ICAO International Civil Aviation Organization
North American, Central American and Caribbean Office

Second Meeting of Rapporteurs of the North American, Central American and Caribbean Working Group

(NACC/WG/RAP/02)

Final Report

Mexico City, Mexico, 28 to 31 March 2023

Prepared by the Secretariat

May 2023

List of Contents

HISTORICAL

ii.1 Place and Date of the Meeting

The Second Meeting of Rapporteurs of the North American, Central American and Caribbean Working Group Meeting (NACC/WG/RAP/02) was held in a hybrid manner at the ICAO NACC Regional Office in Mexico City, Mexico, and on-line from 28 to 31 March 2023.

ii.2 Opening Ceremony

Mr. Julio César Siu, Acting Regional Director of the North American, Central American and Caribbean (NACC) Regional Office of the International Civil Aviation Organization (ICAO), provided opening remarks and thanked the attendance and participation of the Chairperson of the North American, Central American and Caribbean Working Group, Mr. Julio César Mejía of Dominican Republic, and welcomed participants and officially opened the meeting.

ii.3 Officers of the Meeting

Mr. Mejía presided the meeting. Mrs. Mayda Ávila, Regional Officer, Communications, Navigation and Surveillance (CNS) served as Secretary of the meeting, assisted by Mr. Eddian Méndez, Regional Officer, Air Traffic Management and Search and Rescue, both from the ICAO NACC Regional Office.

ii.4 Working Languages

The working languages of the Meeting were English and Spanish. The working papers, information papers and report of the meeting were available to participants in both languages.

ii.5 Schedule and Working Arrangements

It was agreed that the working hours for the sessions of the meeting would be from 09:00 to 15:00 hours daily with adequate breaks.

ii.6 Agenda

Agenda Item 1 Adoption of the Provisional Agenda and Schedule

Agenda Item 2: Global Air Navigation Plan (GANP), seventh edition

Agenda Item 3: **Correlation between the Implementation of Air Navigation and the Global Aviation Safety Plan (GASP)**

Agenda Item 4: **Development of the Electronic Air Navigation Plan (e-ANP) Vol. III: regional objectives and metrics**

Agenda Item 5: **Update of the Action Plans of the Task Groups of the NACC/WG, of the NACC/WG Action Plan and of the regional activities in the Development of the Projects of the CAR/SAM Regional Planning and Implementation Group (GREPECAS)**

Agenda Item 6: **Other Business**

ii.7 Attendance

The Meeting was attended by 15 States/Territories from the NAM/CAR Regions, 3 International Organizations, totalling 57 delegates as indicated in the list of participants.

ii.8 Draft Conclusions and Decisions

The Meeting recorded its activities as Draft Conclusions and Decisions as follows:

DRAFT CONCLUSIONS: Activities requiring endorsement by the Directors of Civil Aviation of North America, Central America and Caribbean (NACC/DCA).

DECISIONS: Internal activities of the NACC Working Group (NACC/WG).

ii.8.1 List of Draft Conclusions

ii.8.2 List of Decisions

ii.9 List of Working and Information Papers and Presentations

Refer to the Meeting web page:

https://www.icao.int/NACC/Pages/meetings-2023-wgrap02.aspx

WORKING PAPERS

Number	Agenda Item	Title	Date	Prepared and Presented by
WP/01	1	Adoption of the Provisional Agenda and Schedule	27/03/23	Secretariat
WP/02 Rev.	2	Basic Building Blocks (BBB)	29/03/23	Secretariat
WP/03	2	Mejoras por bloques del Sistema de aviación (ASBU)	15/03/23	Secretariat
WP/04 Rev.	2	Key Performance Indicators (KPIs)	28/03/23	Secretariat
WP/05 Rev. 1	4	Development of the CAR/SAM e-ANP Volume III	28/03/23	Secretariat
WP/06	5	Work Plan and Priorities of the Aeronautical Information Management (AIM) Area	29/03/23	Secretariat
WP/07	5	Projects and Activities in the Aerodromes and Ground Aids (AGA) Area	27/03/23	Secretariat
WP/09	5	Work Plan and Priorities in the Communications, Navigation and Surveillance (CNS) Area	27/03/23	Secretariat
WP/10	5	Work Programme and Priorities of the Aeronautical Meteorology Area	27/03/23	Secretariat
WP/11	5	ADS-B Regulation in Central America and Surveillance Group Update Status Report and Work Plan	23/03/23	COCESNA
WP/12	5	Update Status Report and Work Plan of the Surveillance Group	14/03/23	NACC/WG/SURV Task Force Rapporteur

WORKING PAPERS

Number	Agenda Item	Title	Date	Prepared and Presented by
WP/13	5	Regional Frequencies Management for the CAR Region	21/03/23	NACC/WG/FRE Task Force Rapporteur
WP/14	5	Flight and flow — information for a collaborative environment (FF-ICE) services	27/03/23	NACC/WG/AIDC Task Force Rapporteur
WP/15	5	Challenges and priorities for APAC/ICD and NAM/ICD implementation (*en inglés únicamente*)	27/03/23	NACC/WG/AIDC Task Force Rapporteur
WP/16	5	Caribbean Air Navigation Services Network (CANSNET)	13/03/23	MEVA/TMG Rapporteur
WP/17	5	Interoperability Tests for the Exchange on the Aeronautical Message Handling System (AMHS) of Operational Meteorological (OPMET) Data IN Accordance with the ICAO Weather Information Exchange Model (IWXXM)	13/03/23	MEVA/TMG Rapporteur
WP/18	5	The Electronic Air Navigation Plan (e-ANP) Update – NAM/CAR Region	29/03/23	NACC/WG/AIM/TF Rapporteur
WP/19	5	Aeronautical Information Management (AIM) / Task Force (TF) Action Plan	29/03/23	NACC/WG/AIM/TF Rapporteur
WP/20	5	Status of SAR Implementation in the CAR Region and Main Challenges	02/03/23	Secretariat
WP/22	5	Incorporation of the Twentieth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/20) Decisions and Conclusions in the NACC/WG Task Forces	22/03/23	Secretariat
WP/23	2	Universal Safety Oversight Audit Programme (USOAP)	24/03/23	Secretariat
WP/24	3	Impact of the Global Aviation Safety Plan (GASP) on Air Navigation Implementation Activities	27/03/23	Secretariat

INFORMATION PAPERS

Number	Agenda Item	Title	Date	Prepared and Presented by
IP/02 Rev.	1	e-ANP Table Template Filling Instructions	29/03/23	NACC/WG/AIM/TF Rapporteur

PRESENTATIONS

Number	Agenda Item	Title	Presented by
P/01 Rev.	1	Meeting Objectives	Secretariat
P/02	5	Airspace Optimization	Secretariat
P/03	3	Basic Building Block (BBB) Framework	Secretariat
P/04	5	Roadmap to developing an ATFM review capability	NACC/WG/ATFM Task Force Rapporteur

LIST OF PARTICIPANTS

ANTIGUA AND BARBUDA / ANTIGUA Y BARBUDA

1. Shenneth Phillips (virtual attendance [v])

BAHAMAS

2. Rashad Penn (v)
3. Karen Farquharson (v)

BARBADOS

4. Kevon Hunte (v)
5. Denielle Callender (v)

COSTA RICA

6. Bernardita Mora (v)
7. Gerardo Aguero (v)

CUBA

8. Layla Rodriguez Vidal

CURAÇAO / CURAZAO

9. Natasha Leonora-Belefanti

DOMINICA

10. Winston Nixon (v)

DOMINICAN REPUBLIC / REPÚBLICA DOMINICANA

11. Fernando Alipio Casso Rodriguez
12. Julio César Mejía Alcántara
13. Antony Joel Pérez Martínez
14. Claudia Beatriz Roa Ochoa

GRENADA

15. Sheldon Thomas (v)

HAITI / HAITÍ

16. Emmanuel Joseph Jacques

MEXICO / MÉXICO

17. Raul Garcia (v)
18. Fernando Ramírez Suárez
19. Juan Carlos Ramos Soto
20. Marissa Saithe Núñez Rincón
21. José Inés Gil Jiménez
22. Juan Gustavo Covarrubias Martínez
23. Rafael Castro Castro
24. Aldo Figueroa Negrete
25. Luis Sergio Ibarra Vázquez
26. Manuel Alejandro Cruz Martinez
27. Sergio González Chavez
28. Manuel Rodríguez Santiesteban
29. Daniel Conrado Castañeda Cruz
30. Sandra Fabiola Carrera Peña
31. Gustavo Navarrete Orta

SAINT KITTS AND NEVIS / SAINT KITTS Y NEVIS

32. Kenrick Duncan (v)

VINCENT AND THE GRENADINES / SAN VICENTE Y LAS GRANADINAS

33. Dillett Davis (v)

TRINIDAD AND TOBAGO / TRINIDAD Y TABAGO

34. Steve Ramgoolam (v)
35. Veronica Ramdath
36. Riaaz Mohammed
37. Rohan Garib

UNITED STATES / ESTADOS UNIDOS

38. Vern Payne (v)
39. Norma Viviana Campos
40. Alejandro Rodriguez
41. Scott Farrow

CANSO

42. Javier Vanegas

COCESNA

43. Roger Alberto Perez Serrano
44. Victor Manuel Andrade Salgado (V)
45. Pablo Alexander Luna Servellon
46. Gabriel Quirós Pereira (v)
47. Ernest Arzu
48. Pablo Luna (v)
49. Cesar Nunez Aguilar (v)
50. Guillermo Jesus Unruh Rodriguez

EASA

51. German Ignacio Meyer (v)

ICAO / OACI

52. Julio César Siu
53. Luis Raúl Sánchez
54. Mayda Ávila
55. Eddian Méndez
56. Fabiana Todesco (v)
57. Ernie Snyder

CONTACT INFORMATION

Name / Position Nombre / Puesto	Administration / Organization Administración / Organización	Telephone / E-mail Teléfono / Correo-e
Antigua and Barbuda / Antigua y Barbuda		
Shenneth Phillips Chief ATS	V.C. Bird Air Traffic Service	Tel. E-mail shennethp@yahoo.com
Bahamas		
Rashad Penn Deputy Director of AIS	Bahamas Air Navigation Services Authority	Tel. E-mail rashad.penn@bansabahamas.com
Karen Farquharson AIS Officer Trainee	Bahamas Air Navigation Services Authority	Tel. E-mail karen.farquharson@bansabahamas.com
Kenya Knowles AIS Trainee	Bahamas Air Navigation Services Authority	Tel. E-mail kenya.knowles@bansabahamas.com
Christabelle McCoy Administrative Assistant/AIS	BANSA	Tel. E-mail christabelle.mccoy@bansabahamas.com
Barbados		
Kevon Hunte Aeronautical Information Service Officer	Barbados Civil Aviation Department	Tel. E-mail kevon.hunte@barbados.gov.bb
Denielle Callender Supervisor AIS Ag.	Barbados Civil Aviation Department	Tel. E-mail denielle.callender@barbados.gov.bb
Donna L. Archer Chief AIS Officer	Barbados Civil Aviation Department	Tel. +246 536 3603 E-mail donna.archer@barbados.gov.bb
Gail Clarke AGA and ATS inspector	Barbados Civil aviation Department	Tel. E-mail gail.clarke@barbados.gov.bb
Costa Rica		
Bernardita Mora Inspectora ANS AIM	Dirección General de Aviación Civil	Tel. E-mail bmora_cr@yahoo.es
Gerardo Aguero Jefe AIM	DGAC	Tel. E-mail cr_gera@hotmail.com
Cuba		
Layla Rodriguez Vidal Ing. Sistemas de Radiocomunicaciones Aeronáuticas	IACC ECNA	Tel. +53 5 387 2043 E-mail layla.rodriguez@aeronav.avianet.cu
Curaçao / Curazao		
Natasha Leonora-Belefanti ICAO NACC AIM Rapporteur - AIS/ARO Manager DC-ANSP	DC-ANSP	Tel. +59995636285 E-mail nleonora-belefanti@icaonacc.org; n.leonora-belefanti@dc-ansp.org

Name / Position Nombre / Puesto	Administration / Organization Administración / Organización	Telephone / E-mail Teléfono / Correo-e
Dominica		
Winston Nixon Air Traffic Controller	Daspa	Tel. E-mail fundominican@hotmail.com
Dominican Republic / República Dominicana		
Julio César Mejía Alcántara Coordinador técnico Navegación Aérea	IDAC	Tel. (809-829 y 849) E-mail jmejia@idac.gov.do
Fernando Alipio Casso Rodriguez Radar Systems Division Manager	IDAC	Tel. 1 809 274 4322 E-mail fernando.casso@idac.gov.do
Antony Joel Pérez Martínez Coordinador Técnico ANS	IDAC	Tel. 18093159713 E-mail aperez@idac.gov.do
Claudia Beatriz Roa Ochoa Directora de Navegación Aérea	IDAC	Tel. 18093159814 E-mail croa@idac.gov.do
Claudia Beatriz Roa Ochoa Directora de Navegación Aérea	IDAC	Tel. 18093159814 E-mail croa@idac.gov.do
El Salvador		
José César Balmaceda Inspector AIS	Autoridad de Aviación Civil	Tel. E-mail jbalmaceda@aac.gob.sv
Grenada		
Sheldon Thomas Aeronautical Information Service Officer	Grenada Airports Authority	Tel. E-mail sheldont050781@gmail.com
Haiti / Haití		
Emmanuel Joseph Jacques CAR/SAM Frequency Management Group Coordinator	OFNAC	Tel. (509)46206540 E-mail emmanueljosephjacques@gmail.com
Mexico / México		
Fernando Ramírez Suárez Jefe de la Oficina de Radioayudas	SENEAM	Tel. 52 55 57865528 E-mail fernando.ramirezs@sct.gob.mx
Juan Carlos Ramos Soto Director de Meteorología y Telecomunicaciones Aeronáuticas	Servicios a la Navegación en el Espacio Aéreo Mexicano	Tel. +525557166698 E-mail juan.ramoss@sct.gob.mx
Marissa Saithe Núñez Rincón Subdirectora de Meteorología y Telecomunicaciones Aeronáuticas	Servicios a la Navegación en el Espacio Aéreo Mexicano	Tel. +525557166698 E-mail marissa.nunez@sct.gob.mx

Name / Position Nombre / Puesto	Administration / Organization Administración / Organización	Telephone / E-mail Teléfono / Correo-e
Mexico / México		
José Inés Gil Jiménez Responsable de la Coordinación del Área Normativa de la Dirección de Tránsito Aéreo	SENEAM / SICT	Tel. 52-55-5786-5513 E-mail jose.gil@sct.gob.mx
Juan Gustavo Covarrubias Martínez Técnico especialista en equipo de vigilancia aérea	SENEAM	Tel. +525557865536 E-mail gocovak@gmail.com
Rafael Castro Castro Supervisor Regional Centro	SENEAM SICT	Tel. +52 55 5786 5537 E-mail rcastroc@sct.gob.mx
Aldo Figueroa Negrete Jefatura Area de Publicaciones e Información Aeronáutica	SENEAM	Tel. 5557865519 E-mail ais_pcr@sct.gob.mx
Luis Sergio Ibarra Vázquez Director de Navegación e información Aeronáutica	SENEAM	Tel. 01 55 E-mail luis.ibarra@sct.gob.mx
Manuel Alejandro Cruz Martinez Especialista PANS-OPS/AIM	SENEAM	Tel. 5557865519 E-mail alex.cruise@gmail.com
Sergio González Chavez Inspector verificador Aeronáutico	Agencia Federal de Aviación	Tel. 5563197330 E-mail sergio. gonzalez@afac.gob.mx
Manuel Rodríguez Santiesteban Inspector verificador aeronáutico	Agencia Federal de Aviación Civil México	Tel. 5557239300 ext. 18071 E-mail manuel.rodriguez@afac.gob.mx
Daniel Conrado Castañeda Cruz Inspector Verifcador Aeronáutico	Agencia Federal de Aviación Civil	Tel. 5557239300 Ext 18071 E-mail daniel.castaneda@afac.gob.mx
Sandra Fabiola Carrera Peña Inspector Verificador Aeronáutico - Navegación Aérea	Agencia Federal de Aviación Civil (AFAC)	Tel. 5557239000 E-mail sandra.carrera@afac.gob.mx
Sandra Fabiola Carrera Peña Inspector Verificador Aeronáutico - Navegación Aérea	Agencia Federal de Aviación Civil (AFAC)	Tel. 5557239000 E-mail sandra.carrera@afac.gob.mx
Gustavo Navarrete Orta Inspector verificador Aeronáutico en Navegación Aérea	Agencia Federal de Aviación Civil (AFAC)	Tel. 5557239000 E-mail gustavo.navarrete@afac.gob.mx
Saint Kitts and Nevis / Saint Kitts y Nevis		
Kenrick Duncan Civil Aviation Safety Officer	Civil Aviation Division, Ministry of Civil Aviation	Tel. E-mail Kenrick.duncan@gov.kn

Name / Position Nombre / Puesto	Administration / Organization Administración / Organización	Telephone / E-mail Teléfono / Correo-e
Saint Vincent and the Grenadines / San Vicente y las Granadinas		
Dillett Davis Chief Air Traffic Controller	Civil Aviation Department	Tel. E-mail catcsvg@gmail.com
Trinidad and Tobago / Trinidad y Tabago		
Steve Ramgoolam Technical Development and Training Officer	TTCAA	Tel. E-mail sramgoolam@caa.gov.tt
Veronica Ramdath Manager CNS	Trinidad and Tobago Civil Aviation Authority	Tel. 868 668 8222 E-mail vramdath@caa.gov.tt
Riaaz Mohammed Manager ANS Planning and Development	Trinidad and Tobago Civil Aviation Division	Tel. 8686688222 E-mail rmohammed@caa.gov.tt
Rohan Garib Executive Manager Air Navigation Services	Trinidad and Tobago Civil Aviation Authority	Tel. 1868 669 4806 E-mail rgarib@caa.gov.tt
United States / Estados Unidos		
Vern Payne Manager, CDM & International	FAA	Tel. E-mail vpayne4530@gmail.com
Norma Viviana Campos FAA Attache U.S. Embassy Mexico City	Federal Aviation Administration (FAA)	Tel. +1 202-856-1626 E-mail Norma.V.Campos@faa.gov
Alejandro Rodriguez Technical Advisor	Federal Aviation Administration	Tel. +1 202-322-3874 E-mail Alejandro.Rodriguez@faa.gov
Scott Farrow ATFM Rapporteur	FAA	Tel. 1 540-422-4553 E-mail Scott.farrow@faa.gov
CANSO		
Javier Vanegas Director Regional	CANSO	Tel. +1 786 210 2568 E-mail Javier.vanegas@canso.org
COCESNA		
Roger Alberto Pérez Serrano Gerente Senior ACNA	COCESNA	Tel. 50422757090 E-mail roger.perez@cocesna.org
Víctor Manuel Andrade Salgado Gerente Operativo	COCESNA	Tel. (504) 22342507 E-mail victor.andrade@cocesna.org
Pablo Alexander Luna Servellon Coordinador SMS	COCESNA	Tel. 504 22757090 E-mail pablo.luna@hotmail.com
Gabriel Quirós Pereira Gerente Técnico	COCESNA	Tel. +506 24434979 E-mail gabriel.quiros@cocesna.org; gabqp21@yahoo.com
Ernest Arzu CNS/ATM Manager	COCESNA	Tel. +50422757090 E-mail ernest.arzu@cocesna.org

Name / Position Nombre / Puesto	Administration / Organization Administración / Organización	Telephone / E-mail Teléfono / Correo-e
COCESNA		
Ernest Arzu CNS/ATM Manager	COCESNA	Tel. +50422757090 E-mail ernest.arzu@cocesna.org
Pablo Luna Coordinador SMS	COCESNA	Tel. E-mail pablo.luna@cocesna.org
Cesar Nunez Aguilar Gerente de Proyectos y Riesgos	COCESNA	Tel. E-mail cesar.nunez@cocesna.org
Guillermo Jesus Unruh Rodriguez Gestor SAR/ Supervisor Operativo COCESNA	COCESNA	Tel. +50422342507 E-mail guillermo.unruh@cocesna.org
EASA		
German Ignacio Meyer ATM/ANS Expert	EASA EU-LAC APP	Tel. 0034636285605 E-mail gm@ntu.eu
ICAO / OACI		
Julio César Siu Acting Regional Director / Director Regional Interino	ICAO NACC Regional Office / Oficina Regional NACC de la OACI	Tel. +52 55 5250 3211 E-mail jsiu@icao.int
Luis Raúl Sánchez Regional Officer, Aeronautical Information Management / Especialista Regional en Gestión de la Información Aeronáutica	ICAO NACC Regional Office / Oficina Regional NACC de la OACI	Tel. +52 55 5250 3212 E-mail lsanchez@icao.int
Mayda Ávila Regional Officer, Communications, Navigation and Surveillance / Especialista Regional en Comunicaciones, Navegación y Vigilancia	ICAO NACC Regional Office / Oficina Regional NACC de la OACI	Tel. +52 55 5250 3213 E-mail mavila@icao.int
Eddian Méndez Regional Officer, Air Traffic Management and Search and Rescue / Especialista Regional en Gestión de Tránsito Aéreo y Búsqueda y Salvamento	ICAO NACC Regional Office / Oficina Regional NACC de la OACI	Tel. +52 55 5250 3214 E-mail emendez@icao.int
Fabiana Todesco Regional Officer AGA	ICAO NACC Regional Office / Oficina Regional NACC de la OACI	Tel. +52 55 5250 3215 E-mail ftodesco@icao.int
Ernie Snyder Regional Officer, Air Traffic Management / Especialista Regional en Gestión de Tránsito Aéreo	ICAO NACC Regional Office / Oficina Regional NACC de la OACI	Tel. + 52 55 5250 3211 E-mail esnyder@icao.int

Agenda Item 1: Adoption of the Provisional Agenda and Schedule

1.1 The Secretariat presented WP/01 inviting the Meeting to approve the provisional Agenda, the schedule and working method, and referred to IP/01 with the list of documentation and associated presentations.

1.2 Under P/01, the Secretariat proposed the working mechanism for the meeting, indicating that three different sessions would be held:

- Session 1: Agenda Items 1, 2 and 3;
- Session 2: Agenda Item 4; and
- Session 3: Agenda Items 5 and 6.

1.3 The expected results of the Meeting were defined as follows:

- establish the necessary actions to carry out the evaluation of the Basic Building Blocks (BBB) at the regional level
- develop an action plan for the evaluation of elements of the Aviation System Block Upgrades (ASBU)
- define the Key Performance Indicators (KPIs) at the regional level and establish an action plan to work with the KPIs in the CAR States
- establish a work plan for updating the Electronic Air Navigation Plan (e-ANP), Volumes I and II
- Action plan to cover what was requested by the CAR/SAM Planning and Implementation Regional Group (GREPECAS) regarding the e-ANP Volume III
- that each Task Group update its work plan according to the results of the meeting.

1.4 The objective of the meeting was to present a realistic regional plan, with clear objectives, identification of those responsible, and define each of the necessary activities to be carried out under specific leadership and time.

1.5 The Meeting approved the agenda, work method, the established objectives to be developed and the schedule, which are presented in the Historical of this report.

Agenda Item 2: Global Air Navigation Plan (GANP), seventh edition

2.1 Under WP/23 information was provided on the ICAO Universal Safety Oversight Audit Programme (USOAP) and actions were proposed to support the implementation required for Air Navigation Services (ANS).

2.2 The Secretariat reminded the participants that contracting States of the Convention on International Civil Aviation are committed to regulate and supervise all aeronautical activities carried out under their responsibility, to ensure the safe, efficient and regular operation of air transport services.

2.3 It was explained that a State Safety oversight system (SSO) is considered effective and sustainable to the extent that it can integrate a set of characteristics that identify the State's capacity to adequately discharge its responsibilities in relation to the safety of operational aviation activities carried out under its authority, in addition to the establishment of the eight Critical Elements (CEs):

"Establishment CE":

1. CE-1. Primary aviation legislation
2. CE-2. Specific operating regulations
3. CE-3. State system and functions
4. CE-4. Qualified technical personnel
5. CE-5. Technical guidance, tools and provision of safety-critical information

"Implementation CE":

6. CE-6. Licensing, certification, authorization and approval obligations
7. CE-7. Surveillance obligations
8. CE-8. Resolution of safety issues

In the USOAP context, the following audit areas have been defined:

1. Primary aviation legislation and specific operating regulations (LEG);
2. Civil aviation organization (ORG);
3. Personnel licensing and training (PEL);
4. Aircraft operations (OPS);
5. Airworthiness of aircraft (AIR);
6. Aircraft accident and incident investigation (AIG);
7. Air navigation services (ANS); and
8. Aerodromes and ground aids (AGA).

2.4 The Secretariat indicated the need for the Task Forces integrating the NACC/WG to be involved in the assessment of the Protocol Questions (PQs) related to the implementation of air navigation, in addition to having a close relationship with the State areas responsible for the update PQs information, especially when there are new ANS implementations.

2.5 Under WP/02, the Basic Building Blocks (BBBs) were exposed in accordance with the new version of the GANP, Seventh Edition, its relationship with ICAO's USOAP and the need for its mandatory implementation in all ICAO Member States.

2.6 It was explained that the BBBs outline the foundations of any robust air navigation system, identify the essential services that must be provided to international civil aviation in accordance with ICAO standards. These essential services are defined in the areas of Aerodromes (AGA), Air Traffic Management (ATM), Search and Rescue (SAR), Meteorology (MET) and Aeronautical Information Management (AIM). In addition to essential services, the BBB framework identifies the end users of these

services, as well as the assets (Communications, Navigation and Surveillance [CNS] infrastructure) required to deliver them.

Regional Strategy for the Assessment of BBBs

2.7 Bearing in mind that the BBBs are essential services and that their implementation represents the baseline for any operational improvement, the need to develop a regional strategy for the development of air navigation plans of the CAR States and the identification of the regional priorities was indicated, for which it is necessary to identify the status of implementation of ANS through the assessment of the level of implementation of the BBBs.

2.8 The ICAO NACC Regional Office has developed a new guide document for the assessment of these mandatory services, which is found in **Appendix A**. The document contains the essential elements to be evaluated by area, in addition to references to ICAO documentation, and the USOAP PQs related to the implementation of these services.

2.9 The Meeting identified that the assessment of the BBBs of the air navigation areas have different assessment strategies for each of the services established by area:

a) MET: Assessment through a software tool and it will be carried out through the NACC/WG Task Force (TF) (NACC/WG/MET/TF).
b) AGA: The data will be obtained through the work of the NACC/WG/AGA/TF through direct consultation with the States.
c) AIM: The information will be obtained through a direct survey to States, developed by the NACC/WG/AIM/TF.
d) SAR: The TF for the support of the SAR implementation will define its strategy in their next annual meeting, which will take place from 6 to 8 June 2023 and will request States to send the required information as soon as possible.
e) AO: The Airspace Optimization TF (NACC/WG/AO/TF) will define its assessment strategy and will communicate it by 30 May 2023.
f) CNS: The CNS area will evaluate the implementation of the CNS required infrastructure to provide all of the services above, according to the results provided from the previously listed items.

2.10 P/03 explained the framework of the Basic Building Blocks (BBBs).

2.11 It was highlighted that the assessment of the BBBs will greatly benefit the region because through the data obtained the region will be able to:

a) identify regional deficiencies;
b) identify the status of regional implementation;
c) update the information on the services of the Electronic Air Navigation Plan (e-ANP) in its Volumes I and II; and
d) support the execution of priority regional projects with information.

2.11 Based on the discussion of this topic and considering that the BBBs are essential services that States must have operating on a mandatory basis, since they comply with the implementation of ICAO standards, that the lack of operation of any of them is considered a deficiency, and that the assessment of the BBBs will provide important and essential information to know the status of regional implementation in the area of air navigation, the Meeting made the following decision:

<table>
<tr><td colspan="3">DECISION
NACC/WG/RAP/02/01 ASSESSMENT OF THE BASIC BUILDING BLOCKS (BBB)</td></tr>
<tr><td colspan="2">What:
That, in view that in order to evaluate the implementation of the basis required for the growth of the aviation system it is required that the assessment of the BBBs be carried out in the short term, the NACC/WG Taks Forces:

a) consolidate the reports from States using the template (WP/02 refers), seeking for preserving uniformity or indicating the necessary modifications;
b) implement their own strategies that better adapt to the evaluation of these elements by the NACC/WG/08.</td><td>Expected impact:
☐ Political / Global
☒ Inter-regional
☐ Economic
☐ Environmental
☒ Operational/Technical</td></tr>
<tr><td colspan="3">Why:
The assessment of the BBBs is the first step to evaluate the implementation of the bases that the aviation system requires for its growth, identifying the regional operation of the mandatory services by area.</td></tr>
<tr><td>When: NACC/WG/08</td><td colspan="2">Status: ☒ Valid / ☐ Superseded / ☐ Completed</td></tr>
<tr><td>Who: ☒ States ☒ ICAO ☒ Other:</td><td colspan="2">NACC/WG Task Forces</td></tr>
</table>

2.13 Under WP/03, the Secretariat provided information on the BBBs and how they can help defining the CAR regional priorities and objectives and their operability in adjacent States.

2.14 During the 41st Session of the ICAO Assembly held in October 2022, the GANP, Seventh Edition was approved, recognizing the importance of the global framework and regional and national plans to support ICAO's strategic objectives (see: https://www4.icao.int/ganpportal/).

2.15 The GANP is the tool to develop and prioritize the technical and operational work of the ICAO programme; States, international organizations, industry and all stakeholders need to use the GANP to plan and implement activities, set priorities, targets and indicators consistent with globally harmonized objectives, taking into account operational needs.

2.16 It was emphasized that States should develop their National Air Navigation Plans (NANPs) for their own navigation modernization, to coordinate with ICAO and align said plans to ensure regional harmonization and global compatibility and interoperability.

2.17 The ICAO GANP Aviation System Block Upgrade (ASBU) methodology is a programmatic and flexible global approach that allows all Member States to improve their air navigation capacities based on their specific operational requirements.

2.18 The ASBU works according to the following structure:

a) ASBU Thread: three different categories, operational, information and technology.
b) ASBU Module: is the group of elements from a thread that, according to the enablers' roadmap, will be available for implementation within the defined deadline established by the ASBU Block.
c) ASBU Block: this implies, that the element and all the enablers associated to it, need to be available for implementation in the ASBU block year.
d) ASBU Element: this module is the group of elements from a thread that, according to the enablers' roadmap, will be available for implementation within the defined deadline established by the ASBU Block. This is a specific change in the operations, designed to improve the performance of the air navigation system under specified operational conditions.

2.19 The ASBU elements have different levels of maturity:

a) **Ready for implementation**: this maturity level focuses on the end of system development and the initial operational capacity at the global level.
b) **Standardization**: this maturity level focuses on the definition of the provisions necessary for the interoperability of the system and the harmonization of the procedures.
c) **Validation**: this maturity level focuses on industrial research and validation and includes the proof of concept validation, standalone prototype implementation and test, testing and prototyping in a representative environment, and the full engineering feasibility demonstration in the actual system application.
d) **Concept:** this maturity level focuses on exploratory research and include scientific research, investigation of basic principles observed and reported and the definition of the concept.

2.20 **Appendix B** contains information of the different ASBU elements according to their level of maturity.

2.21 The Meeting agreed that it was necessary for the region analyse the implementation status of each ASBU element, which elements are currently operating, with their level of implementation and the operationalization of each of their enablers and that this analysis must be done for each ASBU element.

2.22 The Meeting identified that it is necessary to collect the data and results of the analysis in order to contribute to the regional analysis of the implementation of air navigation. The ASBU elements together with the BBB elements will provide the data needed to define the status of the region in terms of air navigation.

