Report Full AN Work Programme

ROI-1 Optimize airspace and airport usage through demand/capacity balancing

Description	Procedures and guidance to help ANSPs, airspace users and aerodrome operators reduce congestion and impact of delays through optimized : 1) collection, use and exchange of information; 2) collaboration; 3) human performance, training and support tools; 4) airport operations; and 5) hazard identification
Measured By	Reduction in the number of delays reported by airports and ANSPs

2016

Work Package No. Work Package Title

ROI-1-2016-1	Provisions for implementation of Airport CDM
Deliverable Expert Group	ADOP
Problem Statement	As growth in air traffic increases, airport capacity will be a significant constraining factor and initiatives such as A-CDM will play an important part in reducing bottlenecks and exploiting current airport capacity more effectively.
Expected Benefits	Maximization of existing airport capacity; reduction in apron and taxiway congestion and delays at airports; and reduced cost for airlines. Environmental gains in terms of reduction in emissions. Passenger experience improved through more accurate and timely information delivered to passenger displays and service desks.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
874	PANS-ATM (Doc 4444) / Amendment to add flight crew /de-icing crew phraseology in Chapter 12.	30-Jun-16	30-Nov-16	On-schedule	FLTOPSP	-	B0-ACDM
2	Doc 9640 - Manual of A/C Ground De-Icing/Anti-Icing Ops (Doc 9640) / Guidance on the use of phraseology (scripts) and procedures for de-icing ground and flight crews.	30-Jun-16	30-Nov-16	On-schedule	FLTOPSP	-	B0-ACDM
1	Doc 9971 - Manual on Collab ATFM, Part III (Doc 9971) / Airport CDM guidance material.	30-Jun-16	30-Nov-16	Late	ATMOPSP	ADOP.017.02	B0-ACDM B1-ACDM

ROI-1-2016-2	Measures to manage demand and capacity balancing
Deliverable Expert Group	ATMOPSP
Problem Statement	Imbalances between demand for airspace and/or air traffic services and the capacity of the ATM system to attend these demands imposes safety risks and efficiency losses in the air navigation system as a whole.
Expected Benefits	Application of measures to balance demand and capacity will reduce safety hazards due to system overloads and cost to operators due to reduction in delays on the ground and enroute phases of flight with increased efficiency in the air navigation system.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
14	Doc 9971 - Manual on Collab ATFM, Part II (Doc 9971) / Guidance on implementation of ATFM.	30-Apr-14	30-Nov-14	Completed	ATMOPSP	ATMOPSP.008.01	B0-ACDM B0-FRTO B0-NOPS B1-FRTO B1-NOPS

ROI-1-2016-4	Guidance on planning of airspace and ATS facilities
Deliverable Expert Group	ATMOPSP
Problem Statement	The application of the rules of the air and the provision of air traffic services requests specific units and process. Guidance provided by ICAO is obsolete due to new concepts and technologies in use nowadays. Non-harmonized or non-compliant implementation of process and/or facilities imposes interoperability problems that increases cost to operators and air navigation service providers and impacts efficiency and safety of operations.
Expected Benefits	Updated guidance to States and air navigation service providers on implementation of services and facilities will improve interoperability with consequent reduction in costs to airspace users and service providers.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
17	Doc 9426 - ATS Planning Manual (Doc 9426) / Guidance on establishing and operating ATS units (Complete review and update according to current ATM).	30-Nov-16	30-Nov-16	Late	ATMOPSP	-	B0-WAKE

ROI-1-2016-5	Guidance on flexible use of airspace
Deliverable Expert Group	ATMOPSP
Problem Statement	The lack of flexibility on the use of airspace due to segregation of part of it for special activities on a permanent basis causes inefficiencies to air operations due to reductions in the airspace capacity with consequent restrictions to the demand.
Expected Benefits	The application of dynamic use of airspace concept will provide the right resource to the right airspace user when and where it is needed with consequent reductions in flying time, distance and delays and/or non-optimized flights caused by lack of airspace capacity.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
12	Doc 330 - Circular on Civil/Military Coop. in ATM (Circ. 330) / Guidance on cooperation on ATM between civil and military entities (Improve the contents of Cir.330 and upgrade it to ICAO Manual).	30-Nov-16	30-Nov-16	Late	ATMOPSP	ATMOPSP.009.01	B0-FRTO B1-FRTO B1-NOPS

2018

Work Package No. Work Package Title

ROI-1-2018-1	Provisions for implementation of Airport CDM
Deliverable Expert Group	ADOP
Problem Statement	
Expected Benefits	

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
3	PANS-ATM (Doc 4444) / Provisions to support airport CDM and ATFM.	30-Nov-18	30-Nov-18	On-schedule	ATMOPSP	ADOP.017.02	B0-ACDM B0-FRTO B1-ACDM B1-NOPS

ROI-1-2018-2	Measures to manage demand and capacity balancing
Deliverable Expert Group	ATMOPSP
Problem Statement	Imbalances between demand for airspace and/or air traffic services and the capacity of the ATM system to attend these demands imposes safety risks and efficiency losses in the air navigation system as a whole.
Expected Benefits	Application of measures to balance demand and capacity will reduce safety hazards due to system overloads and cost to operators due to reduction in delays on the ground and enroute phases of flight with increased efficiency in the air navigation system.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
743	PANS-ATM (Doc 4444) / Procedures on implementation of ATFM	30-Jul-18	30-Nov-18	On-schedule	ATMOPSP	ATMOPSP.008.01	B0-FRTO B0-NOPS B1-NOPS

ROI-1-2018-3	Introduce a concept of operations for using visually guided approach procedures
Deliverable Expert Group	FLTOPSP
Problem Statement	Visually guided procedures are already implemented in many countries in a variety of ways, however a global concept of operation has not been established and there is no standardisation in implementation, charting, operational criteria or phraseology. Increasing numbers of comments from both States and industry suggest this is a growing issue, and a number of incidents have already occurred on these procedures.
Expected Benefits	A clear concept of operations and standardized implementation of “Visual Guided Procedures” could offer many benefits including increased runway utilisation, reduced fuel consumption and safer approaches to airports where no other types of approach can be implemented. The lack of a Concept of Operations has resulted in many such procedures being developed for a variety of other reasons, and as a result it is not clear exactly how some of these procedures have been designed and what, if any, separation and obstacle clearance exists when using them. Standardized criteria for the design and use of visually guided approaches, ensuring correct implementation and safe use.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1618	Doc - Feasibility Study / Develop a concept of operations that clearly describes the operational criteria for visual guided approaches		01-Jan-01	On-schedule	FLTOPSP	FLTOPSP.023.01	-
1619	PANS-ATM (Doc 4444) / Inclusion of ATM procedures for visually guided approaches		30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.023.01	-
1622	PANS-OPS Vol I (Doc 8168) / Requirements for the pilots to fly the visually guided procedures		30-Nov-18	On-schedule	IFPP	FLTOPSP.023.01	-
1621	PANS-OPS Vol II (Doc 8168) / Design criteria for visually guided approaches		30-Nov-18	On-schedule	IFPP	FLTOPSP.023.01	-
1620	Doc 8697 - Aeronautical Chart Manual (Doc 8697) / Develop depiction standards for visually guided approaches		30-Nov-18	On-schedule	IFPP	FLTOPSP.023.01	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1623	Doc 9613 - PBN Manual (Doc 9613) / PBN specifications to support visually guided approaches using Area Navigation capability		30-Nov-18	Not approved	PBNSG	FLTOPSP.023.01	-

ROI-10 Improve in-flight safety performance

Description

Procedures and guidance on human performance, crew resource management, flight and cabin crew training, instrument procedures design processes and the use of airborne and ground safety nets to reduce the number of in-flight accidents and incidents.

Measured By

Reduction in the number of accidents and incidents caused by LOC-I, CFIT, AIRPROX. Reduction in the number and severity of injuries to occupants.

2014

Work Package No. | Work Package Title

ROI-10-2014-1 Circular on the Expanded use of Portable Electronic Devices (PEDs)

Deliverable Expert Group ICSG

Problem Statement States and Air Operators require guidance to allow the safe use of PEDs across all phases of flight.

Expected Benefits Harmonization of the expanded PED use policies amongst States and their operators.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
873	Doc #### - Circ. Expanded use of Portable Electronic Devices (PEDs) (Doc ####) / Guidance for the expanded use of PEDs		28-Feb-16	Completed	ICSG	-	-

2016

Work Package No. | Work Package Title

ROI-10-2016-1 Standards, procedures and guidance for Reduction of Controlled Flight Into Terrain

Deliverable Expert Group IFPP

Problem Statement Controlled Flight into terrain (CFIT) continues to be a major cause of aircraft accidents. ICAO provisions to help mitigate the risk do not exist.

Expected Benefits Increased Standardization and Risk Mitigation procedures and guidance leading to reduced occurrences of CFIT.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
221	Doc 10000 - FDAP Manual (Doc 10000) / New guidance material on Flight Data Analysis	01-Jul-16	31-Dec-16	On-schedule	FLTOPSP	OPSP.012.02	-
183	Doc #### - CRM Model (Doc ####) / Precision Approach procedure Collision Risk Model tool update	30-Jun-16	30-Nov-16	On-schedule	IFPP	*IFPP003 (DONE)	B0-APTA

ROI-10-2016-2 Standards, procedures and guidance for Reduction in the Loss of Control In-Flight

Deliverable Expert Group NHPSG

Problem Statement Reducing the number of loss of control in-flight (LOC-I) accidents is a global aviation sagfety priority. Over the last eight years, this accident category has resulted in more fatalities in scheduled commercial operations than any other category and the identification and implementation of solutions became one of the three highest safety priorities of ICAO in 2011.

Expected Benefits To mitigate loss of control events throgh upset preventation and recovery training requirements supported by guidance material achieved by: a comprehensive approach in reducting LOC-I accidents; assessment of current and emerging methods to improve pilot training; addressing human performance issues; and

dissemination of ICAO's new provisions related to upset prevention and recovery training.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
259	Doc 10000 - FDAP Manual (Doc 10000) / Enhance the guidance with current best practices	30-Jul-16	30-Nov-16	On-schedule	FLTOPSP	OPSP.012.02	-
1090	Doc 10011 - Manual on Aeroplanes Upset Prev. and Recov. Trainning (Doc 10011) (not out yet) / New Manual on UPRT		31-Mar-14	Completed	ICAO-ANB	-	-

ROI-10-2016-3 Standards, procedures and guidance for Reduction of other in-flight accidents (eg: SID/STAR Phraseology)

Deliverable Expert Group ATMOPSP

Problem Statement Existing ICAO ATC/Flight Crew procedures, related to flight crew compliance with level restrictions published as elements of SIDs and STARs, are not applied uniformly globally. State-specific procedures result in flight crew confusion in an international context. Safety is compromised.

Expected Benefits Uniform global application of revised ATC/Flight Crew procedures will improve safety. Consistent flight crew understandings of level restriction compliance requirements will increase capacity in TMAs.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
204	Annex 2 / Updated Standards on Communication Failure	30-Jul-16	30-Nov-16	On-schedule	CFCG	-	-
202	Annex 10 - Vol II / Updated Standards on Communication Failure Procedures	30-Jul-16	30-Nov-16	On-schedule	CFCG	-	-
200	PANS-ATM (Doc 4444) / Procedures and phraseologies for SID/STAR	30-Jul-16	30-Nov-16	On-schedule	ATMOPSP	ATMOPSP.001.02	B0-CCO B0-CDO B1-CDO

ROI-10-2016-4 Cabin Safety Introduction

Deliverable Expert Group ICSG

Problem Statement Traditionally the role of cabin crew members focussed on the evacuation of an aircraft in the event of an acccident. Howewver analysis has shown that cabin crew members also play an important proactive role in managing safety, which can contribute to prevention of accidents. This role includes, but is not limited to; preventing incidents from escalating in the cabin, such as smoke or fire; informing the flight crew of abnormal situations observed in the cabin or those relating to the aircraft , such as pressurization problems, engine anomalies and contamination of critical surfaces and; preventing unlawful interference and managing passenger events that can compromise safety and security of the flight, such as hijackings.

Expected Benefits Reduction of incidents and accidents, including in-cabin related occurrences, such as unruly passengers and turbulence -related injuries, through improved cabin crew training, the implementation of operator best practices and enhanced oversight of cabin operations by the State. The reductioon of cabin-related occurrences also results in a decrease of costs for operators (e.g. reduced number of diversions due to unruly passengers or in-flight medical emergencies).

