INTERNATIONAL CIVIL AVIATION ORGANIZATION
NORTH AMERICAN, CENTRAL AMERICAN AND CARIBBEAN OFFICE

FOURTH MEETING OF DIRECTORS OF CIVIL AVIATION
OF THE CENTRAL CARIBBEAN

(Grand Cayman, Cayman Islands, 17 – 20 May 2000)

Agenda Item 6:   **AIS Developments.**

a) Follow up to the implementation of the National Data Bank (NASC) in the Central Caribbean States/Territories.

REPORT OF THE AUTO/AIS/C/CAR/TF FIRST MEETING

(Working Paper presented by AIS/AUTO/C/CAR/TF Rapporteur)

SUMMARY

This Working Paper presents to the consideration of the Directors of Civil Aviation of the Central Caribbean the results of the First Meeting of the Central Caribbean AIS Automation Task Force for its consideration and approval.

References:

Final Report of the Central Caribbean AIS Automation Task Force First Meeting, Havana, Cuba, March 27 - 31, 2000.

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1.   Introduction

1.1   In the Third Meeting of Directors of Civil Aviation of the Central Caribbean, held in Varadero, Cuba, in April 1999, an AIS Automation Task Force for C/CAR Region was created under **Decision 3/9**, with defined Terms of Reference and Work Programme. The States/International Organizations that integrated the Task Force composition were Cuba, Dominican Republic, IATA and COCESNA, and Cuba was designated the Rapporteur. The main mission of the Task Force was to present to the consideration to the Fourth Meeting of Directors of Civil Aviation, an AIS Automation Plan for the Central Caribbean.

1.2   In order to begin the work of the Task Force, the first Meeting of the Task Force was held in Havana from 27 to 31 March 2000 and was attended by delegates from Cuba, Dominican Republic and COCESNA. The Meeting was carried out in Spanish.

2.   Discussion

2.0   The First Meeting of the Task Force included several topics in its Agenda and as a result, presented one Decision and two Conclusions for the consideration of the Directors. In order to have a better understating of the AIS/AUTO/C/CAR/1 Report, this Working Paper will be separated by topics.

2.1   Organization of the Task Force's work

2.1.1   The Task Force studied the Terms of Reference and the Work Programme that was assigned by the Third DCAs Meeting and which appears in Appendix A to Agenda Item 4 of the Final Report of that Meeting. It was agreed that the immediate objective of the Task Force was to conclude the AIS Automation Plan for the Central Caribbean. However, the delegates also analyzed that the implications that might arise from the Automation could generate other tasks whose dates are not yet defined.

2.1.2   In this sense, and considering Decision 3/9, the Task Force prioritize the tasks and assigned concrete work plans for each one of them. This Work Plan is summarized in a table contained in **Appendix A** to this Working Paper, in order to plan the work and cover the proposed objectives with the foreseen length for each one of them. To this end, the following Draft Decision is presented for the discussion and approval of the Directors:

DECISION 4/XX: ORDER OF PRIORITY AND FORESEEN DURATION OF THE TASKS OF THE CENTRAL CARIBBEAN REGION AIS AUTOMATION TASK FORCE.

That in order to have a better planning, the Task Force develops its work according to the table of task's priorities and foreseen duration of each one of them contained in the Appendix A to this part of the Report, like complement to the Reference Terms and Work Programme.

2.2   AIS Automation Plan for the Central Caribbean (PAISCC)

2.2.1   In this matter the Task Force recognized that in order to value the AIS Automation Plan it is necessary to consider the most recent guidelines approved by the CAR/SAM/3 RAN Meeting, where a new "Concept of an AIS Integrated Automated System for the CAR/SAM Regions" was incorporated. Consequently, with this it got ready AIS Automation Plan for the Central Caribbean (PAISCC) that is presented as Attachment B to this Working Paper.

2.2.2   The Task Force also valued that the development of the C/CAR Plan should not differ with Central America Plan in terms of implementation, so decided that jointly with the Plan, be presented to the Directors the Guide on the operation of an AIS integrated automated system for the C/CAR (COPM C/CAR) – Attachment C – and the Guide about the resources and required training for the NASC operation – Attachment D – to this Working Paper.

2.2.3   In the framework of the Task Force's First Meeting, the Cuban experts presented the aeronautical information automated system SAIA-3000, like part of the offer of helping made by their State in the Third Meeting of Directors carried out in Varadero. Likewise the members of the Task Force knew other offers of existent AIS automated systems. The members agree present to the consideration of the Directors the Cuban offer, considering the proposal of Cuba to work in function of an assistance with non lucrative objective in support to AIS Automation Plan for the Central Caribbean (PAISCC). The reference basic principles for the Cuban offer appear in the Attachment E to this Working Paper.

2.2.4   Finally on NASC implementation matter the Task Force proposes the following Conclusion to the consideration and approval of the Directors:

CONCLUSION 4/XX: AIS AUTOMATION PLAN FOR THE CENTRAL CARIBBEAN (PAISCC).

Recognizing the urgent necessity to improve the proportionate service of necessary aeronautical information/data for the air operations, by means of the employment of AIS automated systems, the C/CAR States/Territories:

a)   adopt the PASICC and the COPM C/CAR contained in the Attachments B and C to this part of the Report and take the pertinent actions to execute them effectively, considering for it the Guide about the resources and required training for the NASC operation, contained in the Attachment D;

b)   consider, the Cuban offer whose basic principles appear in the Attachment E to this part of the Report.

