



39th

TRIENNIAL ASSEMBLY

TECHNICAL COMMISSION

DAY 2
30 SEP 2016



39th

TRIENNIAL ASSEMBLY

SAF AND AN MONITORING & ANALYSIS

ITEM 33



SAF and AN Monitoring and Analysis

ITEM 33

Working Papers

GROUP 33.5: Monitoring and Analysis

WP#	Presented by
285	Brazil
190	Canada
192	Canada
197	South Africa
213	Australia, Bangladesh, Chile, India, Japan, Malaysia, Nepal, New Zealand, Republic of Korea, Russian Federation, Singapore, Tonga and Vanuatu

Information papers provided by: Republic of Korea (WP/432 and WP/433); Spain (WP/418); Thailand (WP/399); and IATA (WP/126)



SAF and AN Monitoring and Analysis

ITEM 33

Working Papers

GROUP 33.6: Harmonization

WP#	Presented by
142 Rev I	India
162	United Arab Emirates
115	Chile with the support of Argentina, Bolivia, Brazil, Colombia, Ecuador, Guyana, Panama, Paraguay, Peru, Uruguay, Suriname, and Venezuela

Information papers provided by: None



SAF and AN Monitoring and Analysis

ITEM 33

Working Papers

GROUP 33.7: Other

WP#	Presented by
220	Indonesia
113	Chile with the support of Argentina, Brazil, Colombia, Ecuador, Panama, Paraguay, Peru, Uruguay, Bolivia, Guyana, Venezuela, and Suriname
260 Rev I	Trinidad and Tobago with the support of Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Canada, Costa Rica, Cuba, Curaçao, Dominican Republic , El Salvador, France (French Antilles), Grenada, Guatemala, Haiti, Honduras, Jamaica, Mexico, Netherlands

Information papers provided by: Cuba (WP/453)



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TRIENNIAL ASSEMBLY

AVIATION SAFETY AND AIR NAVIGATION POLICY

ITEM 34



Policy

Council Papers

ITEM 34

WP No.	Title
29	A comprehensive strategy for aviation safety: Endorsement of the updated Global Aviation Safety Plan
39	A comprehensive strategy for air navigation: Endorsement of the updated Global Air Navigation Plan



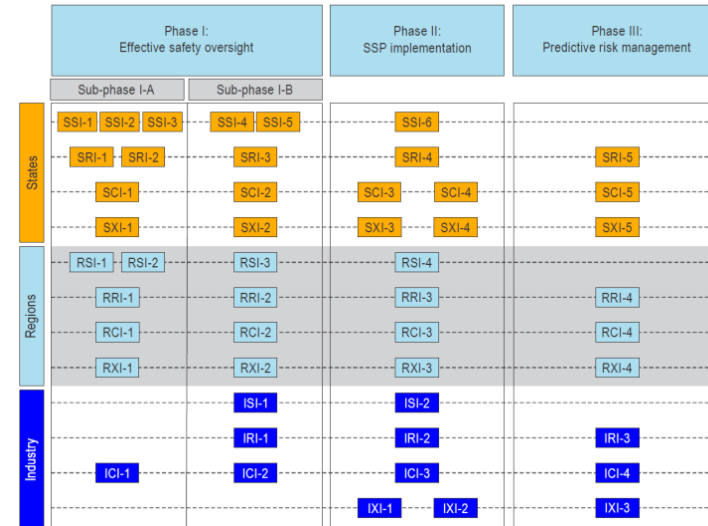
Update: Global Aviation Safety Plan (GASP)

- **2017-2019 Edition**
 - **Maintains** the framework, objectives and safety performance enablers of the 2014-2016 edition
 - New **global aviation safety roadmap** ensures that safety initiatives deliver the intended benefits associated with the GASP objectives through enhanced coordination
 - Reducing inconsistencies and duplication of efforts
- **Cooperative, collaborative, and coordinated approach**
 - Together with all stakeholders and under the leadership of ICAO, the GASP offers a long-term vision in developing a harmonized safety strategy.