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
324	Doc 10002 - Cabin Crew Safety Training Manual (Doc 10002) / Guidance for States and Operators in developing and approving Cabin crew Competency-based training	28-Feb-15	31-Jul-15	Completed	ICSG	-	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
325	Doc #### - Regulator's s Guide Cabin Crew Trainning Manual (Doc ####) / Regulator's guide to Cabin Crew Safety Training. Include guidance for the establishment of State cabin safety inspector competencies and qualifications	01-Sep-15	31-Dec-18	On-schedule	ICSG	-	-
872	Doc #### - Guidance on the Safety of infants on board passenger aircraft (Doc ####) / Guidance on the safety of infants on board passenger aircraft and the use of child restraining systems	01-Sep-15	01-Jan-16	Completed	ICSG	-	-
878	Doc #### - Circ.on minimum Cabin Crew requirements (Doc ####) / Guidelines for the establishment of the minimum number of cabin crew required for each type of aeroplane by operators Guidance on persons that are authorized to occupy a jump seat on board passenger aircraft, to ensure cabin crew can conduct an emergency evacuation, when required and on the definition of operating and non-operating cabin crew. Include recommendation on limiting crew duties to safety-related during taxi	01-Sep-15	30-Nov-16	On-schedule	ICSG	-	-
879	Doc #### - Manual on In Cabin Investigations (Doc ####) / Guidance on the investigation and reporting of cabin safety aspects in accidents and incidents	01-Sep-15	30-May-16	On-schedule	ICSG	-	-
880	Doc #### - Circ.on Passenger seating & briefing (Doc ####) / Guidance on the occupancy of self-help exits, requirements for passengers including language proficiency, and content of self-help exit briefings Guidance on harmonizing content of passenger safety briefing cards and self-help exit placards, including use of pictograms	01-Sep-15	31-Dec-16	On-schedule	ICSG	-	-
881	Doc #### - Circ.on Aircraft Air Supply System Fumes (Doc ####) / Guidelines for education and training to enable airline workers to recognize and respond to aircraft air supply system fumes	01-Sep-15	01-Jan-16	On-schedule	ICSG	-	-

2018

Work Package No.	Work Package Title
ROI-10-2018-5	Standards, procedures and guidance for Reduction of other in-flight accidents (eg: Comm. Failure, Space-weather)
Deliverable Expert Group	ATMOPSP
Problem Statement	Existing ICAO ATC/Flight Crew procedures, related to flight crew compliance with level restrictions published as elements of SIDs and STARs, are not applied uniformly globally. State-specific procedures result in flight crew confusion in an international context. Safety is compromised.
Expected Benefits	Uniform global application of revised ATC/Flight Crew procedures will improve safety. Consistent flight crew understandings of level restriction compliance requirements will increase capacity in TMAs

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
205	Doc 9863 - Airborne Collision Avoidance System (ACAS) Manual (Doc 9863)Manual (Doc 9863) / Guidance on dealing with false aircraft proximity alerts.	30-Nov-18	30-Nov-18	On-schedule	SP	-	B2-ACAS

ROI-10-2018-1	Standards, procedures and guidance for Reduction of Controlled Flight Into Terrain
Deliverable Expert Group	IFPP
Problem Statement	A review of the obstacle limitation surfaces (OLS) applied at aerodromes and heliports/helidecks and guidance on a penetration of any OLS is required.
Expected Benefits	Criteria need to be developed to maintain safety level while allowing for greater flexibility in the surroundings of an aerodrome.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
214	Annex 14 - Vol I / Review of Obstacle Limitation Surfaces	01-Jul-18	30-Nov-18	On-schedule	ADOP	ADOP.003.02	-
215	Annex 14 - Vol II / Provisions relative to new OLS	01-Jul-18	30-Nov-18	On-schedule	ADOP	ADOP.003.02	-
327	Doc 9137.6 - Airport Services Manual, Part 6 (Doc 9137) / Major rewrite of the chapter on Obstacles	30-Nov-18	30-Nov-18	On-schedule	ADOP	ADOP.003.02	-
328	Doc 9261 - Heliport Manual (Doc 9261) / Guidance material on penetration of OLS	30-Jun-18	30-Nov-18	On-schedule	ADOP	ADOP.003.02	-

ROI-10-2018-3	Cabin Safety for Regulators
Deliverable Expert Group	ICSG
Problem Statement	
Expected Benefits	

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
870	Doc #### - Cabin Safety Inspector Job Aids (Doc ####) / Sample checklists for State inspector (e.g. approval of training devices) Sample staff instructions for surveillance (doc review, on-site assessments)		30-Nov-18	On-schedule	ICSG	-	-

ROI-2 Increase harmonization of the regulatory approach to air operators' approvals and recognition

Description	Guidance, model regulations and job aids to facilitate common implementation of operational approvals and continuous airworthiness programmes along with measures to promote their recognition.
Measured By	States that require additional approvals in addition to those issued by State of Operator and/or Registry.

2016

Work Package No. | Work Package Title

ROI-2-2016-1	Standards and guidance to harmonize the operational approval processes for operators approved and not approved to transport dangerous goods
Deliverable Expert Group	DGP
Problem Statement	Operators who are not approved to carry dangerous goods are frequently unaware of their dangerous goods responsibilities, including procedures and training. Such operators transporting spare parts containing dangerous goods (e.g. oxygen generators) pose a considerable risk to safety.
Expected Benefits	New Standards and guidance will help ensure all operators understand that they need to establish dangerous goods procedures and training programmes regardless of whether or not they are authorized to transport dangerous goods.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
41	Annex 6 - Part I / New Chapter 14 with provisions for Operators approved and not approved to transport DG.	30-Jun-14	30-Nov-14	On-schedule	DGP	-	-
686	Annex 18 / New Standards for State approval of operator DG training programmes.		30-Nov-15	On-schedule	DGP	-	-
42	Doc 9284 - Tech Ins for the ST of DG by Air (Doc 9284) / Clarification of DG training requirements.	01-Jan-16	01-Jan-16	On-schedule	DGP	-	-
685	Doc 9284SU - Supplement to the Tech Instructions (Doc 9284SU) / Guidance for States on dangerous goods considerations when issuing approvals.		01-Jan-13	Completed	ADOP-OPSWG	-	-

ROI-2-2016-2	Standards and guidance to harmonize the operational approval processes for low visibility operations and operational credits for vision systems
Deliverable Expert Group	FLTOPSP
Problem Statement	New provisions for operators to get operational credits on aircraft equipped with HUDs and enhanced vision systems need to be implemented in a consistent manner. State regulators and operators need to have a common understanding of the concepts and the processes. Without proper implementation the operational benefits will be delayed or be non-existent.
Expected Benefits	Consistent implementation of State regulations supporting operational credits for aircraft equipped with HUD and enhanced vision systems will allow the operation of equipped aircraft with fewer ground infrastructure requirements.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
20	Annex 6 - Part I / SARPs to support low visibility operations.	30-Nov-14	30-Nov-14	Completed	FLTOPSP	OPSP.008.02	B0-SURF

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
21	Annex 6 - Part II / SARPs to support low visibility operations.	30-Nov-14	30-Nov-14	Completed	FLTOPSP	OPSP.008.02	B0-SURF
22	Annex 6 - Part III / SARPs to support low visibility operations.	30-Nov-14	30-Nov-14	Completed	FLTOPSP	OPSP.008.02	B0-SURF
545	Doc 9365 - Manual of All WX OPS (Doc 9365) / Guidance on provisons to support low visibility operations.	30-Nov-15	30-Nov-15	On-schedule	FLTOPSP	-	B0-SURF B1-SURF
640	Doc 9830 - A-SMGCS Manual (Doc 9830) / Guidance on provisions to support low visibility operations.		30-Nov-16	Not approved	FLTOPSP	ADOP.012.02	B0-SURF

ROI-2-2016-3	Standards and guidance to harmonize the operational approval processes for extended diversion time operations
Deliverable Expert Group	FLTOPSP
Problem Statement	There is a lack of common understanding by State Regulators on how to implement the new performance-based EDTO provisions. The ETOPS approval processes have subtle but important differences with EDTO approvals. Furthermore if the new provisions are not implemented in a harmonized manner there will be increased bureaucracy and delays in obtaining the necessary approvals. These delays will hinder the operational benefits that can result from shorter routes that can only be used if the operator has an EDTO approval.
Expected Benefits	Harmonized implementation of EDTO operational approvals will make it easier for CAA operations inspectors to carry out their surveillance. As a result of streamlining the approval process, it will be easier for Operators to get approved and as a result they will have more efficient flight planning with considerable fuel savings and reduction of emission.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
23	Annex 6 - Part I / SARPs for operations beyond 60 mins from an aerodrome and EDTO.	01-Jul-12	31-Dec-12	Completed	FLTOPSP	-	-
24	Annex 6 - Part II / SARPs for operations beyond 60 mins.	01-Jul-14	30-Nov-14	On-schedule	FLTOPSP	-	-

ROI-2-2016-4	Standards and guidance to harmonize the operational approval processes for PBN
Deliverable Expert Group	FLTOPSP
Problem Statement	Today there is a lack of understanding by State Regulators and Airlines on how to obtain and what is required for PBN operational approvals. Processes vary between States leading to increased bureaucracy and delays in obtaining the necessary approvals. This also delays the operational benefits that can result from using PBN.
Expected Benefits	Simpler and less bureaucratic ICAO SARPS and processes leading to faster implementation of PBN Operational Approvals.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1063	Annex 1 / SARPS to embed PBN into traditional operations.	01-Jul-16	30-Nov-16	On-schedule	FLTOPSP	OPSP.020.01	-
26	Annex 6 - Part I / SARPS to embed PBN into traditional operations.	01-Jul-16	30-Nov-16	On-schedule	FLTOPSP	OPSP.020.01	B1-APTA
27	Annex 6 - Part II / SARPS to embed PBN into traditional operations.	01-Jul-16	30-Nov-16	On-schedule	FLTOPSP	OPSP.020.01	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
28	Annex 6 - Part III / SARPS to embed PBN into traditional operations.	01-Jul-16	30-Nov-16	On-schedule	FLTOPSP	OPSP.020.01	-
1069	Doc 9613 - PBN Manual (Doc 9613) / Guidance to embed PBN into traditional operations.		31-Dec-16	On-schedule	FLTOPSP	OPSP.020.01	-
29	Doc 9997 - PBN OPS App Manual (Doc 9997) / OPS approval guidance for RNP 2, RNP 0.3 and Advanced RNP.	01-Nov-14	28-Feb-15	On-schedule	IFPP	-	-
1070	Doc 9997 - PBN OPS App Manual (Doc 9997) / Guidance to embed PBN into traditional operations.		31-Dec-16	On-schedule	FLTOPSP	OPSP.020.01	-

ROI-2-2016-6	Standards and guidance to harmonize the operational approval processes for electronic flight bags
Deliverable Expert Group	FLTOPSP
Problem Statement	Electronic Flight Bags (EFBs) address a transition to a paperless environment in the flight deck. Harmonized implementation of EFB functions that require an operational approval (those that affect the safe operation of an aircraft) is essential for seamless operations across borders.
Expected Benefits	Oversight facilitation for CAA ops inspectors, safe transition to paperless environments and more efficient use of operational data in the flight deck.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
37	Annex 6 - Part I / New SARPs for EFB equipment and functions.	30-Jun-14	30-Nov-14	On-schedule	FLTOPSP	-	-
38	Annex 6 - Part II / New SARPs for EFB equipment and functions.	30-Jun-14	30-Nov-14	On-schedule	FLTOPSP	-	-
39	Annex 6 - Part III / New SARPs for EFB equipment and functions.		30-Nov-14	On-schedule	FLTOPSP	-	-
40	Doc #### - EFB (Doc ####) / Guidance on EFB approval process.	01-Jul-14	30-Mar-15	On-schedule	FLTOPSP	-	-

2018

Work Package No. Work Package Title

ROI-2-2018-4	Training on the Operational Approval Process for PBN
Deliverable Expert Group	FLTOPSP
Problem Statement	Today there is a lack of understanding by State Regulators and Airlines on how to obtain and what is required for PBN operational approvals. Processes vary between States leading to increased bureaucracy and delays in obtaining the necessary approvals. This also delays the operational benefits that can result from using PBN.
Expected Benefits	Training and untlimately acceptance of simpler and less bureaucratic ICAO SARPS and processes leading to faster implementation of PBN Operational Approvals.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1066	PANS-TRG (Doc 9868) / SARPS to embed PBN into traditional operations.	01-Jul-18	30-Nov-18	On-schedule	FLTOPSP	OPSP.020.01	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1071	Doc #### - IFR Training Manual (Doc ####) / Guidance to embed PBN into traditional operations.		30-Nov-18	On-schedule	FLTOPSP	OPSP.020.01	-

ROI-2-2018-5	Developing Operational guidance for PBN (PBNSG0007)
Deliverable Expert Group	PBNSG
Problem Statement	The PBN manual contains sections on operating procedures, however there are gaps in this guidance and some inconsistencies regarding the way the material is presented. This makes in difficult for operators (or States) to determine exactly what the requirements are to comply with the PBN manual
Expected Benefits	Clear statements of capability will reduce the possibility that a pilot will attempt to conduct an operation that they are not approved for, improving the safety of PBN operations

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1576	Annex 6 - Part I / Specify requirement for operational capabilities document	31-Aug-18	30-Nov-18	On-schedule	FLTOPSP	-	B0-APTA
1572	Doc 9613 - PBN Manual (Doc 9613) / Update operational guidance for consistency and clarity	31-Aug-17	31-Dec-17	On-schedule	FLTOPSP	-	B0-APTA
1573	Doc 9997 - PBN OPS App Manual (Doc 9997) / Include guidance on documentation of PBN capabilities in a clear consistent manner	31-Aug-17	31-Dec-17	On-schedule		-	B0-APTA
1574	Doc TRN - Training Courses / Update to PBN CBT and classroom course content	31-Aug-17	31-Dec-17	On-schedule		-	-