2.23 It was also recognized that the analysis of the ASBU elements will help identifying weak areas, the projects that should be prioritized and the short, medium and long-term goals. The elements of improvement by block constitute an important step in the development of the regional aviation system and their correct implementation constitutes an important step for the development of the aviation of the States and regional development. Knowing the implementation status of these elements is an important step. In this regard, the Meeting made the following decision:

<table>
<tr><td colspan="3">DECISION
NACC/WG/RAP/02/02 REGIONAL ASSESSMENT OF AVIATION SYSTEM BLOCK UPGRADE (ASBU) ELEMENTS</td></tr>
<tr><td colspan="2">What:
That, in order to define the actions for improvement of air navigation in the short, medium and long terms, the NACC/WG Task Forces
a) complete the analysis of ASBU elements at the regional level in their state of maturity "Ready for implementation" according to Appendix C;
b) adopt the elements that as per their thread must be handled by each Group (Operational, Information and Technology) by the NACC/WG/8.</td><td>Expected impact:
☐ Political / Global
☒ Inter-regional
☐ Economic
☐ Environmental
☒ Operational/Technical</td></tr>
<tr><td colspan="3">Why:
Having the status of implementation of the ASBU elements in the CAR region is important information necessary for decision-making at the regional level.</td></tr>
<tr><td>When: NACC/WG/08</td><td colspan="2">Status: ☒ Valid / ☐ Superseded / ☐ Completed</td></tr>
<tr><td>Who: ☒ States ☒ ICAO ☒ Other:</td><td colspan="2">NACC/WG Task Forces</td></tr>
</table>

2.24 The Meeting identified the need to have specialized CNS personnel with experience in the area of air navigation to complete the assessment of the elements of the technology common thread of the ASBU elements in this area. In this sense, the Meeting decided:

<table>
<tr><td colspan="2">DECISION
NACC/WG/RAP/02/03 CREATION OF AN AD-HOC GROUP TO CARRY OUT AN ANALYSIS OF THE ASBU ELEMENTS OF THE NAVIGATION AREA</td></tr>
<tr><td>What:
That ICAO coordinate the creation of an Ad-Hoc Group to assess the ASBU elements in the area of air navigation, as well as the state-of-the-art air navigation system that could replace current air navigation systems and provide the technical and operational recommendations for their implementation by 15 March 2024, for which:
a) it will produce the terms of reference for the development of the Group’s work; and
b) it will convene the NACC Regional Officers for the development of this task.</td><td>Expected impact:
☒ Political / Global
☒ Inter-regional
☐ Economic
☐ Environmental
☒ Operational/Technical</td></tr>
<tr><td colspan="2">Why:
The area of navigation technology is an important element of air navigation services that must be attended to in the same way as the other areas.</td></tr>
<tr><td>When: By 15 March 2024</td><td>Status: ☒ Valid / ☐ Superseded / ☐ Completed</td></tr>
<tr><td>Who: ☒ States ☒ ICAO ☐ Other:</td><td></td></tr>
</table>

2.25 The ASBU elements of the communications areas will be evaluated by the ATS Voice Link Improvements Technical Management Group (MEVA/TMG).

2.26 WP/04 provided an assessment of the Key Performance Indicators (KPIs) under the new GANP, Seventh Edition, which presented an analysis, recommendations and suggested actions that will help establish the regional and national measurement mechanisms of CAR States.

2.27 KPIs are quantitative means of measuring current/past performance, expected future performance, and actual progress in achieving performance objectives. For ANS services, they provide information to be reviewed by States on the performance of the service and support decision-making for operational improvements.

2.28 Regional performance objectives help the aviation community to identify relevant and timely improvements (operational improvements) to the air navigation system of a given region. Additionally, at the national level, States can set performance targets for their different operating environments using the list of KPIs, considering regional performance requirements.

2.29 It was also mentioned that the modules System-Wide Information Management (SWIM), Digital Aeronautical Information Management (DAIM), Enhanced Meteorological Information (AMET), Flight and Flow Information for the Cooperative Environment (FICE) are information enablers and do not have related KPIs.

2.30 All the modules of the technology thread are also enablers of information, Communications Infrastructure (COMI), ATS communication (COMS), Alternative Surveillance (ASUR) and Navigation Systems (NAVS). They do not have related KPIs either.

2.31 All KPIs are related to operational aviation and airport services, supported by information and technology.

2.32 With the new GANP version, 23 different KPIs were defined, which can be found in this link: https://www4.icao.int/ganpportal/ASBU/KPI.

2.33 According to the ASBU elements "Ready for implementation" there are 17 KPIs related to these elements, which are of regional interest that the NACC Working Group analyse; these are listed in **Appendix D** of this report.

2.34 Data collection involves analysing their origin and control:

a) What type of data is it?
b) What is the source of the data?
c) What is the precision of the data?
d) What is the periodicity with which the data is obtained?
e) What are the formatting characteristics of the data?
f) What is the data validation process?
g) Who are the suppliers of the data?
h) What is the metadata of the data (type of data, date, time, system that obtained it, who obtained it, etc.)? A clear and precise definition of the data.

2.35 The need for the NACC/WG to establish regional requirements for obtaining this information in terms of the KPIs that are available and that can be assessed was identified, considering the following two aspects:

a) establish the regional implementation status through the BBBs: https://www4.icao.int/ganpportal/BBB and the ASBU elements in their "Ready for implementation" maturity status; and
b) make a regional analysis to obtain the information that every State could provide. Some States can provide all data; in that sense, the NACC/WG define the information on the minimum requirements that these data will integrate.

2.36 Bearing in mind that information providers for the assessment of KPIs are mostly the air navigation services and surveillance system providers, especially on secondary radar data and ADS-B antennas, it is important that the NACC/WG/ATFM Task Force review available data received from the different ANSPs to populate KPI’s assessment.

2.37 It is also important that the NACC/WG/ATFM y NACC/WG/SURV TFs work jointly and provide information on the requirements. The ATFM/TF will provide the necessary requirements of the Automatic dependent surveillance - broadcast (ADS-B) data for assessment of the KPIs to be integrated into the requirements of the development of the surveillance data monitoring tool developed by Cuba/COCESNA and the SURV/TF.

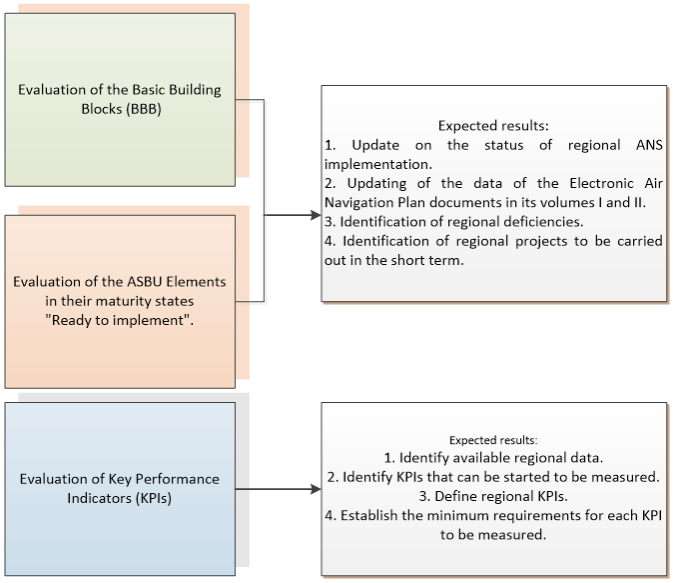
2.38 Considering the above, it was mentioned that the data must comply with origin certification, validity and information certification, and in this regard, the Meeting decided:

<table>
<tr><td colspan="3">DECISION
NACC/WG/RAP/02/04 Measurement of Key Performance Indicators (KPIs) of regional performance</td></tr>
<tr><td colspan="2">What:
That, to obtain reliable data to carry out the measurement of regional performance through KPIs:

a) each NACC/WG Task Group carry out an analysis of the information available in the States and in the region to evaluate its use as data to feed the evaluation of the different for a KPI;
b) the Air traffic flow management evaluate the KPIs related to the air traffic area and analyse the possibility that the data available in ATFM be used initially to start measuring the KPIs;
c) the Airspace Optimization Task Force (NACC/WG/TF/AO) evaluate the KPIs related to the area of operations of air traffic and define a strategy for their measurement;
d) the Aerodromes and Ground Aids Task Force (NACC/WG/TF/AGA) evaluate the KPIs related to the area of operations of airports and define a strategy for their measurement; and
e) based on the information obtained in the two previous items, the NACC/WG define the KPIs that can be used regionally to measure the region's performance to be reported at NACC/WG/08 in August 2023..</td><td>Expected impact:
☒ Political / Global
☒ Inter-regional
☒ Economic
☒ Environmental
☒ Operational/Technical</td></tr>
<tr><td colspan="3">Why:
KPIs are key foundations that provide information on actions taken, results systems implemented, etc. An action allows objective measurement of performance over the course of the time for a specific goal.</td></tr>
<tr><td>When:</td><td>Report at NACC/WG/08 in August 2023.</td><td>Status: ☒ Valid / ☐ Superseded / ☐ Completed</td></tr>
<tr><td>Who:</td><td>☒ States ☒ ICAO ☒ Other:</td><td>NACC/WG/ATFM, NACC/WG/AO, NACC/WG/AGA</td></tr>
</table>

2.39 In response to the development of session 1 of the meeting, the participants agreed to:

a) carry out the assessment of the BBBs in the short term in accordance with Decision 01 of this report;
b) carry out the assessment of the ASBU elements in their state of maturity "Ready for implementation" in accordance with Decision 02 of this report; and
c) Carry out the evaluation of the KPIs in the areas of Air Traffic operations and airport operations in accordance with Decision 04 of this report.



2.40 The work plan integrating the activities to be carried out, dates and persons responsible for each activity is in **Appendix E**.

Agenda Item 3: Correlation between the Implementation of Air Navigation and the Global Aviation Safety Plan (GASP)

3.1 Under WP/24, a comment was made on the request made by the 41st ICAO Assembly for States to work jointly on air navigation implementation activities through the GANP and integrate the safety requirements through the Global Aviation Safety Plan (GASP).

3.2 Under this agenda item, the discussion on the relationship between the implementation of air navigation and the GASP was addressed. CANSO reported that the Regional Aviation Safety Group–Pan America (RASG-PA) is working in a coordinated manner with the GREPECAS Scrutiny Working Group (GTE) on the assessment of this task.

3.3 The Meeting indicated that it would await the results and recommendations of this work in order to assess the interaction of the activities of both groups and its impact on the NACC/WG's tasks.

Agenda Item 4: Development of the Electronic Air Navigation Plan (e-ANP) Vol. III: regional objectives and metrics

4.1 WP/05 followed up on the Decision of the Seventh Meeting of the North American, Central American and Caribbean Working Group (NACC/WG/07) and requested the evaluation of the actions required by the different NACC/WG T Fs to comply with the requirements of Vol. III of the CAR/SAM Air Navigation Plan (ANP).

4.2 The ICAO NACC and SAM Regional Offices carried out a series of guidance activities related to the project mentioned in section 2.3 of WP/05, with the aim of raising awareness of the importance of the CAR/SAM ANP and provide initial concepts that support the work for the establishment and implementation of a regional performance measurement system for the Air navigation services (ANS) in the CAR/SAM Regions.

4.3 For the development of the e-ANP Volume III, the GREPECAS Secretariat, in the 2019 – 2022 period, carried out activities with the States/Territories and Organizations to disseminate the template proposed by ICAO and reinforce the concepts of performance-based planning, in order to build Volume III of the CAR/SAM Regional Air Navigation Plan (e-ANP CAR/SAM). In this process the following was observed:

a) The implementation of the BBBs, as stated in the GANP and the GASP, needs to be strengthened in several States and according to what was presented in WP/02 of this meeting.
b) Difficulty in standardizing criteria regarding performance-based planning.
c) Evident difference in the capacities of the States to collect, maintain and integrate input data, and for the management itself of KPI indicators, as indicated in WP/04 of this meeting.
d) Different interpretations on the application of the proposed template, and different focus on priorities for Key performance areas (KPA).
e) Need to review and update Volumes I and II.

4.4 Following up the results of the NACC/WG/07 meeting and especially to Decision NACC/WG/07/03 “NACC/WG/ASBU Task Force work programme update” addressing the assessment of BBBs, the support to the development of the e-ANP Vol. III, among others, the Secretariat highlighted the need for TFs to address this matter jointly and that each TF address its corresponding air navigation fields.

4.5 It is important to bear in mind that air navigation plans are essential tools for States’ regional and domestic planning, and clear guidelines should be used for their development; in this sense, the e-ANP Vol. III will integrate the regional objectives and necessary measurement mechanisms to be added to the development national plans of States.

4.6 The Meeting discussed the information of WP/05 and supported the proposal that the work of developing the e-ANP Vol. III shall be addressed jointly by all the air navigation areas, and therefore, it made the following Decision:

<table>
<tr><td colspan="3">DECISION
NACC/WG/RAP/02/05 SUPPORT THE DEVELOPMENT OF THE e-ANP VOLUME III</td></tr>
<tr><td colspan="2">What:
That, the need was identified for the Rapporteurs of the NACC/WG to work actively in this process of developing the e-ANP Volume III and for that, the Meeting committed to:

a) support the update of the e-ANP Volume I and II in the short term; and

b) implement work groups to develop data collection activities and management of GANP KPIs as a basis to populate the data of the Planning Tables of Vol. III, with the assistance of the Secretariat.</td><td>Expected impact:
☐ Political / Global
☒ Inter-regional
☐ Economic
☐ Environmental
☒ Operational/Technical</td></tr>
<tr><td colspan="3">Why:
The development of the e-ANP is an important task that must be developed in the short term to support the States of the CAR Region in their planning process.</td></tr>
<tr><td>When:</td><td>To present the draft document at the next NACC/WG/08 meeting.</td><td>Status: ☒ Valid / ☐ Superseded / ☐ Completed</td></tr>
<tr><td>Who:</td><td>☒ States ☒ ICAO ☒ Other:</td><td>NACC/WG</td></tr>
</table>

4.5 The Meeting discussed the need to have a regional project that leads regional planning activities and support to experts in the region, to carry out the correct assessment of the systems and their scope.

4.6 CANSO provided information on the Complete Air Traffic Services (CATS) Global Council, and the Meeting was invited to review this work through the following link: https://irp.cdn-website.com/c8aa7635/files/uploaded/CATSGC%20Roadmap.pdf. The NACC/WG could consider the CATS as a reference to develop an air navigation roadmap of the NAM/CAR Regions that contributes with implementation and improvement.

4.7 The Meeting addressed the need for the region to have a regional roadmap that allows it to develop a strategic planification of more than five years, with clear and defined objectives, focused on global and regional integration and that allows the region to move in unison.

4.8 The NACC/WG will coordinate the execution of the following activities, which will provide baseline information to the region to begin the development of long-term strategic planning:

a) complete the regional implementation status assessment process through the BBBs and the ASBU.
b) define the regional objectives through the analysis of previously obtained information.
c) define the regional KPIs and how they are measured; and
d) integrate the industry and organizations in the process.

4.10 It is important to develop a regional project that goes beyond the e-ANP Volume III. In this sense, the creation of a project, initially called ARIES for its acronym (ATM Roadmap for Implementation of Enhanced Services) would support this work.

4.11 CANSO indicated its availability to support the development of this important regional project, providing subject matter experts who together with the NACC/WG could start developing this project.

4.12 Considering the importance of creating a regional roadmap for the development of the region, the Meeting made the following decision:

<table>
<tr><td colspan="3">DECISION
NACC/WG/RAP/02/06 Creation of a strategy and roadmap for the implementation of air navigation for the CAR Region</td></tr>
<tr><td colspan="2">What:
That, considering the importance of having data and a roadmap for regional strategic planning, it is agreed to develop the Air Navigation Roadmap for Implementation and Enhancement Strategy (ARIES), through a regional project that supports regional planning, so that:

a) the NACC/WG, ICAO and CANSO develop a project proposal for the regional air navigation roadmap and strategy by NACC/WG/08; and
b) the document be presented at the next NACC/WG/08 meeting for analysis and to establish a mechanism for the development of the document.</td><td>Expected impact:
☒ Political / Global
☒ Inter-regional
☒ Economic
☒ Environmental
☒ Operational/Technical</td></tr>
<tr><td colspan="3">Why:
For a better implementation and evolution of ANS services in the CAR Region, a strategic planning process of the region until 2045 is required to be developed.</td></tr>
<tr><td>When:</td><td>Present the defined project with its deliverables at the next NACC/WG meeting in August 2023.</td><td>Status: ☒ Valid / ☐ Superseded / ☐ Completed</td></tr>
<tr><td>Who:</td><td>☐ States ☒ ICAO ☒ Other:</td><td>NACC/WG, CANSO</td></tr>
</table>

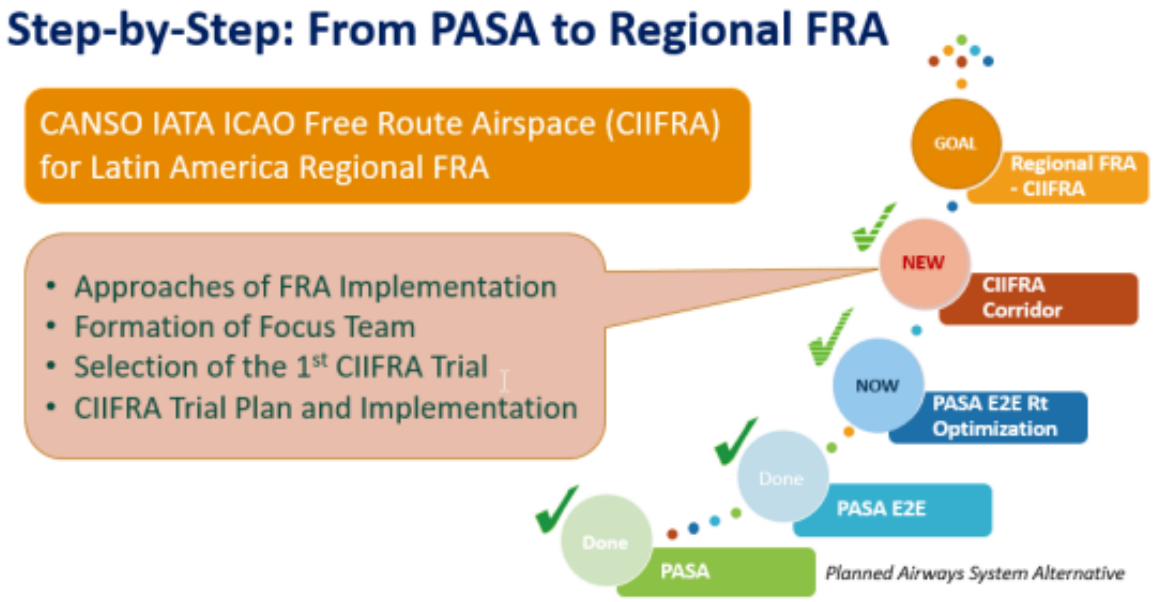
Agenda Item 5: **Update of the Action Plans of the Task Force of the NACC/WG, of the NACC/WG Action Plan and of the regional activities in the Development of the Projects of the CAR/SAM Regional Planning and Implementation Group (GREPECAS)**

Airspace Optimization

5.1 Under P/02, the Secretariat presented a summary of the work carried out by the Airspace Optimization Working Group (NACC/WG/AO/TF). The optimization of the airspace in the CAR Region is a joint effort between the NACC/WG/AO/TF, CAR States, CANSO Air Traffic Flow Management Data Exchange Network for the Americas (CADENA) and IATA.

5.2 Optimization tasks have been carried out using three fronts: end-to-end route optimization, user-preferred routes, and airspace-free routes.

5.3 The CANSO IATA ICAO Free Route Airspace (CIIFRA) has six steps to perform airspace optimization to change to free airspace routes:



5.4 Through the same presentation, the tests that were carried out with various routes and the results in saving time and fuel were shown.

5.5 The need for support from the different air navigation areas was also indicated to continue promoting the optimization of airspace:

Aeronautical Information Management (AIM)	Communications, Navigation and Surveillance (CNS)	Aerodromes and Ground Aids (AGA)
- Strengthening Aeronautical information regulation and control (AIRAC) editorial cycles - Make digital publications - Publication of Electronic Flight Procedures - Aeronautical information Publication (AIP) cost - Electronic Terrain and Obstacle Data (eTOD)	- Synchronize and harmonize communication and surveillance - Surveillance/redundancy data exchange for surveillance and communications - Regional Gap Analysis - Network communication for Air traffic service(s) (ATS) - Explore alternative technologies i.e. space based Very high frequency (VHF) - Current flight plan (CPL) estimates or information for traffic in Free Route Airspace (FRA) - Air Traffic Management (ATM) systems capacity - Digital Automatic terminal information service (ATIS) - Rejection (REJ) Flight Planning (Format) / Update Flight and Flow - Information for a Collaborative Environment (FF-ICE) (Inter-facility Data Communication (AIDC) Task Force [AIDC/TF])	- Analysis/inputs for airport planning and design - Airport Master Planning Automated Teller Machines (ATM) tickets - Airports Coordinate construction/maintenance projects - Airport Balance and harmonization Airside/Landside - Taxi/high speed departures - Use of airports for CDM (ATFM-CDM) - Collaboration Technical/operational details - Lighting and Ground Aids (Approach) - Ongoing obstacle analysis - Pavement Classification Number (PCN) value
Aeronautical Meteorology (MET)	**Air traffic flow management (ATFM)**	
- Standardized Weather Reports - Volcanic ash - Concentration charts - Meteorological Aerodrome Reports (METAR) ash report accuracy and standardization - Airport contingency procedures, i.e. ash contamination assessment/removal - Weather forecast and updates given from an aviation perspective - Space weather - Special Weather Reporting Requirements for Temperature (SPECI) - Digital ATIS - Turbulence and Icing Reports	- Availability of ATFM Tactical Resources - Common ATFM procedures and terminology (Doc 9971) - Data exchange between all interested parties (agreement and implementation) - Letter of Agreement (LOA) - Data-driven approach - Establish measurable objectives (KPI) Visualization of airport/sector capacity in real time - Post event review	

GREPECAS Activities

5.6 Under WP/07, the Secretariat followed up on the decisions of the Eighteenth Meeting of the CAR/SAM Planning and Implementation Regional Group (GREPECAS/18) and the Second Virtual Meeting of the Programmes and Projects Review Committee (e-PPRC) of GREPECAS, the Aerodromes Programme F carried out the following projects:

a) Project F1: Certification and Operational Safety of Aerodromes
b) Project F2: Aerodrome Planning
c) Project F3: Implementation of Collaborative Decision Making at the airport level (A-CDM)

AGA Activities

5.7 The Secretariat, through WP/07, presented information on the implementation process of Conclusions NACC/WG/07/11 and NACC/WG/07/12 of the Seventh Meeting of the North American, Central American and Caribbean Working Group (NACC/WG/7), which were adopted by the meeting for the creation of the AGA Task Force (NACC/WG/AGA/TF) and the gathering of information by the States/Territories to send information of their AGA focal points to the ICAO NACC Regional Office.

5.8 On 8 December 2022, the ICAO NACC Regional Office sent a State Letter requesting to nominate their focal point. In the period from January to March 2023, virtual meetings have been held with States and Territories that provided their focal points in order to monitor and provide information on AGA projects and activities in 2023.

5.9 During these virtual meetings, it was informed on the AGA area events:

- Workshop on the Runway Safety Team (RST), from 23 to 26 May 2023, at the ICAO NACC Regional Office, in Mexico City, Mexico.
- First North American, Central American and Caribbean Working Group (NACC/WG) Aerodromes and Ground Aids (AGA) Implementation Task Force Meeting (NACC/WG/AGA/TF/1), from 3 to 7 July 2023, at the ICAO NACC Regional Office, in Mexico City, Mexico.

5.10 In addition, the ICAO NACC Regional Office requested the States and Territories through a State Letter from December 2022, to fill out questionnaires to obtain and update information on the level of implementation of the GREPECAS and the Regional Aviation Safety Group-Pan America (RASG-PA) in the AGA area, as well as to identify the challenges in the region. However, over 50% of the responses from States/Territories are still pending receipt.

5.11 CANSO congratulated RASG-PA on the RST Implementation Project, as there is a significant and important increase in RST implementation in the States of the Region.

5.12 Trinidad and Tobago asked about the profile of the AGA focal point, if someone with experience in regulation or air navigation was preferable, as well as if the Task Force included the participation of the aerodromes of the States/Territories. The Secretariat indicated that it is important that the focal point is aware of the needs of the State/Territory in the area of airports from the point of view of regulation, inspection and implementation. It is also important that States/Territories receive information on the main challenges and problems from the airport service providers.

5.13 Curaçao mentioned that it would be valuable for the work of the AGA Task Force to have representatives from both the Civil Aviation Authority and the aerodromes. The Secretariat reported that it considers the participation of airports in the Task Force important, but that this decision will depend on the States and Territories.

CNS activities- surveillance, automation, frequency management, cybersecurity for ANS and coordination of Unmanned aircraft systems (UAS) activities

5.14 Under WP/09, the Secretariat presented the priorities and works under the CNS area; surveillance, automation, frequency management, cybersecurity for ANS and coordination of UAS activities.

5.15 The importance that the Working Groups of the operational areas understand that the CNS work agenda is to support operational actions was emphasized and that without a clear operational objective, CNS implementations will not meet 100 percent the objectives for which these systems have been created.

MET activities

5.16 Under WP/10, the Secretariat presented for consideration and discussion by the Meeting, the NACC/WG Aeronautical Meteorology Task Group (NACC/WG/MET/TF) work programme, approved during its first meeting on 16 March 2023, with the participation of 19 Representatives from 12 States and 7 Territories, the Meeting agreed on the Terms of Reference and reviewed the work programme of the MET/TF.

5.17 The Meeting was informed on the expected deliverables that could be structured under a two-level approach as follows:

a) provide support to States in the establishment and implementation of the necessary safety oversight system;
b) in support of States' safety oversight activities, assist in explaining MET-related ICAO Standards and Recommended Practices (SARPs) (which are expected to be captured by national regulations) and ensuring that a minimum level of services is achieved, in accordance with the requirements of the Caribbean and South American Air Navigation Plan (eANP CAR/SAM)

5.18 Likewise, the Meeting was informed on the preliminary results of the MET/TF as follows:

- project to assist States in the implementation of the Quality Management System (QMS) for the provision of Meteorological services (MET) for international air navigation,
- initiation of individual assistance with the States of the Eastern Caribbean Region to verify the implementation of the Basic Building Blocks (BBBs) of the meteorological service for international air navigation,
- assistance for the implementation of the ICAO Weather Information Exchange Model (IWXXM) developed by the ICAO NACC Regional Office,
- the Significant meteorological information Improvement Workshop (SIGMET), to improve the availability and quality of MET messages in the States of North America, Central America, the Caribbean and South America to be held in Mexico City, from 29 May to 2 June 2023.

5.19 The Meeting took note of the request from Trinidad and Tobago for the MET/TF to provide assistance on the cost recovery scheme for aeronautical meteorological services and to include the activity in the MET/TF medium-term work programme.

5.20 Under WP/17, the Meeting took note of the tests carried out by Cuba, together with other States/Organizations, to demonstrate the interoperability of the systems of all parties in the exchange of operational meteorological (OPMET) information according to the IWXXM on the Aeronautical Message Handling System (AMHS) and its subsequent work in coordination with the MET/TF.

5.21 The process of carrying out the tests in its different phases was explained, Cuba with United States, Brazil and COCESNA, indicating that during the implementation of AMHS messaging, the tests carried out between message centres the basic service level was used. The interoperability tests for the OPMET IWXXM data exchange constitute a necessary scenario to verify the capacity of these centres to handle the File Transfer Body Part (FTBP), as defined in the AMHS extended service level.

5.22 WP/17 reported the conclusions of the interoperability tests for consideration by the Meeting:

- Interoperability tests are crucial during the implementation process of the operational dissemination of OPMET IWXXM data over AMHS.
- During the implementation of AMHS messaging, tests performed between message centres used the basic service level. The interoperability tests for the OPMET IWXXM data exchange constitute a necessary scenario to verify the capacity of these centres to handle the File-transfer-body-part (FTBP), as defined in the AMHS extended service level.

- In anticipation of increased demand for bandwidth, from the use of the extended service level of AMHS to support the dissemination of OPMET data according to IWXXM, the Caribbean Air Navigation Services Network (CANSNET), as the next generation of MEVA, it needs to have similar tests, at the regional level, that allow anticipating the requirements of communication links amongst States in the new context.

5.23 The Meeting thanked Cuba for this enormous contribution and highlighted that it facilitates and streamlines the implementation of the IWXXM in the CAR Region; likewise, It urged the States to plan and promote interoperability tests, considering that it is possible to carry them out through the phases described in the WP, depending on the conditions for carrying out each of them.

Follow-up to the GREPECAS and NACC/WG conclusions

5.24 Under WP/22, the Secretariat presented the formulated Conclusions and Decisions made at the Twentieth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/20), that took place in November 2022, which affect the activities of the NACC/WG.

5.25 The NACC/WG is the regional air navigation implementation arm and is responsible for leading the fundamental actions of regional air navigation work and their report to GREPECAS, who will finally report to the ICAO Air Navigation Commission to assess the degree of regional advancement in air navigation. In this sense, it was requested that the Task Forces that are members of the NACC/WG update their work plan integrating the actions requested by GREPECAS.

5.26 The Task Groups that are members of the NACC/WG must develop a strategy to carry out the requests of GREPECAS, integrate dates and responsibilities into this plan and reflect this in their work plan.

CNS-AIDC Activities

5.27 Under WP/14, the rapporteur of the NACC/WG/AIDC/TF presented the information on Flight and flow services: Information for a collaborative environment (FF-ICE), which represents the next step in the management of flight information, gradually replacing current flight plan information and procedures.

5.28 FF-ICE is an important functionality for the achievement of Trajectory Based Operations (TBO), which in turn represents the "operational realization" of the Global ATM Operating Concept (GATMOC). It basically consists of the collaboration of all stakeholders to share flight information during all phases of the flight, starting as early as possible, and keeping the information consistent for all stakeholders throughout the flight life cycle.

5.29 FF-ICE will represent a new dimension in the way of generating and managing flight plan information, allowing all parties involved to work together for a common goal, which is for aircraft to fly the trajectories as close as possible to the one considered optimal, in terms of efficiency, safety, environmental impact and any other factor that is part of the initial evaluation. Various ICAO documents

accommodate the concepts and procedures that will make the FFICE possible. Thus, the planning of the FF-ICE has already started.

5.30 The Meeting, after analyzing the benefits that the FF-ICE provides to the operations of air navigation services, recommended carrying out an analysis of the implementation of these services following the phases that the NACC/WG/AO/TF has followed to drive direct routes. The NACC/WG/AIDC/TF will integrate the FF-ICE implementation analysis into its work plan.

5.31 Under WP/15, the rapporteur of the NACC/WG/AIDC/TF presented an overview of the AIDC application in the NAM/CAR Region, presenting the past and present challenges of the AIDC application, and considering the identified priorities for the future.

5.32 The NAM/CAR Region has made significant progress in the application of the AIDC, as shown in Table 1. This table shows the total and the percentage of AIDC interfaces (bilateral connections between two Flight information regions [FIR]) that are in the different phases of development, from planning to operational:

Status	Number	% total
Implementing	1	1.47
Operational	44	64.71
Planned	16	23.53
Testing	7	10.29

5.33 The challenges; AIDC, as a technology, depends on a number of pre-existing conditions:

a) surveillance coverage in both FIRs, especially at the shared border.
b) capable Air traffic control (ATC) systems operating in both FIRs
c) a communication network between ATC systems
d) correct flight plan information
e) agreement on a common Interface control document (ICD) to be used

5.34 The priorities that have been identified are:

a) finish the implementations in progress as soon as possible so that States can begin to benefit operationally from the investment. The knowledge accumulated by States that have already implemented it has been key to the success of subsequent efforts, and will continue to be shared; and
b) determine the place that AIDC occupies in the regional strategy. The outcome of this meeting, namely agreeing on the regional objectives for Volume III of the eANP, is of paramount importance in setting priorities in the direction of implementation of aviation functionality, AIDC being one of them. Whatever is chosen to focus on, whether efficiency, predictability, capacity, or any of the other performance goals, it should tell us what we need from each technology.

CNS Activities- Automatic dependent surveillance - broadcast (ADS-B) Surveillance

5.35 Under WP/12, the Surveillance Task Group (NACC/WG/SURV/TF) reported that it has continued working based on the Terms of Reference (ToR) previously presented and approved. In addition, the NACC/WG/SURV/TF has coordinated with the different stakeholders the necessary actions to update its action plan in order to identify effective ways and further harmonize the implementation of surveillance systems, data analysis methods, and ensure continuous improvement in airspace safety throughout the region.

5.36 The NACC/WG/SURV/TF continues to work on regional activities for the regional implementation of ADS-B; in addition, it will integrate an analysis of the implementation of the Airborne Collision Avoidance System (ACAS) into its work plan.