New GASP Roadmap

- **Goals:**
 - Ensure that safety initiatives deliver the intended benefits associated with the GASP objectives
 - Reduce inconsistencies and duplication of efforts
- **Specific safety initiatives aimed at States, Regions and Industry**
- **Complements the GANP**
 - Some ASBUs address safety
 - Implementation of ASBUs will require safety assessments prior to implementation



Safety Performance Indicators

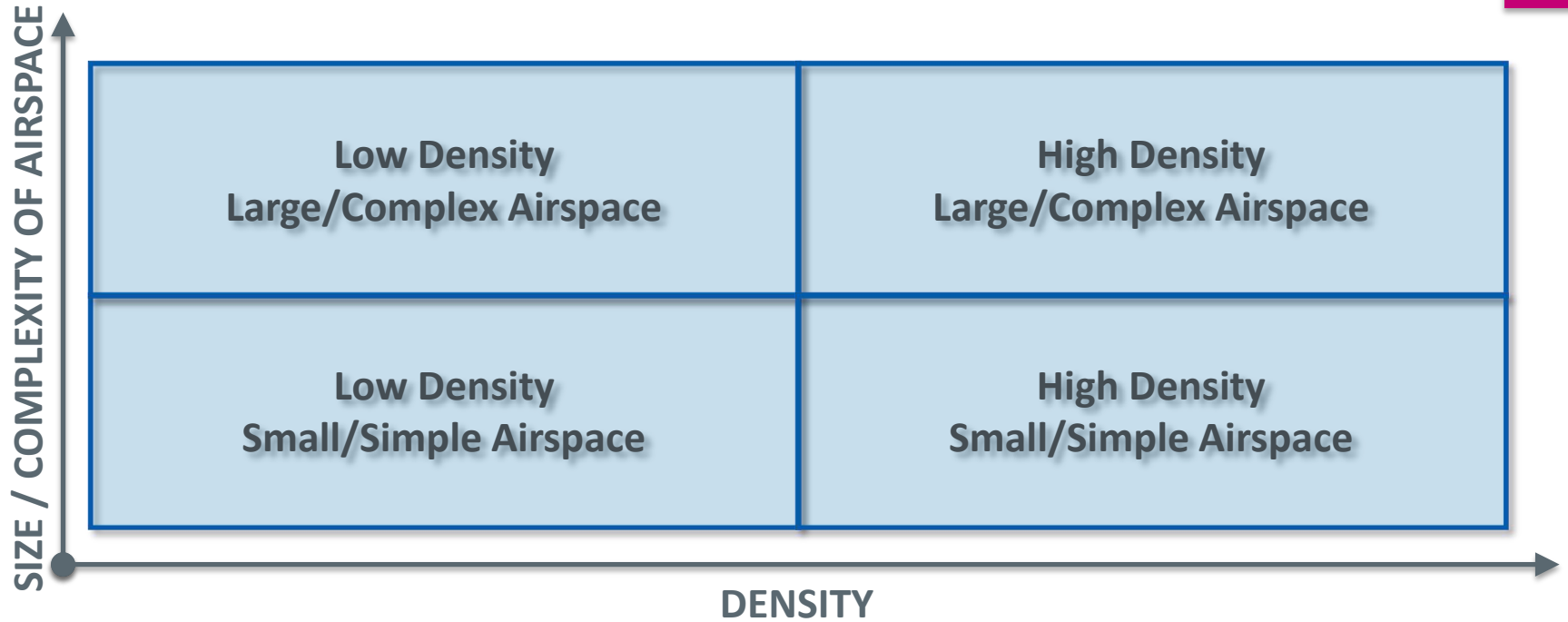
- New appendix in the GASP
- Provides guidance regarding safety and level of activity indicators
- First step towards the development and implementation of harmonized global indicators
 - Can be adapted at the regional, sub-regional, and national levels