ROI-2-2018-6	Electronic aircraft maintenance records (EAMR)
Deliverable Expert Group	AIRP
Problem Statement	A harmonized approach to the implementation of EAMR is needed to ensure its global acceptance and recognition.
Expected Benefits	Clear provisions on EAMR would provide a frame work for the development of States' regulations and promote a harmonized approach for the implementation and acceptance of EAMR. This would also facilitate and improve aircraft interoperability.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1667	Annex 6 - Part I / Develop provisions for electronic aircraft maintenance records		30-Nov-18	On-schedule	AIRP	AIRP.009.02	-
1668	Annex 6 - Part II / Develop provisions for electronic aircraft maintenance records		30-Nov-18	On-schedule	AIRP	AIRP.009.02	-
1669	Annex 6 - Part III / Develop provisions for electronic aircraft maintenance records		30-Nov-18	On-schedule	AIRP	AIRP.009.02	-
1670	Doc 9760 - AIR Manual (Doc 9760) / Develop provisions for electronic aircraft maintenance records		30-Nov-18	On-schedule	AIRP	AIRP.009.02	-

ROI-2-2018-7	Standards and guidance to harmonize the approval processes for continuing airworthiness and State of design responsibilities
Deliverable	AIRP

Expert Group	
Problem Statement	Numerous States have developed Approved Maintenance Organization approval (AMO) processes and established State of Design responsibilities. Although there are ICAO standards, States policy and procedures differ between States creating multiples requirements for organizations with activities at an international level.
Expected Benefits	Enhanced standards and guidance would improve the harmonization process and facilitate recognition and acceptance of approvals between States, therefore reducing the burden of Organizations working to multiple sets of procedures and maintaining separate quality standards for each approval.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
31	Annex 6 - Part I / SARPS to support harmonisation and recognition of AMO approvals.	31-Jul-17	30-Nov-17	Late	AIRP	AIRP.002.03	-
32	Annex 6 - Part II / SARPS to support harmonisation and recognition of AMO approvals.	31-Jul-17	30-Nov-17	Late	AIRP	AIRP.002.03	-
33	Annex 6 - Part III / SARPS to support harmonisation and recognition of AMO approvals.	31-Jul-17	30-Nov-17	Late	AIRP	AIRP.002.03	-
34	Annex 8 / SARPS on the State of Design responsibilities when a type certificate or approval is revoked. (Or guidance material as recommended by Panel. See element AIR Manual DOC 9760 within this element SANRI-2-2016-5).	31-Jul-17	30-Nov-17	Late	AIRP	AIRP.003.03	-
644	Annex 8 / SARPS on the Certificate of Airworthiness validity when a Type Certificate is revoked.	31-Jul-17	30-Nov-17	Late	AIRP	AIRP.008	-
35	Doc 9760 - AIR Manual (Doc 9760) / Guidance on AMO Approvals.	31-Jul-17	31-Jul-18	Late	AIRP	AIRP.002.03	-
791	Doc 9760 - AIR Manual (Doc 9760) / Guidance on Suspension or revocation of type certificates.	31-Jul-17	30-Nov-17	Late	AIRP	AIRP.003.03	-
792	Doc 9760 - AIR Manual (Doc 9760) / Guidance on the impact on a certificate of airworthiness when a type Certificate is suspended or revoked by the State of Design (Or guidance material as recommended by Panel. See element AIR Manual Doc 9760 in this element SANRI-2-2016-5).	31-Jul-17	31-Jul-18	Late	AIRP	AIRP.008	-

ROI-2-2018-1	Standards and guidance to harmonize the approval processes for continuing airworthiness and the acceptance of light aircraft.
Deliverable Expert Group	AIRP
Problem Statement	Currently, Annex 8 under Part V only recognizes aeroplanes that weigh between 750kg and 5700kg. In addition, current type certification and production approval processes are geared towards manufacturers of larger and more complex aeroplanes.
Expected Benefits	Enhanced standards and guidance would facilitate the certification and production of small aeroplanes and facilitate recognition between States.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
43	Annex 8 / Design Standard and Certification of light aeroplanes under 750Kg.	31-Jul-17	30-Nov-17	Late	AIRP	AIRP.005.01	-
44	Doc 9760 - AIR Manual (Doc 9760) / Guidance on the concept of proportionality with respect to type certification and production approvals for small aeroplanes.	31-Jul-17	31-Jul-18	Late	AIRP	AIRP.005.01	-

ROI-3 Improve efficiency of surface operations, in particular at congested aerodromes

Description

Standards, procedures and guidance on airport design and operations and cockpit procedures aiming to optimise aircraft surface movements through; 1) collection, use and exchange of information; 2) collaboration; 3) human performance, training and support tools; 4) airport operations; 5) ATM procedures; 6) Cockpit procedures; and 7) CNS enablers

Measured By

Reduction in taxi-in and taxi-out time (including de-icing time)

2016

Work Package No. | **Work Package Title**

ROI-3-2016-1 Aerodrome standards and guidance on visual aids for navigation to improve surface efficiency (Phase I)

Deliverable Expert Group ADOP

Problem Statement The future trend for airports will be using new technologies. For example, incandescent lights will be replaced by LED based lights. Existing specifications need to be reviewed and possibly new provisions need to be developed to enable their use in aviation.

Expected Benefits Important impact due to technology evolution. It will allow for the safe replacement of existing technology.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
50	Annex 14 - Vol I / Introducing LED std.	31-Jul-15	30-Nov-16	On-schedule	ADOP	ADOP.018.02	-
52	Doc 9994 - Airborne Surveillance Manual (Doc 9994) / Initial guidance to support surface operations using ADS-B for ATC and Pilots.	30-Nov-14	30-Nov-14	Completed	SP	-	B1-SURF

ROI-3-2016-3 Aerodrome operational procedures to improve efficiency of surface operations

Deliverable Expert Group ADOP

Problem Statement There is a lack of global procedures that cover operational practices beyond the scope of Annex 14 with respect to which a measure of international uniformity is required. The 1st Edition of PANS-Aerodromes will focus on high-priority issues such as operational procedures at existing aerodromes to improve efficiency and capacity to cater for larger aircraft operations without affecting safety.

Expected Benefits The second edition of the PANS-Aerodromes will contain procedures, processes and actions appropriate for the day-to-day operations of the aerodrome such as airside inspections, obstacle control and management, wildlife hazard management and work in progress at aerodromes. Through implementing these procedures, States and aerodrome operators are expected to be able to further enhance aerodrome safety and efficiency. These standardized procedures are expected to result in a uniform application of the requirements contained in Annex 14, Volume I.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
135	Annex 14 - Vol I / Provisions in Annex 14 to link with PANS Aerodromes.	31-Jul-15	30-Nov-15	On-schedule	ADOP	-	-
13	PANS-AERO (Doc 9981) / Procedures to assess aerodrome/aeroplane compatibility to improve efficiency of surface.		30-Nov-16	On-schedule	ADOP	ADOP.011.02	-

ROI-3-2016-4 Aerodrome design standards and guidance to optimize aircraft movements and facilitate the operation of new types/derivatives of aircraft

Deliverable Expert Group ADOP

Problem Statement	There are anomalies and inconsistencies in the relationship between existing design specifications for various aerodrome reference codes (e.g. taxiway minimum separation distances). With the developments in both aircraft and ATC technologies, there is a need to review the methodologies for aerodrome design.
Expected Benefits	The new and/or amended provisions on aerodrome design will be significant on safety to ensure that SARPs are based on reliable, demonstrable and scientifically tested information. If the review indicates that some SARPs are too lenient, there is a safety issue that must be addressed; and if the review indicates that some SARPs are excessive, then there is an efficiency and capacity issue that should be addressed.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
140	Annex 14 - Vol I / Introduction of risk-based approach to facilitate operations of new types/derivatives of aircraft.	31-Jul-16	30-Nov-16	On-schedule	ADOP	ADOP.005.02	-
141	Doc 9157.2 - Aerodrome Design Manual, Part 2 (Doc 9157) / Guidance related to risk-based approach to facilitate operations of types/derivatives of aircraft.	31-Jul-16	30-Nov-16	On-schedule	ADOP	ADOP.005.02	-

2018

Work Package No. Work Package Title

ROI-3-2018-6	Aerodrome standards and guidance on visual aids for navigation to improve surface efficiency (Phase 2)
Deliverable Expert Group	ADOP
Problem Statement	The future trend for airports will be using new technologies. For example, incandescent lights will be replaced by LED based lights. Existing specifications need to be reviewed and possibly new provisions need to be developed to enable their use in aviation.
Expected Benefits	Important impact due to technology evolution. It will allow for the safe replacement of existing technology.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
56	Annex 6 - Part I / SARPS to address lighting systems considerations for low visibility operations.	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	-	-
883	Annex 6 - Part II / SARPS to address lighting systems considerations for low visibility operations.	01-Jul-18	30-Nov-18	On-schedule	FLTOPSP	-	B1-SURF
884	Annex 6 - Part III / SARPS to address lighting systems considerations for low visibility operations.	01-Jul-18	30-Nov-18	On-schedule	FLTOPSP	-	-
262	PANS-OPS Vol I (Doc 8168) / Amended procedures for low visibility operations	30-Nov-18	30-Nov-18	On-schedule	FLTOPSP	-	B1-SURF
1024	PANS-OPS Vol I (Doc 8168) / Harmonization of low visibility/surface movement guidance provisions		31-Dec-14	On-schedule	FLTOPSP	-	B1-SURF
1201	Doc 9157.4 - Aerodrome Design Manual, Part 4 (Doc 9157) / Updated guidance on LED.	30-Jun-17	30-Nov-17	On-schedule	ADOP	ADOP.018.02	-
1025	Doc 9476 - Manual SMGCS (Doc 9476) / Guidance on provisions to support low visibility operations	01-Jul-18	30-Nov-18	On-schedule	FLTOPSP	OPSP.008.02	B0-SURF
1026	Doc 9830 - A-SMGCS Manual (Doc 9830) / Guidance on the harmonization of low visibility/surface movement guidance.	01-Jul-18	30-Nov-18	On-schedule	FLTOPSP	OPSP.008.02	B1-SURF

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
60	Doc #### - EFB (Doc ####) / New guidance on EFBs including moving maps at aerodromes.	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	-	-

ROI-3-2018-1	Procedures and guidance on the use of CDM/A-CDM
Deliverable Expert Group	ADOP
Problem Statement	As growth in air traffic increases, airport capacity will be a significant constraining factor and such initiatives as A-CDM will play an important part in helping to utilize current capacity more effectively.
Expected Benefits	Maximize existing airport capacity; reduce apron and taxiway congestion and delays at airports; and reduce cost for airlines. Environmental gains in terms of reduction in emissions; and more accurate information delivered to passenger displays and service desks.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
142	PANS-AERO (Doc 9981) / Procedures for CDM/A-CDM.		30-Nov-18	On-schedule	ADOP	ADOP.017.02	B1-ACDM

ROI-3-2018-2	Standards, procedures and guidance using ATS Surveillance Systems and Airborne Surveillance
Deliverable Expert Group	SP
Problem Statement	Surface operations are significantly impeded during periods of reduced visibility or high demand.
Expected Benefits	Improved efficiency through reduced taxi times and fewer navigation errors requiring correction by ATC. Improved safety through reduced risk of collisions and improved response times to the correction of unsafe surface situations along with fewer navigation errors.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
65	Annex 10 - Vol IV / Provisions on the situational awareness on the airport surface for ground vehicles.	30-Jun-18	30-Nov-18	On-schedule	SP	-	B1-SURF

ROI-3-2018-3	Guidance on airport planning to build airport capacity and efficiency
Deliverable Expert Group	ADOP
Problem Statement	ICAO guidance material on Airport Master Planning (Doc. 9184, Part 1) has not been updated since 1987. This guidance material needs a complete review to include the most up-to-date airport planning tools and techniques. In addition, SARPs on airport planning requirements may be needed in Annex 14, Volume I to support airport capacity enhancements in a timely manner to avoid airport congestion and delays.
Expected Benefits	Airport capacity will be increased; and airport delays will be reduced through more precise and up-to-date airport planning.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
69	Annex 14 - Vol I / Provisions on airport planning requirements.	31-Jul-18	30-Nov-18	On-schedule	ADOP	ADOP.014.02	-
74	Doc 9184.1 - Airport Planning Manual, Part 1 (Doc 9184) / Update of Doc 9184 to include up-to-date airport planning tools and techniques	31-Jul-18	30-Nov-18	On-schedule	ADOP	ADOP.014.02	-

