optimal use of the radiofrequency spectrum
12. optimization and modernization of the communication infrastructure
13. implementation of WGS-84 and e-TOD
14. implementation of the transition towards AIM
15. improvement of the availability of meteorological information

1.2 With these updates, the RPBANIP, version 1 (May 2010), was finalized. This plan is available at the ICAO NACC Regional Office web page (www.mexico.icao.int).

1.3 The RPBANIP contains the regional performance objectives described by tasks, implementation dates, responsible entity and status of compliance of each task. The plan was developed with project management techniques and has a finalizing horizon of each strategy from 2010 to 2016.

2. Discussion

2.1 In line with the Global ANP, Doc 9750, RVSM initiatives (GPI-02) and the harmonization of flight levels (GPI-03) have now been completed. **Appendix A** to this WP presents a comparative table of Doc 9750 GPIs with RPBANIP performance objectives.

2.2 The work programme of the E/CAR/WG is based on the NAM/CAR RPBANIP, which serves as guidance material to harmonize all States work and implementation plans. The regional implementation work plan is coordinated by the ICAO NACC Regional Office with the sub-regional Implementation Groups and technical co-operation experts supporting the development of tasks in line with agreed planning. Implementation activities monitoring will allow presenting the results to the Directors of Civil Aviation in order to assign priorities and the required material and financial resources to ensure compliance with the tasks.

2.3 From the implementation work carried out in the last years, an operational scenario can be established, included in **Appendix B** to this WP, identifying the implementation priorities and activities for all the air navigation fields. The E/CAR/WG should review and follow-up its work programme taking into account these implementation scenarios and periodically present the achieved results.

2.4 Depending on the current and future scenarios, States/Territories/International Organizations should develop their performance based implementation plans for the next five years, identifying those initiatives that may be adapted to their own needs and ensuring integration and harmonization of air navigation systems and infrastructure with States/Territories/International Organizations and adjacent Regions.

2.5 In order to continue supporting implementation work, the ICAO NACC Regional Office has scheduled two workshops with the support of Special Implementation Projects (SIPs) for the CAR Region. The first one is aimed at developing a PBN airspace concept, from 5 to 8 July 2010; and the second one to support the implementation of automated systems, from 9 to 11 July 2010. In addition, a Workshop has been scheduled to support the implementation of ICAO new Flight Plan Format, to be held from 12 to 13 July 2010, all in Mexico City, Mexico.

2.6 ICAO has also scheduled for 2012 the next AN-Conf 12, where implementation progress and the new air navigation needs will be analyzed, which will the implementation of the ATM system on a worldwide basis. Identification of results and implementation priorities will allow the States to optimize resources and to be prepared for AN-Conf/12.

3 Suggested Action

3.1 The Meeting is invited to:

- a) present the implementation results achieved by States/Territories/International Organizations, based on the tasks described in the NAM/CAR RPBANIP; and
- b) update tasks and activities of the E/CAR/WG work programme (NAM/CAR RPBANIP).

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APPENDIX A

ATM PERFORMANCE OBJECTIVES

As a result of the implementation tasks described in the ATM regional performance objectives (RPOs), it is observed that from the 23 Global plan initiatives (GPIs) of the Global Air Navigation Plan (Doc 9750), two have been finalized, several are under implementation process and others should be analyzed in coordination with other GREPECAS contributory bodies, as indicated below:

GPI		En-route	Terminal Area	Aerodrome	Supporting Infrastructure	Remarks
GPI-1	Flexible use of airspace	X	X			Adopted in work programme ATM. RPO 1, 2, 3
GPI-2	Reduced vertical separation minima	X				Finalized
GPI-3	Harmonization of level systems	X				Finalized
GPI-4	Alignment of upper airspace classifications	X				Adopted in work programme. RPO 5
GPI-5	RNAV and RNP (Performance-based navigation)	X	X	X		Adopted in work programme. RPOs 1, 2, 3
GPI-6	Air traffic flow management	X	X	X		Adopted in work programme. RPO 6
GPI-7	Dynamic and flexible ATS route management	X	X			Adopted in work programme. RPOs 1, 2, 3
GPI-8	Collaborative airspace design and management	X	X			Adopted in work programme. RPOs 1, 2, 3
GPI-9	Situational awareness	X	X	X	X	Adopted in work programme. RPO 7
GPI-10	Terminal area design and management		X			Adopted in work programme. RPOs 1, 2, 3
GPI-11	RNP and RNAV SIDs and STARs		X			Adopted in work programme. RPOs 1, 2, 3
GPI-12	Functional integration of ground systems with airborne systems		X		X	Adopted in work programme. RPO 7
GPI-13	Aerodrome design and management			X		Adopted in work programme. RPO 11
GPI-14	Runway operations			X		Adopted in work programme. RPO 11

GPI		En-route	Terminal Area	Aerodrome	Supporting Infrastructure	Remarks
GPI-15	Match IMC and VMC operating capacity		X	X	X	(All WX operations) Adopted in work programme. RPO 11
GPI-16	Decision support systems and alerting systems	X	X	X	X	Adopted in work programme. RPO 7
GPI-17	Data link applications	X	X	X	X	Adopted in work programme. RPO 7
GPI-18	Aeronautical information	X	X	X	X	Adopted in work programme. RPOs 13 & 14
GPI-19	Meteorological systems	X	X	X	X	Adopted in work programme. RPO 15. Improve MET information availability.
GPI-20	WGS-84	X	X	X	X	Adopted in work programme ATM. RPO 1, 2, 3
GPI-21	Navigation systems	X	X	X	X	Adopted in work programme. RPOs 1, 2 & 3 (GNSS use)
GPI-22	Communication infrastructure	X	X	X	X	Adopted in work programme. RPO 7 (Improvement of aeronautical communications)
GPI-23	Aeronautical radio spectrum	X	X	X	X	Adopted in work programme. RPO 11 (WRC-12)

APPENDIX B

SCENARIO OF OPERATIONAL ENHANCEMENTS IN AIR NAVIGATION SERVICES IN THE CAR REGION

1 Existing and emerging technologies provide options to support both tactical and strategic management of air navigation services. Notwithstanding, technology itself will not be able to provide ideal solutions both for airspace optimization and for aircraft operation.

2 Implementation activities should consider four principles: seek operational enhancement in air navigation services; use existing infrastructure and/or emerging technologies, if applicable; take advantage of the capacity of the structure of existing aircraft; and improve whatever is necessary with a performance-based approach.