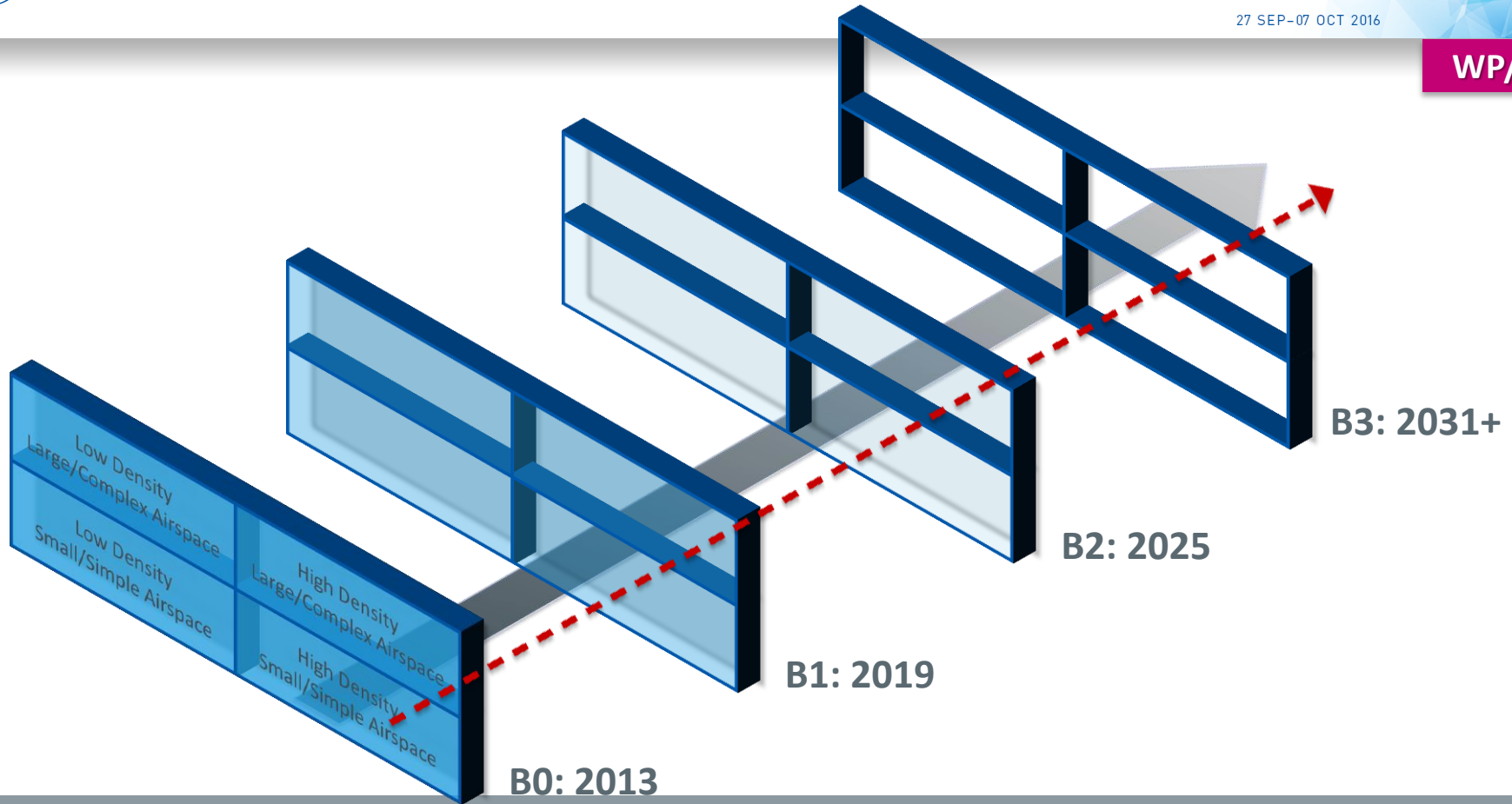
#	Indicators and metrics	Type	Usage
1.	<p>Effective implementation of State safety oversight system</p> <p><i>Metrics:</i></p> <ul style="list-style-type: none"> • USOAP EI Scores overall • USOAP EI Scores by technical area • USOAP EI Scores by critical element 	Predictive	Target
2.	<p>Progress in SSP implementation</p> <p><i>Metrics:</i></p> <ul style="list-style-type: none"> • Percentage of completed gap analysis questions • Percentage of implemented gap analysis questions overall • Percentage of implemented gap analysis questions by element 	Predictive	Target
3.	<p>Progress in SMS implementation</p> <p><i>Metrics:</i></p> <ul style="list-style-type: none"> • Percentage of completed gap analysis questions by operator • Percentage of implemented gap analysis questions overall by operator • Percentage of implemented gap analysis questions by element and by operator 	Predictive	Target
4.	<p>Frequency and severity of accidents and incidents</p> <p><i>Metrics:</i></p> <ul style="list-style-type: none"> • Number and distribution of occurrences by severity level (accident, serious incidents, etc.) and the ICAO Accident/Incident Data Reporting System (ADREP) occurrence category • Number and distribution of fatalities by ADREP occurrence category • Occurrence per number of departures (rate) <p><i>Note — Occurrences should be limited to specific categories of aircraft and operations, such as aircraft above 5 700 kg operating scheduled commercial flights.</i></p>	Reactive/ proactive	Target