5.37 It was also informed that representatives from Cuba, Dominican Republic, Jamaica, Mexico, Trinidad and Tobago would be invited to participate in a regulatory workshop planned for 17 to 21 July 2023. The workshop is focused on the steps that COCESNA and the Central American States will take to develop a uniform regulation for ADS-B that all Central American member States can use to publish a regulation.

5.38 In addition to the tasks indicated above, GREPECAS/20 through Decision GREPECAS/20/03 "Study on operational priorities for the implementation of ADS-B and aspects of the use of ADS-B in ATC units" requested that the Secretariat, in coordination with the industry carry out a study on the operational priorities for the implementation of ADS-B and on aspects of the use of ADS-B in ATC units, based on the technical guidance documentation available for the CAR/SAM Regions. This study by its nature will be led by the NACC/WG/SURV/TF.

5.39 Under WP/11, COCESNA presented information on the actions carried out by COCESNA and the Central American States (Belize, Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua) with the purpose of improving air traffic services in the different spaces of the Central American FIR, through the implementation of the air ADS-B and the establishment of a regulation to ensure the equipment of the aircraft with the required features.

5.40 COCESNA, as part of its strategic and investment planning, modernized the aeronautical surveillance systems with ADS-B reception capacity and updated the ATS Control Centres both en route (ACC CENAMER), approach (APP), as well as Control Towers (TWR) of all Central American States, to integrate ADS-B messages considering the processing of ADS-B Versions 0, 1 and 2, in addition to using the latest versions of the Asterix surveillance data format.

5.41 Based on recommendation No. 3 of the NACC/WG/SURV/TF: "States should take advantage of the currently existing surveillance capabilities in aircraft, mainly ADS-B, and adopt as regulations the mandatory use of ADS-B. That the States that have the necessary ADS-B infrastructure ready for their operations, implement the necessary regulations to ensure their operations in the short term", COCESNA has begun the process of working together with the Central American States for the development of a common regulation that applies to the Central American FIR.

5.42 Moreover, under this work carried out by COCESNA, in conjunction with the NACC/WG/SURV/TF, Decision GREPECAS/20/03 previously quoted will be responded before GREPECAS/21, with the purpose of promoting the coherent and harmonized implementation of ADS-B in the CAR/SAM Regions, within the framework of the Alternative Surveillance (ASUR) module of the GANP, recognizing the optimization of airspace and the provision of ATS services in the region priorities.

5.43 This joint work will support the development of the ADS-B Legislation workshop planned for July 2023 at the ICAO NACC Regional Office.

5.44 The Meeting categorically recognized the benefits that ADS-B implementation brings to the region, since in addition to supporting AIDC and North American Interface Control Document (NAM/ICD) implementation, it also boosts safety.

5.45 Bearing in mind that through the survey data coverage study for the region presented by the NACC/WG/SURV/TF, which indicates that Barbados, Cuba, Mexico, Trinidad y Tobago and the Central American States have systems ADS-B implemented, but which are not fully operational due to the lack of a regulation; the work carried out by COCESNA in its exercise to develop this regulation together with Central America will support this process of developing a regulation of the other States.

5.46 The Meeting also discussed the need to restart a regional mandate for the implementation of ADS-B, since the agreement signed in Port of Spain, Trinidad and Tobago, for a mandatory implementation on 1 January 2020 was only carried out by United States and many States that are ready for this step have not yet done it. This action would promote the regional implementation of ADS-B.

ATFM activities

5.4 Under P/04, the ATFM Task Force (NACC/WG/ATFM/TF) presented the roadmap for the work being developed by the NACC/WG/ATFM/TF. An explanation was offered on the data that are currently available, the data storage mechanisms, as well as its availability depending on the type of data storage, which will have different tools to examine and visualize the data.

5.48 During the same presentation, information available through CADENA was consulted and whether this information could support the analysis of the regional Key Performance Indicators (KPI). In this regard, the group will support the analysis of the regional KPIs and their analyses for the standardization of their measurement.

CNS – Aeronautical Frequencies (FRE) Activities

5.49 Under WP/13, the rapporteur of the Aeronautical Frequencies Task Force (NACC/WG/FRE/TF) presented a summary of the development work carried out by the CAR Region with the objective of having a regional frequency management in coordination with the SAM Region. This work is the result of the Ad-hoc Group of the CAR and SAM Regions on regional management of aeronautical frequencies.

5.50 It was reported that following Conclusion GREPECAS/20/05 "Creation of an Ad-hoc Group for the Development of a Regional Project for the Management of Aeronautical Frequencies", which was reinforced by Resolution A41-7 of ICAO Assembly: “Support of the ICAO policy on radio frequency spectrum matters”, the First Meeting of the Ad-hoc Group was held at the ICAO NACC Regional Office, from 30 January to 3 February 2023.

5.51 The NACC/WG/FRE/TF, through the Ad hoc group made up of CAR and SAM States, developed a regional management project for aeronautical frequencies, aimed at:

a) updating information on aeronautical frequency assignment in the CAR/SAM Regions;
b) establishing/updating the regional frequency assignment procedure;
c) proposing a regional training programme on aeronautical frequency management; and
d) establishing follow-up and evaluation mechanisms for the topics of the International Telecommunication Union (ITU) World Radiocommunication Conferences (WRC) agenda items.

5.52 The work of the project will be led by the Group for the entire CAR Region and will integrate results with the SAM Region to report to GREPECAS, since it is essential that States establish management mechanisms for the frequencies assigned for the use of aeronautical services, in order to protect them and use them safely.

CNS Activities: MEVA Communications Network

5.53 Under WP/16, the MEVA/Technical Management Group (TMG) coordinator presented a summary of the actions that have been carried out to date for the development of the CANSNET.

5.54 Following up on the Request for Information (RFI) process of the CANSNET Project, and considering the solution proposals obtained, the Ad hoc Group prepared the Request for Proposal (RFP) document. Important enhancements for migration to CANSNET were proposed in this document, in anticipation of the increasing bandwidth demands created by new data exchange and provision technologies, such as System-Wide Information Management (SWIM) and the AMHS extended service level to support the dissemination of OPMET data in accordance with the ICAO Meteorological Information Exchange Model (IWXXM).

5.55 It was reported CANSNET has been conceived to be implemented as a flexible and scalable network, with full mesh connectivity between all network nodes for voice and data, with access topology determined by the operational needs of each member.

5.56 It was indicated that, in the preparation stage of the project bidding process, ICAO’s Technical Cooperation Bureau (TCB) has presented the CANSNET cost estimate, based on the result of the market study carried out according to the offers received during the RFI process.

Article	Description	Estimated Cost (USD)
1	CANSNET equipment, installation and acceptance	5,300,000
2	Additional 8% to estimated costs (post pandemic effects)	424,000
3	Additional 10% to estimated costs (contingency)	530,000
	Project estimated cost	**6,254,000**
4	7% for ICAO/TCB administrative expenses	437,780
	Total estimated cost	**6,691,780**

5.57 The Project Document (PRODOC) will contain all the details related to the assistance that ICAO/TCB will provide for the CANSNET procurement project, as well as the cost of the services provided, based on the estimated value of the project. Once the project is granted, the value of said services must be adjusted according to the real cost. This document, like the Management Service Agreement (MSA), must be signed by all CANSNET members. Finally, it was reported that the entire project process is being carried out to ensure that the new communications network will be operational in March 2025, when the MEVA network stops operating.

5.58 The Secretary criticized the low participation of the operational Working Groups in the CANSNET project, indicating that, although the project was presented in different fora and meetings of the operational groups and information on operational requirements was requested, which should be integrated into the project, unfortunately no group contributed data to this project.

AIM Activities

5.59 Under WP/06, the Secretariat presented an update of the work programme related to Digital Aeronautical Information Management (DAIM) towards the implementation of SWIM.

5.60 The Meeting was informed on the preliminary material in process by ICAO for the SWIM Provisions in the new Procedures for Air Navigation Services – Information Management (PANS-IM) and Volume II of the SWIM Manual (Doc 10039). In addition, recently, at the 2022 World Conference of the International Federation of Aeronautical Information Management Associations (IFAIMA) some important recommendations were given:

AIS to AIM 2.0 means even better information (quality), more qualified personnel, as well as the digitization of information to be disseminated through SWIM;
AIM 2.0 does not equal "SWIM implementation"; it is a prerequisite as one of the information domains within SWIM;
AIM 2.0 is about more efficient service delivery and the ability to freely select providers and integrators (service delivery context needs to be considered);
AIM 2.0 is required to address new entrants to our air navigation system, such as drones, high-altitude flights, etc.; and
Before embarking on the final stage of the migration towards AIM 2.0, the progress of the implementation of AIM 1.0 globally should be strengthened, since investments for the implementation are still lacking, the benefits of AIM as the axis for operational improvements are not have been clearly communicated to States and more awareness needs to be raised among executives/decision makers

5.61 Under WP/18, the Secretariat followed up on Conclusions and Decisions of the Final Report of GREPECAS/20 and asked the meeting to consider the actions required by the Member States of the AIM/TF. Likewise, it was requested to review the impact of the Conclusions that involve AIM and its priorities in the ANS implementation processes. Such is the case of the following titles:

GREPECAS/20 Conclusions	Status
• DISSEMINATION OF PART I OF DOC 8126 – AIS MANUAL	A CAR/SAM Workshop is planned for the second semester of 2023.
• ANC NOTAM FOR AEROSPACE OPERATIONS	The Air Navigation Commission (ANC) has been informed and requested to take action.
• APPROVAL OF THE TRAINING AND TRAINING GUIDE FOR AIS/AIM PERSONNEL OF THE CAR/SAM REGIONS	Finalized.
• LACK OF AVAILABILITY IN SPANISH OF THE ICAO GLOBAL AIR NAVIGATION PLAN (GANP)	The ANC has been informed and requested to take action
• APPROVAL OF THE INITIAL VERSION (VERSION 0) OF VOLUME III OF THE CAR/SAM ANP, AND FOLLOWING ACTIONS FOR THE MANAGEMENT AND DEVELOPMENT OF PERFORMANCE-BASED PLANNING	Finalized.

5.62 Under WP/19, the Secretariat reported on the Electronic Air Navigation Plan (e-ANP) and requested the evaluation required for actions by the different members of the NACC/WG/AIM/TF; it was also requested to review the Action Plan and actively participate to comply with the tasks assigned to the NACC/WG/AIM/TF, taking into consideration the established ToRs and the activities of the NACC/WG/AIM/TF work programme, discussed at the AIM/TF/5 meeting. The following AIM/TF Action Plan is presented:

AIM/TF ICAO NACC Action Plan															
	Period >>>	2023				2024				2025					
Task	Responsible	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
AIM COLLOBORATIVE PLAN															
Update the NAMCCAR State - AIM Transition Implementation Status every 2 quarters	All TF members														
NAMCCAR State - GRF Implementation Status	All TF members														
eANP Tables (GREPECAS20) fill out & follow up	All TF members														
Aeronautical Charts															
Review of data sets on new charts	All TF members														
Status of eChart implementation completed	All TF members														
AIM TRAINING - CURRICULUM OFFICIALIZE															
Training Curriculum Submission process preparation with TF	All TF Members														
Training Curriculum Submission to TRAINAIR PLUS	AIM Rapp														
Coordinated activities between RASG-PA and GREPECAS for the assessment of skills of the Aeronautical Information Service (AIS) personnel - WP24 of the NACC/WG/RAP/02	AIM Rapp														
AIM TRACKING WEBSITE															
Provide website status and input request to AIM/TF Rapp	Regional Officer														
Provide feedback on Website structural setup proposal with TF	AIM Rapp														
Launch AIM Tacking Website to AIM/TF.	AIM Rapp & Regional Officer														
AIM/TF State members' to submit required (pending) data.	All TF members														
AIM Tracking Website Official Launch.	Regional Officer														
AIP centralized accessibility of each State (redirect)	AIM Rapp, All TF members & Regional Officer														
CONTINGENCY PLANS															
Review of existing plans within the NACC region.	All TF members														
Implement contingency in the region, with one or more States	All TF members														
SWIM Implementation															
Provide SWIM Implementation readiness to AIM Rapp	All TF members														
SWIM data exchange testing with other regional AIM Units	All TF members														
Provide feedback on SWIM interoperability tests	All TF members														
Implement SWIM	All TF members														

AIM/TF ICAO NACC Action Plan															
	Period >>>	2023				2024				2025					
Task	Responsible	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
Global Air Navigation Plan (GANP), Seventh Edition - Aviation System Block Upgrades (ASBU)															
Analyse the information presented in WP03, the GANP and the ASBU Portal of NACC/WG/RAP/02	All TF members														
Review of the AIM related KPAs sand KPIs presented in WP04 of NACC/WG/RAP/02	All TF members														
Establish and indicate status on regional KPA and KPI	All TF members														
Establish the regional implementation status through the BBBs	All TF members														
Airspace Optimization: AIM products and Costs															
eTOD data and publication	AIM Rapp & Regional Officer														
AIP centralized accessibility: State to provide direct links to AIM unit and eAIP	All TF members														
Costs of AIP: Assessment of each State	All TF members														
Costs of AIP: Create a standard on billing of AIP	All TF members, AIM Rapp & Regional Officer														
Publication of Free Routes: Standardization method (SUP)	All TF members														
Publication of electronic Flight Procedures	All TF members														
FPL Reject standard formats publication.	All TF members														
FF-ICE (AIDC TF) implementation/update by States	All TF members														
Singled out Tasks															
Dissemination of Part I of Doc 8126 – AIS manual	AIM Rapp & Regional Officer														
Standardize and define AIM (AIS / ARO / FPL) personnel required minimum skills and educational background	All TF members, AIM Rapp & Regional Officer														

5.63 Under IP/02, the Secretariat informed the Meeting on the methods and instructions to fill out the electronic Air Navigation Plan (e -ANP) Tables template version 1.0, created in March 2023 for the NACC/WG/AIM/TF related to the e -ANP:

TEMPLATES
1.2. The template is based on the sheets/tables related to Digital Aeronautical Information Management – **DAIM**:
1.2.1. **Table DAIM III-1**: Provision of AIS/AIM products and services based on the Integrated Aeronautical Information Database (IAID)
1.2.2. **Table DAIM III-2**: Aeronautical Data Quality
1.2.3. **Table DAIM-III-3**: World Geodetic System-1984 (WGS-84)
1.2.4. **Table DAIM-III-4-1a**: Provision of Terrain and Obstacles data sets for Areas 1 and 4
1.2.5. **Table DAIM-III-4-2**: Provision of terrain and obstacle data sets for Area 2, take-off flight path area (TOFP) and the obstacle limitation surfaces (OLS) 4
1.2.6. **Table DAIM-III-4-3**: Provision of Terrain and Obstacle data sets for Area 3 and Airport Mapping Databases (AMDB)

Agenda Item 6 Other Business

6.1 The Secretariat, under this agenda item, explained the responsibilities of the NACC/WG as the air navigation implementation arm and the need for the level of implementation and development of Air Navigation Services (ANS) and infrastructure to be measurable.

6.2 It was also mentioned that it was necessary to establish the measurement mechanisms for each of the ANS indicators for the Aeronautical Information Management (AIM) and Air Traffic Flow Management (ATFM).

6.3 In addition, the information on the already established indicators was presented and the need for this information to be updated as soon as possible was communicated. **Appendix F** includes the data tables, which must be evaluated by the Working Groups according to their area of expertise.

6.4 During the Meeting, the available indicators were reviewed and it was established that:

- The indicators established for the AIM services and the ICAO Weather Information Exchange Model (IWXXM) will be reviewed by the rapporteurs of the NACC/WG/AIM/TF and MEVA/TMG Task Forces.
- The assessment of the level of implementation of Airport Collaborative Decision Making (A-CDM) will be updated by the NACC/WG/AGA/TF.
- The level of implementation of the Air Traffic Services Inter-Facility Data Communications (AIDC) and North American Data Communications (NAM/ICD) protocols will be reviewed and updated by the NACC/WG/AIDC/TF.
- The level of implementation of the Aeronautical Message Handling System (AMHS) will be updated by the MEVA/TMG.
- The information corresponding to the implementation data of the Performance-Based Navigation (PBN) routes will be updated by the NACC/WG/AO/TF.
- Information on the implementation of surveillance data is up-to-date and does not require updating.

6.5 The different rapporteurs may use the mechanisms they deem appropriate to update the information, either through direct consultations or by coordinating with the different States' points of contact.

6.6 In attention to what was stated in the previous items, the Meeting made the following decision:

DECISION **NACC/WG/RAP/02/07**	**UPDATE OF INFORMATION ON INDICATORS THAT MEASURE THE LEVEL OF IMPLEMENTATION OF AIR NAVIGATION SERVICES**
What: That the Task Forces of the NACC/WG update the corresponding information of the evaluation indicators listed in **Appendix F** of this report, updating the level of implementation of the ANS systems and services according to their areas of responsibility, **by 25 July 2023**.	**Expected impact:** ☐ Political / Global ☒ Inter-regional ☐ Economic ☐ Environmental ☒ Operational/Technical
Why: It is important to provide correct information that supports the information that feeds the ANS regional implementation indicators.	
When: **25 July 2023**	**Status:** ☒ Valid / ☐ Superseded / ☐ Completed
Who: ☐ States ☒ ICAO ☒ Other:	NACC/WG

Approval of the new structure of the NACC/WG

6.7 The Secretariat communicated the rapporteurs of the different Task Forces the working and reporting mechanism to the Air Navigation Commission. The Secretariat recalled that the NACC/WG is the implementation arm of the NAM/CAR Regions and reports on the GREPECAS activities and projects, reporting in turn directly to the NACC Regional Office and to the Directors of the NAM/CAR Regions, therefore a change in the structure is proposed, as follows:

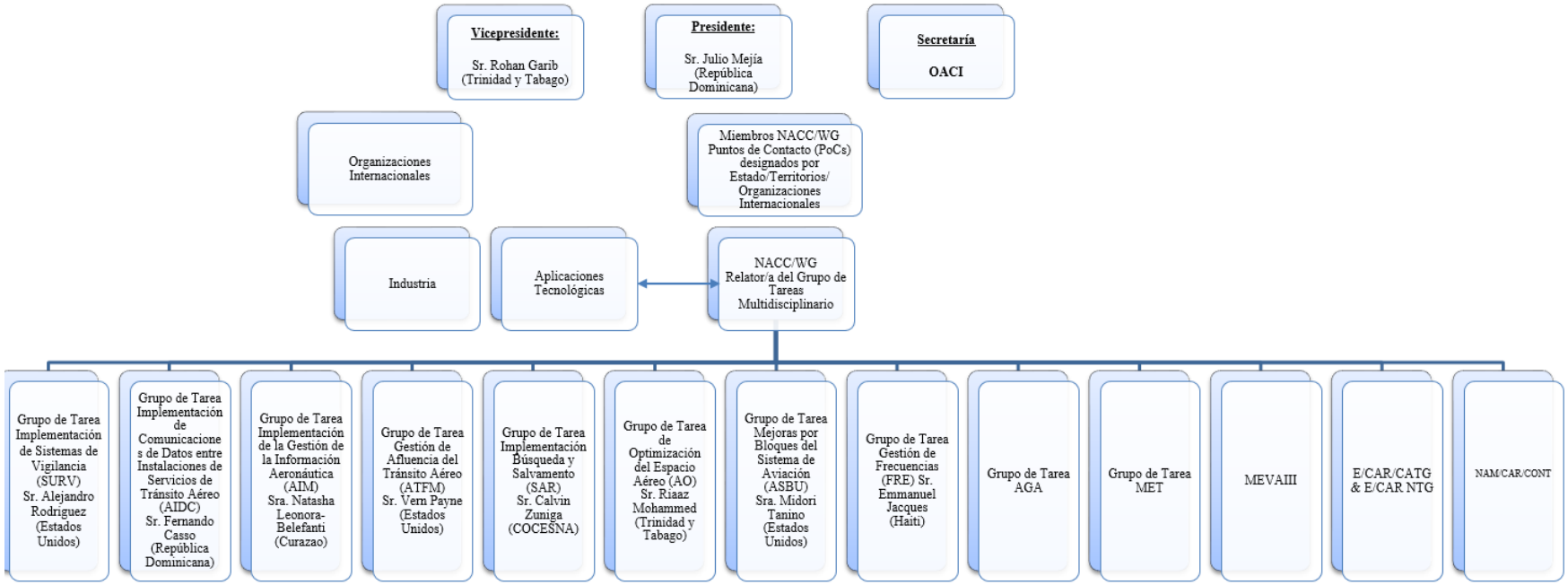


Fig. 1: Proposal on NACC/WG Structure Change

6.8 The Meeting also discussed the structure and responsibilities of the NACC/WG Working Group and noted the need to review the NACC/WG Terms of Reference (ToRs) to define/modify the responsibilities of:

a) The Secretariat
b) The Rapporteurs
c) Points of Contact (PoC) – Person designated by the State/Organization with the authorization/responsibility for coordinating information between the ICAO NACC Regional Office and relevant personnel in their State/Organization.
d) Task Force (TF) Members – Subject Matter Expert (SME) assigned to a TF for a specific purpose or time period.

6.9 It was also indicated that care must be taken not to create such large structures, but the necessary structure instead to meet the needs and work to be completed by the region and, if possible, some of the groups could be the ones that address specific temporary tasks.

6.10 The Meeting indicated the importance that the members of the different working groups understand their responsibility, therefore must meet the appropriate profile to belong to the appropriate work team and have their role clearly identified within the group.

6.11 It was also mentioned on the different Task Groups and that they have the right people to join these groups; in this sense, each group rapporteur will make a profile of the people who must be integrated into the groups. Additionally, the ICAO NACC Regional Office will coordinate with the States the integration of this personnel.

6.12 Moreover, the Meeting discussed the need for the task forces of the NACC/WG to update their work plan for 30 June 2023, with realistic activities and dates and the definition of those responsible. In addition to this, the rapporteurs of the Task Forces must define the minimum requirements that the members of these must meet to be members of each group.

6.13 The NACC Office will update the NACC/WG web page, integrating the updated terms of reference of the Group, the action plans of each Group and its members, in addition to the necessary requirements to be a member of the Group.

6.14 Furthermore, within this new structure, the following NACC/WG restructuring plan is proposed:

a) Integrate the NAM/CAR Contingency Task Force to the NACC/WG, for which the proposal will be made during the meeting of the Group in May 2023.
b) That the Eastern Caribbean Working Groups integrate and report to the NACC/WG, for which the proposal will be made in July 2023.
c) That the MEVA/TMG Group be part of and report to the NACC/WG.
d) That the new structure of the NACC/WG be presented for approval in June 2023 to the Directors during the NACC/DCA/11 meeting.

6.15 The Secretariat also indicated the need to assess the responsibility and work plan of the Aviation System Block Upgrades (ASBU) Task Force, due to the fact that both the Basic Building Blocks (BBB) and the ASBU elements have been absorbed by the different Task Forces, according to their area of work. In addition, it is necessary for each NACC/WG Task Force Rapporteur to review their Terms of Reference and update their tasks and members.

6.16 Thus, considering the proposed new structure of the NACC/WG and its corresponding restructuring plan, the Meeting adopted the following draft conclusion:

<table>
<tr><td colspan="3">DRAFT CONCLUSION
NACC/WG/RAP/02/08 NACC/WG STRUCTURE CHANGE</td></tr>
<tr><td colspan="2">What:
That, in order to have a more integrated work in the management of the implementation of air navigation activities, ensuring a greater coordination:
a) the States are invited to approve the new structure of the NACC/WG as presented in Fig. 1;
b) Secretariat to manage accordingly with the MEVA/TMG and Contingency groups, so that the information and benefits of the integration are presented in order to have their approval to join the NACC/WG;
c) Secretariat will be in charge of updating the Terms of Reference (ToR) of the NACC/WG.</td><td>Expected impact:
☒ Political / Global
☒ Inter-regional
☒ Economic
☐ Environmental
☒ Operational/Technical</td></tr>
<tr><td colspan="3">Why:
Carrying out coordinated and integrated work amongst the different air navigation areas is essential to work more efficiently.</td></tr>
<tr><td>When: NACC/WG/08</td><td colspan="2">Status: ☒ Valid / ☐ Superseded / ☐ Completed</td></tr>
<tr><td>Who: ☐ States ☒ ICAO ☐ Other:</td><td colspan="2"></td></tr>
</table>

6.17 Bearing in mind that the NACC/WG is the main air navigation regional implementation group, the Meeting indicates the need to better support the activities of the Group, and in this regard the following opportunities for improvement were identified:

a) Provide the NACC/WG workflow process during the Directors meeting, so that the authorities can provide greater support to the activities of the Group.

b) That the States designate points of contact for the work in the different activities, as well as personnel to integrate the different task groups and that these personnel have the necessary profile for the fulfillment of said activities.

c) The need to define the responsibilities of a member of the Task Forces and communicate these responsibilities to the Directorates of Civil Aviation.

d) Responsibilities of the General Directorate of Civil Aviation (GDCA)/Executive Director (CEO)/Government, etc.;
e) Each Conclusion/Decision presented to the GDCA must include:

i. benefits
ii. risks/risk mitigation
iii. necessary resources (human, equipment, training, financial, etc.).

6.18 The Meeting agreed that the meetings that the rapporteurs must hold for coordination of the activities and execution of the action plan of the NACC/WG must be communicated via a State Letter from ICAO, so that they can count on the time to attend to them officially. ICAO indicated that It will do so and that It will also be placed in the proposed action plan.

6.19 The Meeting proposed a change in the information provided to the Directors, to provide them with information that allows them to have information on benefit, risk and, above all, the information of the Human and financial resources necessary to execute an activity. Therefore, the Meeting made the following decision:

<table>
<tr><td colspan="2">DECISION
NACC/WG/RAP/02/09 PROMOTE A NEW FORMAT FOR THE NACC/WG MEETING OF DECISIONS AND CONCLUSIONS</td></tr>
<tr><td>What:
That, when actions to be executed as a result of the meetings held by the Group are approved, the information provided in the Conclusion/Decision reflect data such as: benefit to the States for executing the activity, associated risks and, above all, human and financial resources necessary to execute the proposed actions. In this sense, the Meeting decided that:

a) the Secretariat will work on a new format that will be used in the next meetings of the NACC/WG;
b) future Conclusions/Decisions will reflect this information;
c) future information provided by the NACC/WG to the NACC/DCA Meeting will integrate this information; and
d) the Secretariat will share that information during the NACC/DCA Meetings.</td><td>Expected impact:
☒ Political / Global
☒ Inter-regional
☒ Economic
☐ Environmental
☒ Operational/Technical</td></tr>
<tr><td colspan="2">Why:
In order to carry out the planned activities correctly and in a timely manner within the NACC/WG Working Group, it is necessary to have the resources for it.</td></tr>
<tr><td>When: NACC/WG/08</td><td>Status: ☒ Valid / ☐ Superseded / ☐ Completed</td></tr>
<tr><td>Who: ☐ States ☒ ICAO ☐ Other:</td><td></td></tr>
</table>

6.20 Finally, as indicated in Appendix E, the Meeting and, above all, the rapporteurs of the different Task Forces will be responsible for completing the following activities:

a) Each rapporteur will send the updated ToR of their Task Force to be uploaded on the NACC/WG web page and, thus, update the monitoring of their activities.
b) Each Task Force will integrate the activities delegated by GREPECAS/20 into its work plan and will submit it to the NACC Office.
c) The information will be sent by each Task Force by 30 June 2023.

6.21 As part of the discussion and to support solving the weaknesses faced by the NACC/WG/AO/TF, its rapporteur was requested to inform every time he is faced with a problem in the airspace optimization part, specifically on the weaknesses found in the Communications, Navigation and Surveillance (CNS) infrastructure so that the TFs under this area make the respective analysis.

6.22 The Secretariat will propose a project to be developed under Project RLA09801 – Multi-Regional Civil Aviation Assistance Programme (MCAAP) for the development of a study for the survey of the CNS infrastructure of the region.

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ICAO NACC REGIONAL OFFICE

ASBU TASK FORCE (NACC/WG/ASBU)[1]

Introduction

The Basic Building Block (BBB) framework outlines the foundation of any robust air navigation system. It is nothing new but the identification of the essential services to be provided for international civil aviation in accordance with ICAO Standards. These essential services are defined in the areas of aerodromes, air traffic management, search and rescue, meteorology and information management. In addition to essential services, the BBB framework identifies the end users of these services as well as the assets (communications, navigation, and surveillance (CNS) infrastructure) that are necessary to provide them.

The BBB is considered an independent framework and not a block of the ASBU framework as they represent a baseline rather than an evolutionary step. This baseline is defined by essential services recognized by ICAO Member States as necessary for international civil aviation to develop in a safe and orderly manner. Once these essential services are provided, they constitute the baseline for any operational improvement.

The BBB framework will be updated every two years taking into account amendments to ICAO provisions. Although an initial draft of the BBB framework is presented online in the GANP Portal (https://www4.icao.int/ganpportal/BBB), the BBBs will be included in a web-based application in a format similar to the ASBU framework.

The present document contains a series of tables of the five-air navigation areas integrated in the basic building blocks, with the objective that the tables serve as

[1] Document created by the CNS area of the ICAO NACC Regional Office.

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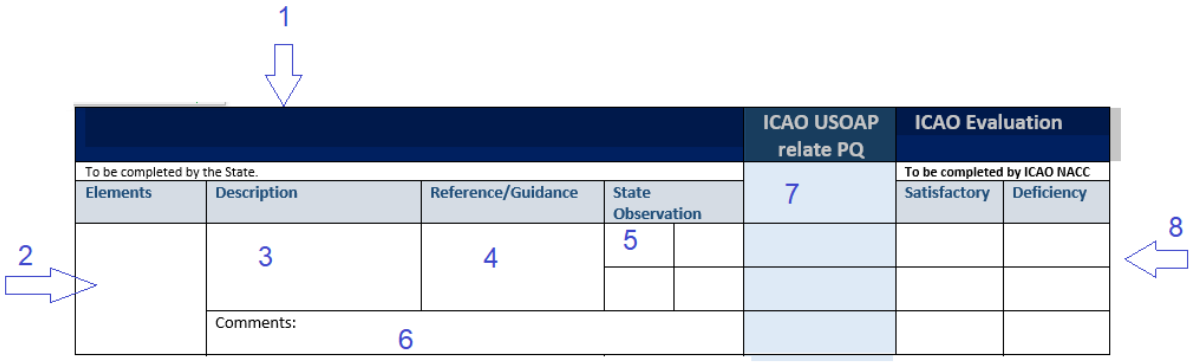
an evaluation of the implementation status of the services integrated therein and identify opportunities for improvement in each of the areas.

How to integrate the data in the table?



La tabla contiene 8 diferentes áreas:

1	2	3	4	5	6	7	8
Service are the elements to be evaluated according to the area of air navigation, which can be: – Meteorological services – Aeronautical information services – Search and rescue services – ATM services – Aerodrome operation services – CNS Infrastructure	Describe the element to be assessed	Guidance and information concerning the item to be assessed in accordance with the ICAO Annexes.	Provides information from the Annex and other ICAO guidance material regarding the service requirement to be assessed.	Evaluation criteria: – Yes: implemented and operational – NO: not implemented – N/A: not applicable – TBD: in process of implementation	Information to be provided by the State to certify the status of service implementation	Informative data	The last two columns will be the information completed by ICAO according to the evaluation of the information submitted by the State. Sat – Satisfactory: the State has correctly implemented the service. – Deficiency: It is a mandatory service that is not operating.