2.3   AIS Quality System

2.3.1   The Task Force recognized the importance that the quality has for the future role of the Aeronautical Information Service with the CNS/ATM implementation. The Task Force considered that once the Directors from Central America had already adopted guidelines on this matter, it would be convenient for the Central Caribbean to homogenize in this matter, for that reason and in spite that it is not contemplated in its Reference Terms and Work Programme, the Task Force considered necessary to establish general rules that serve like guide to the Directors of Civil Aviation, in order to develop the AIS Quality Systems in their States.

2.3.2   The developed General guidelines are content in the Attachment F to this Working Paper and it is proposed to the consideration and approval of the Directors by the following Conclusion:

CONCLUSION 4/XX: AIS QUALITY SYSTEM GENERAL GUIDELINES FOR THE CENTRAL CARIBBEAN.

Taking into consideration the urgent necessity to incorporate in the Aeronautical Information Services, properly organized quality systems that allow to implement the quality assurance in each functional stages, to satisfy the users necessities with 100% of efficiency in the results, that the C/CAR States/Territories:

a) adopt the AIS Quality System general guidelines for the Central Caribbean, contents in the Attachment F to this part of the Report, and

b) take the pertinent actions to instruct in their Administrations to the AIS Specialists in standards of quality guarantee (ISO 9000) so that they study the AIS Quality System general guidelines for the Central Caribbean and these serve as the base for the elaboration of their respective AIS Quality Systems.

3.   Suggested action

3.1   The Meeting are invited to:

a)   take note of the AIS Automation Task Force First Meeting results, and

b)   consider the recommended Decision and Conclusions for approval

- END

APPENDIX A

ORDER OF PRIORITY AND FORESEEN DURATION OF THE TASKS OF THE C/CAR REGION AIS AUTOMATION TASK FORCE

ACTIONS	ASSIGNED PRIORITY	PERIOD	
		BEGINNING	END
1. Adopt the technical specifications for the standardized application of all the elements of the Integrated Aeronautical Information Documentation, with a view to facilitating its automated processing.	A	1999	2001
2. Periodic review on the status of implementation of AIS Automated Systems in the C/CAR States.	A	2000	2001
3. Preparation of guideline material or relevant aids to facilitate the C/CAR States, the implementation of standardized conceptual aeronautical information models approved by ICAO.	B	2001	2003
4. Study and develop reference technical documentation to permit the possible use in the C/CAR Area Subregion of ICAO broadcast (Weather Aeronautical Forecast System/WAFS) for the transmission of AIS Information (NOTAM).	B	2001	2003
5. Give required follow up to the possibility of use of the Internet technology for the aeronautical data exchange in the C/CAR Area, that ICAO develops.	A	1999	2001

APPENDIX B

AIS AUTOMATION PLAN FOR THE CENTRAL CARIBBEAN (PAISCC)

Prepared by the C/CAR Region AIS Automation Task Force.

AIS AUTOMATION PLAN FOR THE CENTRAL CARIBBEAN
(PAISCC)

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**AIS AUTOMATION PLAN FOR THE CENTRAL CARIBBEAN
(PAISCC)**

1. ANTECEDENTS

1.1   As a result of the different meetings of the AIS Automation Task Force for the Caribbean and South America Regions (CAR/SAM), the Regional Group CAR/SAM of Planning and Execution (GREPECAS) in its Seventh Meeting approved the following:

Conclusion 7/10   AUTOMATION IN THE CAR/SAM REGIONS

> Recognizing the urgent necessity to improve the exchange of necessary aeronautical information/data for the air operations by means of the coordinated employment of AIS automated systems that the Regional Offices remit and promote among the CAR/SAM States the execution and use of:
>
> a)   the Coordinated Plan for the implementation of National and Regional Data Banks (NASC and RASC) in the CAR/SAM Regions, and
>
> b)   the Common Operational Procedures Manual for the AIS Integrated Automated System in the CAR/SAM Regions (COPM CAR/SAM).

1.2   Later on with the Conclusion 8/5 the GREPECAS approved what is indicated as follows:

Conclusion 8/5   IMPLEMENTATION OF AIS INTEGRATED AUTOMATED SYSTEMS IN THE CAR/SAM REGIONS

> That:
>
> a)   the pertinent ICAO Regional Offices consider to include in its activities programs for 1999-2000 the necessary resources to celebrate in short term a meeting, to coordinate the pertinent actions for the implementation of AIS integrated automated systems in the CAR/SAM Regions and; also, the convenience of preparing special implementation projects (SIP) to attend the States in the achievement of this objective; and
>
> b)   the CAR/SAM States that have not still made takes the pertinent actions to consider the inclusion in its budgets corresponding to 1999-2000 the purchase of necessary equipment to establish Bank of Data in its respective international NOTAM offices and, also, collaborate efficiently with the ICAO NACC and SAM Regional Offices to carry out the activities mentioned in the section a).

1.3   In the Third Meeting of Directors of Aviation of the Central Caribbean, carried out in Varadero, Cuba, at April 20 – 23, 1999, it was discussed in the Item 4 of the Agenda regarding to AIS Developments the topic of the National Data Bank implementation (NASC) in the Central Caribbean States.