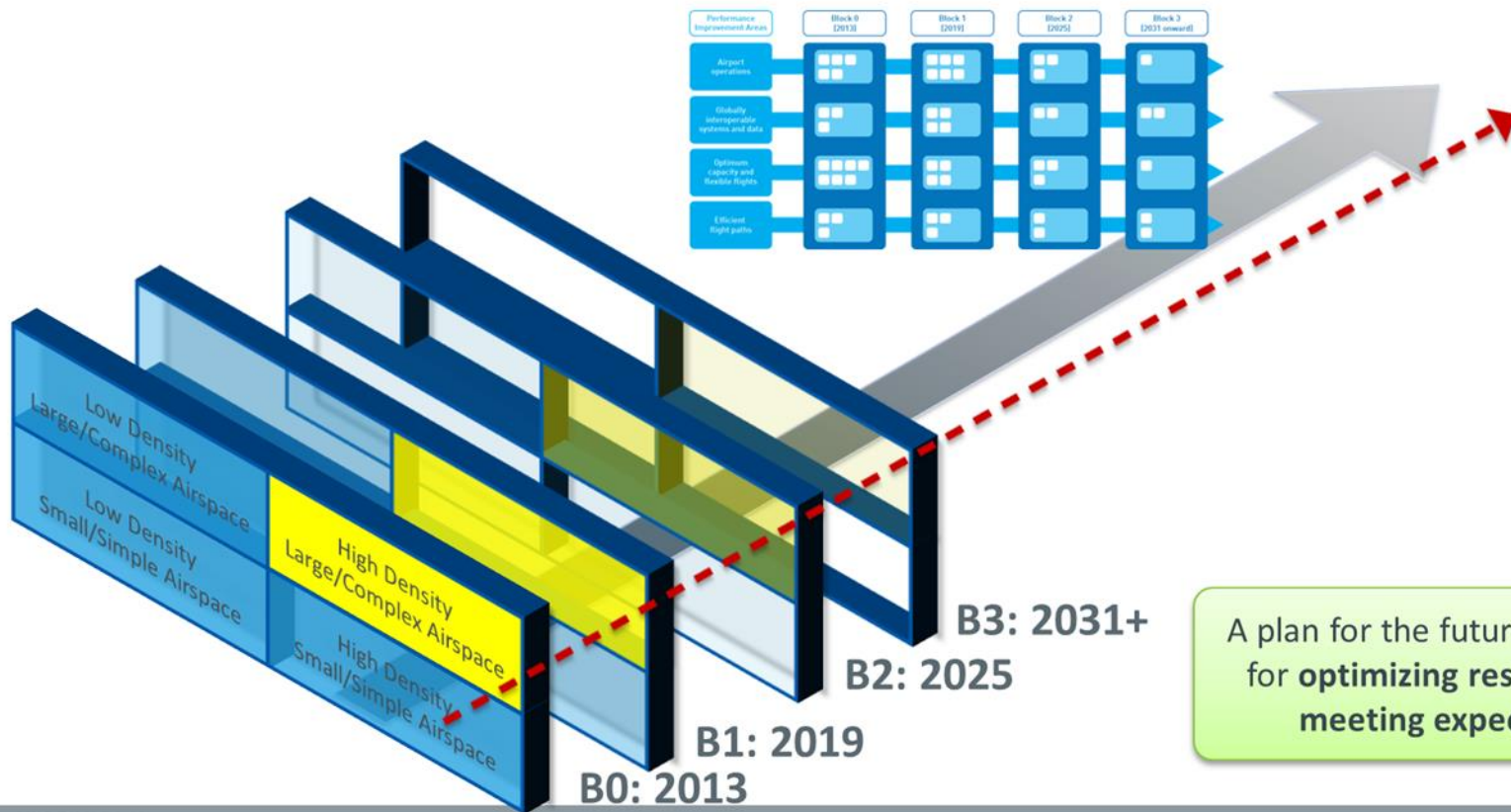
Update: Global Air Navigation Plan (GANP)