ROI-3-2018-4	Aerodrome operating procedures including provisions for optimized ground handling
Deliverable Expert Group	ADOP
Problem Statement	While airlines and airports are regulated, ground service providers are not. This often results in airports and airlines creating individual regulations which are either not harmonised, or at times, in conflict. There is a need to look at safety, efficiency and cost issues
Expected Benefits	Flight safety begins with ground safety. Besides safety issues, aircraft ground damage costs the industry an estimated USD6 – USD10 billion a year and is increasing year on year. There is an urgent need for ICAO to develop regulation and global standardisation for the provision of a safe and efficient ground handling industry.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
222	Annex 14 - Vol I / Consequential from Second Edition of PANS-AERO.	30-Jun-18	30-Nov-18	On-schedule	ADOP	-	-
76	PANS-AERO (Doc 9981) / Procedures, processes and actions for ground handling.		30-Nov-18	On-schedule	*ANB-ASh	ADOP.006.02	-
77	Doc 9137.8 - Airport Services Manual, Part 8 (Doc 9137) / Guidance for standardization of ground handling.	30-Jun-17	30-Jun-17	On-schedule	*ANB-ASh	ADOP.006.02	-

ROI-3-2018-5	Standards and procedures to allow optimal runway pavement utilization
Deliverable Expert Group	ADOP
Problem Statement	The introduction of new and heavier aircraft require current ICAO provisions for permitting overloading operations on runways and movement areas to be reviewed. Similarly, the 30-year old ACN/PCN pavement reporting system needs to be redeveloped in light of new and emerging technologies in pavement engineering. Other aircraft pavement related issues include inspection and maintenance of airfield pavements and effects of magnetic anomalies at aerodromes arising from a State accident/incident report.
Expected Benefits	Aircraft pavement issues are related to both safety and capacity. Updated criteria on pavement overloading permits increased frequency of heavy aircraft without adverse impact on airfield pavements. New pavement reporting system utilizing emerging technology in pavement design will result in better and efficient use of existing pavements.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
144	Annex 14 - Vol I / Criteria on pavement overloading, revised ACN/PCN pavement reporting system, provisions concerning effects of magnetic anomalies.	01-Jul-18	30-Nov-18	On-schedule	*ANB-ASh	ADOP.008.02	-
143	PANS-AERO (Doc 9981) / Updated guidance for pavement management system.		30-Nov-18	On-schedule	*ANB-ASh	ADOP.008.02	-
502	Doc 9157.3 - Aerodrome Design Manual, Part 3 (Doc 9157) / Guidance material on pavement overloading, revised ACN/PCN pavement reporting system, provisions concerning effects of magnetic anomalies.	30-Nov-18	30-Nov-18	On-schedule	ADOP	ADOP.008.02	-

2020

Work Package No.	Work Package Title

ROI-3-2020-1	Aerodrome operating procedures including provisions for optimized ground handling
Deliverable Expert Group	ADOP
Problem Statement	While airlines and airports are regulated, ground service providers are not. This often results in airports and airlines creating individual regulations which are either not harmonised, or at times, in conflict. There is a

need to look at safety, efficiency and cost issues

Expected Benefits Flight safety begins with ground safety. Besides safety issues, aircraft ground damage costs the industry an estimated USD6 – USD10 billion a year and is increasing year on year. There is an urgent need for ICAO to develop regulation and global standardisation for the provision of a safe and efficient ground handling industry.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
75	Annex 14 - Vol I / Provisions and global standardization of safe and efficient ground handling.	31-Jul-20	30-Nov-20	On-schedule	*ANB-ASh	ADOP.006.02	-
223	PANS-AERO (Doc 9981) / Efficient day-to-day procedures (Second Edition) on ground handling.		05-Nov-20	On-schedule	ADOP	ADOP.006.02	-

2024

Work Package No. Work Package Title

ROI-3-2024-1 Standards, procedures and guidance using ATS Surveillance Systems and Airborne Surveillance

Deliverable Expert Group SP-AIRBWG

Problem Statement Surface operations are significantly impeded during periods of reduced visibility or high demand.

Expected Benefits Improved efficiency through reduced taxi times and fewer navigation errors requiring correction by ATC. Improved safety through reduced risk of collisions and improved response times to the correction of unsafe surface situations along with fewer navigation errors.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
66	PANS-OPS Vol I (Doc 8168) / Identify the needs for additional requirements to accommodate indications and alerts to pilots for surface operation	30-Nov-24	30-Nov-24	Late	FLTOPSP	SP.012.01	B2-SURF
68	Doc 9994 - Airborne Surveillance Manual (Doc 9994) / Manual on Airborne Surveillance Applications / Guidance to support surface operations with indications and alerts (SURF-IA)	30-Nov-24	30-Nov-24	Late	SP	SP.012.01	B2-SURF

ROI-4 Improve safety performance at and in the vicinity of aerodromes

Description

Standards, procedures and guidance to help prevent and reduce unstabilized approaches, accidents/serious incidents and fatalities occurring on the runway or in the vicinity of the aerodrome and the reduction of damages to aircraft at the aerodrome through; 1) collection, use and exchange of information; 2) collaboration; 3) human performance, training and support tools; 4) airport operations 5) ATM procedures 6) flight procedures; 7) CNS enablers; and 8) hazard identification

Measured By

Reduction in the number of accidents/serious incidents and fatalities occurring on the runway or in the vicinity of the aerodrome, including those resulting from unstabilized approaches. Reduced costs of damage to aircraft through improved ground handling reported by airlines.

2016

Work Package No. | **Work Package Title**

ROI-4-2016-1 Aerodrome standards and guidance on visual aids for navigation to support safety

Deliverable Expert Group ADOP

Problem Statement Technological advances and areas where current provisions could be improved were identified

Expected Benefits Maintain level of Safety

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
79	Annex 14 - Vol I / Provisions for ARIWS, obstacles marking.	31-Jul-16	30-Nov-16	On-schedule	ADOP	ADOP.012.02	-
778	Doc 9157.4 - Aerodrome Design Manual, Part 4 (Doc 9157) / Obstacles lighting and marking.	31-Jul-19	31-Dec-19	On-schedule	ADOP	ADOP.011.02	-

ROI-4-2016-2 Standards and procedures to mitigate unstabilized approaches (vertically-guided approaches, Continuous Descent Final Approach (CDFA), Wake Turbulence)

Deliverable Expert Group IFPP

Problem Statement Unstabilized approaches can lead to missed approaches, hard landings, runway excursions, and even accidents or incidents. Many instrument approaches today are non-precision and have no vertical guidance - they are dive and drive procedures that can easily lead to an unstabilized approach and landing.

Expected Benefits New standards, provisions, design criteria and procedures for vertical guidance, wake turbulence, charting will help mitigate the chance of unstabilized approaches.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
147	Annex 14 - Vol I / Provisions to harmonize the PAPI with ILS, Provisions to properly move a VASI to prevent an obstacle to penetrate obstacle protection surface.	01-Jul-16	30-Nov-16	On-schedule	ADOP	ADOP.011.02	-
571	PANS-OPS Vol I (Doc 8168) / Procedure design criteria on LP/Baro-VNAV.	30-Jun-16	30-Nov-16	On-schedule	IFPP	-	B0-APTA
103	PANS-OPS Vol II (Doc 8168) / New Baro-VNAV design criteria PBN charting information box and identification consistency.	30-Jun-14	30-Nov-14	Completed	IFPP	-	B0-APTA
570	PANS-OPS Vol II (Doc 8168) / Procedure design criteria on LP/Baro-VNAV.	30-Jun-16	30-Nov-16	On-schedule	IFPP	-	B0-APTA

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
572	Doc 8697 - Aeronautical Chart Manual (Doc 8697) / Procedure design criteria on LP/Baro-VNAV.	30-Jun-16	30-Nov-16	On-schedule	IFPP	-	B0-APTA
95	Doc 9157.4 - Aerodrome Design Manual, Part 4 (Doc 9157) / PAPI harmonization with ILS, movement of VASI when penetration of OPS.	30-Jun-16	30-Nov-16	On-schedule	ADOP	-	-
108	Doc 336 - Circ. On PBN Charting (Doc 336) / PBN charting information box and identification consistency.	30-Jun-14	30-Nov-14	Completed	IFPP	-	B0-APTA

ROI-4-2016-3	Aerodrome/heliport operating procedures for improved emergency response capabilities to meet new and emerging threats
Deliverable Expert Group	ADOP
Problem Statement	Existing guidance in Doc 9137 ASM Part 7 was developed more than 20 years ago and have become obsolete. Since then, the associated SARPs in Annex 14 Vol I had undergone several amendments without a corresponding update to the guidance material. A complete revision to the manual is required.
Expected Benefits	Enhanced and revised guidance material on sector-specific emergency response plan provisions for aerodromes including preparing for new and emerging threats such as pandemic planning. The updated material will complement high-level coordination of service providers' emergency response planning required under the SMS framework and the overarching provisions in Annex 19.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
780	Annex 14 - Vol II / Performance-based provisions for the response to an emergency	31-Jul-16	30-Nov-16	On-schedule	ADOP	ADOP.010.02	-
112	Doc 9137.1 - Airport Services Manual, Part 1 (Doc 9137) / Update methods and technologies to enhance efficiency of RFFS	30-Apr-14	31-Dec-14	Completed	ADOP	-	-
149	Doc 9137.7 - Airport Services Manual, Part 7 (Doc 9137) / Enhanced and revised guidance on sector-specific emergency response plan provisions (e.g. pandemic planning)	30-Nov-16	30-May-17	On-schedule	ADOP	ADOP.009.02	-

ROI-4-2016-4	Standards, procedures and guidance leading to a common understanding (ATC and Pilots) on the fuel state of the aircraft
Deliverable Expert Group	FLTOPSP
Problem Statement	The introduction of the minimum fuel definition in PANS-ATM as a result of a fuel starvation accident was implemented inconsistently by different States and/or ANSPs leading to more R/T for clarification any confusion on the fuel state of the aircraft.
Expected Benefits	A common understanding, for pilots and air traffic controllers, with respect to the fuel state of an aircraft will lead to addressing fuel related issues in a safe and efficient manner.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
116	Annex 6 - Part I / Usable fuel required for Flight Commencement	14-Jul-14	13-Nov-14	On-schedule	FLTOPSP	*OPSP.011.01 (DONE)	-
117	Annex 6 - Part II / Amended fuel use provisions for GA	14-Jul-14	13-Nov-14	On-schedule	FLTOPSP	-	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1015	Annex 6 - Part II / Fuel Management Provisions	14-Jul-14	13-Nov-14	On-schedule	FLTOPSP	*OPSP.007.01 (DONE)	-
118	Annex 6 - Part III / Amended fuel use provisions for helicopters	14-Jul-14	13-Nov-14	On-schedule	FLTOPSP	-	-
1021	Annex 6 - Part III / Fuel Management Provisions		31-Dec-14	On-schedule	FLTOPSP	*OPSP.007.01 (DONE)	-
119	PANS-ATM (Doc 4444) / Revised phraseology addressing the fuel state of an aircraft		30-Nov-14	Completed	FLTOPSP	-	-
120	Doc 9976 - FPFMM (Doc 9976) / Guidance for new flight planning and fuel manangement provisions	30-Jun-14	30-Nov-14	On-schedule	FLTOPSP	*OPSP.011.01 (DONE)	-

ROI-4-2016-6	Aerodrome operating procedures to improve safety of surface operations
Deliverable Expert Group	ADOP
Problem Statement	Lack of international regulation on the prevention of FOD, including a globally agreed definition and taxonomy, have resulted in fatal accidents as well as posing significant economic, capacity and environmental issues. New and emerging technologies on the use and installation of automated FOD detection devices need to be reviewed.
Expected Benefits	The presence of unexpected and inappropriate objects on runways (called foreign objects and debris, FOD) is a source of aircraft accident or incident notably during aircrafts landing and takeoff operations. Such objects also cause damage to aircraft estimated to cost several billions of dollars besides causing delays. There is therefore a need to look for new methods which offer better possibilities to improve runway safety. Automated FOD detection offers a potential solution for FOD prevention. Such systems had been installed at several airports.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
151	Annex 14 - Vol I / Provisions for FOD prevention including agreed definition and taxonomy, new technologies for FOD detection devices	30-Jun-16	30-Nov-16	On-schedule	*ANB-ASh	ADOP.016.02	-
152	Doc 9137.8 - Airport Services Manual, Part 8 (Doc 9137) / Guidance on FOD	30-Nov-16	30-May-17	On-schedule	*ANB-ASh	ADOP.016.02	-

ROI-4-2016-7	Improve Aerodrome/Heliport certification process allowing better efficiency while maintaining high safety level
Deliverable Expert Group	ADOP
Problem Statement	With the publication of the 1st Edition of PANS-Aerodromes, provisions related to regulatory functions such as aerodrome certification in Annex 14 Volume I need to be reviewed. The Annex has to allow certification to take into consideration the infrastructure provided and also any associated procedures or other measures that combine to provide safe surface movement of aircraft.
Expected Benefits	Harmonized provisions are expected to assist States in the wider and effective implementation of Annex 14 Vol I requirements concerning aerodrome certification, thus enhancing aerodrome safety and efficiency.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1096	PANS-ATM (Doc 4444) / Develop new phraseology for advising of TORA/TODA for intersection departures		30-Nov-14	On-schedule	ATMOPSP	*ATMOPSP005 (DONE)	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
139	Doc 9261 - Heliport Manual (Doc 9261) / Guidance related to certification and safety management	31-Jul-16	30-Apr-17	On-schedule	ADOP	ADOP.010.02	-
136	Doc 9774 - Manual on Certification of Aerodromes (Doc 9774) / Updated guidance related to aerodrome certification	30-Jun-16	30-Nov-16	On-schedule	*ANB-ASh	ADOP.004.01	-