1.4   Analyzing this Item, the Meeting confirmed the importance and the necessity of the implementation of AIS automated systems to improve the processing, updating and distribution of the aeronautical information, in order to obtain more effectiveness and quality in the speed, precision and economic yield of the proportionate services.

1.5   The Meeting of Directors also considered that the function and the importance of the AIS services increase significantly as the implementation of the CNS/ATM systems advances and that to face such reality it is necessary to establish solid bases in those services understanding that the Aeronautical Administrations should carry out their biggest efforts so that the measures adopted by the C/CAR/3 Meeting, related with the improvement of the Aeronautical Information Services of the Central Caribbean, be carried out to effect of to provide efficient services and to prepare them for the transition toward the CNS/ATM systems.

1.6   Consequently with all the above-mentioned the Third Meeting of Directors of Civil Aviation of the Central Caribbean adopted the Conclusion 3/7 that next is exposed:

Conclusion 3/7:   **ACTIONS TO APPLY AND DEVELOP THE AUTOMATION OF AIS AND TO IMPLEMENT THE NASC IN THE C/CAR REGION**

That the States/Territories,

a)   take the relevant actions in order to develop and to implement their AIS National Automated System Center (NASC) as part of an AIS Automated and Integrated System;

b)   to carry the mentioned task in a) take into account the Coordinated Plan for Implementation of the National and Regional Data Bank Centers (NASC/RASC) for the CAR/SAM Regions, approved by the GREPECAS;

c)   moreover, to take into account the successfulness experience obtained by Cuba in the development and implementation of the NASC; as well as the offer of Cuba to co-operate with the States/Territories of the Region.

1.7   Also was approved under the Decision 3/9 to create a C/CAR Region AIS Automation Task Force. The text of the adopted decision was the following one:

Decision 3/9:   **CREATION OF A TASK FORCE ON AIS AUTOMATION OF THE C/CAR REGION**

a)   to create a Task Force on AIS Automation in order to develop an Implementation Plan of AIS Automation for the C/CAR States.

b)   the Task Force will develop his work according to the Reference Terms, Work Programme and Composition that appear in the Attachment A. The Rapporteur will be Cuba.

c)   the Plan shall be concluded so that could be presented to the consideration of the Fourth Meeting of Directors of Civil Aviation of the Central Caribbean, considered to be carry out the next year 2000.

1.8   The ICAO Manual, Aeronautical Information Services, Document 8126-AN/872, Chapter 8, Organization of an Automated Aeronautical Information System, and the Appendix C, AIS Automation, provides the basic principles of automation and a description of an AIS Integrated and Automated System in the regional environment.

1.9   The RAN/CAR/SAM/3 incorporated in the Part VIII of the CAR/SAM Air Navigation Plan a new "Concept of an AIS Integrated Automated System for the CAR/SAM Regions". The C/CAR Region AIS Automation Task Force made reference to all these documents like a guide in the development of this plan and orientation to settle down and to operate the National Automated System Center (NASC) in the Central Caribbean.

2. OBJECTIVE OF THE PLAN

2.1   This Plan was prepared considering current facilities and services available in the Central Caribbean Region and the project to develop and/or to modify the systems in operation for the necessity to emigrate toward a NASC concept in a complete way and at the same time to allow the future evolution to the new concepts that are managed regarding the AIS databases.

Note.- The Third Meeting of C/CAR Directors of Civil Aviation recognized that according to the Coordinated Plan approved by **GREPECAS***, the Central Caribbean States would be included inside the area served by the RASC COCESNA. AIS/AUTO/C/CAR Task Force found convenient not to speak about RASC in this plan, since the CAR/SAM/3 abolished this concept for these Regions, however it didn't discard the concept on the AIS CAR/SAM database guidelines. In this sense, when through* **GREPECAS** *would be officially adopted the AIS CAR/SAM databases (CASADAB) concept, the creation of a subregional AIS database could be foreseen, like for example the* **CADAB** *(Central American AIS Database) under COCESNA administration; in which could also be served the C/CAR States, therefore would have to consider to amend the content of the* **PAISCC** *in correspondence with the evolution of this concept.*

2.2   Based on the current situation of the Central Caribbean Region, the basic objectives of this Plan would be:

   a) To establish the NASC in the International NOTAM Offices of each State of the Central Caribbean;
   b) To provide, if it was necessary, NASC services to States with impossibility of implanting AIS automated systems, and
   c) To propose a NASC implementation calendar for the Central Caribbean.

3. CONCEPT OF THE NASC OPERATIONS

3.1   A NASC acquires information of national sources, producing it in NOTAM format, storing it in its database and putting it to the users disposition in the environment of the State, of the regional integrated system, as well as in the whole world, either of conformity with predetermined arrangements or by means of interrogation.

3.2   In inverse way, the required aeronautical information corresponding to other States should be received in the NOTAM format for its direct entrance in the NASC database or its ulterior processing, if its necessary, so that the NASC can carry out the specific requirements for the international aeronautical information.

3.3   The development and implementation of the NASC systems for each State are necessary for the effective NOTAM operation at national, regional and world level, being defined the planning of the requirements and necessary resources to provide the users of a wide, efficient and reliable service.

3.4   Some NASC should be able to provide consultation services of NOTAM information and preflight information services by means of interrogations at the NOF and AIS aerodrome units of other States that are not able to obtain AIS automated system, in conformity with preset agreements.