3 This makes it necessary to develop Strategy Operational Improvements (SOIs) with a performance-based systemic approach. Some SOI, reflected as short and mid-term implementation Regional Performance Objectives (RPOs), for the CAR Region are as follows:

PBN Implementation - RPOs 1, 2 and 3

4 Many of the tasks described in strategies 1, 2, and 3 for PBN implementation are currently developed by States/Territories/International Organizations. ICAO has kept continuous coordination and monitoring on the latest implementations of RNAV routes and RNAV/RNP approach procedures.

5 Nevertheless, in the medium-term, the development of an integral PBN airspace concept envisaging new ATS capabilities to cover the future air traffic growth demand is required. This task will need the analysis of the new upper and lower airspace and airport adjacent areas requirements, through the coordination of a multi-disciplinary group on factors such as airspace organization and management (AOM), assessment of the existing fleet capacity and of the available CNS infrastructure, publication of routes and procedures, performance metrics, etc.

Infrastructure of navigation

6 The development of an airspace concept requires the analysis of DME coverage to comply with the implementation of RNAV procedures, as well as the assessment of the current navigation infrastructure and all the future GNSS applications. With the GNSS, we now have the ability with a single navigation source of operating globally to an accuracy of a few meters. This source, aided by satellite based augmentations and with GPS augmented by GBAS, will provide accuracy and availability capable of supporting approach down to Cat I. It is required to analyze current navigation infrastructure and all future navigation applications for the use of an on-board RNAV system.

7 **Attachment 1** to this Appendix includes a PBN action plan integrating the 3 RPOs with PBN implementation tasks for phases of flight en route, terminal area and approach. Navigation specifications should be in line with the PBN Roadmap approved by GREPECAS.

Improvements to Civil/Military Coordination and Co-operation r - RPO 4

8 The need of a greater airspace and operations monitoring capacity requires improvements in the short term to the coordination among civil and military authorities. In the medium-term, this coordination will facilitate the implementation of the flexible use of airspace (FUA) and will also have an impact on an improvement to search and rescue (SAR) services that are presently provided by mixed civil and military agencies.

9 The use of airspace should be optimized through the dynamic interaction of civil and military air traffic services including real-time civil/military controller-to-controller co-ordination.

10 The flexible use of airspace (FUA) is based on the principle that airspace should not be designated purely as civil or military, but rather as a continuum in which all user requirements are accommodated to the greatest possible extent. FUA should result in the removal of large tracts of permanent or transient restricted airspace and special use airspace.

11 Where there are continued requirements to accommodate specific individual airspace uses, thereby blocking airspace of certain dimensions, this should be accommodated on a temporary basis. Airspace should be released immediately after the operation requiring the restriction is complete.

12 Bilateral or multilateral agreements to eliminate the blocked airspace across flight paths between national frontiers and on oceanic airspace should be supported.

13 The recent activation of the ATS Contingency Plan for the Port-au-Prince FIR caused by the earthquake occurred on 12 January 2010 made necessary greater civil-military coordination and therefore the flexible use of airspace in the C/CAR. As a result, humanitarian aid and Search and Rescue (SAR) air operations were facilitated in benefit of Haiti. This experience clearly shows the great benefits that may be obtained with these implementation tasks. The strategy with implementation tasks is found on RPO 4. **Attachment 1** to this Appendix presents the action plan for this RPO.

A Classification of upper airspace - RPO 5

14 In line with PBN objectives, airspace should be structured as a continuous space, free of discontinuities and operational differences wherein divergent rules and procedures are not applied.

15 Airspace classification should be based on a safety assessment, taking into account the volume and nature of air traffic in accordance with ICAO Annex 11. Commercial aircraft operations should be carried out within airspace with positive air traffic control service.

16 A harmonized class of airspace also facilitates the introduction and better use of data link communications, better flight plans processing systems, as well as airspace management coordination instruments and advanced message exchange capacities, and therefore a more flexible and dynamic airspace management is obtained.

17 The upper airspace should be published as A Classification when it is over FL195 in a uniform manner in CAR Region and, where possible, across several Regions. Attachment 1 to this Appendix presents the action plan for this RPO.

Improving demand and capacity balance (ATFM) - RPO 6

18 Traffic growth in the medium term will require the implementation of enhancements in the demand and capacity balance of air navigation services. The possible implementation areas should be coordinated at a regional level in order to avoid differences between the applicable procedures. Regional implementation ATFM activities go beyond year 2014.

19 Among the tasks requiring finalization in order to keep a demand and capacity balance (ATFM) are; Airspace Organization and Management (AOM) optimization, related with PBN airspace concept, calculation of ATS and aerodrome capacity, review of Letters of Agreement (LOAs) between ATC units, development of methods to predict the demand of services and definition of ATM situational awareness tools. Attachment 1 presents the action plan for this RPO.

Improving ATM situational awareness - RPO 7

20 Improving ATM situational awareness is translated in enhancements of automation in terms of communications and surveillance. The development of other SOI harmonized with the implementation plans of air navigation systems should be analyzed.

21 To this end, States/Territories/International Organizations should jointly cooperate regarding the interface of ATM automation technologies, in accordance with ICAO available guidelines. The strategy with the implementation tasks included in RPO 7 keeps a safe, gradual, evolutionary and interoperable vision for the implementation and interface of automated systems, facilitating information exchange and collaborative decision making of all the components of the ATM system for a transparent, flexible, optimum and dynamic airspace and international aerodromes management. Moreover, it increases the required safety levels. The strategy also takes into account the environment of data processing and networking, considering the use of ground and space segments for the interactive process of ATS information keeping the criteria of integrity, quality and real time.

22 ATM situational awareness includes improving the aspects of ATS surveillance. The most basic surveillance is the Primary Radar. Modern systems use a transponder located on the aircraft. Secondary radars (SSR) are connected to information sources in the aircraft to provide altitude and identification information. S Mode SSR also allows the provision of other parameters including the aircraft identity and the selected altitude. ADS-B differs from SSR because the aircraft determines its own position through GNSS and broadcasts this position to the ground and to other aircraft. Finally, Multilateration (MLAT) is the new technology used with its application for airports, en-route and terminal areas (TMA) to calculate the position of the aircraft using data of a number of omni-directional separate receivers.

23 In this regard, the evaluation of surveillance infrastructure and identification of Surveillance system improvements to support continental en-route and terminal Airspace in CAR/SAM Regions, airspace classification, and ATFM are considered under this RPO.