ROI-4-2016-8	Reduction of runway excursions through the use of a global reporting format for effective runway surface condition assessment and reporting - Phase 1
Deliverable Expert Group	ADOP
Problem Statement	Ineffective braking due to runway contamination is one of the major risk factors in runway excursion events. Late or inaccurate runway condition reports have contributed to many safety incidents and investigations have revealed shortfalls in the accuracy and timeliness of assessment and reporting methods currently provided for in ICAO provisions and guidance material.
Expected Benefits	A globally harmonized methodology for runway surface condition assessment and reporting will provide reports that are directly related to the performance of the aircraft. Aerodrome operators will be provided with clear guidelines on maintaining runway friction and assessing conditions for reporting purposes. New techniques for the assessment of braking action on contaminated surfaces are now available or under development, and need to be incorporated in ICAO provisions. These initiatives are expected to result in a reduction in runway excursions on contaminated runways.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
157	Annex 3 / Provisions for new global reporting format	30-Jun-16	30-Nov-16	On-schedule	ADOP	ADOP.001.02	-
226	Annex 6 - Part I / Aircraft performance SARPs for legacy aeroplanes	30-Jun-16	30-Nov-16	On-schedule	FLTOPSP	ADOP.001.02	-
227	Annex 6 - Part II / Aircraft performance SARPs for legacy aeroplanes	30-Jun-16	30-Nov-16	On-schedule	FLTOPSP	ADOP.001.02	-
160	Annex 8 / Aircraft Performance SARPS for global reporting format	31-Jul-16	30-Nov-16	On-schedule	ADOP	ADOP.001.02	-
162	Annex 14 - Vol I / Harmonization of runway surface condition assessment and reporting including global reporting format	31-Jul-16	30-Nov-16	On-schedule	ADOP	ADOP.001.02	-
163	Annex 15 / Provisions for new global reporting format	31-Jul-16	30-Nov-16	On-schedule	ADOP	ADOP.001.02	-
232	PANS-ATM (Doc 4444) / Procedures and phraseologies for transmittal of runway surface condition	30-Jun-16	30-Nov-16	On-schedule	ATMOPSP	ADOP.001.02	-
234	Doc #### - A/C Performance Manual (Doc ####) / Guidance on dispatch and in-flight a/c runway performance calculations	30-Jun-16	30-Nov-16	On-schedule	FLTOPSP	ADOP.001.02	-

ROI-4-2016-9	Standards, procedures and guidance on RESA and arresting systems to mitigate consequences of aircraft overrunning or undershooting a runway
Deliverable Expert Group	ADOP
Problem Statement	Runway excursion (including overruns) accidents have resulted in many fatalities and such accidents still happen comparatively frequently. Further provisions need to be developed for RESA and arresting systems that will help mitigate consequences of such accidents.

Expected Benefits	Amendment 11 to Annex 14 Volume 1 establishes the installation of an arresting system in lieu of part or all of a runway end safety area (RESA) subject to acceptance by the State. Some guidance material is developed on the parameters that should be considered in the design of an arresting system. Further work is needed to develop a definition of arresting system, provisions for the promulgation (in Annex 15) and to address some operational issues, including undershoots and access by emergency services. In the long run, more detailed criteria for the design specification and acceptance by a State of an arresting system will help States better manage the assessment of different scenarios.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
888	Annex 14 - Vol I / Definition of arresting system and operational issues, including undershoots and access by emergency services	30-Jun-16	30-Nov-16	On-schedule	ADOP	ADOP.002.02	-
887	Annex 15 / Consequential provisions for RESA and arresting system	01-Jul-16	30-Nov-16	On-schedule	ADOP	ADOP.002.02	-
889	PANS-AERO (Doc 9981) / Associated procedures for RESA	30-Jun-15	30-Nov-15	Completed	ADOP	ADOP.002.02	-

2018

Work Package No. Work Package Title

ROI-4-2018-10	Heliport planning, design and operating procedures for the reduction of runway excursions, incursions and other hazards (further guidance on acceptance of an arresting system, obstacles, visual aids...)
Deliverable Expert Group	ADOP
Problem Statement	Technological advances and areas where current provisions could be improved were identified
Expected Benefits	Maintain level of Safety

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
893	Annex 14 - Vol II / Airway width at visual heliports, instrument approaches and departures, review of light section	01-Jul-18	30-Nov-18	On-schedule	FLTOPSP-HSG	ADOP.010.02	-
895	Annex 14 - Vol II / Modifications of existing markings for the interest of safety	01-Jul-18	30-Nov-18	On-schedule	ADOP	ADOP.010.02	-
176	Doc 9261 - Heliport Manual (Doc 9261) / Updated guidance on lights, markings and airway width	30-Jun-18	30-Nov-18	On-schedule	*ANB-ASh	ADOP.010.02	-

ROI-4-2018-11	Procedures and guidance on improved displays and visions systems for approach and ground manoeuvring
Deliverable Expert Group	FLTOPSP
Problem Statement	
Expected Benefits	

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
121	PANS-OPS Vol I (Doc 8168) / Procedures and symbology on charts for low visibility operations	14-Jul-18	30-Nov-18	On-schedule	FLTOPSP	OPSP.008.02	B1-SURF

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
122	Doc 9365 - Manual of All WX OPS (Doc 9365) / Guidance and symbology on charts for low visibility	31-Jul-18	31-Jul-18	On-schedule	FLTOPSP	-	B1-SURF

ROI-4-2018-12	Improve Aerodrome/Heliport certification process allowing better efficiency while maintaining high safety level
Deliverable Expert Group	ADOP
Problem Statement	With the publication of the 1st Edition of PANS-Aerodromes, provisions related to regulatory functions such as aerodrome certification in Annex 14 Volume I need to be reviewed. The Annex has to allow certification to take into consideration the infrastructure provided and also any associated procedures or other measures that combine to provide safe surface movement of aircraft.
Expected Benefits	Harmonized provisions are expected to assist States in the wider and effective implementation of Annex 14 Vol I requirements concerning aerodrome certification, thus enhancing aerodrome safety and efficiency.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
138	Annex 14 - Vol II / Provisions for the applicability of A14 vII, certification of heliports and implementation of safety management	31-Jul-18	30-Nov-18	On-schedule	*ANB-ASh	ADOP.010.02	-

ROI-4-2018-8	Rescue and Firefighting Service
Deliverable Expert Group	FLTOPSP
Problem Statement	
Expected Benefits	

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
646	Annex 6 - Part I / Guidance on Assessment of the level of RFFS (Attachment J)	31-Jul-18	30-Nov-18	On-schedule	FLTOPSP	OPSP.017.02	-
1075	Annex 6 - Part II / Provisions and guidance on Assessment of the level of RFFS at aerodromes for GA operations	01-Jul-16	30-Nov-16	On-schedule	FLTOPSP	OPSP021.01	-
1076	Annex 14 - Vol I / RFFS Provisions for GA	01-Jul-16	30-Nov-16	On-schedule	FLTOPSP	OPSP021.01	-
1077	Annex 14 - Vol II / RFFS Provisions for GA	01-Jul-16	30-Nov-16	On-schedule	FLTOPSP	OPSP021.01	-

ROI-4-2018-5	Aerodrome operating procedures to improve safety of surface operations.
Deliverable Expert Group	ADOP
Problem Statement	Lack of international regulation on the prevention and control of FOD have resulted in fatal accidents as well as posing significant economic, capacity and environmental issues. Bird/wildlife strike hazards pose a persistent threat to aviation safety. There is a need to review new and emerging technologies on the use and installation of automated FOD detection devices and bird/wildlife control and prevention.
Expected Benefits	Improved runway safety through enhanced provisions for the prevention, and installation of devices for the detection, of FODs. A reduction in aircraft damages and costs due to FOD ingestions. Reduction bird/wildlife strike accidents; and reduce economic loss due to bird/wildlife strikes.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
189	PANS-AERO (Doc 9981) / Procedures for FOD control		30-Nov-18	On-schedule	ADOP	ADOP.016.02	-
190	PANS-AERO (Doc 9981) / Procedures for Bird Strike hazard		30-Nov-18	On-schedule	ADOP	ADOP.015.02	-

ROI-4-2018-6	Reduction of runway excursions through the use a global reporting format for effective runway surface condition assessment and friction reporting – Phase 2
Deliverable Expert Group	ADOP
Problem Statement	Ineffective braking due to runway contamination is one of the major risk factors in runway excursion events. Late or inaccurate runway condition reports have contributed to many safety incidents and investigations have revealed shortfalls in the accuracy and timeliness of assessment and reporting methods currently provided for in ICAO provisions and guidance material.
Expected Benefits	Runway friction measurements are not suitable in all weather conditions when the runway is contaminated and the information when used in reports could be misleading to pilots. Pilots of modern aircraft also need reports that are directly related to the performance of the aircraft. Aerodrome operators need clear guidelines on maintaining runway friction and assessing conditions for reports. In addition, both airport operators and pilots need to understand the meaning of the report contents, including the terms “damp” and “slippery when wet”, and how to use it effectively. New techniques for the assessment of braking action on contaminated surfaces are now available or under development, and need to be incorporated in ICAO provisions.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
876	Annex 15 / GRF in new Annex 15		30-Nov-18	On-schedule	IMP	-	-
201	PANS-AERO (Doc 9981) / Procedures for runway surface condition assessment and friction reporting		30-Nov-16	On-schedule	ADOP	ADOP.001.02	-
207	Doc #### - PANS-AIM (Doc ####) / Associated procedures for the Global Reporting Format	30-Nov-18	30-Nov-18	On-schedule	ADOP	ADOP.001.02	-
208	Doc 9137.2 - Airport Services Manual, Part 2 (Doc 9137) / Complete revision for global reporting format	30-Nov-16	30-Nov-18	On-schedule	ADOP	ADOP.001.02	-
782	Doc 9157.3 - Aerodrome Design Manual, Part 3 (Doc 9157) / Updated guidance for GRF	30-Nov-16	01-Jun-17	On-schedule	ADOP	ADOP.001.02	-

ROI-4-2018-7	RNP AR Departures and One Engine Inoperative (OEI) operations
Deliverable Expert Group	IFPP
Problem Statement	Navigation specifications, design criteria and charting requirements do not exist for RNP AR Departures and OEI. This restricts aircraft operations at terrain challenged airports. While aircraft may land using RNP AR approaches, they cannot depart from the aerodrome because of the lack of RNP AR and OEI.
Expected Benefits	Safe and efficient aircraft departures from terrain challenged airports.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
125	PANS-OPS Vol II (Doc 8168) / Charting requirements for RNP AR departure and OEI	30-Jun-18	30-Nov-18	On-schedule	IFPP	-	-
127	Doc 9613 - PBN Manual (Doc 9613) / Navigation specification for RNP AR and OEI	30-Jun-18	30-Nov-18	On-schedule	IFPP-PBNWG	-	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
126	Doc 9905 - RNP AR P. Design Manual (Doc 9905) / Procedure design requirements for RNP AR and OEI	30-Jun-18	30-Nov-18	On-schedule	IFPP	-	B1-APTA

ROI-4-2018-1	Aerodrome planning, design and operating procedures for the reduction of runway excursions, incursions and other hazards (further guidance on acceptance of an arresting system, obstacles, visual aids...)
Deliverable Expert Group	ADOP
Problem Statement	Technological advances and areas where current provisions could be improved were identified
Expected Benefits	Maintain level of Safety

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
130	Annex 14 - Vol I / Taxiway naming conventions and RGL and Visual Aids for A-SMGCS	30-Jun-18	30-Nov-18	On-schedule	ADOP	ADOP.013.02	-
104	PANS-ATM (Doc 4444) / Provisions for wake turbulence separation Chapter 5 + 8 - RECAT Phase 1 - 6 categories.	30-Jun-18	30-Nov-18	On-schedule	ATMOPSP	-	B0-WAKE
638	Doc 9157.1 - Aerodrome Design Manual, Part 1 (Doc 9157) / Updated guidance for design specification for arresting system and acceptance by States	31-Jul-18	30-Nov-18	On-schedule	ADOP	ADOP.002.02	-
774	Doc 9157.4 - Aerodrome Design Manual, Part 4 (Doc 9157) / Updated guidance for RGL, A-SMGCS, taxiway naming conventions	31-Jul-18	30-Nov-18	On-schedule	ADOP	ADOP.013.02	-

ROI-4-2018-2	Standards, procedures and guidance using ATS Surveillance Systems and Airborne Surveillance
Deliverable Expert Group	SP-ASTAF
Problem Statement	Surface operations are significantly impeded during periods of reduced visibility or high demand with an impact on safety
Expected Benefits	Improved safety through reduced risk of collisions and improved response times to the correction of unsafe surface situations along with fewer navigation errors. Improved efficiency through reduced taxi times and fewer navigation errors requiring correction by ATC