3.5   The data links of the NASC to each other, with the NOF and with other regional and worldwide systems require appropriate communication capacities. While waits that the Aeronautical Fixed Service (AFS) it will serve in short term during system development, quicker and more reliable communications are needed to serve these data links.

3.6   The NASC implementation and effective operation will depend on its strict adherence to the NOTAM Format and the standardized common procedures of operation. For that, it could be necessary the execution of the Common Operational Procedures Manual C/CAR for the AIS Integrated Automated System and any reference that can serve in the successive like guide for the NASC development and its future evolution.

3.7   The Central Caribbean States in its NASC implementation process should clearly define the service area to be covered. The C/CAR States whose NOF and AIS aerodrome units require to be served through other NASC will need to establish Agreements Letters for the NASC - NOF arrangements and appropriate communication systems.

3.8   The C/CAR States will need to plan carefully the resources and the required training to operate its NASC.

3.9   In the **Attachment 1** the Concept of an AIS Integrated Automated System for the Central Caribbean Region is described.

4. LOCATION OF PROPOSED NASC AND AREAS OF RESPONSIBILITY

4.1   The location of each NASC will correspond to each NOTAM Office of each C/CAR State that is responsible for the administration, processing and elaboration of the NOTAM information.

4.2   The responsibility distribution of each NASC is the State area of responsibility and the NOTAM reception and processing should be like described in the **Attachment 2**, whose data correspond to the planning settled down in the CAR/SAM ANP in RAN/CAR/SAM/3, taking into account that could be changes according to the particularities of each State in specific regarding NASC implementation possibilities, and even for those States that will implant AIS automated systems could be vary according to the future development of services AIS aerodrome units.

4.3   The **Attachment 3** to this plan presents the basic configurations that cover the Concept of the AIS Integrated Automated System for the Central Caribbean Region.

5. DEVELOP OF THE PLAN

5.1   The implementation of AIS Automation Plan for the Central Caribbean requires of the Aeronautical Authorities State's approval for the supply of necessary resources, as well as of the mutual cooperation among the States and, at the same time to give the follow up to the described program according to the following calendar:

a.   The Directors of Central Caribbean Civil Aeronautics approve the PAISCC

Date: May 2000

b.   Conclusion of the revision and adaptation of guide's materials required for the plan implementation:

1)   Guide on the operation of an AIS Integrated Automated System for the Central Caribbean Region (COPM C/CAR).

Date: May 2000

2)   Guide about the resources and required training for the NASC operation.

Date: May 2000

3)   Draft letters, if being necessary, of the agreement among States to give and to receive the NASC services.

Date: Julio 2000

4)   Acquisition and training of the necessary human resources and acquisition of programs, computer software and installation of the equipment for full NASC operation.

Date: December 2000

5)   Beginning of combined operations of the Central Caribbean Region NASC.

Date: January 2001

ATTACHMENT 1 TO THE PAISCC
CONCEPT OF AN AIS INTEGRATED AUTOMATED SYSTEM FOR THE C/CAR REGION

1. SYSTEM CONFIGURATION

1.1   The system should be based on the facilities and services of participating States according to the following structure:

        a.   automated AIS systems of States providing national services (NASC);

        b.   automated AIS systems of States providing services to other States on the basis of bilateral and multilateral agreements, besides the national service; and

        c.   non automated AIS.

2. AREA TO BE LENT SERVICES

2.1   The system should have the capacity of holding aeronautical information that covers those parts of the world to satisfy the operational requirements for AIS pre-flight briefing service for flights from the origin point to final destination.

3. SYSTEM SERVICE

3.1   The system over-all should provide a service able to satisfy the users operational necessities, according to that detailed indicated in 11 and 12 below.

        National service

3.2   The primary function of the NASC should be to provide the users aeronautical information of a certain State, either in conformity with predetermined arrangements, either by means of interrogation by computer. The NASC should collect the appropriate aeronautical information of national sources, to publish it in NOTAM format, to store it in the NASC database and to put it to the users disposition in the environment of the State, of the integrated regional system, as well as in the whole world, in conformity with predetermined arrangements.

3.3   In inverse way, the required aeronautical information corresponding to other States should be received in the NOTAM format for its direct entrance in the NASC database or its ulterior processing, if its necessary, so that the NASC can carry out the specific requirements for the international aeronautical information.

3.4   The NASC should be able to provide the users service of another participating State that doesn't have AIS automated system, as well as to those of any other State regarding which provides the service, in conformity with predetermined agreements. The State has doesn't AIS automated system but participates in the regional system would have the option, according to bilateral agreement, of being connected with a NASC by means of an intelligent terminal or remote intelligent terminal.

4. SYSTEM FUNCTIONS

4.1 A number of system functions should be performed at regional and national levels.

5. COMMUNICATION

5.1 The Aeronautical Fixed Service (AFS) it should satisfy the communications requirements at an international level. Should be made an optimal use of the available nets of communications for the aeronautical information diffusion, exchange and retrieval, particularly of the NOTAM.

5.2 The selection of the various means for the retrieval of data at a national level should be at the discretion of the individual State and should be largely dependent on the availability and cost of the various services, communications links available and the users requirements.

6. SYSTEM RELIABILITY AND REDUNDANCY

6.1 The system configuration should assure adequate reliability and redundancy.

7. FALL BACK PROCEDURES

7.1 In the case of a system failure, the service within the service area should be continued according to the established procedure for each service area, which should also cover the necessary communication arrangements.