24 RPO 7 contains the strategy, based on guidelines approved by GREPECAS Conclusion 12/35, with the short term tasks to design a phased operational architecture, assessing characteristics and features for the interface of the currently existing automated systems or that will be implemented in the ATS units, according to the ATC service levels provided, as well as other operational requirements for the future expectations of the ATM system components. An automation architecture should be designed according to the following stages:

Stage	Implementation of Requirements / Applications
Stage I	- Flight plans messages processing system (FDPS/ Flight Data Processing System)
Stage II	- Processing of radar data and of ATS surveillance (RDPS/ Radar data Processing System, ADS and data radar exchange); - mono-radar; - multi-radar; - radar data sharing; - automated digital messages transfer (automatic transfer of radar control / Automated traffic hand off, AIDC/ CPDLC, etc).
Stage IV	- Implementation of SWIM principles for Collaborative Decision Making (CDM) among the ATM components (AOM [Airspace Organization and Management], CM [conflict management], DCB [Demand/Capacity Balancing], AO [Aerodrome Operation], TS [Traffic Synchronization], AUO [Airspace User Operation], ASDM [ATM Service Demand Management], AIS, MET, statistics, etc)

25 Among the immediate tasks is the establishment of bilateral and multilateral agreements between States/Territories/International Organizations of adjacent airspace and regions for trials and the interface of ATS automated systems; the development of the required rules, procedures and guidance material and the development of human resources training programmes facilitating the implementation/interface and operation of ATS automated systems.

26 The *Interface Control Document (ICD) for the CAR/SAM Regions* should also be used in the exchange of coordination messages between adjacent ATS units automated systems, and contingency procedures should be developed. Attachment 1 to this Appendix presents the action plan for this RPO.

Implementation of the new ICAO Flight Plan Form - RPO 8

27 To implement Amendment 1 to the PANS-ATM (15th edition) on the new ICAO flight plan model format States/Territories/International Organizations should adopt the implementation strategy, and make the necessary efforts to ensure continuity of operations during the transition period. Likewise, coordination should be made with sufficient time in advance to the valid date, so that airspace users and ANSPs may coordinate and resolve any unexpected situation.

28 The strategy also contains a macro analysis of the impact in automated or non-automated ATM systems, as well as in data communication systems, both technical and operational in the CAR/SAM Regions. At the same time, it analyses the operational impact and establishes criteria for the preparation during transition and post-transition, as well as administrative and financial aspects. Also, it presents a performance objective which identifies deadlines and individual parts responsible to monitor the progress, so as to achieve a successful and coordinated implementation of the new flight plan format.

29 To ensure an effective coordination, by States/Territories/International Organizations should nominate points of contact (POC) which shall become the link between ICAO and States/Territories/International Organizations to exchange information on FPL implementation matters.

30 ICAO has developed a website called Flight Implementation Tracking System (FITS), where the status of implementation of the new regulations in all flight information regions (FIRs) will be registered. Information related with implementation dates will be uploaded into this website, which will be available so that points of contact designated by States/Territories/International Organizations exchange information on this matter. The action plan for this RPO is included in Attachment 1 to this Appendix

Improve the SAR system - RPO 9

31 In order to improve the SAR system, it is necessary that States assess their own system. To this end, they should:

- a) develop a SAR Quality Assurance Programme;
- b) review the current SAR agreements, and update and obtain from other States the authorization of SAR Units to improve SAR support within the jurisdiction of another State;
- c) establish a proper coordination between civil and military authorities for an efficient use of all the available SAR resources; and
- d) assess and publish their response capacity for an efficient SAR service within their jurisdiction area.

32 The RPBANIP includes RPO 9 with the implementation tasks so that States/Territories/International Organizations develop their respective plans and work programmes to improve the SAR system. Attachment 1 to this Appendix presents the activities for this RPO.

Improve the capacity and efficiency of operations in aerodromes - RPO 10.

33 During the Seventh Meeting of the Central Caribbean Working Group, in the performance based Air Navigation Implementation Plan for the NAM/CAR regions, it was proposed in the aerodromes field, two performance objectives related to Elimination of identified deficiencies AOP (Birds and Wildlife strike hazard reduction, rescue and fire fighting services and aerodrome emergency planning) and the implementation of aerodromes certification. Nevertheless, in view that these performance objectives are deficiencies that must be corrected for the certification of the aerodrome respectively, it was seen convenient to adopt only one performance objective “Enhance safety and efficiency of aerodromes operations”, in which a task description is included as implementation of aerodrome certification.

34 This new strategy with the implementation tasks was reviewed and approved in the GREPECAS Seventh Subgroup Meeting of the Aerodromes and Ground Aids/Aerodrome Operational Planning (AGA/AOP/SG) which was held in November 2009, and lead to the establishment of the Terms of Reference, Working Programme, Composition, Working Groups description and the Working schedule for the Subgroup. The action plan for this RPO is included under **Attachment 2** to this Appendix.

35 As an integral part of aerodrome certification new requirements are seen for international aerodromes in terms of ground infrastructure including, inter alia, RESA, aerodrome emergency planning, analyze new requirements for rapid exit taxiways, apron management service, surface movement guidance and control systems, minimizing the effects of adverse meteorological conditions on aerodrome operational capacity, etc.

36 The strategies in aerodromes should focus on improvements in the provision of services such as reduction of runway occupancy time, aerodrome operations management, etc. A strategy with implementation tasks is included in RPO 10, Improve the capacity and efficiency of aerodromes operations.

Protection and optimum use of radiofrequency spectrum

37 The radio frequency spectrum is a critical resource for the safety provision of current services and for the implementation of future new system and services. Due to this importance and according to the strategy for the aeronautical radio frequency spectrum defined on the Global Air Navigation Plan (Doc 9750) under GPI-23 – Aeronautical Radio Spectrum, this performance objective procures the timely and continuing availability of adequate radio spectrum through the adequate frequency assignment coordination and the organization of States' support for ICAO position for the WRC-2012, in which the protection of several aeronautical frequency bands and the agreement of new allocations for future aeronautical services and systems are foreseen.

38 Under **Attachment 3** to this Appendix, the expected action and results from the E/CAR/WG, as well as the action plans, are detailed.