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
623	Doc 9871 - Technical Provisions for Mode S Services and Extended Squitter / Guidance on ADS-B capability for ground vehicles	31-Jul-18	30-Nov-18	On-schedule	SP-AIRBWG	-	B1-SURF

ROI-4-2018-3	Aerodrome/heliport operating procedures for improved emergency response capabilities to meet new and emerging threats
Deliverable Expert Group	ADOP
Problem Statement	Annex 14 Vol I contains requirements related to the coordination of emergency response and provision of rescue and firefighting services at the level of an aerodrome. Nonetheless, there is a need to develop performance-based provisions with regard to evolution of existing provisions and taking into account of the tasks involved and applicable risk. There is a need to develop generic procedures and/or guidance on the development of procedures for the emergency response at or in the vicinity of an aerodrome or heliport for

	incorporation in PANS-Aerodromes
Expected Benefits	Increase post-accident survival rates by using new/updated performance-based provisions for aerodrome/heliport emergency response.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
178	Annex 14 - Vol I / Performance-based provisions for the response to an emergency	31-Jul-18	30-Nov-18	On-schedule	ADOP	ADOP.009.02	-
179	PANS-AERO (Doc 9981) / Procedures for responds to an emergency		30-Nov-18	On-schedule	ADOP	ADOP.009.02	-

2020

Work Package No.	Work Package Title
ROI-4-2020-1	Improve Aerodrome/Heliport certification process allowing better efficiency while maintaining high safety level
Deliverable Expert Group	ADOP
Problem Statement	With the publication of the 1st Edition of PANS-Aerodromes, provisions related to regulatory functions such as aerodrome certification in Annex 14 Volume I need to be reviewed. The Annex has to allow certification to take into consideration the infrastructure provided and also any associated procedures or other measures that combine to provide safe surface movement of aircraft.
Expected Benefits	Harmonized provisions are expected to assist States in the wider and effective implementation of Annex 14 Vol I requirements concerning aerodrome certification, thus enhancing aerodrome safety and efficiency.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
137	Annex 14 - Vol I / Amend Annex 14 vol I to allow certification to take into consideration the infrastructure provided, associated procedures and other measures that combine to provide safe surface movement	31-Jul-20	30-Nov-20	On-schedule	*ANB-ASh	-	-

ROI-4-2020-2	Aerodrome planning, design and operating procedures for the reduction of runway excursions, incursions and other hazards (further guidance on acceptance of an arresting system, obstacles, visual aids...)
Deliverable Expert Group	ADOP
Problem Statement	Technological advances and areas where current provisions could be improved were identified
Expected Benefits	Maintain level of Safety

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
892	Annex 14 - Vol I / Acceptance of arresting system	01-Jul-18	30-Nov-20	On-schedule	ADOP	ADOP.002.02	-

ROI-5 Improve throughput at aerodromes through integration of landside/airside

Description

Standards, Technical Instructions, Procedures and Guidance to improve the movement of passengers and cargo between landside and airside including disruptions to normal operations through; 1) collection, use and exchange of information; 2) collaboration; 3) human performance, training and support tools; 4) airport operations 5) ATM procedures 6) flight procedures; 7) CNS enablers; and 8) hazard identification.

Measured By

Reduction in missed passenger and cargo connections.

2016

Work Package No. ROI-5-2016-2

Work Package Title Deliverables from Air Transport Bureau (Facilitation/AVSEC) – Require further coordination

Deliverable Expert Group ADOP

Problem Statement The coordination between airside and landside could be improved.

Expected Benefits Better integration of landside/airside.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
216	Annex 9 / Provisions for better facilitation	31-Jul-16	30-Nov-16	Late	ICAO-ATB	-	-
217	Annex 17 / Provisions for better integration of aviation security	31-Jul-16	30-Nov-16	Late	ICAO-ATB	ADOP.017.02	-

ROI-6 Improve efficiency of en-route operations through the availability of user-preferred routing

Description

Standards, procedures and guidance to optimize airspace usage, leveraging airborne and ground capabilities to reduce separations, thus allowing aircraft to operate on their preferred 4D trajectories through: 1) collection, use and exchange of information; 2) collaboration; 3) human performance, training and support tools; 4) ATM procedures; 5) Flight procedures; and 6) CNS enablers

Measured By

Reduction in flight time, fuel consumption, operational costs.

2016

Work Package No. | Work Package Title

ROI-6-2016-1 Standards and procedures for management and use of current and new flight and flow information

Deliverable Expert Group ATMRPP

Problem Statement The current limitations in the flight plan system imposes inefficiencies to the air traffic management system that impacts airspace users and air navigation services providers due to unavailability and/or losses of essential information regarding capabilities and intentions of airspace users.

Expected Benefits The new standards and procedures for exchange of flight and flow information will increase flexibility and capacity of airspace users to communicate capabilities to the air traffic management system and will allow ground-ground exchange of information in a more efficient and complete manner, what is not allowed today due to limitations in the current system.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
376	Doc 9965 - Manual FF-ICE (Doc 9965) / Guidance on information elements for flight and flow.		30-Oct-13	Completed	ATMRPP	-	-

ROI-6-2016-3 Provisions to complement new PBN navigation specifications - Phase I

Deliverable Expert Group IFPP

Problem Statement The new PBN navigation specifications cannot be implemented without the development of new ICAO provisions. Consequently, the operational benefits that result from the new specifications can not be attained.

Expected Benefits Increased safety (vertical guidance), operational efficiency, airspace capacity and airport accessibility.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
315	Annex 6 - Part I / Standards on the use of PBN on Conventional routes	01-Jul-16	30-Nov-16	On-schedule	FLTOPSP	-	B1-FRTO
1101	Annex 6 - Part I / Consequential amendments		30-Nov-16	On-schedule	IFPP	-	-
1102	Annex 6 - Part II / Consequential amendments		30-Nov-15	On-schedule	IFPP	-	-
1103	Annex 6 - Part III / Consequential amendments		30-Nov-15	On-schedule	IFPP	-	-
586	Annex 11 / Re-introduce FRT suffixes for ATS routes into Annex 11	01-Jul-16	30-Nov-16	On-schedule	FLTOPSP	IFPP.006.01	B1-FRTO

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1097	Annex 11 / Provisions on Responsibility of States regarding implementation of Flight Procedures		30-Nov-15	On-schedule	IFPP	IFPP.001.04	-
1099	PANS-OPS Vol I (Doc 8168) / Re-structuring and rewrite of PANS-OPS vol. I		30-Nov-15	On-schedule	IFPP	-	-
1104	PANS-OPS Vol I (Doc 8168) / Provisions on IFP for Helicopter PBN operations		30-Nov-15	On-schedule	IFPP	IFPP.004.01	-
314	PANS-OPS Vol II (Doc 8168) / New procedure design requirements to support RNP2 and Advanced RNP. New charting requirments including PBN information box and magnetic bearings on PBN routes	31-Jul-14	30-Nov-14	Completed	IFPP	-	B1-FRTO
563	PANS-OPS Vol II (Doc 8168) / Charting of PBN routes including accuracy value	30-Jun-16	30-Nov-16	On-schedule	IFPP	-	-
1105	PANS-OPS Vol II (Doc 8168) / Provisions on IFP for Helicopter PBN operations	31-Jul-15	30-Nov-15	On-schedule	IFPP	IFPP.004.01	-
565	Doc 8697 - Aeronautical Chart Manual (Doc 8697) / Charting of PBN routes including accuracy value	30-Jun-16	30-Nov-16	On-schedule	IFPP	-	-
1106	Doc 8697 - Aeronautical Chart Manual (Doc 8697) / Guidance on IFP for Helicopter PBN operations	30-Jun-15	30-Nov-16	On-schedule	IFPP	IFPP.004.01	-
405	Doc 9613 - PBN Manual (Doc 9613) / Addition of new navigation specifications (RNP 2 and Advanced RNP) Examples of route spacing requirments	30-Jun-13	30-Nov-13	Completed	IFPP-PBNWG	-	-
404	Doc 9997 - PBN OPS App Manual (Doc 9997) / Guidance on operator approval for PBN including job aids (RNP 2 and Advanced RNP)	31-Jul-16	30-Nov-16	On-schedule	IFPP-PBNWG	-	-
1116	Doc #### - Manual on establishment of FPD ROF (Doc ####) / Guidance on Responsibility of States regarding implementation of Flight Procedures	31-Jul-16	30-Nov-16	On-schedule	IFPP	IFPP.001.04	-
1117	Doc #### - Manual on Implementation of SA associated with IFPD (Doc ####) / Guidance on Responsibility of States regarding implementation of Flight Procedures		30-Nov-15	On-schedule	IFPP	IFPP.001.04	-
866	Doc 324 - Circ on lat sep min (Circ 324) / Guidelines for Lateral Separation of Arriving and Departing Aircraft on Published Adjacent Instrument Flight Procedures (Circ 324)	30-Nov-15	30-Nov-15	On-schedule	SASP	SASP.007.01	-

ROI-6-2016-6	Procedures and guidance on “In-trail Procedures (ITP) ”
Deliverable Expert Group	SP-ASTAF
Problem Statement	Aircraft can be trapped at unsatisfactory altitudes due to a lack of ATC surveillance or large separation minima. The result of this is non-optimal fuel-burn for prolonged periods or possible injuries to cabin crew and passengers when turbulence is experienced.
Expected Benefits	The implementation of ITP will allow aircraft to achieve optimum altitudes for cruise in environments where are lack of ATC surveillance or large separation minima are a limiting factor. In turn this will result in reduced

fuel-burn and emissions and a possible reduction in the contingency fuel carriage requirement, which in turn will reduce in a greater reduction in fuel-burn and emissions. Passenger and crew safety and comfort will be improved at aircraft will be able to leave turbulent altitudes.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
378	Annex 10 - Vol II / Definitions of pre-formatted and standardized free text messages.	30-Jun-14	30-Nov-14	Completed	SP	-	B0-OPFL
379	PANS-ATM (Doc 4444) / New CPDLC messages. Procedures and criteria for application for ITP	30-Nov-14	30-Nov-14	Completed	CP-OPDLWG	-	B0-OPFL
380	Doc 9994 - Airborne Surveillance Manual (Doc 9994) / Guidance to support ITP	30-Nov-14	30-Nov-14	Completed	SP	-	B0-OPFL
406	Doc 325 - ITP Circular (Circ. 325) / General description of ITP	30-Nov-14	30-Nov-14	Completed	SP	-	B0-OPFL

ROI-6-2016-5 Communications for oceanic operations

Deliverable Expert Group CP-OPDLWG

Problem Statement While HF Communications were considered adequate for oceanic operations in the past, the increased level of traffic and the ability to make use of more accurate navigation systems has raised the bar when it comes to Communications requirements in order to apply reduced separation between aircraft

Expected Benefits The application of reduced separation over the oceans will allow aircraft to fly at optimal levels on optimal routes more often if the aircraft are CPDLC and ADS-C equipped. This will result in significant savings for the airlines.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1470	Annex 4 / Provisions on the publication of SATVOICE service	30-Jun-16	30-Nov-16	On-schedule	CP-OPDLWG	-	B0-TBO
373	Annex 6 - Part I / Provisions for performance-based communication and surveillance	30-Jul-16	30-Nov-16	On-schedule	CP-OPDLWG	-	B0-FRTO B0-TBO
1535	Annex 6 - Part II / Provisions for performance-based communication and surveillance	31-Jul-16	30-Nov-16	On-schedule	CP-OPDLWG	-	B0-FRTO B0-TBO
1536	Annex 6 - Part III / Provisions for performance-based communication and surveillance	31-Jul-16	30-Nov-16	On-schedule	CP-OPDLWG	-	B0-FRTO B0-TBO
662	Annex 10 - Vol II / Provisions on the use of SATVOICE	30-Jul-16	30-Nov-16	On-schedule	CP-OPDLWG	-	B0-FRTO B0-TBO
1468	Annex 10 - Vol III / Provisions on the use of SATVOICE	30-Jun-16	30-Nov-16	On-schedule	CP-OPDLWG	-	B0-TBO
661	Annex 11 / Provisions for performance-based communication and surveillance	30-Jul-16	30-Nov-16	On-schedule	CP-OPDLWG	-	B0-FRTO B0-TBO
1471	Annex 15 / Provisions on the publication of SATVOICE service and RCP/RSP	30-Jun-16	30-Nov-16	On-schedule	CP-OPDLWG	-	B0-TBO
1469	PANS-ABC (Doc 8400) / Provisions on PBCS and SATVOICE	30-Jun-16	30-Nov-16	On-schedule	CP-OPDLWG	-	B0-TBO

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
744	PANS-ATM (Doc 4444) / Procedures for performance-based communication and surveillance, and SATVOICE	30-Nov-16	30-Nov-16	On-schedule	CP-OPDLWG	-	B0-FRTO B0-TBO
320	Doc 9869 - PBCS Manual (Doc 9869) / Guidance on performance-based communication and surveillance	31-Mar-16	30-Nov-16	On-schedule	CP-OPDLWG	-	B0-FRTO B0-TBO
318	Doc 9925 - Manual on AMS(R)S (Doc 9925) / New section to accommodate SWIFT broadband system.	30-Nov-16	30-Nov-15	On-schedule	CP-DCIWG	-	B0-TBO
322	Doc 10038 - Satellite Voice Guidance Material (Doc 10038) / Guidance on the use of SATCOM voice.	31-Mar-16	30-Nov-16	On-schedule	CP-OPDLWG	-	B0-FRTO B0-TBO