- **5th Edition of the GANP (2016-2031)**
 - Includes the 2016 edition of the Aviation System Block Upgrades (ASBU) document
 - Stability
- **Included improvements:**
 - Six-year cycle for the Blocks to align with Assembly cycles
 - Update of the ASBU framework and all technical roadmaps
 - Concept of performance-based approach as foundation for implementation strategies
 - Notion of minimum path
 - ATM logical architecture
 - Creation of GANP webpage







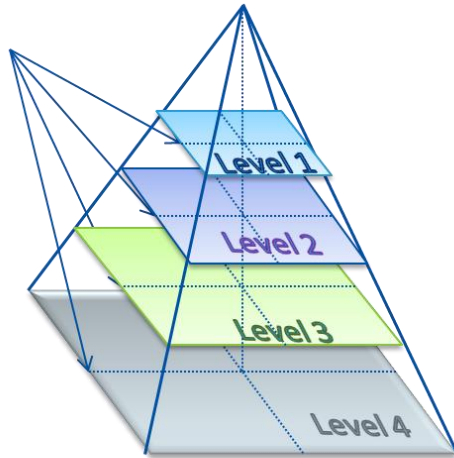


A plan for the future is essential for **optimizing resources and meeting expectations**

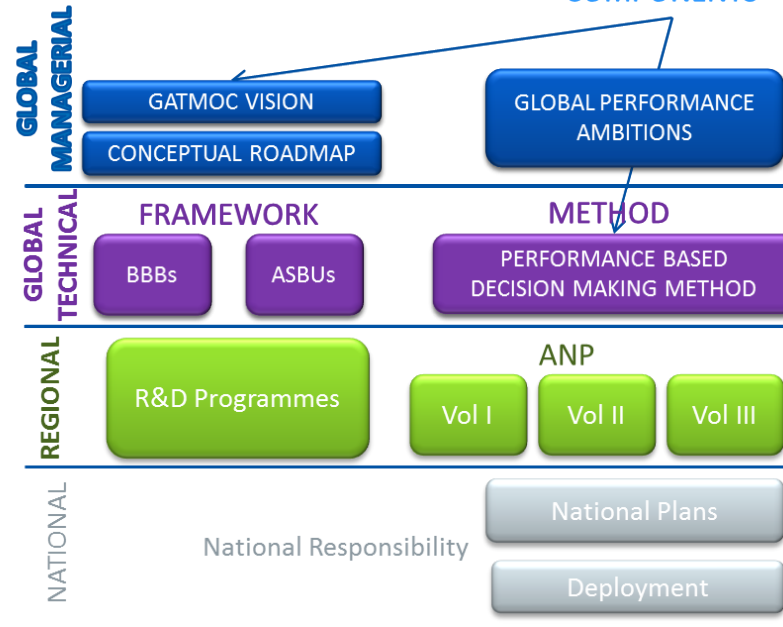
2019 Update of the GANP

Multilayer Structure

LAYERS



COMPONENTS





Policy

Groups

ITEM 34

GROUP 34.1: GASP

GROUP 34.2: GANP



Policy

Working Papers

ITEM 34

GROUP 34.1: GASP

WP#	Presented by
301	Dominican Republic
85	United States
111	Peru and supported by the countries of the SAM South American (SAM) Region and the 22 twenty-two Member States of the Latin American Civil Aviation Commission (LACAC)
92	Slovakia on behalf of the EU, ECAC and EUROCONTROL (Introduced by Finland)

Information papers provided by: the United Kingdom (WP/125)