Optimization and Modernization of the Communication Infrastructure

39 Communication, navigation and surveillance (CNS) are important enablers for many performance objectives. The efficient use of the existing communication infrastructure and the adequate planning for its upgrade will permit the optimization of this infrastructure and its gradual modernization in satisfaction of the operational requirements and the safety, continuity and regularity of the operations in an harmonized way. Following the strategy for communication infrastructure defined on the Global Air Navigation Plan (Doc 9750) under GPI-22, this performance objective procures the evaluation of the status of the communications in accordance to the current operational requirements, the preparation for the implementation of the ATN, the gradual implementation of AIDC and the revision of the performance of the MEVA II Network.

Implementation of WGS-84 and e-TOD – RPO 13

40. While it is noted that a large part of the work has been completed by most CAR States/Territories/International Organizations, considerable work remains and further effort directed at implementation is required. The availability of geographical coordinates in the commonly agreed reference system WGS-84 is critical to the implementation of PBN, without a full implementation of WGS-84, PBN implementation will be impossible.

41. Three basic references should be observed for AIP publication: Horizontal reference system for latitude and longitude, Vertical reference system Earth Gravitational Model – 1996 (EGM96) for Geoid undulation requirements in order to define gravity related heights (elevations) and Temporal reference system for values in the time domain for a temporal position

42 In the CAR Region, the CAR/SAM Planning and Implementation Regional Group has been dealing with WGS-84 implementation. Conclusions were adopted, to provide guidelines and ways and means for States/Territories and International Organizations to facilitate implementation of WGS84. However, some CAR States/Territories and International Organizations have not yet completed the provision of all geographical coordinates or did not provide adequate maintenance to the WGS84 coordinated network according to Annex 15 par. 3.7, mainly for obstacles and other relevant features to air navigation.

43. The WGS-84 coordinates that are needed for AIP publication are as follows: area/en-route coordinates, aerodrome / heliport coordinates, ATS / RNAV route points, aerodrome/heliport reference points, holding points, runway, FATO, thresholds, en-route radio navigation aids, terminal radio navigation aids, restricted / prohibited / danger areas, final approach fixes (FAF), final approach points (FAP) and other Instrument Approach Procedures (IAP) essential points, obstacles en route, obstacles for IAP, Runway centreline points, FIR boundaries, Aircraft standpoints, CTR boundaries, Aerodrome/heliport obstacles, Other significant points indicated in ICAO Doc. 9674

Implementation of e-TOD

44. Significant safety and efficiency benefits for international civil aviation can be provided by in-flight and ground-based applications that rely on quality electronic terrain and obstacle data (e-TOD). The performance of these applications, which often make use of multiple data sources, may be degraded by data with inconsistent or inappropriate specifications for quality. The increasing worldwide equipage of aircraft and air traffic control units with systems that make use of electronic terrain data requires standardization in the provision of supporting e-TOD.

45. Furthermore, as terrain information is increasingly finding its primary use in the cockpit, many other personnel involved with operations will benefit from the use of quality terrain and obstacle data. Annex 15 paragraph 10.1 lists the many air navigation applications that are supported by e-TOD. It should be noted that, while not a prerequisite, e-TOD is of particular importance to facilitate the design and implementation of performance-based navigation (PBN) approach (RNAV/RNP IAP), arrival (STAR) and departure (SID) procedures and to ensure the data quality throughout the procedure design process (PANS-OPS).

46 The implementation of e-TOD requirements is a challenging process that must be accomplished with a high level commitment, careful planning, sharing of resources and a structured tracking of CAR regional progress. The RPO 13 lists a series of short- and medium-term tasks requirements and as a tool to track implementation processes which are proposed with a view to facilitating implementation.

Implementation of the AIM transition – RPO 14

47 The production of aeronautical data in electronic format as required for the Integrated Aeronautical Information Package (IAIP) will become more needed in the future. Not only will terrain and obstacle data have to be made available in format suitable for computer data exchange, but also most of the other aeronautical information products. In this context, the RPO 14 has one major initiative in the field of aeronautical information service (AIS) in which ICAO is taking a leading role.

48 The expectations are that the transition to AIM will be the introduction of new products and services and an increased emphasis on better data distribution in terms of quality and timeliness in order to meet user requirements and contribute to improved safety, increased efficiency and greater cost-effectiveness of the air navigation system.

49 The purpose of the RPO 14 for the AIM transition is associated with performance requirements by providing a basis upon which to manage and facilitate, on a CAR Regional and worldwide basis, the transition from AIS to AIM. The PFF is based on ICAO roadmap that we know today but has been developed to provide sufficient flexibility for the new concepts that will emerge from future research.

50 During the transition to AIM, steps will aim to strengthen a solid base by enhancing the quality of the existing products. Fine-tuning and improvement of SARPs for existing products will continue to be conducted in the usual manner in order to respond to near-term user requirements.

51 The Implementation AIM transition Performance Objective as contained in the performance framework form in this paper is a fundamental strategy for implementation of electronic information that will enhance pilots' situational awareness during en-route, terminal and aerodrome operations by loading on-board equipment with geo-referenced data sets. The same information may be made available at different ATC positions and pre-flight planning units as well as for access by airlines' flight planning departments or private/general aviation users.

Improve the availability of meteorological information - RPO 15

52 Immediate access to real-time, global OPMET information is required to assist ATM in tactical decision-making for aircraft surveillance, air traffic flow management and flexible/dynamic aircraft routing which will contribute to the optimization of the use of airspace. Such stringent requirements will imply that most meteorological systems should be automated and that meteorological service for navigation be provided in an integrated and comprehensive manner through global systems such as WAFS, the IAVW and the TCWS.

53 Increasing use of data-link to downlink and uplink meteorological information through such systems as D-ATIS and D-VOLMET will assist in the automatic sequencing of aircraft on approach and will contribute to the maximization of capacity. These forecasts and warnings, together with automated OPMET information, will contribute to optimize runway capacity.

54 RPO 15 includes the comprehensive strategy with the implementation tasks to improve the availability of meteorological information.