8. RESPONSE TIME

8.1 With the features provided by the system, the use of modern computer techniques and means of communication, short response times be assured.

9. PLANNING AND IMPLEMENTATION

9.1 The planning and implementation of the system should be guided and adjusted by considerations related to efficiency, the cost-effectiveness and the experience.

9.2 Relevant bilateral or multilateral arrangements should aim al minimizing cost by leading to work saving and equipment beneficial to all participants.

9.3 A planning/implementation regional group should co-ordinate the general development of the system and the activities required of States and monitor the over-all situation, for the purpose of detecting in advance divergencies in developments that could lead to later incompatibilities.

10. SYSTEM MANAGEMENT

10.1 The strategic operation of the system should be closely monitored by States to permit speedy reaction to problems encountered and to shortcomings identified. The CAR/SAM Regional Air Navigation Planning and Implementation Group (GREPECAS) should develop an appropriate form of system manager.

11. USERS REQUIREMENTS IN AN AUTOMATED AIS SYSTEM

11.1   The latest pre-flight information bulletins of the specific type needed (i.e route, area, or aerodrome) should be available.

11.2   Information on specific items for given areas required by flight planning services, ATS, AIS or other users, should be provided.

11.3   A list of NOTAM entered into the system after a specific date-time group, to facilitate briefing, should be obtainable.

11.4   Immediate notification capability of items which are of urgent operational significant should be provided.

12. TYPE OF INFORMATION TO BE PROVIDED

12.1   The system should provide the NOTAM to fulfil the area service.

12.2   The system should also provide the following pre- flight information bulletins and lists:

a)   route type bulletin containing NOTAM relevant to aerodrome of departure, the planning route based on FIR crossed, aerodrome of destination and alternate aerodromes;

b)   area type bulletin containing NOTAM relevant to FIR or States;

c)   aerodrome type bulletin containing NOTAM concerning any aerodrome or group of aerodromes;

d)   immediate notification items;

e)   checklist of NOTAM by States, FIR, aerodrome, and,

f)   lists of NOTAM for a specific period or NOTAM entered into the system after a specific date-time group.

12.3   The updating of the pre-flight information bulletins should be covered by system products listed in 12.2 d), e) and f) or by the request for a new pre-flight information bulletins.

12.4   The system features described in 14 below should permit pre-flight information bulletins to be tailored to the needs of the users and should provided flexible options of information content ranging from full system data coverage to data of urgent operational significance.

12.5   Pre-flight information bulletins should be provided in a standard format and ascendant sequence of information.

13. MULTI-ACCESS TERMINALS

13.1   AIS terminals should ultimately be capable of providing OPMET information relating to pre-flight bulletins.

13.2   AIS terminals should ultimately be capable of being used for the filing of a flight plan.

14. SYSTEM FEATURES

NOTAM

14.1   The NOTAM, in the standard ICAO NOTAM format, should constitute the basic data exchange source in the system.

14.2   The NOTAM should be prepared only once, at the entry into the system.

14.3   The system should provide for automatic exchange the NOTAM between the NASC and other NASC.

Common set of qualifiers (Field Q)

14.4   A common set of qualifiers, forming an integral part of the ICAO NOTAM format (field Q) should be use to assure compatibility in data exchange and to permit the production of standard system output products.

Decoded NOTAM text

14.5   The NOTAM text (field E) of the ICAO NOTAM format should be composed of the significations/uniform abbreviated phraseology assigned to the ICAO NOTAM Code, complemented by ICAO abbreviations, indicators, identifiers, designators, call signs, frequencies, figures and plain language.

NOTAM selection criteria

14.6   The NOTAM code contained in the PANS-ABC (Doc. 8400) it is the most comprehensive description of information requiring NOTAM promulgation and should, therefore, constitute criteria for:

> 1)   the storage and retrieval of the information;
>
> 2)   the decision as to whether a particular item is of operational significance;
>
> 3)   the decision as to the relevance of particular items for various types of flights operations, and
>
> 4)   the selection of items of operational significance which require immediate notification.

14.7   Consequently, the NOTAM code should constitute the basis for the determination of the qualifiers for TRAFFIC, PURPOSE and SCOPE.

Geographical reference qualifier

14.8   Sufficient flexibility and tailoring of information for the first step of automation in AIS is achieved by the use of the geographical reference qualifier. This qualifier consists of latitude and longitude accurate to one minute and by reference to world geodetic system – 1984 (WGS-84) with precision to one minute and three-digit distance figure giving radius of influence.

14.9   The provision of more flexible and refined data retrievals cab be satisfied by the application of a geographical reference system which may be required for the expansion of the over-all system in order to meet future requirements. These requirements may derive from the introduction of RNAV operations, the expansion of automation within the air traffic services and the user's system.

14.10   Consequently, in the evolution of the regional system, the geographical reference system based on LAT/LONG coordinates of the World Geodetic Reference (WGS-84) must be as standard.

15. SYSTEM QUERY PROCEDURES

15.1   The system should provide a common set of query procedures.

15.2   The common set of query should make the best use of the database management system applied in order to give rapid response to simple and short request.

15.3   The query procedures should also provide user friendly access to the System without assistance of AIS personnel to obtain the required information.