Policy

Working Papers

ITEM 34

GROUP 34.2: GANP

WP#	Presented by
304	China
88	Slovakia on behalf of the EU, ECAC and EUROCONTROL (Introduced by Ireland)
96	Slovakia on behalf of the EU, ECAC and EUROCONTROL (Introduced by Portugal)

Information papers provided by: China (WP/275); and the United States (WP/174)



39th

TRIENNIAL ASSEMBLY
**AVIATION SAFETY
AND AIR NAVIGATION
STANDARDIZATION**

ITEM 35



Standardization

Council Papers

ITEM 35

WP No.	Title
35	Promoting global standardization through the application of standardization plans, including roadmaps and other Standards-making activities over the next triennium
36	Update on the development of halon alternatives for aircraft fire extinguishing systems



Standards-Making Activities

- **Status report on the development of:**
 - An air navigation work programme
 - A standardization roadmap
 - Re-activation of a Standards Roundtable initiative
 - Outlook for the next triennium and beyond concerning the development of ICAO provisions.
- **The Assembly is invited to:**
 - note the work undertaken since the 38th Assembly of ICAO
 - note that, subject to prioritization, the Council will continue to undertake standards-making activities in line with the global plans and emerging issues.



Air Navigation Work Programme

- Provides concise details on standards-making activities in support of the GASP and GANP objectives
- Reviewed together with the Air Navigation Commission

Outlook on ICAO Provisions [Generate PDF](#)

2016

Annex 1 - Personnel Licensing
Description of Amendments
Amendment to increase the emphasis on health promotion, and upgrading of a Recommendation to a Standard of a provision on basic safety management principles in the medical assessment process
SARPS to embed PBN into traditional operations.
Update provisions related to language proficiency requirements based on feasibility study concerning data link operations

Annex 2 - Rules of the Air
Description of Amendments

Air Navigation Work Programme

- **Panel Modernization as a joint initiative between the ANC and ANB to:**
 - ensure the efficient and effective delivery of work programme elements identified in the AN Work Programme
 - Ensure the cross-discipline coordination between ANC panels, where needed
 - Supported by an online centralized resource for all ANC panels





Standardization

Groups

ITEM 35

GROUP 35.1: Standardization with additional focus on Halon and Annex 8

GROUP 35.2: Art. 21, cross-border issues, air ambulance operations, Annex 1 and 5

GROUP 35.3: Annex 13 and Annex 14

GROUP 35.4: Space weather, plateau operations, GNSS, PANS-OPS, Remote ATS, Annex 19 RPAS SMS



Standardization

Working Papers

ITEM 35

GROUP 35.1: Standardization with additional focus on Halon and Annex 8

WP#	Presented by
35	Council
86	United States
83 Rev. 1	United States
36	Council
90	ICCAIA
235 Rev 1	ICCAIA, IATA, IBAC

Information papers provided by: the United States (WP/202)



Halon

- Update on the development of alternatives to halon for use in civil aviation aircraft fire protection systems
- Proposes a new timeframe for the replacement of halon in cargo compartment fire suppression systems in compliance with Assembly Resolution A38-9.
- Highlights the importance of full cooperation of, and coordination with all stakeholders to advance the research, development, and production of viable halon alternative agents.
- **The Assembly is invited to:**
 - Review the report and adopt the Resolution on halon replacement to supersede Resolution A38-9, as contained in the Appendix.



Standardization

Working Papers

ITEM 35

GROUP 35.1: Standardization with additional focus on Halon and Annex 8

WP#	Presented by
35	Council
86	United States
83 Rev. 1	United States
36	Council
90	ICCAIA
235 Rev 1	ICCAIA, IATA, IBAC

Information papers provided by: the United States (WP/202)



Standardization

ITEM 35

Working Papers

GROUP 35.2: Art. 21, cross-border issues, air ambulance operations, Annex 1 and 5

WP#	Presented by
159	France
81	United States
237	Aviation Working Group
199	South Africa
249	Brazil
186	Argentina
334	China
160	UAE
104	New Zealand, Australia, Singapore

Information papers provided by: International Air Transport Association (WP/166)