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E/CAR/WG/32 - WP/02
Attachment 1 to Appendix B

ATM Implementation Work Programme Date: 01/06/10	Task		Summary		Rolled Up Progress		Project Summary	
	Progress		Rolled Up Task		Split		Group By Summary	
	Milestone		Rolled Up Milestone		External Tasks			

— ATT1B 1 —

E/CAR/WG/32 - WP/02
Attachment 1 to Appendix B

ATM Implementation Work Programme Date: 01/06/10	Task		Summary		Rolled Up Progress		Project Summary	
	Progress		Rolled Up Task		Split		Group By Summary	
	Milestone		Rolled Up Milestone		External Tasks			

— ATT1B 2 —

Eastern Caribbean Working Group
ATM Implementation Work Programme

E/CAR/WG/32 - WP/02
Attachment 1 to Appendix B

ID	Task Name/Tarea	Start/Inicio	Finish/Término	Compl.	Resp.												
						H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1
55	Develop architecture through the automation level according to the ATM service provided in airspace and international aerodromes, assessing characteristics for interoperability, data bases, software and technical requirements	Fri 25/08/06	Fri 27/11/15	60%	S-T-IO/ E-T-OI												
56	Implement flight plan data processing system and electronic transmission tools	Fri 25/08/06	Wed 06/08/14	60%	S-T-IO/ E-T-OI												
57	Implement radar data sharing programs where benefits can be obtained	Fri 18/08/06	Fri 30/11/12	10%	S-T-IO/ E-T-OI												
58	Implement ATS surveillance systems and associated procedures	Fri 25/08/06	Fri 01/05/15	60%	S-T-IO/ E-T-OI												
59	implement ATS automated message exchanges, in accordance with CAR/SAM ICD, as required	Fri 25/08/06	Fri 30/11/12	5%	S-T-IO/ E-T-OI												
60	Implement ground and air electronic warning	Fri 25/08/06	Fri 01/05/15	40%	S-T-IO/ E-T-OI												
61	Implement automated radar handovers	Fri 18/08/06	Fri 30/11/12	0%	S-T-IO/ E-T-OI												
62	Implement data link surveillance technologies and applications (ADS, CPDLC, AIDC), according to Doc 4444	Fri 18/08/06	Fri 27/11/15	0%	S-T-IO/ E-T-OI												
63	Implement teleconferences between ATM stakeholders	Fri 05/01/07	Fri 27/11/15	50%	S-T-IO/ E-T-OI												
64	Implement advanced automation support tools to increase sharing of AIS and MET information	Fri 13/04/07	Fri 29/05/15	20%	S-T-IO/ E-T-OI												
65	RPO 8- Implement New Flight Plan Format	Tue 30/09/08	Mon 31/12/12	0%	S-T-IO/ E-T-OI												
66	Evaluation of CURRENT-NEW flight plan processing capabilities regarding the New Flight Plan Format	Thu 01/10/09	Thu 30/12/10	10%	S-T-IO/ E-T-OI												
67	Conduct trials between systems with NEW flight Plan processing capacity	Mon 18/07/11	Sat 30/06/12	0%	S-T-IO/ E-T-OI												
68	Develop of contingency procedures and determination of operational-technical considerations for the transition	Mon 03/01/11	Thu 30/06/11	0%	S-T-IO/ E-T-OI												
69	Identification of key parties considering FP data flow and definition of transition steps based on systems with capability to process both formats current and NEW, and Systems to be upgraded/implemented before 2012 that will be capable to process NEW	Mon 03/01/11	Thu 30/06/11	0%	S-T-IO/ E-T-OI												
70	Publication on Transition Actions, Trials and other publication for the users and stakeholders	Mon 03/01/11	Sat 30/06/12	0%	S-T-IO/ E-T-OI												
71	Assessment of Transition Actions and make adjustments	Mon 18/07/11	Sat 30/06/12	0%	S-T-IO/ E-T-OI												
72	Conduct Transition plan	Mon 02/04/12	Sat 30/06/12	0%	S-T-IO/ E-T-OI												
73	Monitor implementation progress	Tue 30/09/08	Mon 31/12/12	20%	ICAO - OACI												
74	RPO 9- Improve search and rescue (SAR) system	Tue 30/09/08	Mon 31/12/12	0%	S-T-IO/ E-T-OI												
75	Conduct comprehensive analysis of SAR requirements based on risk assessment and quality assurance principles	Fri 15/05/09	Fri 14/05/10	20%	S-T-IO/ E-T-OI												
76	Foster the harmonization of policies, regulations, practices and procedures of the aeronautical/maritime SAR services, in accordance with ICAO Standards and Recommended Methods	Fri 15/05/09	Fri 28/12/12	20%	S-T-IO/ E-T-OI												
77	Develop, update and ratify SAR agreements with RCCs of adjacent States	Fri 15/05/09	Fri 28/12/12	20%	S-T-IO/ E-T-OI												
78	Foster the establishment of joint aeronautical/maritime SAR Committees, including the integration of voluntary SAR organizations, as well as the development of agreements between all the stakeholders of the national SAR service	Fri 15/05/09	Fri 28/12/12	30%	S-T-IO/ E-T-OI												

ATM Implementation Work Programme Date: 01/06/10	Task		Summary		Rolled Up Progress		Project Summary	
	Progress		Rolled Up Task		Split		Group By Summary	
	Milestone		Rolled Up Milestone		External Tasks			

Eastern Caribbean Working Group
ATM Implementation Work Programme

E/CAR/WG/32 - WP/02
Attachment 1 to Appendix B

ID	Task Name/Tarea	Start/Inicio	Finish/Término	Compl.	Resp.	2007			2008			2009			2010			2011			2012			2013			2014
						H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1
79	Develop human resources training -planning strategy in line with ICAO SAR guidelines	Fri 15/05/09	Fri 28/12/12	30%	S-T-IO/ E-T-OI																						
80	Monitor implementation progress	Tue 30/09/08	Mon 31/12/12	30%	ICAO - OACI																						

ATM Implementation Work Programme
Date: 01/06/10

Task		Summary		Rolled Up Progress		Project Summary	
Progress		Rolled Up Task		Split		Group By Summary	
Milestone		Rolled Up Milestone		External Tasks			

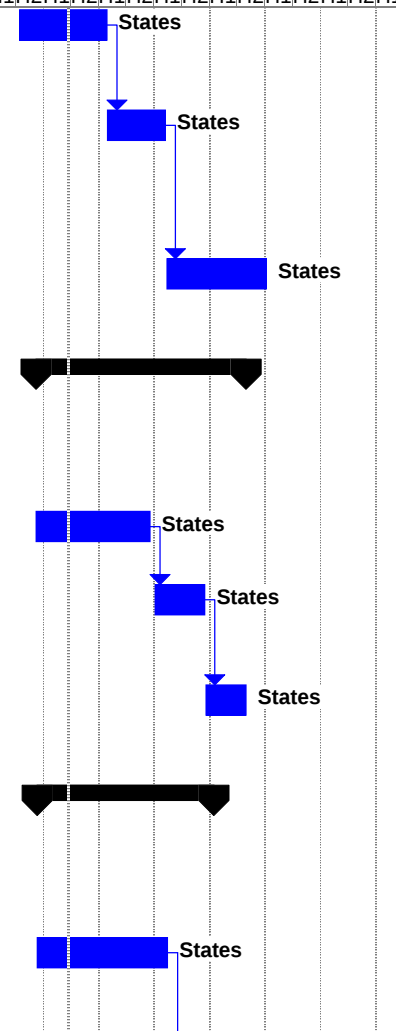
Eastern Caribbean Working Group
AGA Implementation Work Programme