ATTACHMENT 2 TO THE PAISCC
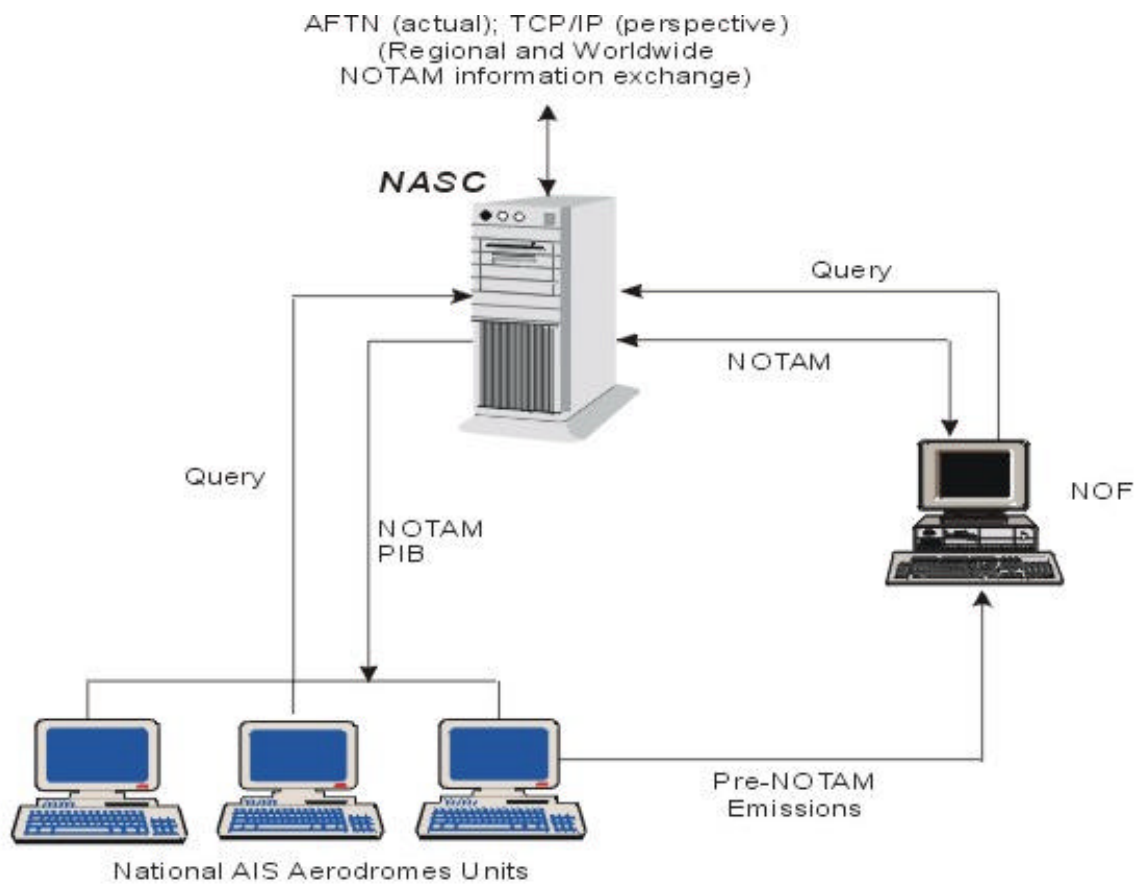## PROPOSED NASC AND AREAS OF RESPONSABILITY TO BE COVERED IN THE C/CAR REGION

STATE/NASC	SERVICE AREA TO BE COVERED

BAHAMAS / NASC

NOF NASSAU

ALICE TOWN/South Bimini, Bimini I.
COCKBURN/San Salvador I.
FREEPORT/Freeport Intl, Grand Bahama I.
GEORGE TOWN/George Town, Exuma I.
GOVERNOR'S HARBOUR/Governor's Harbour, Eleuthera I.
MARSH HARBOUR/Marsh Harbour, Abaco I.
NASSAU/Nassau Intl, New Providence I.
NORTH ELEUTHERA/North Eleuthera, Eleuthera I.
STELLA MARIS/Long Island I.
TREASURE CAY/Treasure Cay, Abaco I.
WES END/West End. Grand Bahama I.

CUBA / NASC

NOF HABANA

CAMAGÜEY/Ignacio Agramonte
CAYO LARGO DEL SUR/Vilo Acuña
CIEGO DE AVILA/Máximo Gómez
HABANA/José Martí Intl
HOLGUIN/Frank País
SANTIAGO DE CUBA/Antonio Maceo
VARADERO/Juan Gualberto Gómez

UNITED SATES / NASC

TURK AND CAICOS ISLANDS

SERVICIO NOTAM

GRAN TURK/Grand Turk Intl
PROVIDENCIALES/Providenciales Intl
SOUTH CAICOS/South Caicos Intl

PUERTO RICO

SERVICIO NOTAM

AGUADILLA/Rafael Hernández Intl
FAJARDO/Diego Jiménez Torre
PONCE/Ponce-Mercedita
SAN JUAN/Luis Muñoz Marin Intl
VIEQUES/Antonio Rivera