ROI-6-2016-8	ATM separation procedures and phraseologies
Deliverable Expert Group	SASP
Problem Statement	With increasing demand for air transportation, airspace is becoming a scarce resource and reduction in separation using the new onboard and ground capabilities will help to improve airspace capacity. However, new safe separation minima and procedures and associated phraseologies necessary for its application need to be developed to allow the efficient and safe use of the new capabilities.
Expected Benefits	New separation minima and procedures will allow the safe use of onboard and ground capabilities with consequent increase in capacity and reduction in delays caused by imbalances between demand and capacity.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
663	Annex 2 / Requirements on speed variation in en-route airspace	30-Jul-16	30-Nov-16	Completed	SASP	SASP.001.01	B1-FRTO
856	PANS-ATM (Doc 4444) / Refined route spacing, separation minima and procedures for all PBN navigation specifications.	01-Jul-16	31-Dec-16	On-schedule	SASP	SASP.006.01	B1-FRTO
859	PANS-ATM (Doc 4444) / ADS-C Climb/Descent Procedures (CDP).	30-Jun-16	30-Dec-16	Completed	SASP	SASP.006.01	-
860	PANS-ATM (Doc 4444) / RLongSM 5 minutes longitudinal separation between ADS-C aircraft on same identical tracks.	30-Jun-16	30-Nov-16	Completed	SASP	SASP.006.01	B0-FRTO B0-TBO
861	PANS-ATM (Doc 4444) / 23 NM lateral separation to support ½ degree oceanic flex tracks.	30-Jun-16	30-Nov-16	Completed	SASP	SASP.009.01	B1-FRTO
862	PANS-ATM (Doc 4444) / GNSS/RNP 2 Lateral separation on intersecting and non-intersecting tracks.	30-Jun-14	31-Dec-14	Completed	SASP	SASP.006.01	B1-FRTO
839	Doc 9426 - ATS Planning Manual (Doc 9426) / If necessary, proposal for amendment to ATS Planning Manual (Doc 9426)		31-Mar-16	On-schedule	SASP	SASP.001.01	-
375	Doc 321 - Circ. On GNSS Longitudinal Sep (Circ. 321) / Information on GNSS longittudinal separation minima.		30-Oct-12	Completed	SASP	-	B0-FRTO

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
584	Doc 334 - Guidelines for the implementation for lateral separation minima (Circ. 334) / Lateral separation minima for RNAV 10, RNP 4 and RNP 2	30-Nov-14	30-Nov-14	Completed	SASP	-	B0-FRTO

ROI-6-2016-10	Standards and guidance on Extended Diversion Time Operations (EDTO)
Deliverable Expert Group	FLTOPSP
Problem Statement	The cargo fire supporession system is considered an EDTO significant system and as such, the time limitations of cargo fire suppression systems need to be considered in determining the length of an approved diversion time.
Expected Benefits	Improved Standards and Recommended Practices (SARPs) governing flight planning, taking into account the length of a diversion to an alternate aerodrome at a point along the chosen route will not exceed the time of an aeroplane's cargo compartment fire supporession system's effectivemeness.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
391	Annex 6 - Part I / Provisions for operations beyond 60 minutes to an aerodrome and extended diversion times.	01-Jul-12	30-Nov-12	Completed	FLTOPSP	-	-
1486	Doc #### - Manual on EDTO (Doc ####) /		30-Dec-15	On-schedule	FLTOPSP	-	-
392	Doc 9760 - AIR Manual (Doc 9760) / Change ETOPS to EDTO and maintenance procedures	31-Oct-13	30-Apr-14	On-schedule	ICAO-ANB	-	-
393	Doc 9976 - FPFMM (Doc 9976) / Guidance on flight planning for EDTO including critical fuel scenarios.		30-Dec-13	Completed	FLTOPSP	-	-

ROI-6-2016-2	Harmonized Data Link procedures Allowing for Seamless Operations
Deliverable Expert Group	CP-OPDLWG
Problem Statement	The problem is two-fold. On the one hand we must ensure that procedures are adequate between ATS facilities with respect to the handling of CPDLC and ADS-C equipped aircraft flying in various FIRs. We must also ensure that the exchange of information between ATS units (ground-ground) on aircraft flying from one FIR to another is based on a format that is acceptable to all.
Expected Benefits	Reduction in connectivity errors between aircraft and ATS facilities and/or reduction in flight plan rejections between ATS facilities.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1458	Annex 10 - Vol II / Provisions on data link initiation capability	30-Jun-16	30-Nov-16	On-schedule	CP-OPDLWG	-	B0-TBO
1459	Annex 10 - Vol II / improved procedures and message set for CPDLC and ADS-C	30-Jul-16	30-Nov-16	On-schedule	CP-OPDLWG	-	B0-TBO
291	PANS-ATM (Doc 4444) / improved procedures and message set for CPDLC and ADS-C	30-Nov-16	30-Nov-16	On-schedule	CP-OPDLWG	-	B0-TBO
292	Doc 10037 - GOLD Document (Doc 10037) / Guidance on the use of DLIC, CPDLC and ADS-C (upgrade regional document into a global manual)	30-Nov-15	30-Nov-16	On-schedule	CP-OPDLWG	-	B0-FRTO B0-TBO B1-FICE B1-FRTO

2018

Work Package No.	Work Package Title
ROI-6-2018-4	Provisions and procedures for Trajectory-based Operations
Deliverable Expert Group	ATMRPP
Problem Statement	The increase in demand for air transportation requires a shift from air traffic management based on clearances to management based on the proposed trajectory by airspace users to allow increase in airspace capacity in a safe and efficient way.
Expected Benefits	Management by trajectory will improve predictability and flexibility in the air traffic management system allowing airspace users to fly their preferred four dimensions trajectory bringing economic and environmental benefits and improving efficiency of the air navigation system as a whole.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1472	Doc #### - TBO Concept /	30-Jul-17	30-Nov-17	On-schedule	ATMRPP	*ATMRPP.005.01 (DONE)	B1-TBO

ROI-6-2018-5	Provisions to complement new PBN navigation specifications - Phase 2
Deliverable Expert Group	IFPP
Problem Statement	The new PBN navigation specifications cannot be implemented without the development of new ICAO provisions. Consequently, the operational benefits that result from the new specifications can not be attained.
Expected Benefits	Increased safety (vertical guidance), operational efficiency, airspace capacity and airport accessibility.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
316	Annex 6 - Part II / Standards on the use of PBN on Conventional routes	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	-	-
317	Annex 6 - Part III / Standards on the use of PBN on Conventional routes	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	-	-
864	PANS-ATM (Doc 4444) / Advanced RNP	30-Jul-18	30-Nov-18	On-schedule	SASP	SASP.006.01	B1-FRTO
865	PANS-ATM (Doc 4444) / PBN based Lateral Separation Minima To Special Use Airspace (SUA)	30-Jul-18	30-Nov-18	On-schedule	SASP	-	B1-FRTO B1-NOPS
313	PANS-OPS Vol I (Doc 8168) / Procedures for the use of PBN on Conventional routes. EN-ROUTE	01-Jul-18	30-Nov-18	On-schedule	FLTOPSP	OPSP.014.02	B1-FRTO
1037	PANS-OPS Vol I (Doc 8168) / Procedures for the use of PBN on Conventional routes. APP	01-Jul-18	30-Nov-18	On-schedule	FLTOPSP	OPSP.014.02	-
1538	PANS-OPS Vol I (Doc 8168) /		30-Nov-18	Not approved		-	-

ROI-6-2018-6	Standards and procedures for management and use of current and new flight and flow information
Deliverable Expert Group	ATMRPP
Problem Statement	The current limitations in the flight plan system imposes inefficiencies to the air traffic management system that impacts airspace users and air navigation services providers due to unavailability and/or losses of essential information regarding capabilities and intentions of airspace users.
Expected Benefits	The new standards and procedures for exchange of flight and flow information will increase flexibility and capacity of airspace users to communicate capabilities to the air traffic management system and will allow ground-ground exchange of information in a more efficient and complete manner, what is not allowed today due to limitations in the current system.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
656	Annex 2 / New rules related to flight planning	30-Jul-18	30-Nov-18	On-schedule	ATMRPP	ATMRPP.001.02	B1-FICE
657	Annex 11 / New services associated to extended flight plan	30-Jul-18	30-Nov-18	On-schedule	ATMRPP	ATMRPP.001.02	B1-FICE
1671	Annex 15 / Requirements for publication of flight planning services provided, formats accepted, and associated procedures	30-Jul-18	30-Nov-18	On-schedule	ATMRPP	ATMRPP.001.02	B1-FICE
658	PANS-ATM (Doc 4444) / Procedures for flight and flow information for pre-departure	30-Nov-18	30-Nov-18	On-schedule	ATMRPP	ATMRPP.001.02	B1-DATM B1-FICE B1-TBO
1672	Doc - Untitled / Manual on implementation of FF-ICE	30-Jul-18	30-Nov-18	On-schedule	ATMRPP	ATMRPP.001.02	B1-FICE

ROI-6-2018-8	Flight Operations in the presence of Volcanic Contamination
Deliverable Expert Group	FLTOPSP
Problem Statement	There is a need to address operational considerations for Flight Crews who have to conduct operations in the presence of Volcanic Contamination. With all the guidance material that has been developed since the eruption of the Eyjafjallajökull volcano in Iceland, Flight crews need to have specific guidance both pre-flight and in-flight.
Expected Benefits	Improved guidance for operators for operations in the vecinity of volcanic contamination

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1624	Doc - Feasibility Study / Examine worldwide guidelines on visible/discernible ash detection and harmonize them into a useful tool for flight crew use		01-Jan-01	On-schedule	FLTOPSP	FLTOPSP.024.01	-
1627	Annex 15 / Provisions to harmonize NOTAM/SIGMET in relation to VA activity that can be used by flight crew	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.024.01	-
1626	Doc 9691 - Manual on VARMTCC (Doc 9691) / Develop guidance on relevant SRA information to Flight Crews for Pre-flight/Inflight planning purposes	30-Mar-17	01-Jan-01	On-schedule	FLTOPSP	FLTOPSP.024.01	-
1426	Doc 9694 - Manual of Air Traffic Services Data Link Applications / Update AIDC section to reflect current implementation of character-based messaging for electronic coordination and Delete air-ground applications section as it has been superseded by GOLD Manual (Doc 10037)	30-Jul-16	30-Nov-16	Late	CP-OPDLWG	CP-OPDLWG.003.01	B0-FICE
1625	Doc 9974 - Flight Safety and Volcanic Ash (Doc 9974) / Develop guidance on relevant SRA information to Flight Crews for Pre-flight/Inflight planning purposes	30-Mar-17	01-Jan-01	On-schedule	FLTOPSP	FLTOPSP.024.01	-

ROI-6-2018-9	Provisions for harmonized data link and SATVOICE implementation allowing for seamless operations
Deliverable	CP-OPDLWG

Expert Group	
Problem Statement	The problem is two-fold. On the one hand we must ensure that procedures are adequate between ATS facilities with respect to the handling of CPDLC and ADS-C equipped aircraft flying in various FIRs. We must also ensure that the exchange of information between ATS units (ground-ground) on aircraft flying from one FIR to another is based on a format that is acceptable to all.
Expected Benefits	Reduction in connectivity errors between aircraft and ATS facilities and/or reduction in flight plan rejections between ATS facilities.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1674	Doc 9869 - PBCS Manual (Doc 9869) / Guidance on issues and resolution database, RCP/RSP specifications for domestic data link operations for specific applications including RCP/RSP specifications that support SASP work program, as necessary.	31-Jul-17	30-Nov-17	On-schedule	CP-OPDLWG	CP-OPDLWG.002.01	B1-TBO
1673	Doc 10037 - GOLD Document (Doc 10037) / Update to align with the 2016 amendments to Annexes and PANS-ATM and include functional Baseline 2 services	31-Jul-17	30-Nov-17	On-schedule	CP-OPDLWG	CP-OPDLWG.001.01	B0-TBO B1-TBO
1676	Doc 10038 - Satellite Voice Guidance Material (Doc 10038) / Guidance on assigning and managing SATVOICE numbers for aeronautical stations and incorporate other updates as experience is gained in its use.	31-Jul-17	30-Nov-17	On-schedule	CP-OPDLWG	CP-OPDLWG.004.01	B1-TBO

ROI-6-2018-7	ATM separation procedures and phraseologies
Deliverable Expert Group	SASP
Problem Statement	With increasing demand for air transportation, airspace is becoming a scarce resource and reduction in separation using the new onboard and ground capabilities will help to improve airspace capacity. However, new safe separation minima and procedures and associated phraseologies necessary for its application need to be developed to allow the efficient and safe use of the new capabilities.
Expected Benefits	New separation minima and procedures will allow the safe use of onboard and ground capabilities with consequent increase in capacity and reduction in delays caused by imbalances between demand and capacity.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
408	PANS-ATM (Doc 4444) / Separation minima and procedures for RNP 1, 2 advanced RNP.	30-Nov-18	30-Nov-18	On-schedule	SASP	-	B1-FRTO