E/CAR/WG/32 - WP/02
Attachment 2 to Appendix B

ID	PFFs Associated	Task Name	Start	Finish	Deliverables/ Entregables	2009	2010	2011	2012	2013	2014	2015	2016
						H1	H2	H1	H2	H1	H2	H1	H2
1		ACTION PLAN AGA	Thu 30/07/09	Wed 31/12/14									
2	10 a)	a) Implementation of Aerodrome Certification	Mon 09/11/09	Fri 28/11/14	Aerodrome certified								
3		Identification of limitations and problems for aerodrome certification	Mon 09/11/09	Fri 26/11/10									
4		Implementation of best practices	Mon 20/12/10	Fri 30/03/12									
5		Draft PANS-AGA Doc	Fri 01/02/13	Fri 29/11/13									
6		Identification of improvements	Mon 02/12/13	Fri 30/05/14									
7		Conduct certification process	Mon 02/06/14	Fri 28/11/14									
8	10 b)	b) Analyze new requirements of rapid exit taxiways	Thu 31/12/09	Mon 04/08/14	Increase runway capacity								
9		Identification of congestion problems	Thu 31/12/09	Fri 17/12/10									
10		Identification of bottle necks	Mon 20/12/10	Mon 18/07/11									
11		Identify new rapid exit taxiways if required and provide them	Tue 19/07/11	Mon 04/08/14									
12	10 c)	c) Implementation of action plans for runway incursion/excursion prevention.	Thu 30/07/09	Fri 10/01/14									

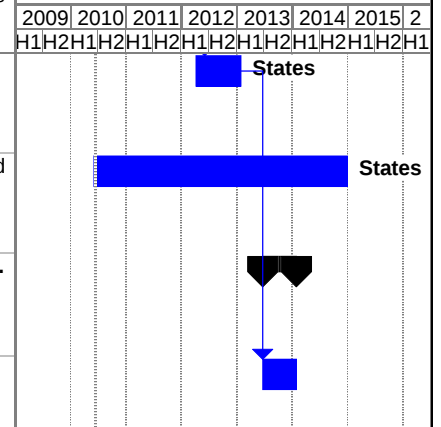
Project: AGA ACTION PLAN - ECARW Date: Thu 10/06/10	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

ID	PFFs Associated	Task Name	Start	Finish	Deliverables/ Entregables	2009	2010	2011	2012	2013	2014	2015	2016
						H1	H2	H1	H2	H1	H2	H1	H2
13			Best practices for runway incursion / excursion prevention	Thu 30/07/09	Fri 25/02/11								
14			Establish a specific set of recommendations to implement for aerodrome community involved in runway operations	Tue 01/03/11	Thu 15/03/12								
15			Establish a runway safety programme	Wed 28/03/12	Fri 10/01/14								
16		10 d)	d) Implement the Airport Capacity analysis, Enhancement and planning (ACE) procedure.	Mon 16/11/09	Fri 30/08/13								
17			Best practices on actual ICAO criteria	Mon 16/11/09	Mon 05/12/11								
18			Accurate capacity assessment under reduced weather conditions.	Mon 09/01/12	Fri 30/11/12								
19			Implementation of Airport Capacity Analysis (ACE) procedure	Mon 10/12/12	Fri 30/08/13								
20		10 e)	e) Minimizing the effects of adverse meteorological conditions on aerodrome operational capacity.	Mon 23/11/09	Wed 30/01/13								
21			Analyse if your airports are experiencing low visibility conditions during long periods of time.	Mon 23/11/09	Fri 30/03/12								



Project: AGA ACTION PLAN - ECARW Date: Thu 10/06/10	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

ID		PFFs Associated	Task Name	Start	Finish	Deliverables/ Entregables	2009	2010	2011	2012	2013	2014	2015	2016
							H1	H2	H1	H2	H1	H2	H1	H2
22			Best practices to ensure safety operations under all meteorological weather conditions.	Tue 10/04/12	Wed 30/01/13									
23		10 f)	f) Implement a Collaborative Decision making (CDM) process in Airport matters.	Tue 08/06/10	Wed 31/12/14	Airport CDM implemented								
24		10 g)	g) Implement Advanced Surface Movement Guidance and Control System (A-SMGCS)	Mon 24/06/13	Thu 30/01/14	A-SMGCS implemented.								
25			Implementation of A-SMGCS	Mon 24/06/13	Thu 30/01/14									



Project: AGA ACTION PLAN - ECARW Date: Thu 10/06/10	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

Project: CNS ACTION PLAN - ECARW Date: Thu 10/06/10	Task	Progress	Summary	External Tasks	Deadline
	Split 	Milestone 	Project Summary 	External Milestone 	

Project: CNS ACTION PLAN - ECARW Date: Thu 10/06/10	Task		Progress		Summary		External Tasks		Deadline	
	Split		Milestone		Project Summary		External Milestone			

Project: CNS ACTION PLAN - ECARW Date: Thu 10/06/10	Task		Progress		Summary		External Tasks		Deadline	
	Split		Milestone		Project Summary		External Milestone			

— ATT3B 3 —

EXPECTED CNS RESULTS FROM E/CAR/WG**FOLLOW-UP AND IMPLEMENTATION ACTION PLAN
AIR-GROUND AND GROUND-GROUND COMMUNICATIONS**