STATE/NASC	SERVICE AREA TO BE COVERED

HAITI / NASC **NOF PORT-AU-PRINCE**

CAP HAITIEN/Cap Haitien Intl
PORT-AU-PRINCE/Port-au-Prince Intl

JAMAICA / NASC **NOF KINGSTON**

KINGSTON/Norman Manley Intl
MONTEGO BAY/Sangster Intl

CAYMAN ISLANDS

SERVICIO NOTAM

CAYMAN BRAC/Gerrard Smith Intl
GEORGETOWN/Owen Roberts Intl

DOMINICAN REPUBLIC / NASC **NOF SANTO DOMINGO**

BARAHONA/Arpto. Internacioanl María Montes
HERRERA/Arpto. Internacional de Herrera
LA ROMANA/La Romana Intl
PUERTO PLATA/Gregorio Luperón Intl
PUNTA CANA/Punta Cana Intl
SANTIAGO/Cibao Santiago Intl
SANTO DOMINGO/De Las Américas Intl

NETHERLANDS ANTILLES / NASC **NOF CURACAO**

KRALENDIJK/Flamingo, Bonaire I.
ORANJESTAD/F.D. Roosevelt, Saint Eustatius I.
PHILIPSBURG/Princess Juliana, St. Maarten I.
WILLEMSTAD/Hato, Curacao I.

ARUBA

SERVICIO NOTAM

ORANJESTAD/Reina Beatrix, Aruba I.

ATTACHMENT 3 TO THE PAISCC

BASIC CONFIGURATIONS THAT COVER THE CONCEPT FOR AN INTEGRATED AUTOMATED AIS SYSTEM FOR THE CENTRAL CARIBBEAN REGION

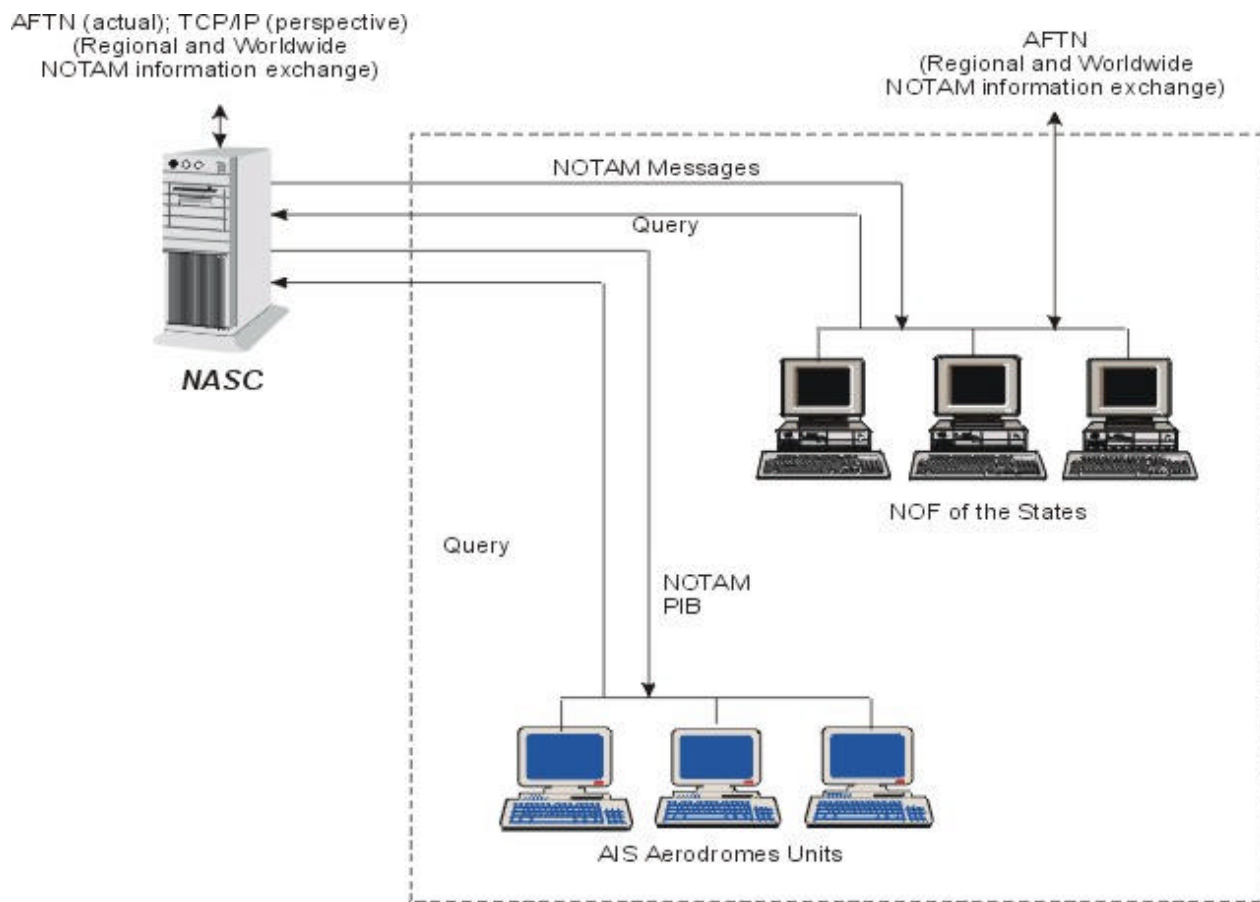**BASIC CONFIGURATION OF AIS AUTOMATED SYSTEM WITH NATIONAL COVERAGE**

AFTN (actual); TCP/IP (perspective)
(Regional and Worldwide
NOTAM information exchange)