Standardization

ITEM 35

Working Papers

GROUP 35.3: Annex 13 and Annex 14

WP#	Presented by
257	Argentina
255	Argentina
268	Republic of Korea
272	ACVFFI
339	Dominican Republic
167	IATA
282	ACI, CANSO and ICCAIA

Information papers provided by: Interstate Aviation Committee (WP/307)



Standardization

ITEM 35

Working Papers

GROUP 35.4: Space weather, plateau operations, GNSS, PANS-OPS, Remote ATS, Annex 19 RPAS SMS

WP#	Presented by
333	China
336 Rev. 1	China
161	UAE
121	United States
302	Venezuela
263	ITF

Information papers provided by: Republic of Korea (WP/421)



39th

TRIENNIAL ASSEMBLY

AVIATION SAFETY AND AIR NAVIGATION IMPLEMENTATION SUPPORT

ITEM 36



Implementation Support

Council Papers

ITEM 36

WP No.	Title
37	Assisting implementation through the application of impact assessments and implementation task lists during the Standards-making process
38	Report on the ICAO safety and air navigation implementation assistance plans, programmes and mechanisms

Assisting Implementation

- **Impact assessments and implementation task lists during the Standards-making process**
 - 2010 HLSC and A37 recommended that ICAO develop an impact assessment methodology for new SARPs proposals
 - Resolution A38-11 on implementation of SARPs and PANS
- **The Assembly is invited to:**
 - note the work undertaken
 - note that, subject to appropriate prioritization, Council will ensure that impact assessments and implementation task lists continue to be utilized
 - urge Contracting States to utilize the impact assessments and implementation task lists that accompany State letters

EXAMPLE OF A COMPLETED IMPLEMENTATION TASK LIST
(English only)

IMPACT ASSESSMENT FORM
(English only)

PART 1: IMPACT ASSESSMENT

1.1 What is the problem/opportunity that this proposal is designed to address?
Please include reference to relevant ICAO/Annex/Regulation only, as appropriate.

1.2 What is the overall impact of this proposal on the strategic objectives of ICAO, namely:

	Answer (Positive / Negative / Insignificant)	Reasons
Safety
Security
Environment
Efficiency

Note: In the following questions, "State" applies to the addresser and examples of new SARPs. "Industry" applies to the service provision and use, whether State owned or not. In all SARPs, include effectiveness, meaning, general aviation, etc. With respect to financial state for States, it refers to the cost to develop, implement, maintain, and conduct ongoing implementation with the proposed change. For Industry, it refers to the cost of implementing the change, where compliance is required by the State, which may include in-use (for example, human resources, training, dissemination, airport modifications or upgrades, operations and maintenance), etc.

1.3 What is the overall impact on resources (financial, personnel, etc.) of this proposal for:

	Answer (Positive / Negative / Insignificant)	Reasons
States
Industry

1.4 In your opinion, do the benefits of this proposal justify the cost of implementing the proposal from the perspective of:

	Answer (Yes / No / Inapplicable)	Reasons
States
Industry



Needs Analysis / Validation

Global Plans

Global & Regional

SARPs & PANS

Implementation Planning

Training & Guidance

Assess & Measure

Compliance & Verification

if needed



MANUALS

CIRCULARS

SYMPOSIA

REGIONAL IMPLEMENTATION

IMPLEMENTATION KITS (iKITS)



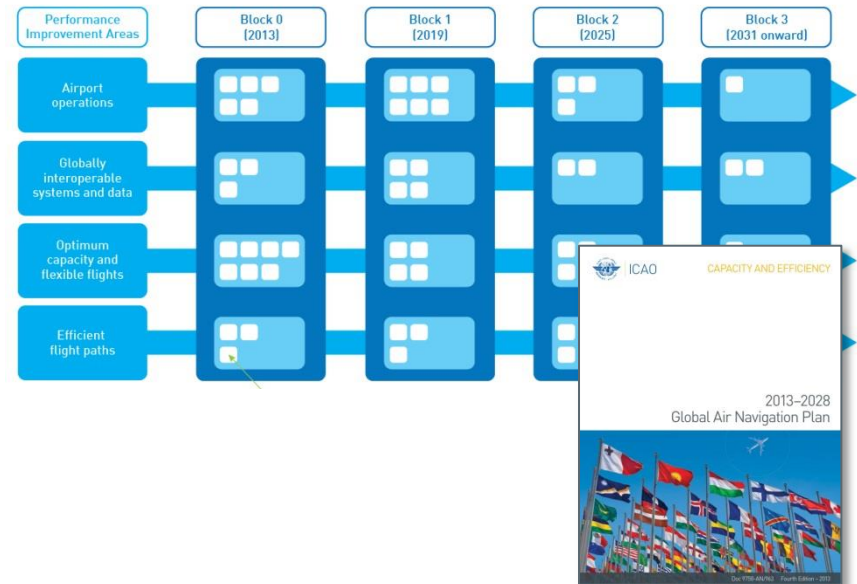
Global Implementation Support Programmes