No.	Action Description	Responsible	Deliverables	Expected results or advances for E/CAR/WG/32 Meeting
1	3	4	7	X
1	Improve VHF and HF/AMS (R) coverages and mitigate deficiencies	States/ Territories coordinated by WG	Deficiencies Identification and Corresponding corrective action plan	1. Evaluation of the existing VHF and HF AMS coverage in the E/CAR Subregion in accordance to operational requirements and considering users' reports: for ex. LHD reports 2. Identification of any deficiency or improvement and involved parties. 3. Development of action plan to implement improvement, solution In this respect, based on LHD report, improvement to HF AMS Coverage in PIARCO FIR shall be evaluated and improvements of PIARCO VHF AMS coverages are also expected to be informed. The use of the E/CAR AFS Network as telecommunication mean shall also be indicated as part of the improvement.
2	Improve AFTN communications and ATS direct communications and mitigate deficiencies	States/ Territories coordinated by WG	Deficiencies Identification and Corresponding corrective action plan	1. Evaluation of the existing AFTN circuits in the E/CAR Subregion in accordance to operational requirements. 2. Identification of any deficiency or improvement and involved parties. 3. Development of action plan to implement improvement, solution In this respect, the need for AFTN Service for MET users have been identified for example: in Antigua, Barbados The improvements of these communications through the implementation of the MPLS Network should also be informed. Contingency or backup AFTN agreement involving Communication requirements are to be identified for example: Barbados- T&T, use of alternative AFTN application (as the one of the USA FAA), etc. The improvement of these communications and the impact on FPL distribution shall also be informed as part of the revision of the solutions to problems with lack/duplication of FPLs.

No.	Action Description	Responsible	Deliverables	Expected results or advances for E/CAR/WG/32 Meeting
1	3	4	7	X
3a)	Replace E/CAR Telecommunication Network by E/CAR VSAT Network	E/CAR/NTG	E/CAR VSAT Telecommunication Network	E/CAR NTG shall report its advances in the replacement process as well as the immediate solution actions carried out in the current AFS Network and and short term activities with the MPLS network.
4	Evaluation of required communication infrastructure to satisfy the navigation requirements based on PBN.	States/ Territories coordinated by WG	Analysis of communication infrastructure	For the development of this task, operational PBN requirements need to be defined. The E/CAR/WG, under the ATM, shall define these requirements and the priority of this implementation.
5	Adoption of an “equipment modernization/DATIS Service implementation plan for international airports” in compliance to the ATM requirements.	States/ Territories coordinated by WG	DATIS Modernization and Implementation Plan	E/CAR States are invited to inform on the implementation of ATIS (DATIS) Services, also the identification of this ATM requirements for defined airports shall be determined.
6	Elaborate Air-ground datalink progressive execution Plan based on CAR/SAM Activities Plan and Datalink implementation programme (Appendix AW and AX of Agenda 3 of GREPECAS/13).	GREPECAS CNS/ATM/SG (ATN TF)	Initial Transition Plan for ATN Air-ground applications	E/CAR States are invited to take note of this work to be developed by GREPECAS. Also E/CAR States shall review the results of the ATN Ground-Ground and Air-ground Application seminar held on Dominican republic on Nov 2009. Information available on: http://www.mexico.icao.int/CNS.html
7	Elaborate ATN AIDC Implementation Plan	GREPECAS CNS/ATM/SG (ATN TF)	Initial Transition Plan for ATN ground-ground Applications (AIDC)	E/CAR States are invited to take note of this work to be developed by GREPECAS.
8	Update the ATN Routers Regional Plan	GREPECAS CNS/ATM/SG (ATN TF)	CNS Table 1Ba Updated proposal	E/CAR States are invited to take note of this work to be developed by GREPECAS.
9	Preliminary review of ATN Routers Regional Plan	States/ Territories coordinated by WG	Comments to current version of CNS Table 1Ba	E/CAR States shall review and comment the initial version of the ATN Routers Regional Plan. Information available on: http://www.mexico.icao.int/CNS.html

No.	Action Description	Responsible	Deliverables	Expected results or advances for E/CAR/WG/32 Meeting
1	3	4	7	X
10	Evaluation of AMHS CAAS addresses proposal	States/ Territories coordinated by WG	Comments to AMHS CAAS addresses proposal	E/CAR States shall review and comment the CAR AMHS CAAS Addresses Proposal. Information available on: http://www.mexico.icao.int/CNS.html
11	Technical evaluation of communications and interfaces for AIDC implementation over the AFTN.	States/ Territories coordinated by WG	Technical recommendations for AIDC implementation over the AFTN	For the development of this task, operational AIDC requirements need to be defined including the corresponding ATS units involved. The E/CAR/WG, under the ATM, shall define these requirements and the priority of this implementation.
	Perform activities for the implementation of the ATN and its applications according to the CAR/SAM Regional strategy for the implementation of the ATN and its applications. (Appendix BA of Agenda 3 of GREPECAS/13 Report).:			
12	i. Perform AMHS operation trials	USA, Trinidad & Tobago	Trial results	Involved parties shall inform of relevant activities on the planning or results of these trials.
13	ii. Evaluation of regional networks to support ATN Applications	States/ Territories coordinated by WG	Trial results	Evaluation of AMHS – ATN ground-ground application shall be conducted by E/CAR/NTG Group. The E/CAR/WG shall determine, based on operational requirements, the priority and gradual implementation of the ATN supporting network.
14	iii. Update of Regional Plan for ATN ground-ground applications	States/ Territories coordinated by WG	Updates to Regional Plan for ATN ground-ground applications (CNS Table 1Bb)	E/CAR/WG members shall provide any update to current Regional Plan for ATN ground-ground applications (CNS Table 1Bb). Information available on: http://www.mexico.icao.int/CNS.html
15	iv. Review of CAR/SAM Regional Program for the implementation of the air – ground data links	States/ Territories coordinated by WG	Comments to this Regional Program	E/CAR/WG members shall provide comments and observations to current CAR/SAM Regional Program for the implementation of the air – ground data links. Information available on: http://www.mexico.icao.int/CNS.html