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Basic Building Block (BBB) Framework

MET BASIC ELEMENTS/REFERENCES ICAO SARPs

1. MET References

- Annex 3: Meteorological Service for International Air Navigation
- Doc 8896: Manual of Aeronautical Meteorological Practice
- Doc 9873: Manual on the Quality Management System for the Provision of Meteorological Service to International Air Navigation
- Doc 9837: Manual on Automatic Meteorological Observing Systems at Aerodromes
- Doc 10003: Manual on the Digital Exchange of Aeronautical Meteorological Information
- Doc 9817: Manual on Low-level Wind Shear
- Doc 9691: Manual on Volcanic Ash, Radioactive Material and Toxic Chemical Clouds
- Doc 9328: Manual of Runway Visual Range Observing and Reporting Practices
- Doc 9377: Manual on Coordination between Air Traffic Services, Aeronautical Information Services and Aeronautical Meteorological Services
- Doc 9766: Handbook on the International Airways Volcano Watch (IAVW) — Operational Procedures and Contact List

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1. Meteorological Services					ICAO USOAP relate PQ		ICAO Evaluation	
To be completed by the State.							To be completed by ICAO NACC	
Elements	**Description**	**Reference /Guidance**	**State Observation**		**CE**	**PQ**	**Satisfactory**	**Deficiency**
1.1 Flight Briefing Service	**Provide meteorological information for Flight Services.** See Annex 3, Appendix 8, to do review the BBB requirement. 1.1 Meteorological information shall be supplied to operators and flight crew members by one or more mechanisms as agreed between the meteorological authority and the operator concerned, and with the order shown below not implying priorities.	A3: Ch.:9; App.:8 Doc 8896, Doc 9873, Doc 10003	YES:	NO:	CE-6	7.412		
			N/A:	TBD:	CE-6	7.415		
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**				CE-6	7.459		

1.2 Meteorological Observation and Reports Service	Meteorological Office, Watch Office and other meteo services according with weather. See Annex 3, Chapter 3.4 Meteorological watch Offices: 3.4.1 A Contracting State, having accepted the responsibility for providing air traffic services within a flight information region (FIR) or a control area (CTA), shall establish, in accordance with regional air navigation agreement, one or more MWOs, or arrange for another Contracting State to do so. See Annex 3, APPENDIX 2. Technical specifications related to global systems, supporting centres and meteorological offices. See Annex 3, APPENDIX 3 Technical specifications related to meteorological observations and reports.	A3: Ch.:3,4; App.:2,3 Doc 8896, Doc 9873, Doc 9837, Doc 10003, Doc 9328, Doc 9377	YES:	NO:	CE-6	7.467		
			N/A:	TBD:	CE-7	7.465		
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**				CE-7	7.451		

1.3 Aeronautical Meteorological Forecast Service	Meteorological Office, Watch Office and other meteo services according with weather. See Annex 3, CHAPTER 3. Global systems, supporting centres and meteorological offices. See Annex 3, CHAPTER 6. Forecasts. APPENDIX 2. Technical specifications related to global systems, supporting centres and meteorological offices. APPENDIX 5. Technical specifications related to forecasts	A3: Ch.:3,6; App.:2,5 Doc 8896, Doc 9873, Doc 10003, Doc 9377	YES:	NO:	CE-7	7.461		
			N/A:	TBD:	CE-7	7.463		
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**				CE-7	7.475		
1.4 Aeronautical Meteorological Warnings Service	Meteorological Office, Watch Office and other meteo services according with weather. See Annex 3 CHAPTER 8. Aeronautical climatological information. General provisions, climatological tables of aerodromes, data from meteorological observations.	A3: Ch.:7; App.:6 Doc 8896, Doc 9873, Doc 9817, Doc 9377	YES:	NO:	CE-7	7.476		
			N/A:	TBD:	CE-7	7.477		
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**							
1.5	SIGMET and AIRMET information, aerodrome warnings and wind shear warnings and alerts.	A3: Ch.:8; App.:7	YES:	NO:				

Aeronautical Climatological Information Service	See Annex 3 CHAPTER 7. SIGMET and AIRMET information, aerodrome warnings and wind shear warnings and alerts. APPENDIX 6. Technical specifications related to SIGMET and AIRMET information, aerodrome warnings and wind shear warnings and alerts	Doc 8896, Doc 9873	N/A:	TBD:			
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						
1.6 SIGMET Service	Provide SIGMET Service. See Annex 3 CHAPTER 3. Global systems, supporting centres and meteorological offices. CHAPTER 7. SIGMET and AIRMET information, aerodrome warnings and wind shear warnings and alerts. APPENDIX 6. Technical specifications related to SIGMET and AIRMET information, aerodrome warnings and wind shear warnings and alerts APPENDIX 6-1 Specifications related to SIGMET information.	A3: Ch.:3,7; App.:6 Doc 8896, Doc 9873, Doc 10003, Doc 9377	YES:	NO:			
			N/A:	TBD:			
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						

1.7 AIRMET Service	Provide AIRMET Service See Annex 3 CHAPTER 3. Global systems, supporting centres and meteorological offices. CHAPTER 7. SIGMET and AIRMET information, aerodrome warnings and wind shear warnings and alerts. APPENDIX 6. Technical specifications related to SIGMET and AIRMET information, aerodrome warnings and wind shear warnings and alerts APPENDIX 6-2 Specifications related to AIRMET information.	A3: Ch.:3,7; App.:6 Doc 8896, Doc 9873, Doc 10003, Doc 9377	YES:	NO:			
			N/A:	TBD:			
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						
1.8 GAMET Service	Provide GAMET service See Annex 3 CHAPTER 6. Forecasts APPENDIX 5. Technical specifications related to forecasts. Criteria related to TAF, Criteria related to trend Definitions of AIRMET information, long-range flight, GAMET area forecast, operations control and tropical cyclone; amendment of provisions for horizontal and key resolution to be used for gridded forecasts of winds and temperatures at altitude prepared by the world	A3: Ch.:6; App.:5 Doc 8896, Doc 9873, Doc 9377	YES:	NO:			
			N/A:	TBD:			

	area forecast centres; issuance of special reports on temperature changes at aerodromes.						
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						
1.9 AIREP	Provide AIREP service See Annex 3, CHAPTER 5. Aircraft observations and reports. APPENDIX 4. Technical specifications related to aircraft observations and reports APPENDIX 6. Technical specifications related to SIGMET and AIRMET information, aerodrome warnings and wind shear warnings and alerts *Note: - Details of the AIREP form is presented in the PANS-ATM (Doc. 4444).*	A3: Ch.:5; App.:4,6 Doc 8896, Doc 9873, Doc 9377	YES: N/A:	NO: TBD:			
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						
1.10 WAFS Service	Provide WAFS Service See Annex 3 CHAPTER 3. Global systems, supporting centres and meteorological offices 3.1 World area forecast system The objective of the world area forecast system (WAFS) shall be to supply meteorological authorities and other users with global aeronautical meteorological en-route forecasts in digital	A3: Ch.:3; App.:2 Doc 8896, Doc 9873, Doc 10003	YES: N/A:	NO: TBD:			

	form. This objective shall be achieved through a comprehensive, integrated, worldwide and, as far as practicable, uniform system, and in a cost-effective manner, taking full advantage of evolving technologies. APPENDIX 2. Technical specifications related to global systems, supporting centres and meteorological offices.						
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						
1.11 IAVW Service	Provide IAVW Service See Annex 3 CHAPTER 3. Global systems, supporting centres and meteorological offices APPENDIX 2. Technical specifications related to global systems, supporting centres and meteorological offices. Note: - IAVW relies on the cooperation of aviation and non-aviation operational units using information obtained from observation sources and networks provided by States. ICAO coordinates surveillance with the cooperation of other interested international organisations.	A3: Ch.:3; App.:2 Doc 8896, Doc 9873, Doc 10003, Doc 9691, Doc 9377, Doc 9766	YES: N/A:	NO: TBD:			
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						
1.12 TCAC Service	Provide TCAC Service	A3: Ch.:3; App.:2	YES:	NO:			

	See Annex 3 CHAPTER 3. Global systems, supporting centres and meteorological offices APPENDIX 2. Technical specifications related to global systems, supporting centres and meteorological offices 3.7 Tropical cyclone advisory centres A Contracting State having accepted the responsibility for providing a tropical cyclone advisory centre (TCAC) shall arrange for that centre *(see Annex 3, point 3.7 in full).*	Doc 8896, Doc 9873, Doc 10003, Doc 9377	N/A:	TBD:			
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						
1.13 RMM Service	Provide RMM Service See Annex 3 CHAPTER 3. Global systems, supporting centres and meteorological offices APPENDIX 2. Technical specifications related to global systems, supporting centres and meteorological offices	A3: Ch.:3; App.:2 Doc 8896, Doc 9873, Doc 9691, Doc 9377	YES:	NO:			
			N/A:	TBD:			
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						

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Aeronautical Information Services (5 services)

AIS References

- Annex 15: Aeronautical Information Services
- Annex 4: Aeronautical Charts
- PANS-AIM (Doc 10066): Aeronautical Information Management
- PANS-OPS (Doc 8168): Aircraft Operations
- Doc 8126: Aeronautical Information Services Manual

2. Aeronautical Information Services					ICAO USOAP relate PQ		ICAO Evaluation	
To be completed by the State.							To be completed by ICAO NACC	
Elements	**Description**	**Reference/ Guidance**	**State Observation**		**CE**	**PQ**	**Satisfactory**	**Deficiency**
2.1 Aeronautical data Originators	Aeronautical data Originators See Annex 15, CHAPTER 3. Aeronautical information management Information management requirements, validation, verification, data quality, metadata, data protection, automation, quality management and human factors.	A15: Ch.:3	YES:	NO:	CE-6	7.288		
			N/A:	TBD:	CE-6	7.321		
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**				CE-6	7.291		

2. 2 Aeronautical data Originators Aeronautical Information service	Pre-Flight Briefing Service NOTAM Service See Annex 15, CHAPTER 5. NOTAM Initiation, general specifications, distribution.	A15: Ch.:5 Doc 8126: Ch. 8	YES:	NO:	CE-7	7.303		
			N/A:	TBD:	CE-7	7.267		
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**				CE-7	7.311		
2.3 Aeronautical data Originators Aeronautical Information service	Cartographic Service Flight Operations See Annex 15, CHAPTER 5. NOTAM	A15: Ch.:5 Doc 8126: Specimen AIP and Doc 8697: all	YES:	NO:	CE-7	7.309		
			N/A:	TBD:	CE-7	7.363		
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**				CE-7	7.311		
2.4 Aeronautical data Originators Aeronautical Information service	Aeronautical Information Publication Service See Annex 15, CHAPTER 5. NOTAM	A15: Ch.:5 Doc 8126: Ch. 5 and its App., Specimen AIP	YES:	NO:				
			N/A:	TBD:				
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**							

2.5 Aeronautical data Originators Aeronautical Information service	Post-Flight Briefing Service See Annex 15, CHAPTER 5. NOTAM	PANS-AIM: Ch.5 Doc 8126: Ch. 8	YES:	NO:			
			N/A:	TBD:			
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						

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Search and Rescue services (9 services)

SAR References

- Annex 11: Air Traffic Services
- Annex 12: Search and Rescue
- PANS-ATM (Doc 4444): Air Traffic Management
- Doc 9731: IAMSAR Manual - International Aeronautical and Maritime Search and Rescue Manual

3. Search and Rescue Services					ICAO USOAP relate PQ		ICAO Evaluation	
To be completed by the State.							To be completed by ICAO NACC	
Elements	**Description**	**Reference/Guidance**	**State Observation**		**CE**	**PQ**	**Satisfactory**	**Deficiency**
3.1 Alert Service	Receive emergency notification See Annex 11, CHAPTER 2. General. CHAPTER 5. Alerting service Alerting service. A service provided to notify relevant agencies of aircraft in need of search and rescue assistance and to assist such agencies as appropriate.	A11: Ch.:2,5 PANS-ATM: Ch. 9.2 and Ch. 10.2 IAMSAR Vol 1	YES:	NO:	CE-6	7.481		
			N/A:	TBD:	CE-6	7.513		
	Provide Information how State provide Satisfactorily fulfilling this requirement				CE-6	7.517		

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	State comments:						
3.2 INCERFA Coordination	**INCERFA. The code word used to designate an uncertainty phase.** Coordination See Annex 12, CHAPTER 5. Operating procedures See complete chapter, emergency information, coordination centres, coordination, etc.	A12: Ch.:5	YES:	NO:	CE-6 7.525 CE-7 7.537		
			N/A:	TBD:			
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**				CE-7 7.529		
3.3 INCERFA Emergency Report	Evaluation-Emergency report See Annex 12, CHAPTER 5. Operating procedures See complete chapter, emergency information, coordination centres, coordination, etc.	A12: Ch.:5	YES:	NO:	CE-7 7.543 CE-7 7.545		
			N/A:	TBD:			
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						
3.4 ALERFA		A12: Ch.:3,5 and A11: Ch.:5	YES:	NO:			

Alert To Be Prepared	**ALERFA. The code word used to designate an alert phase**. Alert To Be Prepared See Annex 12, CHAPTER 3. Cooperation Mechanism to do a coordination CHAPTER 5. Operating procedures. Annex 11,	IAMSAR Vol 1 and IAMSAR Vol 2 Ch.:2,3	N/A:	TBD:			
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						
3.5 ALERFA Design Search Plan	Design Search Plan See Annex 12, CHAPTER 3. Cooperation Indicate cooperation mechanics Annex 11, CHAPTER 5. Alerting service	A12: Ch.:3,5 and A11: Ch.:5 IAMSAR Vol 1 and IAMSAR Vol 2 Ch.:5,6,7,8,9	YES: N/A:	NO: TBD:			
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						
3.6 DETRESFA Develop SAR Plan for Incident	**DETRESFA. The code word used to designate a distress phase.** Develop SAR Plan for Incident See Annex 12, CHAPTER 3. Cooperation Indicate cooperation mechanics	A12: Ch.:3,5 and A11: Ch.:5 IAMSAR Vol 1 and IAMSAR Vol 2 Ch.:5,6,7,8,9	YES: N/A:	NO: TBD:			

	Annex 11, CHAPTER 5. Alerting service						
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						
3.7 DETRESFA Implement SAR Plan for Incident Task	Implement SAR Plan for Incident Task See Annex 12, CHAPTER 3. Cooperation Indicate cooperation mechanics Annex 11, CHAPTER 5. Alerting service	A12: Ch.:3,5 and A11: Ch.:5 IAMSAR Vol 1 and IAMSAR Vol 2 Ch.:6,7,9	YES: N/A:	NO: TBD:			
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						
3.8 DETRESFA Implement SAR Plan for Incident Request	Implement SAR Plan for Incident Request See Annex 12, CHAPTER 3. Cooperation Indicate cooperation mechanics Annex 11, CHAPTER 5. Alerting service	A12: Ch.:3,5 and A11: Ch.:5 IAMSAR Vol 1 and IAMSAR Vol 2 Ch.:6,7,9	YES: N/A:	NO: TBD:			
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						
3.9 DETRESFA Implement SAR Plan for	Implement SAR Plan for Incident Notify See Annex 12, CHAPTER 3. Cooperation Indicate cooperation mechanics Annex 11, CHAPTER 5. Alerting service	A12: Ch.:3,5 and A11: Ch.:5 IAMSAR Vol 1 and IAMSAR Vol 2 Ch.:6,7,9	YES: N/A:	NO: TBD:			

Incident Notify	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**			

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Air Traffic Management services (20 services)

ATM References

- Annex 11: Air Traffic Services
- Annex 4: Aeronautical Charts
- PANS-ATM (Doc 4444): Air Traffic Management
- PANS-OPS (Doc 8168): Aircraft Operations

4. Air Traffic Management Services					ICAO USOAP relate PQ		ICAO Evaluation	
To be completed by the State.							To be completed by ICAO NACC	
Elements	**Description**	**Reference/ Guidance**	**State Observation**		**CE**	**PQ**	**Satisfactory**	**Deficiency**
4.1 ATM AIR TRAFFIC SERVICE AFIS (Alert Flight Information Service)	ALR See Annex 11, CHAPTER 2. General CHAPTER 5. Alerting service	A11: Ch.:2,5 PANS-ATM: Ch.:4,7,9,10	YES:	NO:	CE-6	7.075		
			N/A:	TBD:	CE-6	7.085		
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**				CE-7	7.109		

4.2 AIR TRAFFIC SERVICE TWR	ATC GND CTTRL See Annex 11, CHAPTER 2. General CHAPTER 6. Air traffic services requirements for communications CHAPTER 7. Air traffic services requirements for information	A11: Ch.:2,6,7 PANS-ATM: Ch.:4,5,6,10,11	YES:	NO:	CE-6	7.110		
			N/A:	TBD:	CE-6	7.111		
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**				CE-6	7.121		
4.3 AIR TRAFFIC SERVICE TWR	ATC DEP CLR See Annex 11, CHAPTER 2. General CHAPTER 6. Air traffic services requirements for communications CHAPTER 7. Air traffic services requirements for information	A11: Ch.:2,6,7 PANS-ATM: Ch.:4,5,6,10,11	YES:	NO:	CE-6	7.131		
			N/A:	TBD:	CE-6	7.133		
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**				CE-6	7.153		
4.4 AIR TRAFFIC SERVICE TWR	ATC LDG CLR See Annex 11, CHAPTER 2. General CHAPTER 6. Air traffic services requirements for communications CHAPTER 7. Air traffic services requirements for information	A11: Ch.:2,6,7 PANS-ATM: Ch.:4,5,6,10,11	YES:	NO:	CE-6	7.151		
			N/A:	TBD:	CE-6	7.155		
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**				CE-6	7.158		

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4.5 AIR TRAFFIC SERVICE TWR	ATC SEP See Annex 11, CHAPTER 2. General CHAPTER 6. Air traffic services requirements for communications CHAPTER 7. Air traffic services requirements for information	A11: Ch.:2,6,7 PANS-ATM: Ch.:4,5,6,10,11	YES:	NO:	CE-6	7.159		
			N/A:	TBD:	CE-6	7.162		
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**				CE-6	7.189		
4.6 AIR TRAFFIC SERVICE TWR	ATC COORD See Annex 11, CHAPTER 2. General CHAPTER 7. Air traffic services requirements for information	A11: Ch.:7 PANS-ATM: Ch.:6,10,11,16	YES:	NO:	CE-7	7.081		
			N/A:	TBD:	CE-7	7.087		
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**				CE-7	7.101		
4.7 AIR TRAFFIC SERVICE APP	ATC ARR CLR See Annex 11, CHAPTER 2. General CHAPTER 6. Air traffic services requirements for communications CHAPTER 7. Air traffic services requirements for information	A11: Ch.:2,6,7 PANS-ATM: Ch.:4,5,6	YES:	NO:	CE-7	7.117		
			N/A:	TBD:	CE-7	7.119		
	Provide Information how State provide Satisfactorily fulfilling this requirement				CE-7	7.135		

	State comments:							
4.8 AIR TRAFFIC SERVICE APP	ATC APCH CLR See Annex 11, CHAPTER 2. General CHAPTER 6. Air traffic services requirements for communications CHAPTER 7. Air traffic services requirements for information	A11: Ch.:2,6,7 PANS-ATM: Ch.:4,5,6	YES:	NO:	CE-7	7.137		
			N/A:	TBD:	CE-7	7.139		
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**				CE-7	7.177		
4.9 AIR TRAFFIC SERVICE APP	ATC SEP See Annex 11, CHAPTER 2. General CHAPTER 6. Air traffic services requirements for communications CHAPTER 7. Air traffic services requirements for information	A11: Ch.:2,6,7 PANS-ATM: Ch.:4,5,6	YES:	NO:	CE-7	7.183		
			N/A:	TBD:	CE-7	7.185		
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**				CE-7	7.187		
4.10 AIR TRAFFIC SERVICE APP	ATC COORD See Annex 11, CHAPTER 2. General CHAPTER 7. Air traffic services requirements for information	A11: Ch.:7 PANS-ATM: Ch.:6,10,11,16	YES:	NO:	CE-7	7.195		
			N/A:	TBD:	CE-6	7.229		
	Provide Information how State provide Satisfactorily fulfilling this requirement				CE-6	7.253		

	State comments:							
4.11 AIR TRAFFIC SERVICE ACC	ATC ENR CLR See Annex 11, CHAPTER 2. General CHAPTER 6. Air traffic services requirements for communications CHAPTER 7. Air traffic services requirements for information	A11: Ch.:2,6,7 PANS-ATM: Ch.:4,5	YES:	NO:	CE-6	7.247		
			N/A:	TBD:	CE-6	7.249		
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**				CE-7	7.234		
4.12 AIR TRAFFIC SERVICE ACC	ATC SEP See Annex 11, CHAPTER 2. General CHAPTER 6. Air traffic services requirements for communications CHAPTER 7. Air traffic services requirements for information	A11: Ch.:2,6,7 PANS-ATM: Ch.:4,5	YES:	NO:	CE-7	7.243		
			N/A:	TBD:	CE-7	7.255		
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**							
4.13 AIR TRAFFIC SERVICE ACC	ATC COORD See Annex 11, CHAPTER 2. General CHAPTER 6. Air traffic services requirements for communications CHAPTER 7. Air traffic services requirements for information	A11: Ch.:2,6,7 PANS-ATM: Ch.:6,10,11,16	YES:	NO:				
			N/A:	TBD:				

	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						
4.14 AIR TRAFFIC SERVICE ACC	Flight Information Service (FIS) Traffic Information See Annex 11, CHAPTER 2. General CHAPTER 4. Flight information service CHAPTER 6. Air traffic services requirements for communications CHAPTER 7. Air traffic services requirements for information	A11: Ch.:2,4,6,7 PANS-ATM: Ch.:4,7,9,10	YES:	NO:			
			N/A:	TBD:			
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						
4.15 AIR TRAFFIC SERVICE ACC	Flight Information Service (FIS) MET information See Annex 11, CHAPTER 2. General CHAPTER 7. Air traffic services requirements for information	A11: Ch.:2,7 PANS-ATM: Ch.:6,10	YES:	NO:			
			N/A:	TBD:			
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						
4.16 AIR TRAFFIC SERVICE	Flight Information Service (FIS) Operational information See Annex 11, CHAPTER 2. General CHAPTER 7. Air traffic services requirements for information	A11: Ch.:2,7 PANS-ATM: Ch.:6,10	YES:	NO:			
			N/A:	TBD:			

ACC FIS OPR INF							
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						
4.17 AIR TRAFFIC SERVICE ACC	Flight Information Service (FIS) Coordination See Annex 11, CHAPTER 2. General CHAPTER 7. Air traffic services requirements for information	A11: Ch.:2,7 PANS-ATM: Ch.:6,10	YES:	NO:			
			N/A:	TBD:			
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						
4.18 Airspace Management Procedure Design	Airspace Management Procedure Design See Annex 11, CHAPTER 2. General CHAPTER 6. Air traffic services requirements for communications Annex 4	A11: Ch.:2,6 and A4: Ch.: 1 PANS-OPS Vol. 2: Part I: Sec.: 2, Ch.: 4	YES:	NO:			
			N/A:	TBD:			
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						
4.19	Airspace Management Route Structure		YES:	NO:			

Airspace Management Route Structure	See Annex 11, CHAPTER 2. General CHAPTER 6. Air traffic services requirements for communications Annex 4	A11: Ch.:2,6 and A4: Ch.: 1 PANS-OPS Vol. 2: Part I: Sec.: 2, Ch.: 4	N/A:	TBD:			
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						
4.20 Airspace Management Segment Airspace	Airspace Management Segment Airspace See Annex 11, CHAPTER 2. General CHAPTER 6. Air traffic services requirements for communications Annex 4	A11: Ch.:2,6 and A4: Ch.: 1 PANS-OPS Vol. 2: Part I: Sec.: 2, Ch.: 4	YES:	NO:			
			N/A:	TBD:			
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						

Aerodrome Operation Services (17 services)

AO References

- Annex 14: Aerodromes Volume I — Aerodrome Design and Operations
- Annex 10: Aeronautical Telecommunications Volume I — Radio Navigation Aids
- Doc 9157: Aerodromes Design Manual
- Doc 9184: Airport Planning Manual
- Doc 9137: Airport Services Manual
- Doc 9476: Manual of Surface Movement Guidance and Control Systems (SMGCS)
- Doc 9830: Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual
- Doc 9870: Manual on the Prevention of Runway Incursions
- Doc 8071: Manual on Testing of Radio Navigation Aids
- Doc 9774: Manual on Certification of Aerodromes
- PANS-Aerodromes (Doc 9981): Aerodromes

International Civil Aviation Organization | Organisation de l'aviation civile internationale | Organización de Aviación Civil Internacional | Международная организация гражданской авиации | منظمة الطيران المدني الدولي | 国际民用航空组织

5. Aerodrome Operation Services Name of international aerodrome: (ICAO COD.)					ICAO USOAP relate PQ		ICAO Evaluation	
To be completed by the State.							**To be completed by ICAO NACC**	
Elements	**Description of Annexes:**	**Reference / Guidance**	**State Observation**		**CE**	**PQ**	**Sat.**	**Def.**
5.1 Runways	Annex 14 Vol 1. 2.3.2 For an aerodrome used by international civil aviation for non-precision approaches, the elevation and geoid undulation of each threshold, the elevation of the runway end and any significant high and low intermediate points along the runway shall be measured to the accuracy of one-half metre or foot and reported to the aeronautical information services authority. 2.3.3 For precision approach runway, the elevation and geoid undulation of the threshold, the elevation of the runway end and the highest elevation of the touchdown zone shall be measured to the accuracy of one-quarter metre or foot and reported to the aeronautical information services authority. 2.5.1 The following data shall be measured or described, as appropriate, for each facility provided on an aerodrome:	A14 Vol 1: Ch.: 2, 3 Doc 9157, Doc 9137: Part 2, Doc 9184: Part 1, Doc 9870, Doc 9774, Doc 9981: Part 1, 2	YES: N/A:	NO: TBD:	CE6 CE6 CE6 CE6 CE7	8.137 8.163 8.191 8.227 8.145 8.147		

	a) runway — true bearing to one-hundredth of a degree, designation number, length, width, displaced threshold location to the nearest metre or foot, slope, surface type, type of runway and, for a precision approach runway category I, the existence of an obstacle free zone when provided; b) strip, runway end safety area, stopway – length, width to the nearest metre or foot, surface type; and arresting system — location (which runway end) and description; f) clearway — length to the nearest metre or foot, ground profile; g) visual aids for approach procedures, marking and lighting of runways, taxiways and aprons, other visual guidance and control aids on taxiways and aprons, including taxi-holding positions and stopbars, and location and type of visual docking guidance systems; j) distances to the nearest metre or foot of localizer and glide path elements comprising an instrument landing system (ILS) or azimuth and elevation antenna of a microwave landing system (MLS) in relation to the associated runway extremities. 2.5.2 The geographical coordinates of each threshold shall be measured and reported to the aeronautical information services authority in degrees, minutes, seconds and hundredths of seconds. 2.6.1 The bearing strength of a pavement shall be determined. 2.6.2 The bearing strength of a pavement intended for aircraft of apron (ramp) mass greater than 5 700 kg shall be made available using the aircraft classification number-pavement classification number (ACN-PCN) method by reporting all of the following information: a) pavement classification number (PCN); b) pavement type for ACN-PCN determination;							

	c) subgrade strength category; d) maximum allowable tire pressure category or maximum allowable tire pressure value; and e) evaluation method. 2.6.3 The PCN reported shall indicate that aircraft with an aircraft classification number (ACN) equal to or less than the reported PCN can operate on the pavement subject to any limitation on the tire pressure or aircraft all-up mass for specified aircraft type(s). 2.6.4 The ACN of an aircraft shall be determined in accordance with the standard procedures associated with the ACN-PCN method. 2.6.5 For the purposes of determining the ACN, the behaviour of a pavement shall be classified as equivalent to a rigid or flexible construction. 2.6.6 Information on pavement type for ACN-PCN determination, subgrade strength category, maximum allowable tire pressure category and evaluation method shall be reported using the following codes: (see Annex 14). 2.8 Declared distances The following distances shall be calculated to the nearest metre or foot for a runway intended for use by international commercial air transport: a) take-off run available; b) take-off distance available; c) accelerate-stop distance available; and d) landing distance available. 2.9.1 Information on the condition of the movement area and the operational status of related facilities shall be provided to the							

	appropriate aeronautical information services units, and similar information of operational significance to the air traffic services units, to enable those units to provide the necessary information to arriving and departing aircraft. The information shall be kept up to date and changes in conditions reported without delay. 2.9.2 The condition of the movement area and the operational status of related facilities shall be monitored, and reports on matters of operational significance affecting aircraft and aerodrome operations shall be provided in order to take appropriate action, particularly in respect of the following: (see Annex 14) 2.9.3 As of 4 November 2021, to facilitate compliance with 2.9.1 and 2.9.2, the following inspections shall be carried out each day: a) for the movement area, at least once where the aerodrome reference code number is 1 or 2 and at least twice where the aerodrome reference code number is 3 or 4; and b) for the runway(s), inspections in addition to a) whenever the runway surface conditions may have changed significantly due to meteorological conditions. 2.9.4 As of 4 November 2021, personnel assessing and reporting runway surface conditions required in 2.9.2 and 2.9.5 shall be trained and competent to perform their duties. 2.9.5 The runway surface condition shall be assessed and reported through a runway condition code (RWYCC) and a description using the following terms: (see Annex 14). 2.9.6 Whenever an operational runway is contaminated, an assessment of the contaminant depth and coverage over each third of the runway shall be made and reported.							

	2.9.7 When friction measurements are used as part of the overall runway surface assessment on compacted snow- or ice-covered surfaces, the friction measuring device shall meet the standard set or agreed by the State. 2.9.9 Information that a runway or portion thereof is slippery wet shall be made available. 2.9.10 Notification shall be given to relevant aerodrome users when the friction level of a paved runway or portion thereof is less than the minimum friction level specified by the State in accordance with 10.2.3. 3.1.22 The surface of a runway shall be constructed without irregularities that would impair the runway surface friction characteristics or otherwise adversely affect the take-off or landing of an aeroplane. 3.1.23 A paved runway shall be so constructed or resurfaced as to provide surface friction characteristics at or above the minimum friction level set by the State. 3.3.1 Where the end of a runway is not served by a taxiway or a taxiway turnaround and where the code letter is D, E or F, a runway turn pad shall be provided to facilitate a 180-degree turn of aeroplanes. 3.3.6 The design of a runway turn pad shall be such that, when the cockpit of the aeroplane for which the turn pad is intended remains over the turn pad marking, the clearance distance between any wheel of the aeroplane landing gear and the edge of the turn pad shall be not less than that given by the following tabulation: (see table on pag 3-9 of Annex 14).							

	3.3.9 The surface of a runway turn pad shall not have surface irregularities that may cause damage to an aeroplane using the turn pad. 3.4.1 A runway and any associated stopways shall be included in a strip. 3.4.2 A strip shall extend before the threshold and beyond the end of the runway or stopway for a distance of at least: — 60 m where the code number is 2, 3 or 4; — 60 m where the code number is 1 and the runway is an instrument one; and — 30 m where the code number is 1 and the runway is a non-instrument one. 3.4.3 A strip including a precision approach runway shall, wherever practicable, extend laterally to a distance of at least: — 140 m where the code number is 3 or 4; and — 70 m where the code number is 1 or 2; on each side of the centre line of the runway and its extended centre line throughout the length of the strip. 3.4.7 No fixed object, other than visual aids required for air navigation or those required for aircraft safety purposes and which must be sited on the runway strip, and satisfying the relevant frangibility requirement in Chapter 5, shall be permitted on any part of a runway strip of a precision approach runway delineated by the lower edges of the inner transitional surfaces. No mobile object shall be permitted on this part of the runway strip during the use of the runway for landing or take-off.							