(All Strategic Objectives, **Safety & AN**)

Technical Assistance & Cooperation	iMPLEMENT	Training Programmes
Runway Safety	Safety Management	LOC-I/UPRT
PBN	CAPSCA	NGAP

ASBU Framework

- In support of a globally harmonized air navigation system and to ensure interoperability, the GANP presents the **ASBU framework**.
- Applicable at global, regional and local levels, the paper highlights the importance of the application of a **performance-based approach** to implementation





Regional Implementation Support Programmes (Safety & AN)

In addition to PIRGs and RASGs, other regional implementation groups, and regional NCLB implementation strategies and plans

NACC	SAM	WACAF	ESAF	MID	EUR/NAT	APAC
<ul style="list-style-type: none"> • ICAO PBN Go-Team • ICAO RS Go-Team • CAPSCA • Regional ANS Project • MEVA 	<ul style="list-style-type: none"> • ICAO PBN Go-Team • ICAO RS Go-Team • CAPSCA • SRVSOP • Regional ATM/CNS Project • ARCM • REDDIG 	<ul style="list-style-type: none"> • ICAO PBN Go-Team • ICAO RS Go-Team • CAPSCA • AFI-CIS • Africa FPP • AFI Plan • COSCAP-UEMOA • ASQA 	<ul style="list-style-type: none"> • ICAO PBN Go-Team • ICAO RS Go-Team • CAPSCA • COSCAP-SADC • AFI-CIS • Africa FPP • AFI Plan • ASQA 	<ul style="list-style-type: none"> • ICAO PBN Go-Team • ICAO RS Go-Team • CAPSCA • COSCAP-GS • MID FPP (2017) • MENA RSOO (2017) 	<ul style="list-style-type: none"> • ICAO PBN Go-Team • ICAO RS Go-Team • CAPSCA • CIS Project • PANSOPS • RWY Safety 	<ul style="list-style-type: none"> • ICAO PBN Go-Team • ICAO RS Go-Team • CAPSCA • COSCAP-SA • COSCAP-SEA • COSCAP-NA • APAC FPP • RSO ATM Programme • APAC CAT



Proposed Actions

- **The Assembly is invited to:**
 - a) request States to **provide sufficient support including technical expertise, participation and contributions to the PIRG, RASG and RSOO** work programmes and implementation activities;
 - b) call on the Council to **promote the use of the GANP and GASP by the PIRGs and RASGs**, respectively, to achieve global safety, capacity and efficiency objectives; and to encourage the sharing of best practices from the PIRGs and RASGs across regions;
 - c) call on the Council to **continue monitoring the implementation of GANP and GASP initiatives**;
 - d) call on the Council to **request PIRGs and RASGs to utilize specific coordination mechanisms** for addressing the harmonization of safety and air navigation implementation assistance plans in adjacent areas; and
 - e) request ICAO to **provide necessary guidance and tools for the implementation** of the GASP and GANP.



Implementation Support

ITEM 36

Groups

GROUP 36.1: Guidance

GROUP 36.2: Safety information

GROUP 36.3: Regional cooperation

GROUP 36.4: Aerodromes

GROUP 36.5: ASBU

GROUP 36.6: Air Navigation Services

GROUP 36.7: Emerging Issues



Implementation Support

ITEM 36

Working Papers

GROUP 36.1: Guidance

WP#	Presented by
37	Council
205	Canada
277 Rev I	Japan
216	ICCAIA

Information papers provided by: None