No.	Action Description	Responsible	Deliverables	Expected results or advances for E/CAR/WG/32 Meeting
1	3	4	7	X
16	v. A-G Applications trial Plans	States/ Territories coordinated by WG	Trial Plans for A-G Applications	E/CAR States shall review the results of the ATN Ground-Ground and Air-ground Application seminar held on Dominican republic on Nov 2009. Information available on: http://www.mexico.icao.int/CNS.html Trial Plan for Air-ground Applications should be developed by the E/CAR/WG.
17	vi. Participate on training seminars and events	States/ Territories	Participation on events	On-going task. Several E/CAR States participated in the ATN Ground-Ground and Air-ground Application seminar held on Dominican republic on Nov 2009. Information available on: http://www.mexico.icao.int/CNS.html
18	Procure the application of management and coordination of frequency assignments and the implementation of tools for this goal.	ICAO	Frequency Management and coordination tools	ICAO is working on a Software application to facilitate frequency assignments coordination. An update to COM Lists 1, 2 and 3 will be available by August 2010.
19	Implement management and coordination of frequencies with ICAO	States/ Territories	Comments to ICAO reviewed frequency assignment lists	Several E/CAR States participated in the NAM CAR SAM Regional Preparatory Meeting for WRC-2012 (NCSRPM). The conclusions of this events concerning frequency coordination and frequency interference procedures are available on the Meeting report: http://www.mexico.icao.int/CNS.html . The E/CAR States shall follow the recommendations of this meeting report.
20	Comments to management frequency tools provided by ICAO	Barbados, French Antilles, Trinidad & Tobago, ECCAA	Comments and evaluation of tools	COMPLETED. A new version will be developed based on comments received.
21	Promote and coordinate diffusion of ICAO position for WRC-2012	ICAO	Promote ICAO position	NAM CAR SAM Regional Preparatory Meeting for WRC-2012 (NCSRPM) was organized. E/CAR States shall complete the Point of Contact to coordinate the support to ICAO position for the WRC-2012

— ATT3B8 —

No.	Action Description	Responsible	Deliverables	Expected results or advances for E/CAR/WG/32 Meeting
1	3	4	7	X
22	Participate and coordinate with their national spectrum regulation entities the support to ICAO position for the WRC-2012	States/ Territories	Support ICAO position in WRC-2012 related meetings	Several E/CAR States participated in the ATN Ground-Ground and Air-ground Application seminar held on Dominican Republic on Nov 2009. Information available on: http://www.mexico.icao.int/CNS.html

**EXPECTED CNS RESULTS FROM E/CAR/WG
RPO 11 / RPO 12
FOLLOW-UP AND IMPLEMENTATION ACTION PLAN
NAVIGATION SYSTEMS**

No.	Action Description	Responsible	Deliverables	Expected results or advances for E/CAR/WG/32 Meeting
1	3	4	7	X
1	Evaluation of required navigation infrastructure to satisfy the PBN based navigation requirements, identifying improvements and deficiencies	States/ Territories coordinated by WG	Analysis of required navigation infrastructure for example: DME-DME coverage for selected ATS routes for RNAV 5 Identification of deficiencies Corresponding corrective Action plan	For the development of this task, operational PBN navigation specifications need to be defined. The E/CAR/WG, under the ATM, shall define these requirements and the priority of this implementation.
2	Development of a regional strategy for the implementation of navigation systems	GREPECAS CNS/ATM/SG	Regional Strategy for Navigation Systems	E/CAR States are invited to take note of this work to be developed by GREPECAS. Draft version presented in CNS/ATM/SG01 Meeting, available on Meeting report.
3	Develop recommendations for training in GNSS elements	GREPECAS CNS/ATM/SG	recommendations for training in GNSS elements	E/CAR States are invited to take note of this work to be developed by GREPECAS. GBAS/SBAS training proposal were proposed by GNSS Task Force and presented in CNS/ATM/SG01 Meeting, information available on Meeting report.
4	Plans on GNSS systems (SBAS y GBAS) and trial conduction.	States/ Territories coordinated by WG	GNSS trial plan	Based on GREPECAS references (http://www.mexico.icao.int/CNS.html), the E/CAR states shall plan or agree on future trials for GBAS and SBAS evaluation.

EXPECTED CNS RESULTS FROM E/CAR/WG**FOLLOW-UP AND IMPLEMENTATION ACTION PLAN
SURVEILLANCE SYSTEMS**

No.	Action Description	Responsible	Deliverables	Expected results or advances for E/CAR/WG/32 Meeting s
1	3	4	7	X
1	Evaluation of radar coverage and identification of improvements to satisfy operative requirements.	States/ Territories coordinated by WG	Identification of improvements and Respective Action Plan	E/CAR States shall: 1. Evaluation of the existing SSR radar coverage in the E/CAR Subregion in accordance to operational requirements and looking for situational awareness improvements. 2. Identification of any improvement on a collaborative basis. 3. Development of action plan to implement improvement.
2	Radar Data Sharing implementation	Barbados, French Antilles, Saint Lucia, Trinidad & Tobago	Agreements and implementation of radar data sharing	The involved parties are expected to inform their advances in the agreements and implementation of radar data sharing activities, including advances in the implementation for a multiradar data feed. The Radar Data Sharing Task Force shall provide their report on this subject.
3	Evaluation of surveillance infrastructure to satisfy navigation requirements for PBN	States/ Territories coordinated by WG	Analysis of surveillance infrastructure	For the development of this task, operational PBN navigation specifications need to be defined. The E/CAR/WG, under the ATM, shall define these requirements and the priority of this implementation.
4	Implementation of 24 bits Address registry	States/ Territories coordinated by WG	24 bits Address registry	The involved parties are expected to inform their advances in the development and implementation of their national registry of 24-bit aircraft addresses in accordance to Annex 10, Vol III Chap 9 and GREPECAS guidance (http://www.mexico.icao.int/CNS.html).
5	ADS-B, ADS-C and MLAT trials	States/ Territories coordinated by WG	Trials on ADS-B, MLAT and ADS-C	E/CAR States shall informed their national plans for conducting trials on ADS-B, ADS-C, MLAT and E/CAR/WG shall consolidate a plan for these trials to benefit of its results.

— ATT3B11 —

No.	Action Description	Responsible	Deliverables	Expected results or advances for E/CAR/WG/32 Meeting s
1	3	4	7	X
6	ADS-B cost – benefit analysis	States/ Territories coordinated by WG	ADS-B cost-benefit analysis	Cost-benefit analysis for ADS-B shall be organized to justify implementation and enforcement of ADS-B use.
7	<i>Development of a regional strategy for surveillance systems</i>	GREPECAS CNS/ATM/SG	Regional Strategy for Surveillance Systems	E/CAR States are invited to take note of this work to be developed by GREPECAS. Draft version presented in CNS/ATM/SG01 Meeting, available on Meeting report.
8	Mode S radar implementation and update to Regional Plan on Surveillance Systems	States/ Territories coordinated by WG	Information on Mode S Radar implementation and updates to Regional Plan	E/CAR States shall inform on their plans for Mode S implementation. This information and other surveillance systems implementation shall be used to update the regional Plan on Surveillance System (CNS table 4A available on http://www.mexico.icao.int/CNS.html .)

— END —