	3.4.10 The surface of that portion of a strip that abuts a runway, shoulder or stopway shall be flush with the surface of the runway, shoulder or stopway. 3.5.1 A runway end safety area shall be provided at each end of a runway strip where: — the code number is 3 or 4; and — the code number is 1 or 2 and the runway is an instrument one. 3.5.3 A runway end safety area shall extend from the end of a runway strip to a distance of at least 90 m where: — the code number is 3 or 4; and — the code number is 1 or 2 and the runway is an instrument one. If an arresting system is installed, the above length may be reduced, based on the design specification of the system, subject to acceptance by the State. 3.5.5 The width of a runway end safety area shall be at least twice that of the associated runway. 3.7.1 A stopway shall have the same width as the runway with which it is associated. 3.7.4 The surface of a paved stopway shall be so constructed or resurfaced as to provide surface friction characteristics at or above those of the associated runway.							
		Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**						

5.2 Taxiways	**Annex 14 Vol 1.** 2.5.1 The following data shall be measured or described, as appropriate, for each facility provided on an aerodrome: c) taxiway — designation, width, surface type; g) visual aids for approach procedures, marking and lighting of runways, taxiways and aprons, other visual guidance and control aids on taxiways and aprons, including taxi-holding positions and stopbars, and location and type of visual docking guidance systems; i) location and designation of standard taxi-routes; 2.5.3 The geographical coordinates of appropriate taxiway centre line points shall be measured and reported to the aeronautical information services authority in degrees, minutes, seconds and hundredths of seconds. 2.6.1 The bearing strength of a pavement shall be determined. 2.6.2 The bearing strength of a pavement intended for aircraft of apron (ramp) mass greater than 5 700 kg shall be made available using the aircraft classification number-pavement classification number (ACN-PCN) method by reporting all of the following information: a) pavement classification number (PCN); b) pavement type for ACN-PCN determination; c) subgrade strength category; d) maximum allowable tire pressure category or maximum allowable tire pressure value; and e) evaluation method. 2.6.3 The PCN reported shall indicate that aircraft with an aircraft classification number (ACN) equal to or less than the reported PCN can	A14 Vol 1: Ch.: 2, 3 Doc 9157, Doc 9137: Part 2, Doc 9184: Part 1, Doc 9870, Doc 9774, Doc 9981: Part 1, 2	YES: N/A:	NO: TBD:	CE6 -	8.227		

	operate on the pavement subject to any limitation on the tire pressure or aircraft all-up mass for specified aircraft type(s). 2.6.4 The ACN of an aircraft shall be determined in accordance with the standard procedures associated with the ACN-PCN method. 2.6.5 For the purposes of determining the ACN, the behaviour of a pavement shall be classified as equivalent to a rigid or flexible construction. 2.6.6 Information on pavement type for ACN-PCN determination, subgrade strength category, maximum allowable tire pressure category and evaluation method shall be reported using the following codes: (see Annex 14). 2.6.8 The bearing strength of a pavement intended for aircraft of apron (ramp) mass equal to or less than 5 700 kg shall be made available by reporting the following information: a) maximum allowable aircraft mass; and b) maximum allowable tire pressure. 2.9.1 Information on the condition of the movement area and the operational status of related facilities shall be provided to the appropriate aeronautical information services units, and similar information of operational significance to the air traffic services units, to enable those units to provide the necessary information to arriving and departing aircraft. The information shall be kept up to date and changes in conditions reported without delay. 2.9.2 The condition of the movement area and the operational status of related facilities shall be monitored, and reports on matters of operational significance affecting aircraft and aerodrome operations							

	shall be provided in order to take appropriate action, particularly in respect of the following: (see Annex 14) 2.9.3 As of 4 November 2021, to facilitate compliance with 2.9.1 and 2.9.2, the following inspections shall be carried out each day: a) for the movement area, at least once where the aerodrome reference code number is 1 or 2 and at least twice where the aerodrome reference code number is 3 or 4; 3.9.3 The design of a taxiway shall be such that, when the cockpit of the aeroplane for which the taxiway is intended remains over the taxiway centre line markings, the clearance distance between the outer main wheel of the aeroplane and the edge of the taxiway shall be not less than that given by the following tabulation: (see table pag 3-19 of Annex 14) 3.9.19 The width of that portion of a taxiway bridge capable of supporting aeroplanes, as measured perpendicularly to the taxiway centre line, shall not be less than the width of the graded area of the strip provided for that taxiway, unless a proven method of lateral restraint is provided which shall not be hazardous for aeroplanes for which the taxiway is intended. 3.11.1 A taxiway, other than an aircraft stand taxilane, shall be included in a strip. 3.12.2 A runway-holding position or positions shall be established: a) on the taxiway, at the intersection of a taxiway and a runway; and b) at an intersection of a runway with another runway when the former runway is part of a standard taxi-route. 3.12.3 A runway-holding position shall be established on a taxiway if the location or alignment of the taxiway is such that a taxiing aircraft							

	or vehicle can infringe an obstacle limitation surface or interfere with the operation of radio navigation aids. 3.12.5 A road-holding position shall be established at an intersection of a road with a runway. 3.12.6 The distance between a holding bay, runway-holding position established at a taxiway/runway intersection or road-holding position and the centre line of a runway shall be in accordance with Table 3-2 and, in the case of a precision approach runway, such that a holding aircraft or vehicle will not interfere with the operation of radio navigation aids or penetrate the inner transitional surface. 3.12.9 The location of a runway-holding position established in accordance with 3.12.3 shall be such that a holding aircraft or vehicle will not infringe the obstacle free zone, approach surface, take-off climb surface or ILS/MLS critical/ sensitive area or interfere with the operation of radio navigation aids.							
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**							
5.3 Aerodrome Design and Certification - Aprons	**Annex 14 Vol 1.** 2.5.1 The following data shall be measured or described, as appropriate, for each facility provided on an aerodrome: d) apron — surface type, aircraft stands; g) visual aids for approach procedures, marking and lighting of runways, taxiways and aprons, other visual guidance and control aids	A14 Vol 1: Ch.: 2, 3 Doc 9157, Doc 9137: Part 2, Doc 9184:	YES: N/A:	NO: TBD:	CE6	8.227		

	on taxiways and aprons, including taxi-holding positions and stopbars, and location and type of visual docking guidance systems; 2.5.4 The geographical coordinates of each aircraft stand shall be measured and reported to the aeronautical information services authority in degrees, minutes, seconds and hundredths of seconds. 2.6.1 The bearing strength of a pavement shall be determined. 2.6.2 The bearing strength of a pavement intended for aircraft of apron (ramp) mass greater than 5 700 kg shall be made available using the aircraft classification number-pavement classification number (ACN-PCN) method by reporting all of the following information: a) pavement classification number (PCN); b) pavement type for ACN-PCN determination; c) subgrade strength category; d) maximum allowable tire pressure category or maximum allowable tire pressure value; and e) evaluation method. 2.6.3 The PCN reported shall indicate that aircraft with an aircraft classification number (ACN) equal to or less than the reported PCN can operate on the pavement subject to any limitation on the tire pressure or aircraft all-up mass for specified aircraft type(s). 2.6.4 The ACN of an aircraft shall be determined in accordance with the standard procedures associated with the ACN-PCN method. 2.6.5 For the purposes of determining the ACN, the behaviour of a pavement shall be classified as equivalent to a rigid or flexible construction. 2.6.6 Information on pavement type for ACN-PCN determination, subgrade strength category, maximum allowable tire pressure	Part 1, Doc 9774, Doc 9981: Part 1, 2						

	category and evaluation method shall be reported using the following codes: (see Annex 14). 2.6.8 The bearing strength of a pavement intended for aircraft of apron (ramp) mass equal to or less than 5 700 kg shall be made available by reporting the following information: a) maximum allowable aircraft mass; and b) maximum allowable tire pressure. 2.9.1 Information on the condition of the movement area and the operational status of related facilities shall be provided to the appropriate aeronautical information services units, and similar information of operational significance to the air traffic services units, to enable those units to provide the necessary information to arriving and departing aircraft. The information shall be kept up to date and changes in conditions reported without delay. 2.9.2 The condition of the movement area and the operational status of related facilities shall be monitored, and reports on matters of operational significance affecting aircraft and aerodrome operations shall be provided in order to take appropriate action, particularly in respect of the following: (see Annex 14) 2.9.3 As of 4 November 2021, to facilitate compliance with 2.9.1 and 2.9.2, the following inspections shall be carried out each day: a) for the movement area, at least once where the aerodrome reference code number is 1 or 2 and at least twice where the aerodrome reference code number is 3 or 4; 3.14.1 An isolated aircraft parking position shall be designated or the aerodrome control tower shall be advised of an area or areas suitable for the parking of an aircraft which is known or believed to be the							

	subject of unlawful interference, or which for other reasons needs isolation from normal aerodrome activities.							
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**							
5.4 Aerodrome Design and Certification - Visual Aids	**Annex 14 Vol 1.** 2.5.1 The following data shall be measured or described, as appropriate, for each facility provided on an aerodrome: g) visual aids for approach procedures, marking and lighting of runways, taxiways and aprons, other visual guidance and control aids on taxiways and aprons, including taxi-holding positions and stopbars, and location and type of visual docking guidance systems; 2.12 Visual approach slope indicator systems The following information concerning a visual approach slope indicator system installation shall be made available: a) associated runway designation number; b) type of system according to 5.3.5.2. For an AT-VASIS, PAPI or APAPI installation, the side of the runway on which the lights are installed, i.e. left or right, shall be given; c) where the axis of the system is not parallel to the runway centre line, the angle of displacement and the direction of displacement, i.e. left or right, shall be indicated;	A14 Vol 1: Ch.: 2, 5, 6, 7 Doc 9157: Part 4, 5, 6, Doc 9184: Part 1, Doc 9476, Doc 9830, Doc 9870, Doc 9774, Doc 9981: Part 1	YES: N/A:	NO: TBD:	CE6 CE6 CE6 CE6 CE6 CE7 CE6 CE6	8.157 8.179 8.191 8.201 8.211 8.215 8.223 8.235 8.239		

	d) nominal approach slope angle(s). For a T-VASIS or an AT-VASIS this shall be angle Θ according to the formula in Figure 5-18 and for a PAPI and an APAPI this shall be angle (B + C) ÷ 2 and (A + B) ÷ 2, respectively as in Figure 5-20; and e) minimum eye height(s) over the threshold of the on-slope signal(s). For a T-VASIS or an AT-VASIS this shall be the lowest height at which only the wing bar(s) are visible; however, the additional heights at which the wing bar(s) plus one, two or three fly-down light units come into view may also be reported if such information would be of benefit to aircraft using the approach. For a PAPI this shall be the setting angle of the third unit from the runway minus 2', i.e. angle B minus 2', and for an APAPI this shall be the setting angle of the unit farther from the runway minus 2', i.e. angle A minus 2'. 5.1 Indicators and signalling devices 5.1.1 Wind direction indicator 5.1.2 Landing direction indicator 5.1.3 Signalling lamp 5.1.4 Signal panels and signal area 5.2 Markings 5.2.1 General 5.2.2 Runway designation marking 5.2.3 Runway centre line marking 5.2.4 Threshold marking 5.2.5 Aiming point marking 5.2.6 Touchdown zone marking 5.2.7 Runway side stripe marking				CE6 CE6 CE7	8.245 8.259 8.279		

	5.2.8 Taxiway centre line marking 5.2.9 Runway turn pad marking 5.2.10 Runway-holding position marking 5.2.11 Intermediate holding position marking 5.2.12 VOR aerodrome checkpoint marking 5.2.13 Aircraft stand marking 5.2.14 Apron safety lines 5.2.15 Road-holding position marking 5.2.16 Mandatory instruction marking 5.2.17 Information marking 5.3 Lights 5.3.1 General 5.3.2 Emergency lighting 5.3.3 Aeronautical beacons 5.3.4 Approach lighting systems 5.3.5 Visual approach slope indicator systems 5.3.6 Circling guidance lights 5.3.7 Runway lead-in lighting systems 5.3.8 Runway threshold identification lights 5.3.9 Runway edge lights 5.3.10 Runway threshold and wing bar lights 5.3.11 Runway end lights 5.3.12 Runway centre line lights 5.3.13 Runway touchdown zone lights 5.3.14 Simple touchdown zone lights 5.3.15 Rapid exit taxiway indicator lights 5.3.16 Stopway lights							

	5.3.17 Taxiway centre line lights 5.3.18 Taxiway edge lights 5.3.19 Runway turn pad lights 5.3.20 Stop bars 5.3.21 Intermediate holding position lights 5.3.22 De-icing/anti-icing facility exit lights 5.3.23 Runway guard lights 5.3.24 Apron floodlighting 5.3.25 Visual docking guidance system 5.3.26 Advanced visual docking guidance system 5.3.27 Aircraft stand manoeuvring guidance lights 5.3.28 Road-holding position light 5.3.29 No-entry bar 5.3.30 Runway status lights 5.4 Signs 5.4.1 General 5.4.2 Mandatory instruction signs 5.4.3 Information signs 5.4.4 VOR aerodrome checkpoint sign 5.4.5 Aerodrome identification sign 5.4.6 Aircraft stand identification signs 5.4.7 Road-holding position sign 5.5 Markers 5.5.1 General 5.5.2 Unpaved runway edge markers 5.5.3 Stopway edge markers 5.5.4 Edge markers for snow-covered runways							

	5.5.5 Taxiway edge markers 5.5.6 Taxiway centre line markers 5.5.7 Unpaved taxiway edge markers 5.5.8 Boundary markers 6.1 Objects to be marked and/or lighted 6.2 Marking and/or lighting of objects 7.1 Closed runways and taxiways, or parts thereof 7.2 Non-load-bearing surfaces 7.3 Pre-threshold area 7.4 Unserviceable areas							
	Comments:							
5.5 Aerodrome Design and Certification - Radio Navigation Aids	**<u>Annex 10 Vol 1: Ch 03.</u>** **3.1 Specification for ILS** 3.1.2 Basic requirements 3.1.3 VHF localizer and associated monitor 3.1.4 Interference immunity performance for ILS localizer receiving systems 3.1.5 UHF glide path equipment and associated monitor 3.1.6 Localizer and glide path frequency pairing 3.1.7 VHF marker beacons **3.2 Specification for precision approach radar system** **3.3 Specification for VHF omnidirectional radio range (VOR)** 3.3.1 General 3.3.2 Radio frequency 3.3.3 Polarization and pattern accuracy 3.3.4 Coverage	A10 Vol 1: Ch.: 3 Doc 9157: Part 6, Doc 8071, Doc 9774, Doc 9981: Part 1	YES: N/A:	NO: TBD:				

	3.3.5 Modulations of navigation signals 3.3.6 Voice and identification 3.3.7 Monitoring 3.3.8 Interference immunity performance for VOR receiving systems **3.4 Specification for non-directional radio beacon (NDB)** 3.4.2 Coverage 3.4.3 Limitations in radiated power 3.4.4 Radio frequencies 3.4.5 Identification 3.4.6 Characteristics of emissions 3.4.8 Monitoring **3.5 Specification for UHF distance measuring equipment (DME)** 3.5.2 General 3.5.3 System characteristics 3.5.4 Detailed technical characteristics of transponder and associated monitor 3.5.5 Technical characteristics of interrogator **3.6 Specification for en-route VHF marker beacons (75 MHz)** **3.7 Requirements for the Global Navigation Satellite System (GNSS)** **3.9 System characteristics of airborne ADF receiving systems** **3.11 Microwave landing system (MLS) characteristics**							
	Comments:							
5.6 Aerodrome Design and Certificatio	**<u>Annex 14 Vol 1.</u>** 8.1 Electrical power supply systems for air navigation facilities 8.2 System design 8.3 Monitoring	A14 Vol 1: Ch.: 8 Doc 9157: Part 5, 6,	YES: N/A:	NO: TBD:	CE6	8.173		

n - Electrical Systems		Doc 9774, Doc 9981: Part 1			CE6 CE6 CE6 CE6 CE6 CE6	8.175 8.177 8.179 8.201 8.235 8.239		
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**							
5.7 Aerodrome Design and Certificatio	**Annex 14 Vol 1.** 1.5.1 Recommendation.— A master plan containing detailed plans for the development of aerodrome infrastructure should be established for aerodromes deemed relevant by States. 1.5.2 Recommendation.— The master plan should:	A14 Vol 1: Ch.: 1 Doc 9137: Part 9, Doc 9184:	YES: N/A:	NO: TBD:				

n - Terminals	a) contain a schedule of priorities including a phased implementation plan; and b) be reviewed periodically to take into account current and future aerodrome traffic. 1.5.3 Recommendation.— Aerodrome stakeholders, particularly aircraft operators, should be consulted in order to facilitate the master planning process using a consultative and collaborative approach. 1.5.4 Architectural and infrastructure-related requirements for the optimum implementation of international civil aviation security measures shall be integrated into the design and construction of new facilities and alterations to existing facilities at an aerodrome.	Part 1, Doc 9774, Doc 9981: Part 1						
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**							
5.8 Aerodrome Design and Certification - Fencing	**Annex 14 Vol 1.** 9.10.1 A fence or other suitable barrier shall be provided on an aerodrome to prevent the entrance to the movement area of animals large enough to be a hazard to aircraft. 9.10.2 A fence or other suitable barrier shall be provided on an aerodrome to deter the inadvertent or premeditated access of an unauthorized person onto a non-public area of the aerodrome. 9.10.3 Suitable means of protection shall be provided to deter the inadvertent or premeditated access of unauthorized persons into ground installations and facilities essential for the safety of civil aviation located off the aerodrome.	A14 Vol 1: Ch.: 9 Doc 9157: Part 6, Doc 9774, Doc 9981: Part 1	YES: N/A:	NO: TBD:	CE6	8.133		

	9.10.4 The fence or barrier shall be located so as to separate the movement area and other facilities or zones on the aerodrome vital to the safe operation of aircraft from areas open to public access.							
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**							
5.9 Aerodrome Operation and Certification - Emergency Planning	**Annex 14 Vol 1.** 9.1.1 An aerodrome emergency plan shall be established at an aerodrome, commensurate with the aircraft operations and other activities conducted at the aerodrome. 9.1.2 The aerodrome emergency plan shall provide for the coordination of the actions to be taken in an emergency occurring at an aerodrome or in its vicinity. 9.1.3 The plan shall coordinate the response or participation of all existing agencies which, in the opinion of the appropriate authority, could be of assistance in responding to an emergency. 9.1.5 Recommendation.— The aerodrome emergency plan document should include at least the following: a) types of emergencies planned for; b) agencies involved in the plan; c) responsibility and role of each agency, the emergency operations centre and the command post, for each type of emergency; d) information on names and telephone numbers of offices or people to be contacted in the case of a particular emergency; and	A14 Vol 1: Ch.: 9 Doc 9137: Part 7, 8, Doc 9774, Doc 9981: Part 1	YES: N/A:	NO: TBD:	CE6 CE7 CE6 CE6 CE6	8.291 8.293 8.297 8.299 8.313		

	e) a grid map of the aerodrome and its immediate vicinity. 9.1.6 The plan shall observe human factors principles to ensure optimum response by all existing agencies participating in emergency operations. 9.1.7 Recommendation.— A fixed emergency operations centre and a mobile command post should be available for use during an emergency. 9.1.8 Recommendation.— The emergency operations centre should be a part of the aerodrome facilities and should be responsible for the overall coordination and general direction of the response to an emergency. 9.1.9 Recommendation.— The command post should be a facility capable of being moved rapidly to the site of an emergency, when required, and should undertake the local coordination of those agencies responding to the emergency. 9.1.10 Recommendation.— A person should be assigned to assume control of the emergency operations centre and, when appropriate, another person the command post. 9.1.11 Recommendation.— Adequate communication systems linking the command post and the emergency operations centre with each other and with the participating agencies should be provided in accordance with the plan and consistent with the particular requirements of the aerodrome. 9.1.12 The plan shall contain procedures for periodic testing of the adequacy of the plan and for reviewing the results in order to improve its effectiveness. 9.1.13 The plan shall be tested by conducting:							

	a) a full-scale aerodrome emergency exercise at intervals not exceeding two years and partial emergency exercises in the intervening year to ensure that any deficiencies found during the full-scale aerodrome emergency exercise have been corrected; or b) a series of modular tests commencing in the first year and concluding in a full-scale aerodrome emergency exercise at intervals not exceeding three years; and reviewed thereafter, or after an actual emergency, so as to correct any deficiency found during such exercises or actual emergency. 9.1.14 The plan shall include the ready availability of, and coordination with, appropriate specialist rescue services to be able to respond to emergencies where an aerodrome is located close to water and/or swampy areas and where a significant portion of approach or departure operations takes place over these areas.							
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**							
5.10 Aerodrome Operation and Certification - Rescue	**Annex 14 Vol 1.** 2.11.1 Information concerning the level of protection provided at an aerodrome for aircraft rescue and firefighting purposes shall be made available. 2.11.3 Changes in the level of protection normally available at an aerodrome for rescue and firefighting shall be notified to the appropriate air traffic services units and aeronautical information	A14 Vol 1: Ch.: 2, 9 Doc 9137: Part 1, 8, Doc 9774, Doc 9981: Part 1	YES: N/A:	NO: TBD:	CE6 CE7 CE6 CE7 CE7	8.153 8.155 8.297 8.301 8.305		

and Firefighting	services units to enable those units to provide the necessary information to arriving and departing aircraft. When such a change has been corrected, the above units shall be advised accordingly. 9.2.1 Rescue and firefighting equipment and services shall be provided at an aerodrome when serving commercial air transport operations. 9.2.2 Where an aerodrome is located close to water/swampy areas, or difficult terrain, and where a significant portion of approach or departure operations takes place over these areas, specialist rescue services and firefighting equipment appropriate to the hazard and risk shall be available. 9.2.3 The level of protection provided at an aerodrome for rescue and firefighting shall be appropriate to the aerodrome category determined using the principles in 9.2.5 and 9.2.6, except that, where the number of movements of the aeroplanes in the highest category normally using the aerodrome is less than 700 in the busiest consecutive three months, the level of protection provided shall be not less than one category below the determined category. 9.2.4 Recommendation.— The level of protection provided at an aerodrome for rescue and firefighting should be equal to the aerodrome category determined using the principles in 9.2.5 and 9.2.6. 9.2.5 The aerodrome category shall be determined from Table 9-1 and shall be based on the longest aeroplanes normally using the aerodrome and their fuselage width. 9.2.6 If, after selecting the category appropriate to the longest aeroplane's overall length, that aeroplane's fuselage width is greater than the maximum width in Table 9-1, column 3, for that category,				CE7 CE6 CE7 CE7 CE7 CE7	8.307 8.309 8.311 8.315 8.317 8.319		

	then the category for that 8aeroplane shall actually be one category higher. 9.2.7 During anticipated periods of reduced activity, the level of protection available shall be no less than that needed for the highest category of aeroplane planned to use the aerodrome during that time irrespective of the number of movements. 9.2.11 The amounts of water for foam production and the complementary agents to be provided on the rescue and firefighting vehicles shall be in accordance with the aerodrome category determined under 9.2.3, 9.2.4, 9.2.5, 9.2.6 and Table 9-2, except that for aerodrome categories 1 and 2 up to 100 per cent of the water may be substituted with complementary agent. For the purpose of agent substitution, 1 kg of complementary agent shall be taken as equivalent to 1.0 L of water for production of a foam meeting performance level A. 9.2.12 At aerodromes where operations by aeroplanes larger than the average size in a given category are planned, the quantities of water shall be recalculated and the amount of water for foam production and the discharge rates for foam solution shall be increased accordingly. 9.2.13 The quantity of foam concentrates separately provided on vehicles for foam production shall be in proportion to the quantity of water provided and the foam concentrate selected. 9.2.17 The discharge rate of the foam solution shall not be less than the rates shown in Table 9-2. 9.2.18 The complementary agents shall comply with the appropriate specifications of the International Organization for Standardization (ISO).*							

	9.2.25 Recommendation.— Rescue equipment commensurate with the level of aircraft operations should be provided on the rescue and firefighting vehicle(s). 9.2.26 The operational objective of the rescue and firefighting service shall be to achieve a response time not exceeding three minutes to any point of each operational runway, in optimum visibility and surface conditions. 9.2.30 Any vehicles, other than the first responding vehicle(s), required to deliver the amounts of extinguishing agents specified in Table 9-2 shall ensure continuous agent application and shall arrive no more than four minutes from the initial call. 9.2.36 Recommendation.— All rescue and firefighting vehicles should normally be housed in a fire station. Satellite fire stations should be provided whenever the response time cannot be achieved from a single fire station. 9.2.37 Recommendation.— The fire station should be located so that the access for rescue and firefighting vehicles into the runway area is direct and clear, requiring a minimum number of turns. 9.2.38 Recommendation.— A discrete communication system should be provided linking a fire station with the control tower, any other fire station on the aerodrome and the rescue and firefighting vehicles. 9.2.39 Recommendation.— An alerting system for rescue and firefighting personnel, capable of being operated from that station, should be provided at a fire station, any other fire station on the aerodrome and the aerodrome control tower.							

	9.2.40 Recommendation.— The minimum number of rescue and firefighting vehicles provided at an aerodrome should be in accordance with the following tabulation: (see Annex 14) 9.2.41 All rescue and firefighting personnel shall be properly trained to perform their duties in an efficient manner and shall participate in live fire drills commensurate with the types of aircraft and type of rescue and firefighting equipment in use at the aerodrome, including pressure-fed fuel fires. 9.2.42 The rescue and firefighting personnel training programme shall include training in human performance, including team coordination. 9.2.45 All responding rescue and firefighting personnel shall be provided with protective clothing and respiratory equipment to enable them to perform their duties in an effective manner.							
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**							
5.11 Aerodrome Operation and Certification - Disable Aircraft Removal	**Annex 14 Vol 1.** 2.10.1 Recommendation.— *The telephone/telex number(s) of the office of the aerodrome coordinator of operations for the removal of an aircraft disabled on or adjacent to the movement area should be made available, on request, to aircraft operators.* 2.10.2 Recommendation.— *Information concerning the capability to remove an aircraft disabled on or adjacent to the movement area should be made available.*	A14 Vol 1: Ch.: 2, 9 Doc 9137: Part 5, 8, 9, Doc 9774, Doc 9981: Part 1	YES: N/A:	NO: TBD:	CE6 CE6	8.151 8.321		

	9.3.1 Recommendation.— A plan for the removal of an aircraft disabled on, or adjacent to, the movement area should be established for an aerodrome, and a coordinator designated to implement the plan, when necessary. 9.3.2 Recommendation.— The disabled aircraft removal plan should be based on the characteristics of the aircraft that may normally be expected to operate at the aerodrome, and include among other things: a) a list of equipment and personnel on, or in the vicinity of, the aerodrome which would be available for such purpose; and b) arrangements for the rapid receipt of aircraft recovery equipment kits available from other aerodromes.							
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**							
5.12 Aerodrome Operation and Certification - Wildlife Strike Hazard Reduction	**<u>Annex 14 Vol 1.</u>** 9.4.1 The wildlife strike hazard on, or in the vicinity of, an aerodrome shall be assessed through: a) the establishment of a national procedure for recording and reporting wildlife strikes to aircraft; b) the collection of information from aircraft operators, aerodrome personnel and other sources on the presence of wildlife on or around the aerodrome constituting a potential hazard to aircraft operations; and	A14 Vol 1: Ch.: 9 Doc 9137: Part 3, 8, Doc 9774, Doc 9981: Part 1	YES: N/A:	NO: TBD:	CE6	8.331		

	c) an ongoing evaluation of the wildlife hazard by competent personnel. 9.4.2 Wildlife strike reports shall be collected and forwarded to ICAO for inclusion in the ICAO Bird Strike Information System (IBIS) database. 9.4.3 Action shall be taken to decrease the risk to aircraft operations by adopting measures to minimize the likelihood of collisions between wildlife and aircraft. 9.4.4 The appropriate authority shall take action to eliminate or to prevent the establishment of garbage disposal dumps or any other source which may attract wildlife to the aerodrome, or its vicinity, unless an appropriate wildlife assessment indicates that they are unlikely to create conditions conducive to a wildlife hazard problem. Where the elimination of existing sites is not possible, the appropriate authority shall ensure that any risk to aircraft posed by these sites is assessed and reduced to as low as reasonably practicable. 9.4.5 Recommendation.— States should give due consideration to aviation safety concerns related to land developments in the vicinity of the aerodrome that may attract wildlife.							
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**							
5.13 Aerodrome Operation and	**Annex 14 Vol 1.** 2.9.1 Information on the condition of the movement area and the operational status of related facilities shall be provided to the appropriate aeronautical information services units, and similar	A14 Vol 1: Ch.: 2, 9 Doc 9137: Part 8,	YES: N/A:	NO: TBD:	CE6 CE6 CE7 CE7	8.087 8.111 8.113 8.115		

Certification - Operational Area Management	information of operational significance to the air traffic services units, to enable those units to provide the necessary information to arriving and departing aircraft. The information shall be kept up to date and changes in conditions reported without delay. 2.9.2 The condition of the movement area and the operational status of related facilities shall be monitored, and reports on matters of operational significance affecting aircraft and aerodrome operations shall be provided in order to take appropriate action, particularly in respect of the following: a) construction or maintenance work; b) rough or broken surfaces on a runway, a taxiway or an apron; c) water, snow, slush, ice, or frost on a runway, a taxiway or an apron; d) anti-icing or de-icing liquid chemicals or other contaminants on a runway, taxiway or apron; e) snow banks or drifts adjacent to a runway, a taxiway or an apron; f) other temporary hazards, including parked aircraft; g) failure or irregular operation of part or all of the aerodrome visual aids; and h) failure of the normal or secondary power supply. 2.9.3 To facilitate compliance with 2.9.1 and 2.9.2, the following inspections shall be carried out each day: a) for the movement area, at least once where the aerodrome reference code number is 1 or 2 and at least twice where the aerodrome reference code number is 3 or 4; and b) for the runway(s), inspections in addition to a) whenever the runway surface conditions may have changed significantly due to meteorological conditions.	Doc 9870, Doc 9774, Doc 9981: Part 1			CE6 CE7 CE6 CE6 CE7 CE6 CE6 CE6 CE6 CE6 CE6 CE6 CE6 CE7 CE6 CE6	8.133 8.143 8.144 8.145 8.147 8.157 8.179 8.209 8.215 8.221 8.225 8.287 8.341 8.345 8.347		

	2.9.4 Personnel assessing and reporting runway surface conditions required in 2.9.2 and 2.9.5 shall be trained and competent to perform their duties. 2.13.1 To ensure that aeronautical information services units obtain information to enable them to provide up-to-date pre-flight information and to meet the need for in-flight information, arrangements shall be made between aeronautical information services and aerodrome authorities responsible for aerodrome services to report to the responsible aeronautical information services unit, with a minimum of delay: a) information on the status of certification of aerodromes and aerodrome conditions (ref. 1.4, 2.9, 2.10, 2.11 and 2.12); b) the operational status of associated facilities, services and navigation aids within their area of responsibility; c) any other information considered to be of operational significance. 2.13.2 Before introducing changes to the air navigation system, due account shall be taken by the services responsible for such changes of the time needed by aeronautical information services for the preparation, production and issue of relevant material for promulgation. To ensure timely provision of the information to aeronautical information services, close coordination between those services concerned is therefore required. 2.13.3 Of a particular importance are changes to aeronautical information that affect charts and/or computer-based navigation systems which qualify to be notified by the aeronautical information regulation and control (AIRAC) system, as specified in Annex 15, Chapter 6. The predetermined, internationally agreed AIRAC effective							

	dates shall be observed by the responsible aerodrome services when submitting the raw information/data to aeronautical information services. 9.5.3 An apron management service shall be provided with radiotelephony communications facilities. 9.5.4 Where low visibility procedures are in effect, persons and vehicles operating on an apron shall be restricted to the essential minimum. 9.5.5 An emergency vehicle responding to an emergency shall be given priority over all other surface movement traffic. 9.5.6 A vehicle operating on an apron shall: a) give way to an emergency vehicle; an aircraft taxiing, about to taxi, or being pushed or towed; and b) give way to other vehicles in accordance with local regulations. 9.5.7 An aircraft stand shall be visually monitored to ensure that the recommended clearance distances are provided to an aircraft using the stand. 9.7.1 A vehicle shall be operated: a) on a manoeuvring area only as authorized by the aerodrome control tower; and b) on an apron only as authorized by the appropriate designated authority. 9.7.2 The driver of a vehicle on the movement area shall comply with all mandatory instructions conveyed by markings and signs unless otherwise authorized by: a) the aerodrome control tower when on the manoeuvring area; or b) the appropriate designated authority when on the apron.							