NASC

Query

NOTAM

NOF

Query

NOTAM
PIB

Pre-NOTAM
Emissions

National AIS Aerodromes Units

BASIC CONFIGURATION OF AIS AUTOMATED SYSTEM WITH NATIONAL COVERAGE

BASIC CONFIGURATION OF AIS AUTOMATED SYSTEM WITH INTERNATIONAL COVERAGE
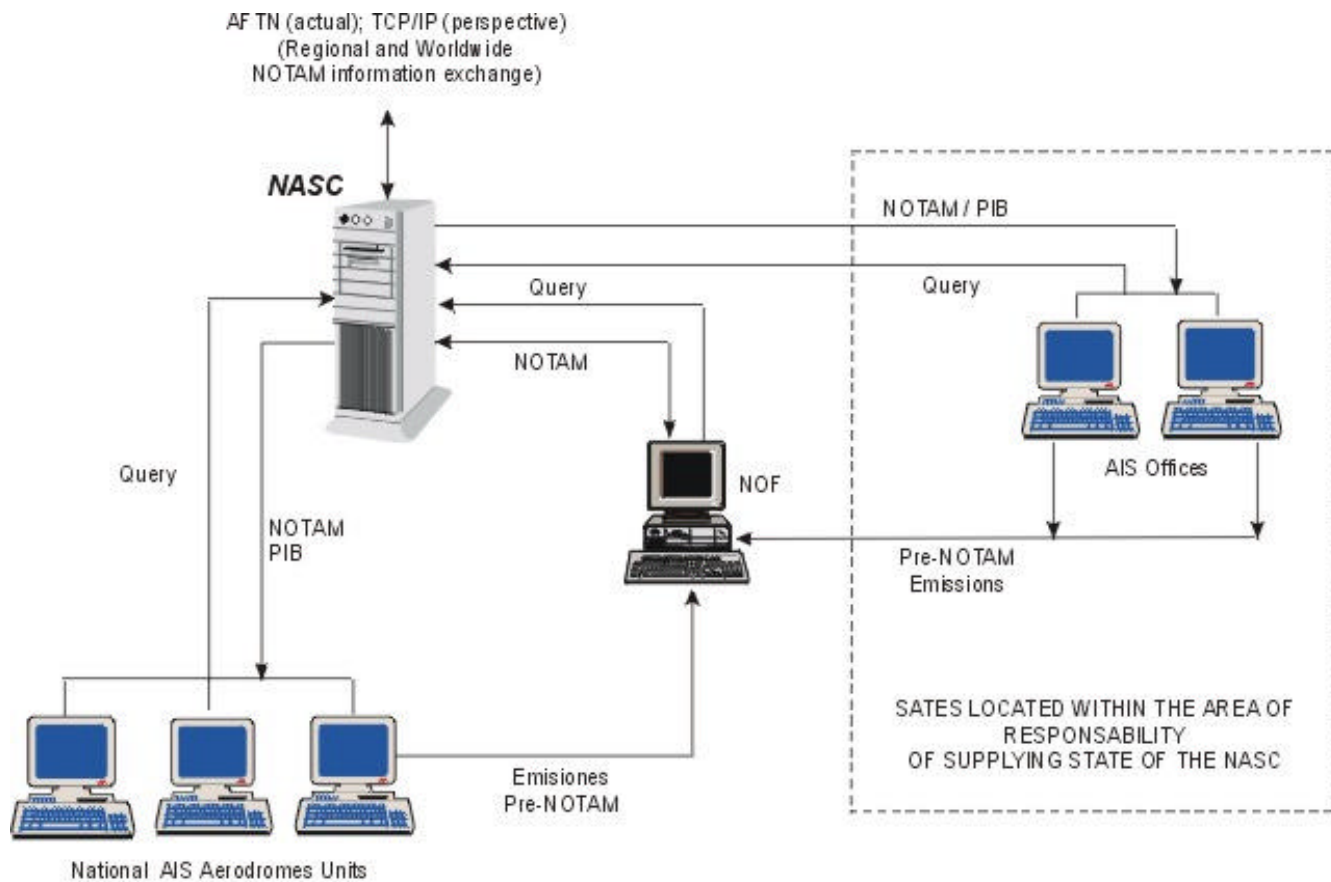
BASIC CONFIGURATION OF AIS AUTOMATED SYSTEM WITH INTERNATIONAL COVERAGE

BASIC CONFIGURATION OF POSSIBLE NON AUTOMATED AIS SERVED BY OTHER NASC

BASIC CONFIGURACION OF POSSIBLE NON AUTOMATED AIS SERVED BY OTHER NASC

APPENDIX C

GUIDE ON THE OPERATION OF AN AIS INTEGRATED AUTOMATED SYSTEM FOR THE C/CAR

Common Operational Procedure Manual for the C/CAR AIS Integrated Automated System (COPM C/CAR)

Prepared by the C/CAR Region AIS Automation Task Force.

APPENDIX D

GUIDE ABOUT THE RESOURCES AND REQUIRED TRAINING FOR THE NASC OPERATION

Prepared by the C/CAR Region AIS Automation Task Force.

APPENDIX E

**RERERENCE BASIC PRINCIPLES FOR THE CUBAN OFFER OF AERONAUTICAL
INFORMATION AUTOMATED SYSTEM SAIA-3000**

Prepared by Cuba.

APPENDIX F

AIS QUALITY SYSTEM GENERAL GUIDELINES FOR THE CENTRAL CARIBBEAN

Prepared by the C/CAR Region AIS Automation Task Force.