	9.7.3 The driver of a vehicle on the movement area shall comply with all mandatory instructions conveyed by lights. 9.7.4 The driver of a vehicle on the movement area shall be appropriately trained for the tasks to be performed and shall comply with the instructions issued by: a) the aerodrome control tower, when on the manoeuvring area; and b) the appropriate designated authority, when on the apron. 9.7.5 The driver of a radio-equipped vehicle shall establish satisfactory two-way radio communication with the aerodrome control tower before entering the manoeuvring area and with the appropriate designated authority before entering the apron. The driver shall maintain a continuous listening watch on the assigned frequency when on the movement area. 9.8.1 A surface movement guidance and control system (SMGCS) shall be provided at an aerodrome. 9.8.6 Where an SMGCS is provided by selective switching of stop bars and taxiway centre line lights, the following requirements shall be met: a) taxiway routes which are indicated by illuminated taxiway centre line lights shall be capable of being terminated by an illuminated stop bar; b) the control circuits shall be so arranged that when a stop bar located ahead of an aircraft is illuminated, the appropriate section of taxiway centre line lights beyond it is suppressed; and c) the taxiway centre line lights are activated ahead of an aircraft when the stop bar is suppressed. 9.9.1 Unless its function requires it to be there for air navigation or for aircraft safety purposes, no equipment or installation shall be:							

	a) on a runway strip, a runway end safety area, a taxiway strip or within the distances specified in Table 3-1, column 11, if it would endanger an aircraft; or b) on a clearway if it would endanger an aircraft in the air. 9.9.2 Any equipment or installation required for air navigation or for aircraft safety purposes which must be located: a) on that portion of a runway strip within: 1) 75 m of the runway centre line where the code number is 3 or 4; or 2) 45 m of the runway centre line where the code number is 1 or 2; or b) on a runway end safety area, a taxiway strip or within the distances specified in Table 3-1; or c) on a clearway and which would endanger an aircraft in the air; shall be frangible and mounted as low as possible. 9.9.4 Unless its function requires it to be there for air navigation or for aircraft safety purposes, no equipment or installation shall be located within 240 m from the end of the strip and within: a) 60 m of the extended centre line where the code number is 3 or 4; or b) 45 m of the extended centre line where the code number is 1 or 2; of a precision approach runway category I, II or III. 9.9.5 Any equipment or installation required for air navigation or for aircraft safety purposes which must be located on or near a strip of a precision approach runway category I, II or III and which: a) is situated within 240 m from the end of the strip and within: 1) 60 m of the extended runway centre line where the code number is 3 or 4; or							

	2) 45 m of the extended runway centre line where the code number is 1 or 2; or b) penetrates the inner approach surface, the inner transitional surface or the balked landing surface; shall be frangible and mounted as low as possible. 9.12 Autonomous runway incursion warning system 9.12.1 Where an ARIWS is installed at an aerodrome: a) it shall provide autonomous detection of a potential incursion or of the occupancy of an active runway and a direct warning to a flight crew or vehicle operator; b) it shall function and be controlled independently of any other visual system on the aerodrome; c) its visual aid components, i.e. lights, shall be designed to conform with the relevant specifications in 5.3; and d) failure of part or all of it shall not interfere with normal aerodrome operations. To this end, provision shall be made to allow the ATC unit to partially or entirely shut down the system. 9.12.2 Where an ARIWS is installed at an aerodrome, information on its characteristics and status shall be provided to the appropriate aeronautical information services for promulgation in the AIP with the description of the aerodrome surface movement guidance and control system and markings as specified in Annex 15.							
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**							
5.14	**Annex 14 Vol 1.**	A14 Vol 1: Ch.: 9	YES:	NO:	CE7	8.349		

Aerodrome Operation and Certification - Ground Servicing of Aircraft	9.6.1 Fire extinguishing equipment suitable for at least initial intervention in the event of a fuel fire and personnel trained in its use shall be readily available during the ground servicing of an aircraft, and there shall be a means of quickly summoning the rescue and firefighting service in the event of a fire or major fuel spill. 9.6.2 When aircraft refuelling operations take place while passengers are embarking, on board or disembarking, ground equipment shall be positioned so as to allow: a) the use of a sufficient number of exits for expeditious evacuation; and b) a ready escape route from each of the exits to be used in an emergency.	Ground Handling Manual (To be prepared)	N/A:	TBD:				
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**							
5.15 Aerodrome Operation and Certification - Control of Obstacles	**Annex 14 Vol 1.** 4.1 Obstacle limitation surfaces 4.2 Obstacle limitation requirements 4.3 Objects outside the obstacle limitation 4.4 Other objects 6.1 Objects to be marked and/or lighted 6.2 Marking and/or lighting of objects	A14 Vol 1: Ch.: 4, 6 Doc 9137: Part 6, Doc 9774, Doc 9981: Part 1	YES: N/A:	NO: TBD:	CE6 CE7 CE6 CE7 CE7 CE7 CE7 CE7	8.191 8.223 8.259 8.273 8.277 8.279 8.385 8.387		
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**							

5.16 Aerodrome Operation and Certification - Aerodrome Maintenance	**Annex 14 Vol 1.** 10.1 General 10.2 Pavements 10.3 Removal of contaminants 10.4 Runway pavement overlays 10.5 Visual aids.	A14 Vol 1: Ch.: 10 Doc 9137: Part 2, 8, 9, Doc 9774, Doc 9981: Part 1	YES: N/A:	NO: TBD:	CE6 CE7 CE7 CE6 CE6 CE6 CE7 CE6 CE6	8.087 8.113 8.143 8.173 8.175 8.251 8.253 8.257 8.259 8.323		
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**							
5.17 Aerodrome Operation and Certification - Safety Management	**Annex 14 Vol 1.** 1.4.1 States shall certify aerodromes used for international operations in accordance with the specifications contained in this Annex as well as other relevant ICAO specifications through an appropriate regulatory framework. 1.4.3 The regulatory framework shall include the establishment of criteria and procedures for the certification of aerodromes. 1.4.4 As part of the certification process, States shall ensure that an aerodrome manual which will include all pertinent information on the aerodrome site, facilities, services, equipment, operating procedures, organization and management including a safety management system, is submitted by the applicant for approval/acceptance prior to granting the aerodrome certificate.	A14 Vol 1: Ch.: 1 Doc 9774, Doc 9981: Part 1, Doc 9870	YES: N/A:	NO: TBD:	CE6 CE6 CE6 CE6 CE7 CE6 CE6 CE7 CE6 CE7 CE6 CE7	8.085 8.091 8.093 8.111 8.143 8.144 8.145 8.147 8.153 8.155 8.163 8.171 8.204 8.223		

	1.7.1 When the aerodrome accommodates an aeroplane that exceeds the certificated characteristics of the aerodrome, the compatibility between the operation of the aeroplane and aerodrome infrastructure and operations shall be assessed and appropriate measures developed and implemented in order to maintain an acceptable level of safety during operations. 1.7.2 Information concerning alternative measures, operational procedures and operating restrictions implemented at an aerodrome arising from 1.7.1 shall be promulgated.				CE6 CE7 CE6 CE7 CE7	8.225 8.233 8.365 8.375 8.385		
	Provide Information how State provide Satisfactorily fulfilling this requirement **State comments:**							

ASBU ELEMENTS

Ready for implementation:	
Standarization:	
Validation:	
Concept:	
No define:	

ACAS (Airborne Collision Avoidance System)

B0	B1	B2	B3	B4
	ACAS-B1/1 ACAS Improvements Operational	ACAS-B2/1 New collision avoidance system Operational		
		ACAS-B2/2 New collision avoidance capability as part of an overall detect and avoid system for RPAS Operational		

ACDM (Airport Collaborative Decision Making)

B0	B1	B2	B3	B4
ACDM-B0/1 Airport CDM Information Sharing (ACIS) Operational		ACDM-B2/1 Airport Operations Plan (AOP) Operational	ACDM-B3/1 Full integration of ACDM and TAM in TBO Operational	
ACDM-B0/2 Integration with ATM Network function Operational		ACDM-B2/2 Airport Operations Centre (APOC) Operational		
		ACDM-B2/3 Total Airport Management (TAM) Operational		

AMET (Advanced Meteorological Information)

B0	B1	B2	B3	B4
AMET-B0/1 Meteorological observations products Information	AMET-B1/1 Meteorological observations information Information	AMET-B2/1 Meteorological observations information Information	AMET-B3/1 Meteorological observations information Information	AMET-B4/1 Meteorological observations information Information
AMET-B0/2 Meteorological forecast and warning products Information	AMET-B1/2 Meteorological forecast and warning information Information	AMET-B2/2 Meteorological forecast and warning information Information	AMET-B3/2 Meteorological forecast and warning information Information	AMET-B4/2 Meteorological forecast and warning information Information
AMET-B0/3 Climatological and historical meteorological products Information	AMET-B1/3 Climatological and historical meteorological information Information	AMET-B2/3 Climatological and historical meteorological information Information	AMET-B3/3 Climatological and historical meteorological information Information	AMET-B4/3 Climatological and historical meteorological information Information
AMET-B0/4 Dissemination of meteorological products Information	AMET-B1/4 Dissemination of meteorological information Information	AMET-B2/4 Meteorological information service in SWIM Information	AMET-B3/4 Meteorological information service in SWIM Information	AMET-B4/4 Meteorological information service in SWIM Information

APTA (Airport Accessibility)

B0	B1	B2	B3	B4
APTA-B0/1 PBN Approaches (with basic capabilities) Operational	APTA-B1/1 PBN Approaches (with advanced capabilities) Operational	APTA-B2/1 GBAS CAT II/III precision approach procedures Operational	APTA-B3/1 Parallel approaches without vertical guidance	
APTA-B0/2 PBN SID and STAR procedures (with basic capabilities) Operational	APTA-B1/2 PBN SID and STAR procedures (with advanced capabilities) Operational	APTA-B2/2 Simultaneous operations to parallel runways Operational	APTA-B3/2 Implementation of A-RNP to support non-complex simultaneous independent parallel approaches Operational	
APTA-B0/3 SBAS/GBAS CAT I precision approach procedures Operational		APTA-B2/3 PBN Helicopter Steep Approach Operations Operational		
APTA-B0/4 CDO (Basic) Operational	APTA-B1/4 CDO (Advanced) Operational	APTA-B2/4 Performance based aerodrome operating minima – Advanced aircraft with SVGS Operational		

ASBU ELEMENTS

Ready for implementation:	
Standarization:	
Validation:	
Concept:	
No define:	

APTA (Airport Accessibility)

B0	B1	B2	B3	B4
APTA-B0/5 CCO (Basic) Operational	APTA-B1/5 CCO (Advanced) Operational			
APTA-B0/6 PBN Helicopter Point in Space (PinS) Operations Operational				
APTA-B0/7 Performance based aerodrome operating minima – Advanced aircraft Operational				
APTA-B0/8 Performance based aerodrome operating minima – Basic aircraft				

ASUR (Alternative Surveillance)

B0	B1	B2	B3	B4
ASUR-B0/1 Automatic Dependent Surveillance – Broadcast (ADS-B) Technology	ASUR-B1/1 Reception of aircraft ADS-B signals from space (SB ADS-B) Technology	ASUR-B2/1 Evolution of ADS-B and Mode S Technology	ASUR-B3/1 New non-cooperative surveillance system for airborne aircraft (medium altitudes) Technology	ASUR-B4/1 Further evolution of ADS-B and MLAT Technology
ASUR-B0/2 Multilateration cooperative surveillance systems (MLAT) Technology		ASUR-B2/2 New community based surveillance system for airborne aircraft (low and higher airspace) Technology		
ASUR-B0/3 Cooperative Surveillance Radar Downlink of Aircraft Parameters (SSR-DAPS) Technology				

COMI (Communication infrastructure)

B0	B1	B2	B3	B4
COMI-B0/1 Aircraft Communication Addressing and Reporting System (ACARS) Technology		COMI-B2/1 Air-Ground ATN/IPS Technology	COMI-B3/1 VHF Data Link (VDL) Mode-2 Connectionless	
COMI-B0/2 Aeronautical Telecommunication Network/Open System Interconnection (ATN/OSI) Technology	COMI-B1/2 VHF Data Link (VDL) Mode 2 Multi-Frequency Technology	COMI-B2/2 Aeronautical Mobile Airport Communication System (AeroMACS) aircraft mobile connection Technology	COMI-B3/2 SATCOM Class A voice and data Technology	
COMI-B0/3 VHF Data Link (VDL) Mode 0/A Technology	OMI-B1/3 SATCOM Class B Voice and Data Technology	COMI-B2/3 Links meeting requirements for non-safety critical communication Technology	COMI-B3/3 L-band Digital Aeronautical Communication System (LDACS) Technology	
COMI-B0/4 VHF Data Link (VDL) Mode 2 Basic Technology	COMI-B1/4 Aeronautical Mobile Airport Communication System (AeroMACS) Ground-Ground Technology		COMI-B3/4 Links meeting requirements for safety critical communication Technology	
Satellite Communications (SATCOM) Class C Data Technology				
COMI-B0/6 High Frequency Data Link (HFDL) Technology				
COMI-B0/7 ATS Message Handling System (AMHS) Technology				

ASBU ELEMENTS

Ready for implementation:	
Standarization:	
Validation:	
Concept:	
No define:	

COMS (ATS Communication service)

B0	B1	B2	B3	B4
COMS-B0/1 CPDLC (FANS 1/A & ATN B1) for domestic and procedural airspace Technology	COMS-B1/1 PBCS approved CPDLC (FANS 1/A+) for domestic and procedural airspace Technology	COMS-B2/1 PBCS approved CPDLC (B2) for domestic and procedural airspace Technology	COMS-B3/1 Extended CPDLC (B2 incl. Adv-IM and dynamic RNP) for dense and complex airspace Technology	
COMS-B0/2 ADS-C (FANS 1/A) for procedural airspace Technology	COMS-B1/2 PBCS approved ADS-C (FANS 1/A+) for procedural airspace Technology	COMS-B2/2 PBCS Approved ADS-C (B2) for domestic and procedural airspace Technology	COMS-B3/2 Extended ADS-C (B2 incl. Adv-IM and dynamic RNP) for dense and complex airspace Technology	
	COMS-B1/3 SATVOICE (incl. routine communications) for procedural airspace Technology	COMS-B2/3 PBCS approved SATVOICE (incl. routine communications) for procedural airspace Technology		

CSEP (Cooperative Separation)

B0	B1	B2	B3	B4
	CSEP-B1/1 Basic airborne situational awareness during flight operations (AIRB) Operational	CSEP-B2/1 Interval Management (IM) Procedure Operational	CSEP-B3/1 Interval Management (IM) Procedure with complex geometries Operational	CSEP-B4/1 Airborne separation Operational
	CSEP-B1/2 Visual Separation on Approach (VSA) Operational	CSEP-B2/2 Cooperative separation at low altitudes Operational	CSEP-B3/2 Remain Well Clear (RWC) functionality for UAS/RPAS Operational	
	CSEP-B1/3 Performance Based Longitudinal Separation Minima Operational	CSEP-B2/3 Cooperative separation at higher airspace Operational		
	CSEP-B1/4 Performance Based Lateral Separation Minima Operational			

DAIM (Digital Aeronautical Information Management)

B0	B1	B2	B3	B4
		DAIM-B2/1 Dissemination of aeronautical information in a SWIM environment Information		
	DAIM-B1/2 Provision of digital Aeronautical Information Publication (AIP) data sets Information	DAIM-B2/2 Daily Airspace Management information to support flight and flow Information		
	DAIM-B1/3 Provision of digital terrain data sets Information	DAIM-B2/3 Aeronautical information to support higher airspace operations Information		
	DAIM-B1/4 Provision of digital obstacle data sets Information	DAIM-B2/4 Aeronautical information requirements tailored to UTM Information		
	DAIM-B1/5 Provision of digital aerodrome mapping data sets Information	DAIM-B2/5 NOTAM replacement Information		
	DAIM-B1/6 Provision of digital instrument flight procedure data sets Information			
	DAIM-B1/7 NOTAM improvements Information			

ASBU ELEMENTS

Ready for implementation:	
Standarization:	
Validation:	
Concept:	
No define:	

DATS (Digital Aerodrome Air Traffic Services)

B0	B1	B2	B3	B4
	DATS-B1/1 Remotely Operated Aerodrome Air Traffic Services Operational			

FICE (Flight and Flow Information for a Collaborative Environment (FF-ICE))

B0	B1	B2	B3	B4
FICE-B0/1 Automated basic inter facility data exchange (AIDC) Information		FICE-B2/1 Planning Service Information	FICE-B3/1 Flight information management services for enhanced trajectory operations Information	FICE-B4/1 Integrated flight information management system for end-to-end global flight planning Information
		FICE-B2/2 Filing Service Information		
		FICE-B2/3 Trial Service Information		
		FICE-B2/4 Flight Data Request Service Information		
		FICE-B2/5 Notification Service Information		
		FICE-B2/6 Publication Service Information		
		FICE-B2/7 Flight information management service for higher airspace operations Information		
		FICE-B2/8 Flight information management service for low-altitude operations Information		
		FICE-B2/9 Flight information management support for inflight re-planning Information		

FRTO (Improved operations through enhanced en-route trajectories)

B0	B1	B2	B3	B4
FRTO-B0/1 Direct routing (DCT) Operational	FRTO-B1/1 Free Route Airspace (FRA) Operational	FRTO-B2/1 Local components of integrated ATFM and ATC Planning function (INAP) Operational		
FRTO-B0/2 Airspace planning and Flexible Use of Airspace (FUA) Operational	FRTO-B1/2 Required Navigation Performance (RNP) routes Operational	FRTO-B2/2 Local components of Dynamic Airspace Configurations (DAC) Operational		
FRTO-B0/3 Pre-validated and coordinated ATS routes to support flight and flow Operational	FRTO-B1/3 Advanced Flexible Use of Airspace (FUA) and management of real time airspace data Operational	FRTO-B2/3 Large Scale Cross Border Free Route Airspace (FRA) Operational		
FRTO-B0/4 Basic conflict detection and conformance monitoring Operational	FRTO-B1/4 Dynamic sectorization Operational	FRTO-B2/4 Enhanced Conflict Resolution Tools Operational		

ASBU ELEMENTS

Ready for implementation:	
Standarization:	
Validation:	
Concept:	
No define:	

FRTO (Improved operations through enhanced en-route trajectories)

B0	B1	B2	B3	B4
	FRTO-B1/5 Enhanced Conflict Detection Tools and Conformance Monitoring Operational			
	FRTO-B1/6 Multi-Sector Planning Operational			
	FRTO-B1/7 Trajectory Options Set (TOS) Operational			

GADS (Global Aeronautical Distress and Safety System (GADSS))

B0	B1	B2	B3	B4
	GADS-B1/1 Aircraft Tracking Operational	GADS-B2/1 Location of an aircraft in Distress Operational		
	GADS-B1/2 Operational Control Directory Operational	GADS-B2/2 Distress tracking information management Operational		
		GADS-B2/4 Flight Data Recovery Operational		

NAVS (Navigation systems)

B0	B1	B2	B3	B4
NAVS-B0/1 Ground Based Augmentation Systems (GBAS) Technology	NAVS-B1/1 Extended GBAS Technology	NAVS-B2/1 Dual Frequency Multi Constellation (DF MC) GBAS Technology		
NAVS-B0/2 Satellite Based Augmentation Systems (SBAS) Technology		NAVS-B2/2 Dual Frequency Multi Constellation (DF MC) SBAS Technology		
NAVS-B0/3 Aircraft Based Augmentation Systems (ABAS) Technology		NAVS-B2/3 Dual Frequency Multi Constellation (DF MC) ABAS Technology		
NAVS-B0/4 Navigation Minimal Operating Networks (Nav. MON) Technology				

NOPS (Network Operations)

B0	B1	B2	B3	B4
NOPS-B0/1 Initial integration of collaborative airspace management with air traffic flow management Operational	NOPS-B1/1 Short Term ATFM measures Operational	NOPS-B2/1 Optimised ATM Network Services in the initial TBO context Operational		
NOPS-B0/2 Collaborative Network Flight Updates Operational	NOPS-B1/2 Enhanced Network Operations Planning Operational	NOPS-B2/2 Enhanced dynamic airspace configuration Operational		
NOPS-B0/3 Network Operation Planning basic features Operational	NOPS-B1/3 Enhanced integration of Airport operations planning with network operations planning Operational	NOPS-B2/3 Collaborative Network Operation Planning Operational		

ASBU ELEMENTS

Ready for implementation:	
Standarization:	
Validation:	
Concept:	
No define:	

NOPS (Network Operations)

B0	B1	B2	B3	B4
NOPS-B0/4 Initial Airport/ATFM slots and A-CDM Network Interface Operational	NOPS-B1/4 Dynamic Traffic Complexity Management Operational	NOPS-B2/4 Multi ATFM slot swapping and Airspace Users priorities Operational	NOPS-B3/1 ATM Network Services in full TBO context Operational	
NOPS-B0/5 Dynamic ATFM slot allocation Operational	NOPS-B1/5 Full integration of airspace management with air traffic flow management Operational	NOPS-B2/5 Further airport integration within Network Operation Planning Operational	NOPS-B3/2 Cooperative Network Operations Planning Operational	
	NOPS-B1/6 Initial Dynamic Airspace configurations Operational	NOPS-B2/6 ATFM adapted for cross-border Free Route Airspace (FRA) Operational	NOPS-B3/3 Innovative airspace architecture Operational	
	NOPS-B1/7 Enhanced ATFM slot swapping Operational	NOPS-B2/7 UTM Network operations Operational		
	NOPS-B1/8 Extended Arrival Management supported by the ATM Network function Operational	NOPS-B2/8 High upper airspace network operations Operational		
	NOPS-B1/9 Target Times for ATFM purposes Operational			
	NOPS-B1/10 Collaborative Trajectory Options Program (CTOP) Operational			

OPFL (Improved access to optimum flight levels in oceanic and remote airspace)

B0	B1	B2	B3	B4
OPFL-B0/1 In Trail Procedure (ITP) Operational	OPFL-B1/1 Climb and Descend Procedure (CDP) Operational	OPFL-B2/1 Separation minima using ATS surveillance systems where VHF voice communications are not available Operational	OPFL-B3/1 Helicopter RNP 0.3 Terminal and En-Route Operations Operational	
			OPFL-B3/2 Expansion of upper limit of the Reduced Vertical Separation Minima (RVSM) band of flight levels Operational	
			OPFL-B3/3 Target-to-target separations using Space-based ADS-B data Operational	

ASBU ELEMENTS

Ready for implementation:	
Standarization:	
Validation:	
Concept:	
No define:	

RSEQ (Improved traffic flow through runway sequencing)

B0	B1	B2	B3	B4
RSEQ-B0/1 Arrival Management Operational	RSEQ-B1/1 Extended arrival metering Operational	RSEQ-B2/1 Integration of arrival and departure management Operational		RSEQ-B4/1 Departure management in terminal airspace from multiple airports Operational
RSEQ-B0/2 Departure Management Operational			RSEQ-B3/2 Arrival management in terminal airspace with multiple airports Operational	RSEQ-B4/2 Extended arrival management supporting overlapping operations into multiple airports Operational
RSEQ-B0/3 Point merge Operational			RSEQ-B3/3 Increased utilization of runway capacity by improved real-time runway scheduling Operational	
			RSEQ-B3/4 Improved operator fleet management in runway sequencing Operational	

SNET (Ground-based Safety Nets)

B0	B1	B2	B3	B4
SNET-B0/1 Short Term Conflict Alert (STCA) Operational	SNET-B1/1 Enhanced STCA with aircraft parameters Operational			
SNET-B0/2 Minimum Safe Altitude Warning (MSAW) Operational	SNET-B1/2 Enhanced STCA in complex TMAs Operational			
SNET-B0/3 Area Proximity Warning (APW) Operational				
SNET-B0/4 Approach Path Monitoring (APM) Operational				

SURF (Surface operations)

B0	B1	B2	B3	B4
SURF-B0/1 Basic ATCO tools to manage traffic during ground operations Operational	SURF-B1/1 Advanced features using visual aids to support traffic management during ground operations Operational	URF-B2/1 Enhanced surface guidance for pilots and vehicle drivers Operational	SURF-B3/1 Optimization of surface traffic management in complex situations Operational	
SURF-B0/2 Comprehensive situational awareness of surface operations Operational	SURF-B1/2 Comprehensive pilot situational awareness on the airport surface Operational	URF-B2/2 Comprehensive vehicle driver situational awareness on the airport surface Operational		
SURF-B0/3 Initial ATCO alerting service for surface operations Operational	SURF-B1/3 Enhanced ATCO alerting service for surface operations Operational	SURF-B2/3 Conflict alerting for pilots for runway operations Operational		
	SURF-B1/4 Routing service to support ATCO surface operations management Operational			
	SURF-B1/5 Enhanced vision systems for taxi operations Operational			

ASBU ELEMENTS

Ready for implementation:	
Standarization:	
Validation:	
Concept:	
No define:	

SWIM (System Wide Information Management)

B0	B1	B2	B3	B4
		SWIM-B2/1 Information service provision Information	SWIM-B3/1 Air/Ground SWIM for safety critical information Information	
		SWIM-B2/2 Information service consumption Information		
		SWIM-B2/3 SWIM registry Information		
		SWIM-B2/4 Air/Ground SWIM for non-safety critical information Information		
		SWIM-B2/5 Global SWIM processes Information		

TBO (Trajectory-based operations)

B0	B1	B2	B3	B4
TBO-B0/1 Introduction of time-based management within a flow centric approach. Operational	TBO-B1/1 Initial Integration of time-based decision making processes Operational	TBO-B2/1 Pre-departure trajectory synchronization within a flight centric and network performance approach Operational	TBO-B3/1 Network based on-demand synchronization of trajectory based operations Operational	TBO-B4/1 Total airspace management performance system Operational
		TBO-B2/2 Extended time-based management across multiple FIRs for active flight synchronization Operational		

WAKE (Wake Turbulence Separation)

B0	B1	B2	B3	B4
		WAKE-B2/1 Wake turbulence separation minima based on 7 aircraft groups Operational	WAKE-B3/1 Dependent parallel approaches Operational	WAKE-B4/1 En-route Wake Encounter Ground based Prediction Operational
		WAKE-B2/2 Time based wake separation minima for final approach Operational	WAKE-B3/2 Independent segregated parallel operations Operational	WAKE-B4/2 En-Route Wake Encounter on-board flight management/mitigation Operational
			WAKE-B3/3 Wake turbulence separation minima based on leader/follower static pairs-wise Operational	
			WAKE-B3/4 Enhanced dependent parallel approaches Operational	
			WAKE-B3/5 Enhanced independent segregated parallel operations Operational	
			WAKE-B3/6 Time based wake separation minima for departure based on leader/follower static pair-wise Operational	
			WAKE-B3/7 Time based dependent parallel approaches Operational	
			WAKE-B3/8 Time based independent segregated parallel operations Operational	

ASBU ELEMENTS
ELEMENTS READY FOR IMPLEMENTATION

ACAS (Airborne Collision Avoidance System)

B0	B1	B2
	ACAS-B1/1 ACAS Improvements Operational	

ACDM (Airport Collaborative Decision Making)

B0	B1	B2
ACDM-B0/1 Airport CDM Information Sharing (ACIS) Operational		
ACDM-B0/2 Integration with ATM Network function Operational		

AMET (Advanced Meteorological Information)

B0	B1	B2
AMET-B0/1 Meteorological observations products Information		
AMET-B0/2 Meteorological forecast and warning products Information		
AMET-B0/3 Climatological and historical meteorological products Information		
AMET-B0/4 Dissemination of meteorological products Information		

APTA (Airport Accessibility)

B0	B1	B2
APTA-B0/1 PBN Approaches (with basic capabilities) Operational		
APTA-B0/2 PBN SID and STAR procedures (with basic capabilities) Operational		
B0	**B1**	**B2**
APTA-B0/3 SBAS/GBAS CAT I precision approach procedures Operational		
APTA-B0/4 CDO (Basic) Operational		
APTA-B0/5 CCO (Basic) Operational		

ASBU ELEMENTS
ELEMENTS READY FOR IMPLEMENTATION

B0	B1	B2
APTA-B0/6 PBN Helicopter Point in Space (PinS) Operations Operational		
APTA-B0/7 Performance based aerodrome operating minima – Advanced aircraft Operational		
APTA-B0/8 Performance based aerodrome operating minima – Basic aircraft		

ASUR (Alternative Surveillance)

B0	B1	B2
ASUR-B0/1 Automatic Dependent Surveillance – Broadcast (ADS-B) Technology	ASUR-B1/1 Reception of aircraft ADS-B signals from space (SB ADS-B) Technology	
ASUR-B0/2 Multilateration cooperative surveillance systems (MLAT) Technology		
ASUR-B0/3 Cooperative Surveillance Radar Downlink of Aircraft Parameters (SSR-DAPS) Technology		

COMI (Communication infrastructure)

B0	B1	B2
COMI-B0/1 Aircraft Communication Addressing and Reporting System (ACARS) Technology		
COMI-B0/2 Aeronautical Telecommunication Network/Open System Interconnection (ATN/OSI) Technology	COMI-B1/2 VHF Data Link (VDL) Mode 2 Multi-Frequency Technology	
COMI-B0/3 VHF Data Link (VDL) Mode 0/A Technology	COMI-B1/3 SATCOM Class B Voice and Data Technology	
COMI-B0/4 VHF Data Link (VDL) Mode 2 Basic Technology	COMI-B1/4 Aeronautical Mobile Airport Communication System (AeroMACS) Ground-Ground Technology	
B0	**B1**	**B2**

ASBU ELEMENTS
ELEMENTS READY FOR IMPLEMENTATION

COMI-B0/5 Satellite communications (SATCOM) Class C Data Technology		
COMI-B0/6 High Frequency Data Link (HFDL) Technology		
COMI-B0/7 ATS Message Handling System (AMHS) Technology		

COMS (ATS Communication service)

B0	B1	B2
COMS-B0/1 CPDLC (FANS 1/A & ATN B1) for domestic and procedural airspace Technology	COMS-B1/1 PBCS approved CPDLC (FANS 1/A+) for domestic and procedural airspace Technology	
COMS-B0/2 ADS-C (FANS 1/A) for procedural airspace Technology	COMS-B1/2 PBCS approved ADS-C (FANS 1/A+) for procedural airspace Technology	
	COMS-B1/3 SATVOICE (incl. routine communications) for procedural airspace Technology	

CSEP (Cooperative Separation)

B0	B1	B2
	CSEP-B1/1 Basic airborne situational awareness during flight operations (AIRB) Operational	
	CSEP-B1/2 Visual Separation on Approach (VSA) Operational	

DAIM (Digital Aeronautical Information Management)

B0	B1	B2
	DAIM-B1/2 Provision of digital Aeronautical Information Publication (AIP) data sets Information	
	DAIM-B1/3 Provision of digital terrain data sets Information	

B0	B1	B2
	DAIM-B1/4 Provision of digital obstacle data sets Information	

ASBU ELEMENTS
ELEMENTS READY FOR IMPLEMENTATION

	DAIM-B1/5 Provision of digital aerodrome mapping data sets Information	
	DAIM-B1/6 Provision of digital instrument flight procedure data sets Information	
	DAIM-B1/7 NOTAM improvements Information	

DATS (Digital Aerodrome Air Traffic Services)

B0	B1	B2

FICE (Flight and Flow Information for a Collaborative Environment (FF-ICE))

B0	B1	B2
FICE-B0/1 Automated basic inter facility data exchange (AIDC) Information		

FRTO (Improved operations through enhanced en-route trajectories)

B0	B1	B2
FRTO-B0/1 Direct routing (DCT) Operational		
FRTO-B0/2 Airspace planning and Flexible Use of Airspace (FUA) Operational		
B0	**B1**	**B2**
FRTO-B0/3 Pre-validated and coordinated ATS routes to support flight and flow Operational		
FRTO-B0/4 Basic conflict detection and conformance monitoring Operational		

GADS (Global Aeronautical Distress and Safety System (GADSS))

B0	B1	B2
	GADS-B1/1 Aircraft Tracking Operational	GADS-B2/1 Location of an aircraft in Distress Operational

ASBU ELEMENTS
ELEMENTS READY FOR IMPLEMENTATION

	GADS-B1/2 Operational Control Directory Operational	GADS-B2/2 Distress tracking information management Operational
		GADS-B2/4 Flight Data Recovery Operational

NAVS (Navigation systems)

B0	B1	B2
NAVS-B0/1 Ground Based Augmentation Systems (GBAS) Technology		
NAVS-B0/2 Satellite Based Augmentation Systems (SBAS) Technology		
NAVS-B0/3 Aircraft Based Augmentation Systems (ABAS) Technology		
NAVS-B0/4 Navigation Minimal Operating Networks (Nav. MON) Technology		

NOPS (Network Operations)

B0	B1	B2
NOPS-B0/1 Initial integration of collaborative airspace management with air traffic flow management Operational		
NOPS-B0/2 Collaborative Network Flight Updates Operational		
NOPS-B0/3 Network Operation Planning basic features Operational		
NOPS-B0/4 Initial Airport/ATFM slots and A-CDM Network Interface Operational		
NOPS-B0/5 Dynamic ATFM slot allocation Operational		

OPFL (Improved access to optimum flight levels in oceanic and remote airspace)

B0	B1	B2

ASBU ELEMENTS
ELEMENTS READY FOR IMPLEMENTATION

OPFL-B0/1 In Trail Procedure (ITP) Operational		Separation minima using ATS surveillance systems where VHF voice communications are not available Operational

RSEQ (Improved traffic flow through runway sequencing)

B0	B1	B2
RSEQ-B0/1 Arrival Management Operational		
RSEQ-B0/2 Departure Management Operational		
RSEQ-B0/3 Point merge Operational		

SNET (Ground-based Safety Nets)

B0	B1	B2
SNET-B0/1 Short Term Conflict Alert (STCA) Operational	SNET-B1/1 Enhanced STCA with aircraft parameters Operational	
SNET-B0/2 Minimum Safe Altitude Warning (MSAW) Operational	SNET-B1/2 Enhanced STCA in complex TMAs Operational	
SNET-B0/3 Area Proximity Warning (APW) Operational		
SNET-B0/4 Approach Path Monitoring (APM) Operational		

SURF (Surface operations)

B0	B1	B2
SURF-B0/1 Basic ATCO tools to manage traffic during ground operations Operational		
SURF-B0/2 Comprehensive situational awareness of surface operations Operational	SURF-B1/2 Comprehensive pilot situational awareness on the airport surface Operational	
B0	**B1**	**B2**

ASBU ELEMENTS
ELEMENTS READY FOR IMPLEMENTATION

SURF-B0/3 Initial ATCO alerting service for surface operations Operational		

SWIM (System Wide Information Management)

B0	B1	B2
		SWIM-B2/3 SWIM registry Information

TBO (Trajectory-based operations)

B0	B1	B2
TBO-B0/1 Introduction of time-based management within a flow centric approach. Operational		

WAKE (Wake Turbulence Separation)

B0	B1	B2

ASBU ELEMENTS
ELEMENTS READY FOR IMPLEMENTATION
KPIs

No	KPI	Data Requirement	Data Feed Providers
1	KPI02: Taxi-out additional time	For each departing scheduled flight: Scheduled time of departure (STD) or Scheduled off-block time (SOBT) Actual off-block time (AOBT)	Schedule database(s), airports, airlines and/or ANSPs
2	KPI04: Filed flight plan en-route extension	For each flight plan: Departure airport (Point A) Destination airport (Point B) Entry point in the 'Reference area' (Point O) Exit point from the 'Reference area' (Point D) Entry points in the 'Measured areas' (Points N) Exit points from the 'Measured areas' (Points X) Planned distance for each NX portion of the flight	ANSPs
3	KPI05: Actual en-route extension	For each actual flight trajectory: Departure airport (Point A) Destination airport (Point B) Entry point in the 'Reference Area' (Point O) Exit point from the 'Reference Area' (Point D) Entry points in the 'Measured Areas' (Points N) Exit points from the 'Measured Areas' (Point X) Distance flown for each NX portion of the actual flight trajectory, derived from surveillance data (radar, ADS-B…).	ANSPs, ADS-B data providers
4	KPI06: En-route airspace capacity	The various capacities are determined by the ANSP, and are dependent on traffic pattern, sector configuration, ATCO and system capability, etc.	ANSPs
5	KPI07: En-route ATFM delay	For each IFR flight: - Estimated Take-off Time (ETOT) computed from the last filed flight plan - Calculated Take-off Time (CTOT) - ID of the flow restriction generating the ATFM delay - Airspace volume associated with the flow restriction - Delay code associated with the flow restriction	ATFM Providers
6	KPI08: Additional time in terminal airspace	For each arriving flight: Terminal airspace entry time, computed from surveillance data (radar, ADS-B…) Actual landing time (ALDT) In addition, for the advanced KPI variants: Terminal airspace entry segment, computed from surveillance data (radar, ADS-B…) Landing runway ID	Airlines (OOOI data), airports, ADS-B data providers and/or ANSPs
7	KPI10: Airport peak throughput	For each flight: Actual landing time (ALDT) Actual take-off time (ATOT).	Airports

ASBU ELEMENTS
ELEMENTS READY FOR IMPLEMENTATION
KPIs

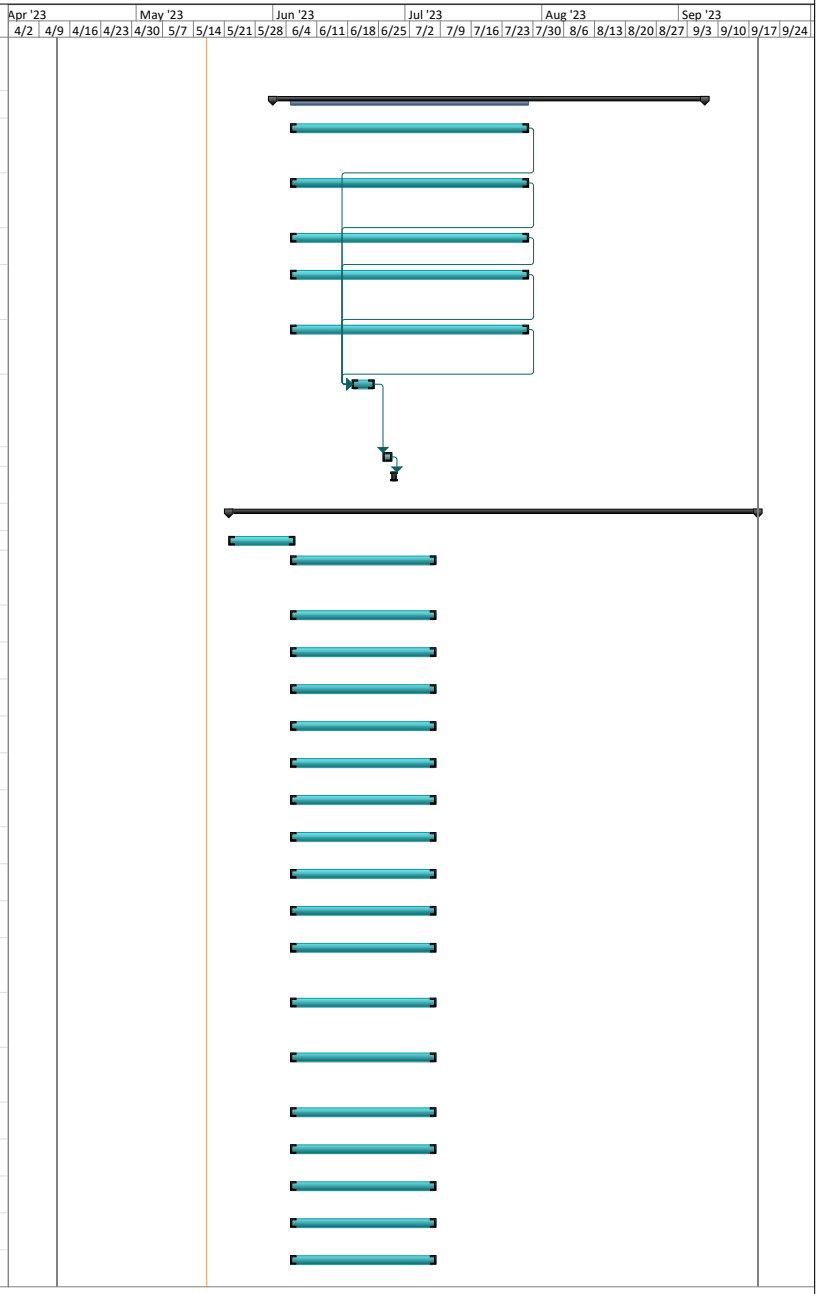
No	KPI	Data Requirement	Data Feed Providers
8	KPI11: Airport throughput efficiency	For each arriving and/or departing flight: Actual landing time (ALDT) and take-off time (ATOT) Estimated landing time (ELDT) and take-off time (ETOT) (from flight plan) For each time interval: Declared landing capacity of the airport Declared departure capacity of the airport Declared total capacity of the airport	Airports
9	KPI13: Taxi-in additional time	For each arriving flight: Actual landing time (ALDT) Actual in-block time (AIBT) In addition, for the advanced KPI variant: Landing runway ID Arrival gate ID	Airports (airport operations), airlines (OOOI data), ADS-B data providers and/or ANSPs. Note: OOOI Data refers to times of the actual aircraft movements of Gate Out, Wheels Off, Wheels On, and Gate In.
10	KPI16: Additional fuel burn	Indicator values to be converted to estimated additional fuel burn: KPI02 Taxi-Out Additional Time (min/flight) KPI13 Taxi-In Additional Time (min/flight) KPI05 Actual en-Route Extension (%) & average en-route distance flown (km/flight) KPI08 Additional time in terminal airspace (min/flight) KPI17 Level-off during climb KPI18 Level capping during cruise & average cruise (ToC-ToD) distance flown (km/flight) KPI19 Level-off during descent	Performance analysts
11	KPI17: Level-off during climb	For each flight trajectory: 4D data points (latitude, longitude, altitude and time) Departure airport ARP coordinates	Trajectory data providers (reporting archived actual trajectories based on ADS-B and/or other surveillance data sources) and/or ANSPs.
12	KPI18: Level capping during cruise	For each flight trajectory: Maximum cruise Flight Level Departure airport Arrival airport	For variant 1: ANSPs; For variant 2: Trajectory data providers (reporting archived actual trajectories based on ADS-B and/or other surveillance data sources) and/or ANSPs
13	KPI19: Level-off during descent	For each flight trajectory: 4D data points (latitude, longitude, altitude and time) Arrival airport ARP coordinates	Trajectory data providers (reporting archived actual trajectories based on ADS-B and/or other surveillance data sources) and/or ANSPs.
14	KPI20: Number of aircraft accidents	For each reported occurrence: Date of occurrence Occurrence Category State of occurrence	ICAO ADREP database; iSTARS Application "ADREP et al." Note: ADREP: Accident Data Report. https://www.icao.int/safety/airnavigation/AIG/Pages/Reporting.aspx

ASBU ELEMENTS
ELEMENTS READY FOR IMPLEMENTATION
KPIs

No	KPI	Data Requirement	Data Feed Providers
15	KPI21: Number of runway incursions	For each reported occurrence: Date of occurrence Airport of occurrence	Airports and airlines
16	KPI22: Number of runway excursions	For each reported occurrence: Date of occurrence Airport of occurrence	Airports and airlines
17	KPI23: Number of airprox/TCAS alert/loss of separation/near midair collisions/midair collisions (MAC)	For each reported occurrence: Date of occurrence FIR of occurrence	ANSPs and airlines

NACC/WG ACTION PLAN FOR 2023

ID	Task Name	Duration	Start	Finish	Text10	Text2
1	**North America, Central America and Caribbean Working Group (NACC/WG)´s action plan for 2023**					
2	**Evaluation of the Basic Building Blocks (BBB)**	**70 days**	**Thu 6/1/23**	**Wed 9/6/23**	**NACC/WG**	
3	Evaluation of Meteorological Services (MET)	40 days	Mon 6/5/23	Fri 7/28/23	NACC/WG/MET (Rapporteur: Pending to designate)	NACC/RO/MET (Luis Sanchez)
4	Evaluation of the Aeronautical Information Services (AIM)	40 days	Mon 6/5/23	Fri 7/28/23	NACC/WG/AIM (Rapporteur: Natasha Belefati)	NACC/RO/AIM (Raúl Martinez)
5	Evaluation of Search and Rescue (S&R) Services	40 days	Mon 6/5/23	Fri 7/28/23	NACC/WG/S&R (Rapporteur: Calvin	NACC/RO/ATM1 (Eddian Méndez)
6	Evaluation of air traffic operations services (ATS)	40 days	Mon 6/5/23	Fri 7/28/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
7	Evaluation of airport services (AGA)	40 days	Mon 6/5/23	Fri 7/28/23	NACC/WG/AGA (Rapporteur: Pending to designate)	NACC/RO/AGA (Fabiana Todesco)
8	CNS Infrastructure Assessment	5 days	Mon 6/19/23	Fri 6/23/23	NACC/WG/SURV MEVA/TMG ADHOC-NAV (Rapporteurs: Alejandro	NACC/RO/CNS (Mayda Ávila)
9	Preliminary analysis of the regional implementation of the BBB	2 days	Mon 6/26/23	Tue 6/27/23		ICAO NACC Regional Office
10	Presentation of the preliminary analysis of the regional implementation of the BBB to NACC/DCA/11	1 day	Wed 6/28/23	Wed 6/28/23		
11	**Evaluation of ASBU Elements Ready to Implement.**	**86 days**	**Mon 5/22/23**	**Mon 9/18/23**		
12	Development of the evaluation template	11 days	Mon 5/22/23	Mon 6/5/23		ICAO NACC Regional Office
13	ACAS-B1/1 ACAS Improvements	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/SURV (Rapporteur: Alejandro Rodriguez)	NACC/RO/CNS (Mayda Ávila)
14	ACDM-B0/1 Airport CDM Information Sharing (ACIS) Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AGA (Rapporteur: Pending to	NACC/RO/AGA (Fabiana Todesco)
15	ACDM-B0/2 Integration with ATM Network function Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AGA (Rapporteur: Pending to	NACC/RO/AGA (Fabiana Todesco)
16	AMET-B0/1 Meteorological observations products Information	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/MET (Rapporteur: Pending to	NACC/RO/MET (Luis Sanchez)
17	AMET-B0/2 Meteorological forecast and warning products Information	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/MET (Rapporteur: Pending to	NACC/RO/MET (Luis Sanchez)
18	AMET-B0/3 Climatological and historical meteorological products Information	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/MET (Rapporteur: Pending to	NACC/RO/MET (Luis Sanchez)
19	AMET-B0/4 Dissemination of meteorological products Information	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/MET (Rapporteur: Pending to	NACC/RO/MET (Luis Sanchez)
20	APTA-B0/1 PBN Approaches (with basic capabilities) Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
21	APTA-B0/2 PBN SID and STAR procedures (with basic capabilities) Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
22	APTA-B0/3 SBAS/GBAS CAT I precision approach procedures Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
23	APTA-B0/4 CDO (Basic) Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
24	APTA-B0/5 CCO (Basic) Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
25	APTA-B0/6 PBN Helicopter Point in Space (PinS) Operations Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
26	APTA-B0/7 Performance based aerodrome operating minima – Advanced aircraft Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
27	APTA-B0/8 Performance based aerodrome operating minima – Basic aircraft	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
28	ASUR-B0/1 Automatic Dependent Surveillance – Broadcast (ADS-B) Technology	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/SURV (Rapporteur: Alejandro	NACC/RO/CNS (Mayda Ávila)
29	ASUR-B0/2 Multilateration cooperative surveillance systems (MLAT) Technology	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/SURV (Rapporteur: Alejandro	NACC/RO/CNS (Mayda Ávila)
30	ASUR-B0/3 Cooperative Surveillance Radar Downlink of Aircraft Parameters (SSR-DAPS) Technology	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/SURV (Rapporteur: Alejandro	NACC/RO/CNS (Mayda Ávila)

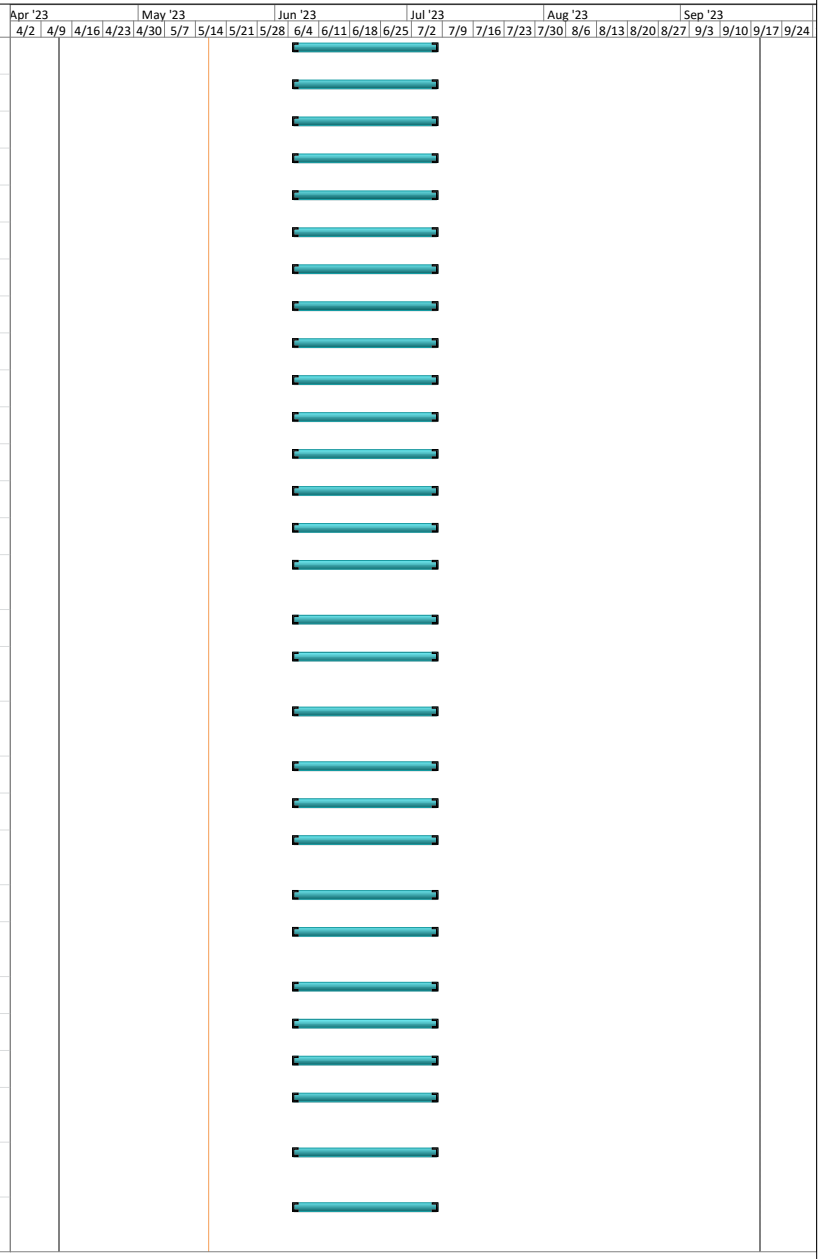


Project: PLAN DE ACCIÓN DEL NA
Date: Wed 5/17/23

Task · Split · Milestone · Summary · Project Summary · External Tasks · External Milestone · Inactive Task · Inactive Milestone · Inactive Summary · Manual Task · Duration-only · Manual Summary Rollup · Manual Summary · Start-only · Finish-only · Deadline · Progress

NACC/WG ACTION PLAN FOR 2023

ID	Task Name	Duration	Start	Finish	Text10	Text2
31	ASUR-B1/1 Reception of aircraft ADS-B signals from space (SB ADS-B) Technology	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/SURV (Rapporteur: Alejandro	NACC/RO/CNS (Mayda Ávila)
32	COMI-B0/1 Aircraft Communication Addressing and Reporting System (ACARS) Technology	25 days	Mon 6/5/23	Fri 7/7/23	MEVA/TMG (Coordinator: Layla	NACC/RO/CNS (Mayda Ávila)
33	COMI-B0/2 Aeronautical Telecommunication Network/Open System Interconnection (ATN/OSI) Technology	25 days	Mon 6/5/23	Fri 7/7/23	MEVA/TMG (Coordinator: Layla Rodriguez)	NACC/RO/CNS (Mayda Ávila)
34	COMI-B0/3 VHF Data Link (VDL) Mode 0/A Technology	25 days	Mon 6/5/23	Fri 7/7/23	MEVA/TMG (Coordinator: Layla Rodriguez)	NACC/RO/CNS (Mayda Ávila)
35	COMI-B0/4 VHF Data Link (VDL) Mode 2 Basic Technology	25 days	Mon 6/5/23	Fri 7/7/23	MEVA/TMG (Coordinator: Layla Rodriguez)	NACC/RO/CNS (Mayda Ávila)
36	COMI-B1/2 VHF Data Link (VDL) Mode 2 Multi-Frequency Technology	25 days	Mon 6/5/23	Fri 7/7/23	MEVA/TMG (Coordinator: Layla Rodriguez)	NACC/RO/CNS (Mayda Ávila)
37	OMI-B1/3 SATCOM Class B Voice and Data Technology	25 days	Mon 6/5/23	Fri 7/7/23	MEVA/TMG (Coordinator: Layla Rodriguez)	NACC/RO/CNS (Mayda Ávila)
38	COMI-B1/4 Aeronautical Mobile Airport Communication System (AeroMACS) Ground-Ground Technology	25 days	Mon 6/5/23	Fri 7/7/23	MEVA/TMG (Coordinator: Layla Rodriguez)	NACC/RO/CNS (Mayda Ávila)
39	COMS-B0/1 CPDLC (FANS 1/A & ATN B1) for domestic and procedural airspace Technology	25 days	Mon 6/5/23	Fri 7/7/23	MEVA/TMG (Coordinator: Layla Rodriguez)	NACC/RO/CNS (Mayda Ávila)
40	COMS-B0/2 ADS-C (FANS 1/A) for procedural airspace Technology	25 days	Mon 6/5/23	Fri 7/7/23	MEVA/TMG (Coordinator: Layla Rodriguez)	NACC/RO/CNS (Mayda Ávila)
41	COMS-B1/1 PBCS approved CPDLC (FANS 1/A+) for domestic and procedural airspace Technology	25 days	Mon 6/5/23	Fri 7/7/23	MEVA/TMG (Coordinator: Layla Rodriguez)	NACC/RO/CNS (Mayda Ávila)
42	COMS-B1/2 PBCS approved ADS-C (FANS 1/A+) for procedural airspace Technology	25 days	Mon 6/5/23	Fri 7/7/23	MEVA/TMG (Coordinator: Layla Rodriguez)	NACC/RO/CNS (Mayda Ávila)
43	COMS-B1/3 SATVOICE (incl. routine communications) for procedural airspace Technology	25 days	Mon 6/5/23	Fri 7/7/23	MEVA/TMG (Coordinator: Layla Rodriguez)	NACC/RO/CNS (Mayda Ávila)
44	CSEP-B1/1 Basic airborne situational awareness during flight operations (AIRB) Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
45	CSEP-B1/2 Visual Separation on Approach (VSA) Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
46	DAIM-B1/2 Provision of digital Aeronautical Information Publication (AIP) data sets Information	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AIM (Rapporteur: Natasha	NACC/RO/AIM (Raúl Martinez)
47	DAIM-B1/3 Provision of digital terrain data sets Information	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AIM (Rapporteur: Natasha Belefati)	NACC/RO/AIM (Raúl Martinez)
48	DAIM-B1/4 Provision of digital obstacle data sets Information	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AIM (Rapporteur: Natasha Belefati)	NACC/RO/AIM (Raúl Martinez)
49	DAIM-B1/5 Provision of digital aerodrome mapping data sets Information	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AIM (Rapporteur: Natasha	NACC/RO/AIM (Raúl Martinez)
50	DAIM-B1/6 Provision of digital instrument flight procedure data sets Information	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AIM (Rapporteur: Natasha	NACC/RO/AIM (Raúl Martinez)
51	DAIM-B1/7 NOTAM improvements Information	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AIM (Rapporteur: Natasha Belefati)	NACC/RO/AIM (Raúl Martinez)
52	FICE-B0/1 Automated basic inter facility data exchange (AIDC) Information	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AIDC (Rapporteur: Fernando	NACC/RO/CNS (Mayda Ávila)
53	FRTO-B0/1 Direct routing (DCT) Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
54	FRTO-B0/2 Airspace planning and Flexible Use of Airspace (FUA) Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
55	FRTO-B0/3 Pre-validated and coordinated ATS routes to support flight and flow Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
56	FRTO-B0/4 Basic conflict detection and conformance monitoring Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
57	GADS-B1/1 Aircraft Tracking Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
58	GADS-B1/2 Operational Control Directory Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
59	GADS-B2/1 Location of an aircraft in Distress Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)



Project: PLAN DE ACCIÓN DEL NA
Date: Wed 5/17/23

Task | Summary | External Milestone | Inactive Summary | Manual Summary Rollup | Finish-only
Split | Project Summary | Inactive Task | Manual Task | Manual Summary | Deadline
Milestone | External Tasks | Inactive Milestone | Duration-only | Start-only | Progress

NACC/WG ACTION PLAN FOR 2023

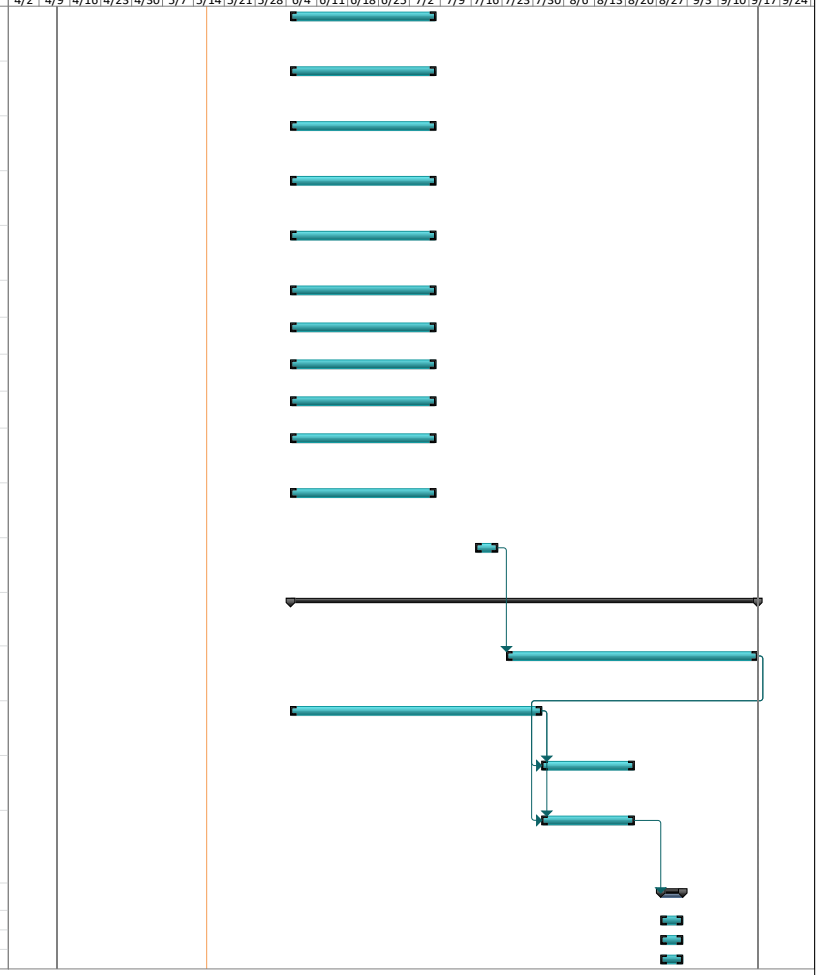
ID	Task Name	Duration	Start	Finish	Text10	Text2
60	GADS-B2/2 Distress tracking information management Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
61	GADS-B2/4 Flight Data Recovery Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
62	NAVS-B0/1 Ground Based Augmentation Systems (GBAS) Technology	25 days	Mon 6/5/23	Fri 7/7/23	NAVS Ad-hoc Group	NACC/RO/CNS (Mayda Ávila)
63	NAVS-B0/2 Satellite Based Augmentation Systems (SBAS) Technology	25 days	Mon 6/5/23	Fri 7/7/23	NAVS Ad-hoc Group	NACC/RO/CNS (Mayda Ávila)
64	NAVS-B0/3 Aircraft Based Augmentation Systems (ABAS) Technology	25 days	Mon 6/5/23	Fri 7/7/23	NAVS Ad-hoc Group	NACC/RO/CNS (Mayda Ávila)
65	NAVS-B0/4 Navigation Minimal Operating Networks (Nav. MON) Technology	25 days	Mon 6/5/23	Fri 7/7/23	NAVS Ad-hoc Group	NACC/RO/CNS (Mayda Ávila)
66	FRTO-B0/1 Direct routing (DCT) Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
67	FRTO-B0/2 Airspace planning and Flexible Use of Airspace (FUA) Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
68	FRTO-B0/3 Pre-validated and coordinated ATS routes to support flight and flow Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
69	FRTO-B0/4 Basic conflict detection and conformance monitoring Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
70	GADS-B1/1 Aircraft Tracking Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
71	GADS-B1/2 Operational Control Directory Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
72	GADS-B2/1 Location of an aircraft in Distress Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
73	GADS-B2/2 Distress tracking information management Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
74	GADS-B2/4 Flight Data Recovery Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
75	NAVS-B0/1 Ground Based Augmentation Systems (GBAS) Technology	25 days	Mon 6/5/23	Fri 7/7/23	NAVS Ad-hoc Group	NACC/RO/CNS (Mayda Ávila)
76	NAVS-B0/2 Satellite Based Augmentation Systems (SBAS) Technology	25 days	Mon 6/5/23	Fri 7/7/23	NAVS Ad-hoc Group	NACC/RO/CNS (Mayda Ávila)
77	NAVS-B0/3 Aircraft Based Augmentation Systems (ABAS) Technology	25 days	Mon 6/5/23	Fri 7/7/23	NAVS Ad-hoc Group	NACC/RO/CNS (Mayda Ávila)
78	NAVS-B0/4 Navigation Minimal Operating Networks (Nav. MON) Technology	25 days	Mon 6/5/23	Fri 7/7/23	NAVS Ad-hoc Group	NACC/RO/CNS (Mayda Ávila)
79	NOPS-B0/1 Initial integration of collaborative airspace management with air traffic flow management Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/ATFM (Rapporteur: Vern	NACC/RO/ATM2 (Ernie Snider)
80	NOPS-B0/2 Collaborative Network Flight Updates Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/ATFM (Rapporteur: Vern Payne)	NACC/RO/ATM2 (Ernie Snider)
81	NOPS-B0/3 Network Operation Planning basic features Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/ATFM (Rapporteur: Vern Payne)	NACC/RO/ATM2 (Ernie Snider)
82	NOPS-B0/4 Initial Airport/ATFM slots and A-CDM Network Interface Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/ATFM (Rapporteur: Vern	NACC/RO/ATM2 (Ernie Snider)
83	NOPS-B0/5 Dynamic ATFM slot allocation Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/ATFM (Rapporteur: Vern Payne)	NACC/RO/ATM2 (Ernie Snider)
84	OPFL-B0/1 In Trail Procedure (ITP) Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
85	OPFL-B2/1 Separation minima using ATS surveillance systems where VHF voice communications are not available Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
86	RSEQ-B0/1 Arrival Management Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AGA (Rapporteur: Pending to designate)	NACC/RO/AGA (Fabiana Todesco)
87	RSEQ-B0/2 Departure Management Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AGA (Rapporteur: Pending to designate)	NACC/RO/AGA (Fabiana Todesco)
88	RSEQ-B0/3 Point merge Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AGA (Rapporteur: Pending to designate)	NACC/RO/AGA (Fabiana Todesco)
89	SNET-B0/1 Short Term Conflict Alert (STCA) Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)

Project: PLAN DE ACCIÓN DEL NA
Date: Wed 5/17/23

Task | Summary | External Milestone | Inactive Summary | Manual Summary Rollup | Finish-only
Split | Project Summary | Inactive Task | Manual Task | Manual Summary | Deadline
Milestone | External Tasks | Inactive Milestone | Duration-only | Start-only | Progress

NACC/WG ACTION PLAN FOR 2023

ID	Task Name	Duration	Start	Finish	Text10	Text2
90	SNET-B0/2 Minimum Safe Altitude Warning (MSAW) Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
91	SNET-B0/3 Area Proximity Warning (APW) Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
92	SNET-B0/4 Approach Path Monitoring (APM) Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
93	SNET-B1/1 Enhanced STCA with aircraft parameters Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
94	SNET-B1/2 Enhanced STCA in complex TMAs Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
95	SURF-B0/1 Basic ATCO tools to manage traffic during ground operations Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AGA (Rapporteur: Pending to	NACC/RO/AGA (Fabiana Todesco)
96	SURF-B0/2 Comprehensive situational awareness of surface operations Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AGA (Rapporteur: Pending to	NACC/RO/AGA (Fabiana Todesco)
97	SURF-B0/3 Initial ATCO alerting service for surface operations Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AGA (Rapporteur: Pending to	NACC/RO/AGA (Fabiana Todesco)
98	SURF-B1/2 Comprehensive pilot situational awareness on the airport surface Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AGA (Rapporteur: Pending to	NACC/RO/AGA (Fabiana Todesco)
99	SWIM-B2/3 SWIM registry Information	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AIM (Rapporteur: Natasha Belefati)	NACC/RO/AIM (Raúl Martinez)
100	TBO-B0/1 Introduction of time-based management within a flow centric approach. Operational	25 days	Mon 6/5/23	Fri 7/7/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
101	Preliminary analysis of the regional implementation of ASBU Elements "Ready to implement"	5 days	Mon 7/17/23	Fri 7/21/23		ICAO NACC Regional Office
102	**Analysis of Database to evaluate Key Performance Indicator**	**76 days**	**Mon 6/5/23**	**Mon 9/18/23**		
103	Evaluate data available for CAR States	41 days	Mon 7/24/23	Mon 9/18/23	NACC/WG/ATFM (Rapporteur: Vern Payne)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
104	Do an analysis about data available in all ATC Control Centres	41 days	Mon 6/5/23	Mon 7/31/23	All Car States; according with States assesments	ICAO NACC Regional Office
105	Do an analisys about KPIs in ATC area	15 days	Tue 8/1/23	Mon 8/21/23	NACC/WG/AO (Rapporteur: Riaaz Mohammed)	NACC/RO/ATM1, 2 (Eddian Mendez, Ernie Snider)
106	Do an analisys about KPIs in AGA area	15 days	Tue 8/1/23	Mon 8/21/23	NACC/WG/AGA (Rapporteur: Pending to designate)	NACC/RO/AGA (Fabiana Todesco)
107	**Present Information during the NACC/WG/08**	**5 days**	**Mon 8/28/23**	**Fri 9/1/23**		
108	BBB status information status	5 days	Mon 8/28/23	Fri 9/1/23	All NACC/WG/Task Forces	ICAO NACC Regional Office
109	ASBU elements Status information status	5 days	Mon 8/28/23	Fri 9/1/23	All NACC/WG/Task Forces	ICAO NACC Regional Office
110	Result of the KPIs assessments	5 days	Mon 8/28/23	Fri 9/1/23	All NACC/WG/Task Forces	ICAO NACC Regional Office



Project: PLAN DE ACCIÓN DEL NA
Date: Wed 5/17/23

Task | Summary | External Milestone | Inactive Summary | Manual Summary Rollup | Finish-only
Split | Project Summary | Inactive Task | Manual Task | Manual Summary | Deadline
Milestone | External Tasks | Inactive Milestone | Duration-only | Start-only | Progress

APPENDIX F/ APÉNDICE F
IMPLEMENTATION STATUS

Component	Year	Quarter	State	iso alpha-3code	Progress	Old Component - change name
ATFM	2023	1	Antigua and Barbuda	ATG	0	
ATFM	2023	1	Bahamas	BHS	0	
ATFM	2023	1	Barbados	BRB	0	
ATFM	2023	1	Belize	BLZ	0	
ATFM	2023	1	Canada	CAN	1	
ATFM	2023	1	Costa Rica	CRI	0	
ATFM	2023	1	Cuba	CUB	0	
ATFM	2023	1	Dominica	DMA	0	
ATFM	2023	1	Dominican Republic	DOM	1	
ATFM	2023	1	El Salvador	SLV	0	
ATFM	2023	1	Grenada	GRD	0	
ATFM	2023	1	Guatemala	GTM	0	
ATFM	2023	1	Haiti	HTI	0	
ATFM	2023	1	Honduras	HND	0	
ATFM	2023	1	Jamaica	JAM	0	
ATFM	2023	1	Mexico	MEX	1	
ATFM	2023	1	Nicaragua	NIC	0	
ATFM	2023	1	Saint Kitts and Nevis	KNA	0	
ATFM	2023	1	Saint Lucia	LCA	0	
ATFM	2023	1	Saint Vincent and the Grenadines	VCT	0	
ATFM	2023	1	Trinidad and Tobago	TTO	0	
ATFM	2023	1	United States	USA	1	
eAIP Software	2023	1	Antigua and Barbuda	ATG	1	
eAIP Software	2023	1	Bahamas	BHS	1	
eAIP Software	2023	1	Barbados	BRB	0	
eAIP Software	2023	1	Belize	BLZ	1	
eAIP Software	2023	1	Canada	CAN	1	
eAIP Software	2023	1	Costa Rica	CRI	1	
eAIP Software	2023	1	Cuba	CUB	1	
eAIP Software	2023	1	Dominica	DMA	1	
eAIP Software	2023	1	Dominican Republic	DOM	1	
eAIP Software	2023	1	El Salvador	SLV	1	
eAIP Software	2023	1	Grenada	GRD	1	
eAIP Software	2023	1	Guatemala	GTM	1	
eAIP Software	2023	1	Haiti	HTI	0	
eAIP Software	2023	1	Honduras	HND	1	
eAIP Software	2023	1	Jamaica	JAM	1	
eAIP Software	2023	1	Mexico	MEX	1	
eAIP Software	2023	1	Nicaragua	NIC	1	
eAIP Software	2023	1	Saint Kitts and Nevis	KNA	1	
eAIP Software	2023	1	Saint Lucia	LCA	1	
eAIP Software	2023	1	Saint Vincent and the Grenadines	VCT	1	
eAIP Software	2023	1	Trinidad and Tobago	TTO	1	
eAIP Software	2023	1	United States	USA	1	
eAIP Action Plan	2023	1	Antigua and Barbuda	ATG	1	
eAIP Action Plan	2023	1	Bahamas	BHS	1	
eAIP Action Plan	2023	1	Barbados	BRB	1	
eAIP Action Plan	2023	1	Belize	BLZ	1	

APPENDIX F/ APÉNDICE F
IMPLEMENTATION STATUS

Component	Year	Quarter	State	iso alpha-3code	Progress	Old Component - change name
eAIP Action Plan	2023	1	Canada	CAN	1	
eAIP Action Plan	2023	1	Costa Rica	CRI	1	
eAIP Action Plan	2023	1	Cuba	CUB	1	
eAIP Action Plan	2023	1	Dominica	DMA	1	
eAIP Action Plan	2023	1	Dominican Republic	DOM	1	
eAIP Action Plan	2023	1	El Salvador	SLV	1	
eAIP Action Plan	2023	1	Grenada	GRD	1	
eAIP Action Plan	2023	1	Guatemala	GTM	1	
eAIP Action Plan	2023	1	Haiti	HTI	0	
eAIP Action Plan	2023	1	Honduras	HND	1	
eAIP Action Plan	2023	1	Jamaica	JAM	1	
eAIP Action Plan	2023	1	Mexico	MEX	1	
eAIP Action Plan	2023	1	Nicaragua	NIC	1	
eAIP Action Plan	2023	1	Saint Kitts and Nevis	KNA	1	
eAIP Action Plan	2023	1	Saint Lucia	LCA	1	
eAIP Action Plan	2023	1	Saint Vincent and the Grenadines	VCT	1	
eAIP Action Plan	2023	1	Trinidad and Tobago	TTO	1	
eAIP Action Plan	2023	1	United States	USA	1	
eAIP Operational	2023	1	Antigua and Barbuda	ATG	1	
eAIP Operational	2023	1	Bahamas	BHS	1	
eAIP Operational	2023	1	Barbados	BRB	1	
eAIP Operational	2023	1	Belize	BLZ	1	
eAIP Operational	2023	1	Canada	CAN	1	
eAIP Operational	2023	1	Costa Rica	CRI	1	
eAIP Operational	2023	1	Cuba	CUB	1	
eAIP Operational	2023	1	Dominica	DMA	1	
eAIP Operational	2023	1	Dominican Republic	DOM	1	

APPENDIX F/ APÉNDICE F
IMPLEMENTATION STATUS

Component	Year	Quarter	State	iso alpha-3code	Progress	Old Component - change name
eAIP Operational	2023	1	El Salvador	SLV	1	
eAIP Operational	2023	1	Grenada	GRD	1	
eAIP Operational	2023	1	Guatemala	GTM	1	
eAIP Operational	2023	1	Haiti	HTI	0	
eAIP Operational	2023	1	Honduras	HND	1	
eAIP Operational	2023	1	Jamaica	JAM	1	
eAIP Operational	2023	1	Mexico	MEX	1	
eAIP Operational	2023	1	Nicaragua	NIC	1	
eAIP Operational	2023	1	Saint Kitts and Nevis	KNA	1	
eAIP Operational	2023	1	Saint Lucia	LCA	1	
eAIP Operational	2023	1	Saint Vincent and the Grenadines	VCT	1	
eAIP Operational	2023	1	Trinidad and Tobago	TTO	1	
eAIP Operational	2023	1	United States	USA	1	
IWXXM	2023	1	Antigua and Barbuda	ATG	0	
IWXXM	2023	1	Bahamas	BHS	0	
IWXXM	2023	1	Barbados	BRB	0	
IWXXM	2023	1	Belize	BLZ	0	
IWXXM	2023	1	Canada	CAN	0	
IWXXM	2023	1	Costa Rica	CRI	0	
IWXXM	2023	1	Cuba	CUB	1	
IWXXM	2023	1	Dominica	DMA	0	
IWXXM	2023	1	Dominican Republic	DOM	0	
IWXXM	2023	1	El Salvador	SLV	0	
IWXXM	2023	1	Grenada	GRD	0	
IWXXM	2023	1	Guatemala	GTM	0	
IWXXM	2023	1	Haiti	HTI	0	
IWXXM	2023	1	Honduras	HND	0	
IWXXM	2023	1	Jamaica	JAM	0	
IWXXM	2023	1	Mexico	MEX	0	
IWXXM	2023	1	Nicaragua	NIC	0	
IWXXM	2023	1	Saint Kitts and Nevis	KNA	0	
IWXXM	2023	1	Saint Lucia	LCA	0	
IWXXM	2023	1	Saint Vincent and the Grenadines	VCT	0	
IWXXM	2023	1	Trinidad and Tobago	TTO	0	
IWXXM	2023	1	United States	USA	1	
MET QMS Implemented	2023	1	Antigua and Barbuda	ATG	0	
MET QMS Implemented	2023	1	Bahamas	BHS	0	
MET QMS Implemented	2023	1	Barbados	BRB	0	

APPENDIX F/ APÉNDICE F
IMPLEMENTATION STATUS

Component	Year	Quarter	State	iso alpha-3code	Progress	Old Component - change name
MET QMS Implemented	2023	1	Belize	BLZ	1	
MET QMS Implemented	2023	1	Canada	CAN	0	
MET QMS Implemented	2023	1	Costa Rica	CRI	0	
MET QMS Implemented	2023	1	Cuba	CUB	1	
MET QMS Implemented	2023	1	Dominica	DMA	0	
MET QMS Implemented	2023	1	Dominican Republic	DOM	1	
MET QMS Implemented	2023	1	El Salvador	SLV	1	
MET QMS Implemented	2023	1	Grenada	GRD	0	
MET QMS Implemented	2023	1	Guatemala	GTM	0	
MET QMS Implemented	2023	1	Haiti	HTI	0	
MET QMS Implemented	2023	1	Honduras	HND	0	
MET QMS Implemented	2023	1	Jamaica	JAM	1	
MET QMS Implemented	2023	1	Mexico	MEX	1	
MET QMS Implemented	2023	1	Nicaragua	NIC	1	
MET QMS Implemented	2023	1	Saint Kitts and Nevis	KNA	0	
MET QMS Implemented	2023	1	Saint Lucia	LCA	0	
MET QMS Implemented	2023	1	Saint Vincent and the Grenadines	VCT	0	
MET QMS Implemented	2023	1	Trinidad and Tobago	TTO	1	
MET QMS Implemented	2023	1	United States	USA	1	
MET QMS Certified	2023	1	Antigua and Barbuda	ATG	0	
MET QMS Certified	2023	1	Bahamas	BHS	0	
MET QMS Certified	2023	1	Barbados	BRB	0	
MET QMS Certified	2023	1	Belize	BLZ	0	
MET QMS Certified	2023	1	Canada	CAN	0	
MET QMS Certified	2023	1	Costa Rica	CRI	0	
MET QMS Certified	2023	1	Cuba	CUB	1	
MET QMS Certified	2023	1	Dominica	DMA	0	

APPENDIX F/ APÉNDICE F
IMPLEMENTATION STATUS

Component	Year	Quarter	State	iso alpha-3code	Progress	Old Component - change name
MET QMS Certified	2023	1	Dominican Republic	DOM	0	
MET QMS Certified	2023	1	El Salvador	SLV	0	
MET QMS Certified	2023	1	Grenada	GRD	0	
MET QMS Certified	2023	1	Guatemala	GTM	0	
MET QMS Certified	2023	1	Haiti	HTI	0	
MET QMS Certified	2023	1	Honduras	HND	0	
MET QMS Certified	2023	1	Jamaica	JAM	0	
MET QMS Certified	2023	1	Mexico	MEX	1	
MET QMS Certified	2023	1	Nicaragua	NIC	1	
MET QMS Certified	2023	1	Saint Kitts and Nevis	KNA	0	
MET QMS Certified	2023	1	Saint Lucia	LCA	0	
MET QMS Certified	2023	1	Saint Vincent and the Grenadines	VCT	0	
MET QMS Certified	2023	1	Trinidad and Tobago	TTO	0	
MET QMS Certified	2023	1	United States	USA	0	
AIM QMS	2023	1	Antigua and Barbuda	ATG	1	
AIM QMS	2023	1	Bahamas	BHS	1	
AIM QMS	2023	1	Barbados	BRB	0	
AIM QMS	2023	1	Belize	BLZ	1	
AIM QMS	2023	1	Canada	CAN	1	
AIM QMS	2023	1	Costa Rica	CRI	1	
AIM QMS	2023	1	Cuba	CUB	1	
AIM QMS	2023	1	Dominica	DMA	1	
AIM QMS	2023	1	Dominican Republic	DOM	1	
AIM QMS	2023	1	El Salvador	SLV	1	
AIM QMS	2023	1	Grenada	GRD	1	
AIM QMS	2023	1	Guatemala	GTM	1	
AIM QMS	2023	1	Haiti	HTI	0	
AIM QMS	2023	1	Honduras	HND	1	
AIM QMS	2023	1	Jamaica	JAM	1	
AIM QMS	2023	1	Mexico	MEX	1	
AIM QMS	2023	1	Nicaragua	NIC	1	
AIM QMS	2023	1	Saint Kitts and Nevis	KNA	1	
AIM QMS	2023	1	Saint Lucia	LCA	1	
AIM QMS	2023	1	Saint Vincent and the Grenadines	VCT	1	
AIM QMS	2023	1	Trinidad and Tobago	TTO	1	
AIM QMS	2023	1	United States	USA	1	
eTOD Area 2	2023	1	Antigua and Barbuda	ATG	1	eTOD Area 2A
eTOD Area 2	2023	1	Bahamas	BHS	1	eTOD Area 2A
eTOD Area 2	2023	1	Barbados	BRB	1	eTOD Area 2A
eTOD Area 2	2023	1	Belize	BLZ	1	eTOD Area 2A

APPENDIX F/ APÉNDICE F
IMPLEMENTATION STATUS

Component	Year	Quarter	State	iso alpha-3code	Progress	Old Component - change name
eTOD Area 2	2023	1	Canada	CAN	1	eTOD Area 2A
eTOD Area 2	2023	1	Costa Rica	CRI	0	eTOD Area 2A
eTOD Area 2	2023	1	Cuba	CUB	1	eTOD Area 2A
eTOD Area 2	2023	1	Dominica	DMA	0	eTOD Area 2A
eTOD Area 2	2023	1	Dominican Republic	DOM	0	eTOD Area 2A
eTOD Area 2	2023	1	El Salvador	SLV	0	eTOD Area 2A
eTOD Area 2	2023	1	Grenada	GRD	0	eTOD Area 2A
eTOD Area 2	2023	1	Guatemala	GTM	0	eTOD Area 2A
eTOD Area 2	2023	1	Haiti	HTI	0	eTOD Area 2A
eTOD Area 2	2023	1	Honduras	HND	0	eTOD Area 2A
eTOD Area 2	2023	1	Jamaica	JAM	1	eTOD Area 2A
eTOD Area 2	2023	1	Mexico	MEX	0	eTOD Area 2A
eTOD Area 2	2023	1	Nicaragua	NIC	0	eTOD Area 2A
eTOD Area 2	2023	1	Saint Kitts and Nevis	KNA	0	eTOD Area 2A
eTOD Area 2	2023	1	Saint Lucia	LCA	0	eTOD Area 2A
eTOD Area 2	2023	1	Saint Vincent and the Grenadines	VCT	0	eTOD Area 2A
eTOD Area 2	2023	1	Trinidad and Tobago	TTO	1	eTOD Area 2A
eTOD Area 2	2023	1	United States	USA	1	eTOD Area 2A
eTOD Area 2b-1.2%	2023	1	Antigua and Barbuda	ATG	0	eTOD Trajectory 1.2%
eTOD Area 2b-1.2%	2023	1	Bahamas	BHS	0	eTOD Trajectory 1.2%
eTOD Area 2b-1.2%	2023	1	Barbados	BRB	0	eTOD Trajectory 1.2%
eTOD Area 2b-1.2%	2023	1	Belize	BLZ	0	eTOD Trajectory 1.2%
eTOD Area 2b-1.2%	2023	1	Canada	CAN	0	eTOD Trajectory 1.2%
eTOD Area 2b-1.2%	2023	1	Costa Rica	CRI	0	eTOD Trajectory 1.2%
eTOD Area 2b-1.2%	2023	1	Cuba	CUB	0	eTOD Trajectory 1.2%
eTOD Area 2b-1.2%	2023	1	Dominica	DMA	0	eTOD Trajectory 1.2%
eTOD Area 2b-1.2%	2023	1	Dominican Republic	DOM	0	eTOD Trajectory 1.2%
eTOD Area 2b-1.2%	2023	1	El Salvador	SLV	0	eTOD Trajectory 1.2%
eTOD Area 2b-1.2%	2023	1	Grenada	GRD	0	eTOD Trajectory 1.2%
eTOD Area 2b-1.2%	2023	1	Guatemala	GTM	0	eTOD Trajectory 1.2%
eTOD Area 2b-1.2%	2023	1	Haiti	HTI	0	eTOD Trajectory 1.2%
eTOD Area 2b-1.2%	2023	1	Honduras	HND	0	eTOD Trajectory 1.2%
eTOD Area 2b-1.2%	2023	1	Jamaica	JAM	0	eTOD Trajectory 1.2%
eTOD Area 2b-1.2%	2023	1	Mexico	MEX	0	eTOD Trajectory 1.2%
eTOD Area 2b-1.2%	2023	1	Nicaragua	NIC	0	eTOD Trajectory 1.2%
eTOD Area 2b-1.2%	2023	1	Saint Kitts and Nevis	KNA	0	eTOD Trajectory 1.2%

APPENDIX F/ APÉNDICE F
IMPLEMENTATION STATUS

Component	Year	Quarter	State	iso alpha-3code	Progress	Old Component - change name
eTOD Area 2b-1.2%	2023	1	Saint Lucia	LCA	0	eTOD Trajectory 1.2%
eTOD Area 2b-1.2%	2023	1	Saint Vincent and the Grenadines	VCT	0	eTOD Trajectory 1.2%
eTOD Area 2b-1.2%	2023	1	Trinidad and Tobago	TTO	0	eTOD Trajectory 1.2%
eTOD Area 2b-1.2%	2023	1	United States	USA	1	eTOD Trajectory 1.2%
eTOD Limiting surface	2023	1	Antigua and Barbuda	ATG	1	
eTOD Limiting surface	2023	1	Bahamas	BHS	1	
eTOD Limiting surface	2023	1	Barbados	BRB	1	
eTOD Limiting surface	2023	1	Belize	BLZ	1	
eTOD Limiting surface	2023	1	Canada	CAN	1	
eTOD Limiting surface	2023	1	Costa Rica	CRI	1	
eTOD Limiting surface	2023	1	Cuba	CUB	1	
eTOD Limiting surface	2023	1	Dominica	DMA	0	
eTOD Limiting surface	2023	1	Dominican Republic	DOM	1	
eTOD Limiting surface	2023	1	El Salvador	SLV	1	
eTOD Limiting surface	2023	1	Grenada	GRD	0	
eTOD Limiting surface	2023	1	Guatemala	GTM	1	
eTOD Limiting surface	2023	1	Haiti	HTI	0	
eTOD Limiting surface	2023	1	Honduras	HND	0	
eTOD Limiting surface	2023	1	Jamaica	JAM	1	
eTOD Limiting surface	2023	1	Mexico	MEX	1	
eTOD Limiting surface	2023	1	Nicaragua	NIC	1	
eTOD Limiting surface	2023	1	Saint Kitts and Nevis	KNA	1	
eTOD Limiting surface	2023	1	Saint Lucia	LCA	1	
eTOD Limiting surface	2023	1	Saint Vincent and the Grenadines	VCT	1	
eTOD Limiting surface	2023	1	Trinidad and Tobago	TTO	1	
eTOD Limiting surface	2023	1	United States	USA	1	
eTOD Area 4	2023	1	Antigua and Barbuda	ATG	0	
eTOD Area 4	2023	1	Bahamas	BHS	0	
eTOD Area 4	2023	1	Barbados	BRB	0	

APPENDIX F/ APÉNDICE F
IMPLEMENTATION STATUS

Component	Year	Quarter	State	iso alpha-3code	Progress	Old Component - change name
eTOD Area 4	2023	1	Belize	BLZ	0	
eTOD Area 4	2023	1	Canada	CAN	1	
eTOD Area 4	2023	1	Costa Rica	CRI	0	
eTOD Area 4	2023	1	Cuba	CUB	0	
eTOD Area 4	2023	1	Dominica	DMA	0	
eTOD Area 4	2023	1	Dominican Republic	DOM	0	
eTOD Area 4	2023	1	El Salvador	SLV	0	
eTOD Area 4	2023	1	Grenada	GRD	0	
eTOD Area 4	2023	1	Guatemala	GTM	0	
eTOD Area 4	2023	1	Haiti	HTI	0	
eTOD Area 4	2023	1	Honduras	HND	0	
eTOD Area 4	2023	1	Jamaica	JAM	0	
eTOD Area 4	2023	1	Mexico	MEX	1	
eTOD Area 4	2023	1	Nicaragua	NIC	0	
eTOD Area 4	2023	1	Saint Kitts and Nevis	KNA	0	
eTOD Area 4	2023	1	Saint Lucia	LCA	0	
eTOD Area 4	2023	1	Saint Vincent and the Grenadines	VCT	0	
eTOD Area 4	2023	1	Trinidad and Tobago	TTO	0	
eTOD Area 4	2023	1	United States	USA	1	
eTOD Area 1	2023	1	Antigua and Barbuda	ATG	1	
eTOD Area 1	2023	1	Bahamas	BHS	0	
eTOD Area 1	2023	1	Barbados	BRB	0	
eTOD Area 1	2023	1	Belize	BLZ	0	
eTOD Area 1	2023	1	Canada	CAN	1	
eTOD Area 1	2023	1	Costa Rica	CRI	0	
eTOD Area 1	2023	1	Cuba	CUB	1	
eTOD Area 1	2023	1	Dominica	DMA	0	
eTOD Area 1	2023	1	Dominican Republic	DOM	1	
eTOD Area 1	2023	1	El Salvador	SLV	0	
eTOD Area 1	2023	1	Grenada	GRD	0	
eTOD Area 1	2023	1	Guatemala	GTM	0	
eTOD Area 1	2023	1	Haiti	HTI	0	
eTOD Area 1	2023	1	Honduras	HND	0	
eTOD Area 1	2023	1	Jamaica	JAM	1	
eTOD Area 1	2023	1	Mexico	MEX	1	
eTOD Area 1	2023	1	Nicaragua	NIC	0	
eTOD Area 1	2023	1	Saint Kitts and Nevis	KNA	0	
eTOD Area 1	2023	1	Saint Lucia	LCA	0	
eTOD Area 1	2023	1	Saint Vincent and the Grenadines	VCT	0	
eTOD Area 1	2023	1	Trinidad and Tobago	TTO	1	
eTOD Area 1	2023	1	United States	USA	1	

Componer	Year	Quarter	State	iso alpha-3	Applicable	Progress
ACDM	2023	1	Antigua and Barbuda	ATG	1	0.25
ACDM	2023	1	Bahamas	BHS	1	0.25
ACDM	2023	1	Barbados	BRB	0	0
ACDM	2023	1	Belize	BLZ	0	0
ACDM	2023	1	Canada	CAN	15	0.45
ACDM	2023	1	Costa Rica	CRI	1	0.25
ACDM	2023	1	Cuba	CUB	1	0.25
ACDM	2023	1	Dominica	DMA	0	0
ACDM	2023	1	Dominican Republic	DOM	2	0.25
ACDM	2023	1	El Salvador	SLV	1	0.25
ACDM	2023	1	Grenada	GRD	0	0
ACDM	2023	1	Guatemala	GTM	1	0.25
ACDM	2023	1	Haiti	HTI	0	0
ACDM	2023	1	Honduras	HND	1	0.25
ACDM	2023	1	Jamaica	JAM	1	0.25
ACDM	2023	1	Mexico	MEX	3	0.25
ACDM	2023	1	Nicaragua	NIC	1	0.25
ACDM	2023	1	Saint Kitts and Nevis	KNA	0	0
ACDM	2023	1	Saint Lucia	LCA	0	0
ACDM	2023	1	Saint Vincent and the Grenadines	VCT	0	0
ACDM	2023	1	Trinidad and Tobago	TTO	1	0.25
ACDM	2023	1	United States	USA	70	0.45

Component	Year	Quarter	State	iso alpha-3code	Planned	Implemented	Progress
AIDC	2023	1	Antigua and Barbuda	ATG	1	0	0
AIDC	2023	1	Bahamas	BHS	1	0	0
AIDC	2023	1	Barbados	BRB	1	0	0
AIDC	2023	1	Belize	BLZ	4	0	0
AIDC	2023	1	Canada	CAN	11	10	0.909090909
AIDC	2023	1	Costa Rica	CRI	3	0	0
AIDC	2023	1	Cuba	CUB	8	2	0.25
AIDC	2023	1	Dominica	DMA	1	0	0
AIDC	2023	1	Dominican Republic	DOM	3	0.67	0.223333333
AIDC	2023	1	El Salvador	SLV	4	1	0.25
AIDC	2023	1	Grenada	GRD	1	0	0
AIDC	2023	1	Guatemala	GTM	4	1	0.25
AIDC	2023	1	Haiti	HTI	4	0	0
AIDC	2023	1	Honduras	HND	5	0	0
AIDC	2023	1	Jamaica	JAM	1	0	0
AIDC	2023	1	Mexico	MEX	3	0.6	0.2
AIDC	2023	1	Nicaragua	NIC	4	1	0.25
AIDC	2023	1	Saint Kitts and Nevis	KNA	1	0	0
AIDC	2023	1	Saint Lucia	LCA	1	0	0
AIDC	2023	1	Saint Vincent and the Grenadines	VCT	1	0	0
AIDC	2023	1	Trinidad and Tobago	TTO	5	0	0
AIDC	2023	1	United States	USA	17	11.3	0.664705882
AMHS	2023	1	Antigua and Barbuda	ATG	1	0	0
AMHS	2023	1	Bahamas	BHS	1	1	1
AMHS	2023	1	Barbados	BRB	1	1	1
AMHS	2023	1	Belize	BLZ	1	1	1
AMHS	2023	1	Canada	CAN	1	1	1
AMHS	2023	1	Costa Rica	CRI	1	1	1
AMHS	2023	1	Cuba	CUB	1	1	1
AMHS	2023	1	Dominica	DMA	1	0	0
AMHS	2023	1	Dominican Republic	DOM	1	1	1
AMHS	2023	1	El Salvador	SLV	1	1	1
AMHS	2023	1	Grenada	GRD	1	0	0
AMHS	2023	1	Guatemala	GTM	1	1	1
AMHS	2023	1	Haiti	HTI	1	0	0
AMHS	2023	1	Honduras	HND	1	1	1
AMHS	2023	1	Jamaica	JAM	1	1	1
AMHS	2023	1	Mexico	MEX	1	1	1
AMHS	2023	1	Nicaragua	NIC	1	1	1
AMHS	2023	1	Saint Kitts and Nevis	KNA	1	0	0
AMHS	2023	1	Saint Lucia	LCA	1	0	0
AMHS	2023	1	Saint Vincent and the Grenadines	VCT	1	0	0
AMHS	2023	1	Trinidad and Tobago	TTO	1	1	1
AMHS	2023	1	United States	USA	1	1	1

Componer	Year	Quarter	State	iso alpha-3	Applicable	Implemen	Progress
APV	2023	1	Antigua and Barbuda	ATG	2	0	0
APV	2023	1	Bahamas	BHS	22	13	0.590909
APV	2023	1	Barbados	BRB	2	2	1
APV	2023	1	Belize	BLZ	2	2	1
APV	2023	1	Canada	CAN	67	65	0.970149
APV	2023	1	Costa Rica	CRI	8	1	0.125
APV	2023	1	Cuba	CUB	15	15	1
APV	2023	1	Dominica	DMA	2	0	0
APV	2023	1	Dominican Republic	DOM	18	0	0
APV	2023	1	El Salvador	SLV	3	0	0
APV	2023	1	Grenada	GRD	2	2	1
APV	2023	1	Guatemala	GTM	4	1	0.25
APV	2023	1	Haiti	HTI	4	4	1
APV	2023	1	Honduras	HND	5	2	0.4
APV	2023	1	Jamaica	JAM	4	4	1
APV	2023	1	Mexico	MEX	126	51	0.404762
APV	2023	1	Nicaragua	NIC	2	2	1
APV	2023	1	Saint Kitts and Nevis	KNA	2	0	0
APV	2023	1	Saint Lucia	LCA	3	3	1
APV	2023	1	Saint Vincent and the Grenadines	VCT	2	0	0
APV	2023	1	Trinidad and Tobago	TTO	2	2	1
APV	2023	1	United States	USA	819	794	0.969475
PBN SID	2023	1	Antigua and Barbuda	ATG	2	0	0
PBN SID	2023	1	Bahamas	BHS	22	10	0.454545
PBN SID	2023	1	Barbados	BRB	2	0	0
PBN SID	2023	1	Belize	BLZ	2	0	0
PBN SID	2023	1	Canada	CAN	67	24	0.358209
PBN SID	2023	1	Costa Rica	CRI	8	2	0.25
PBN SID	2023	1	Cuba	CUB	15	15	1
PBN SID	2023	1	Dominica	DMA	2	0	0
PBN SID	2023	1	Dominican Republic	DOM	18	12	0.666667
PBN SID	2023	1	El Salvador	SLV	3	0	0
PBN SID	2023	1	Grenada	GRD	2	0	0
PBN SID	2023	1	Guatemala	GTM	4	0	0
PBN SID	2023	1	Haiti	HTI	4	3	0.75
PBN SID	2023	1	Honduras	HND	5	3	0.6
PBN SID	2023	1	Jamaica	JAM	4	2	0.5
PBN SID	2023	1	Mexico	MEX	126	53	0.420635
PBN SID	2023	1	Nicaragua	NIC	2	0	0
PBN SID	2023	1	Saint Kitts and Nevis	KNA	2	0	0
PBN SID	2023	1	Saint Lucia	LCA	3	0	0
PBN SID	2023	1	Saint Vincent and the Grenadines	VCT	2	0	0
PBN SID	2023	1	Trinidad and Tobago	TTO	2	0	0
PBN SID	2023	1	United States	USA	819	224	0.273504
PBN STAR	2023	1	Antigua and Barbuda	ATG	2	0	0
PBN STAR	2023	1	Bahamas	BHS	22	1	0.045455

PBN STAR	2023	1	Barbados	BRB	2	0	0
PBN STAR	2023	1	Belize	BLZ	2	2	1
PBN STAR	2023	1	Canada	CAN	67	24	0.358209
PBN STAR	2023	1	Costa Rica	CRI	8	2	0.25
PBN STAR	2023	1	Cuba	CUB	15	15	1
PBN STAR	2023	1	Dominica	DMA	2	0	0
PBN STAR	2023	1	Dominican Republic	DOM	18	12	0.666667
PBN STAR	2023	1	El Salvador	SLV	3	0	0
PBN STAR	2023	1	Grenada	GRD	2	0	0
PBN STAR	2023	1	Guatemala	GTM	4	2	0.5
PBN STAR	2023	1	Haiti	HTI	4	4	1
PBN STAR	2023	1	Honduras	HND	5	2	0.4
PBN STAR	2023	1	Jamaica	JAM	4	0	0
PBN STAR	2023	1	Mexico	MEX	126	51	0.404762
PBN STAR	2023	1	Nicaragua	NIC	2	1	0.5
PBN STAR	2023	1	Saint Kitts and Nevis	KNA	2	2	1
PBN STAR	2023	1	Saint Lucia	LCA	3	0	0
PBN STAR	2023	1	Saint Vincent and the Grenadines	VCT	2	0	0
PBN STAR	2023	1	Trinidad and Tobago	TTO	2	0	0
PBN STAR	2023	1	United States	USA	819	215	0.262515
PBN STAR							