ROI-6-2018-2	Provisions for required time of arrival
Deliverable Expert Group	IFPP-PBNWG
Problem Statement	With limited capacity in the terminal area and on the ground, there is an increased demand to efficiently sequence aircraft arrivals and departures, to prevent delays and airborne holding. Standard application of Required Time of Arrival or RTA through the aircrafts FMS and integrated with the ATC ground system does not exist.
Expected Benefits	Efficient air traffic flow/reduced delays and airborne holds/reduced ATCO workload/enhanced reliability, repeatability and predictability,

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
397	Annex 6 - Part I / Standards on RTA for commercial operations	30-Jun-18	30-Nov-18	Not approved	FLTOPSP	-	B1-TBO
398	Annex 6 - Part II / Standards on RTA for GA operations	30-Jun-18	30-Nov-18	Not approved	FLTOPSP	-	-
399	Annex 6 - Part III / Standards on RTA for Helicopter operations	30-Jun-18	30-Nov-18	Not approved	FLTOPSP	-	-
396	PANS-ATM (Doc 4444) / ATM procedures for RTA.	30-Nov-18	30-Nov-18	On-schedule	ATMOPSP	-	B1-RSEQ B1-TBO
394	Doc 9613 - PBN Manual (Doc 9613) / Navigation Specifications in RTA	30-Nov-18	30-Nov-18	On-schedule	IFPP-PBNWG	-	B1-TBO

ROI-6-2018-3	Requirements and procedures for aircraft separation for fixed radius transition turns (FRT)
Deliverable Expert Group	IFPP-PBNWG
Problem Statement	Today's aircraft have the ability to fly fixed radius transition turns that lead to improved repeatability and predictability. This allows for more efficient use of high density airspace.. However, to apply FRT, new separation requirements and procedures are required
Expected Benefits	Closer route spacing along turns in the en-route network/closer spacing of parallel routes

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
403	PANS-ATM (Doc 4444) / Separation minima on FRT	31-Jul-20	30-Nov-20	On-schedule	SASP	-	B1-FRTO
1595	PANS-ATM (Doc 4444) / Define flight planning and ATM requirements to permit safe use of FRT's	31-Jul-18	30-Nov-18	On-schedule	ATMOPSP	-	B1-FRTO
412	PANS-OPS Vol I (Doc 8168) / Pilot requirements on FRT	30-Nov-18	30-Nov-18	Not approved	FLTOPSP	-	B1-FRTO
411	PANS-OPS Vol II (Doc 8168) / Instrument flight procedures for FRT	30-Nov-18	30-Nov-18	On-schedule	IFPP	-	B1-FRTO
554	Doc 9613 - PBN Manual (Doc 9613) / Update on FRT functionality to align with Do 236c	31-Aug-17	30-Nov-18	On-schedule	IFPP-PBNWG	-	B1-FRTO
1570	Doc 9997 - PBN OPS App Manual (Doc 9997) / Certification of systems to support FRT implementation	31-Aug-17	31-Dec-17	On-schedule		-	B1-FRTO
1571	Doc TRN - Training Courses / Update to PBN CBT and classroom course content		30-Dec-16	On-schedule		-	-

ROI-7 Facilitate access by RPA to non-segregated airspace

Description

Standards, procedures and guidance on RPA certification, RPAS operational approval, remote pilot licensing and RPAS operator certification to support initial access to non-segregated airspace and aerodromes.

Measured By

Number of States issuing certificates, approvals and licences.

2014

Work Package No. | Work Package Title

ROI-7-2014-1 Regulatory requirements emanating from Article 8 of Chicago Convention

Deliverable Expert Group RPASP

Problem Statement Recognize RPA as aircraft and address high level requirements for operating rules, certificates, licences and special authorizations.

Expected Benefits

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
361	Annex 2 / Initial Standards for operating rules, certificates and licensing and Special Authorization		30-Nov-12	Completed	RPASP	-	-
362	Annex 7 / Standards on nationality and registration marks and identification plates		30-Nov-12	Completed	RPASP	-	-

ROI-7-2014-2 Guidance on integration of RPA into non-segregated airspace and aerodromes

Deliverable Expert Group RPASP

Problem Statement RPA are aircraft and RPAS operators are demanding that States allow them to operate in airspace and at aerodromes. Provisions of the Chicago Convention apply, however they cannot be implemented as written for manned aviation. States, industry and operators need guidance on how to safely and efficiently address RPAS.

Expected Benefits States, ANSPs, industry and RPAS operators will be able begin developing national regulations with a common understanding of how to address the issues. This will allow early accommodation of RPA while SARPs are developed to support integration.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
363	Doc 10019 - Manual on RPAS (Doc 10019) / Initial guidance on airworthiness, operations, licensing, command and control, detect and avoid, ATM and aerodromes		30-Oct-14	Completed	RPASP	-	-

2018

Work Package No. | Work Package Title

ROI-7-2018-1 A regulatory framework addressing command and control requirements, licensing , airworthiness certification, OPS approvals

Deliverable Expert Group RPASP

Problem Statement RPA are aircraft and are subject to the provisions of the Chicago Convention; however most existing SARPs, PANS and guidance material cannot be applied as written due to the unique characteristics of RPAS.

Expected Benefits The regulatory framework will provide a basis for operations of RPAS to be conducted safely across international boundaries in a harmonized and efficient manner without increasing risk to manned aviation.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1513	Annex 1 / Provisions for Remote pilot licence for: - Remote Pilot - Remote student pilot -RPAS instructor	01-Jul-18	30-Nov-19	On-schedule	RPASP	RPASP.004.02	B1-RPAS
1514	Annex 1 / Provisions for Medical assessment	01-Jul-18	30-Nov-19	On-schedule	RPASP	RPASP.004.02	-
1515	Annex 1 / Provisions for Licence for flight crew members others than for pilots	01-Jul-18	30-Nov-19	On-schedule	RPASP	RPASP.004.02	-
1516	Annex 1 / Provisions for Licence and ratings for personnel other than flight crew members	01-Jul-18	30-Nov-19	On-schedule	RPASP	RPASP.004.02	-
1517	Annex 1 / Provisions for Credit for remote pilot licence obtained in military service and manned aviation	01-Jul-18	30-Nov-19	On-schedule	RPASP	RPASP.004.02	B1-RPAS
1523	Annex 2 / Appendix 4 to reflect the impact of new provisions being added to Annex 1.	01-Jul-20	30-Nov-21	On-schedule		RPASP.006.03	-
1500	Doc 10019 - Manual on RPAS (Doc 10019) / Update guidance material	01-Jul-20	30-Nov-21	On-schedule	RPASP	RPASP.001.04	B1-RPAS

2020

Work Package No.	Work Package Title
ROI-7-2020-1	Provision of a detect and avoid capability for RPAs
Deliverable Expert Group	RPASP
Problem Statement	
Expected Benefits	

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1502	Annex 2 / Mitigation strategies related to annexes with the existing material Add the mitigation means applicable to RPAS which are missing	01-Jul-20	30-Nov-21	On-schedule	RPASP	RPASP.003.03	B1-RPAS
1524	Annex 2 / ATM contingency procedures for loss of C2 link	01-Jul-20	30-Nov-21	On-schedule	RPASP	RPASP.006.03	B1-RPAS
1503	Annex 3 / mitigation strategies related to annexes with the existing material Add the mitigation means applicable to RPAS which are missing	01-Jul-20	30-Nov-21	On-schedule	RPASP	RPASP.003.03	B2-RPAS
1490	Annex 6 - Part IV / Provisions for continuing airworthiness including C2 link	31-Jul-20	30-Nov-21	Late	RPASP	RPASP.001.04	B1-RPAS
1504	Annex 6 - Part IV / Mitigation strategies related to annexes with the existing material Add the mitigation means applicable to RPAS which are missing	01-Jul-20	30-Nov-21	On-schedule	FLTOPSP	RPASP.003.03	B1-RPAS

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1529	Annex 6 - Part IV / C2 Communications service provider: Requirements for oversight of C2 link service providers including, but not limited to technical, airworthiness and operational elements – develop the operational provisions		30-Nov-20	On-schedule	RPASP	RPASP.002.03	B1-RPAS
1487	Annex 7 / Classification(s) of RPA, RPS for the purpose of developing the applicable airworthiness standards	31-Jul-20	30-Nov-21	Late	RPASP	RPASP.001.04	-
1488	Annex 8 / Classification(s) of RPA, RPS for the purpose of developing the applicable airworthiness standards	31-Jul-20	30-Nov-21	Late	RPASP	RPASP.001.04	-
1489	Annex 8 / Provisions for type certification	31-Jul-20	30-Nov-21	Late	AIRP	RPASP.001.04	-
1491	Annex 8 / Provisions for continuing airworthiness	01-Jul-20	30-Nov-21	On-schedule	AIRP	RPASP.001.04	B1-RPAS
1493	Annex 8 / Airworthiness and operations requirements for C2 link RCP	01-Jul-20	30-Nov-21	On-schedule	AIRP	RPASP.002.03	-
1498	Annex 8 / Develop a process to allow communication service providers (CSPs) to support the C2 link This could include approval / acceptance of, and ongoing oversight of C2 link service providers	31-Jul-20	30-Nov-21	Late	RPASP	RPASP.002.03	-
1505	Annex 8 / Mitigation strategies related to annexes with the existing material Add the mitigation means applicable to RPAS which are missing	01-Jul-20	30-Nov-21	On-schedule	AIRP	RPASP.003.03	B2-RPAS
1494	Annex 10 - Vol I / Airworthiness and operations requirements for C2 link RCP	01-Jul-20	30-Nov-21	On-schedule	CP-DCIWG	RPASP.002.03	-
1495	Annex 10 - Vol II / C2 link systems requirements based on RCP Specifically including link mode control, hand over procedures, C2 status monitoring and lost C2 link procedure	01-Jul-20	30-Nov-20	On-schedule	RPASP	RPASP.002.03	B1-RPAS
1525	Annex 10 - Vol II / ATM contingency procedures for loss of C2 link	01-Jul-20	30-Nov-21	On-schedule	CP-DCIWG	RPASP.006.03	-
1497	Annex 10 - Vol III / Define requirements for the security of the C2 link	01-Jul-20	30-Nov-21	On-schedule	CP-DCIWG	RPASP.002.03	B1-RPAS
825	Annex 10 - Vol IV / Develop technical provisions for RPA Detect and Avoid Capabilities		30-Nov-20	On-schedule	SP	*ASP003 (DONE)	B1-RPAS
1506	Annex 10 - Vol IV / Mitigation strategies related to annexes with the existing material Add the mitigation means applicable to RPAS which are missing	01-Jul-20	30-Nov-21	On-schedule	CP-DCIWG	RPASP.003.03	B2-RPAS
1496	Annex 10 - Vol V / C2 link spectrum requirements Taking into account the expected QoS, RCP from WPI No. XX	01-Jul-20	30-Nov-21	On-schedule	FSMP	RPASP.002.03	-
1507	Annex 10 - Vol V / Mitigation strategies related to annexes with the existing material Add the mitigation means applicable to RPAS which are missing	01-Jul-20	30-Nov-21	On-schedule	FSMP	RPASP.003.03	B2-RPAS

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
9371	Annex 10 - Vol V / Mitigation strategies related to annexes with the existing material Add the mitigation means applicable to RPAS which are missing	30-Nov-21	01-Jul-20	On-schedule	RPASP	RPASP.002.03	-
1508	Annex 11 / Mitigation strategies related to annexes with the existing material Add the mitigation means applicable to RPAS which are missing	01-Jul-20	30-Nov-21	On-schedule	RPASP	RPASP.003.03	B2-RPAS
1509	Annex 14 - Vol I / Mitigation strategies related to annexes with the existing material Add the mitigation means applicable to RPAS which are missing	01-Jul-20	30-Nov-21	On-schedule	ADOP	RPASP.003.03	B2-RPAS
1510	Annex 19 / Mitigation strategies related to annexes with the existing material Add the mitigation means applicable to RPAS which are missing	01-Jul-20	30-Nov-21	On-schedule	SMP	RPASP.003.03	B2-RPAS
1528	Annex 19 / C2 Communications service provider: Provisions for C2 link RCP and approval/acceptance of C2 link service providers		30-Nov-20	On-schedule	RPASP	RPASP.002.03	-
1530	Annex 19 / C2 Communications service provider: Requirements for oversight of C2 link service providers including, but not limited to technical, airworthiness and operational elements – develop the operational provisions		30-Nov-20	On-schedule	RPASP	RPASP.002.03	-
1511	PANS-ATM (Doc 4444) / Mitigation strategies related to annexes with the existing material Add the mitigation means applicable to RPAS which are missing	01-Jul-20	30-Nov-21	On-schedule	RPASP	RPASP.003.03	B2-RPAS
1526	PANS-ATM (Doc 4444) / ATM contingency procedures for loss of C2 link		30-Nov-14	On-schedule	RPASP	RPASP.006.03	-

ROI-7-2020-2	Technical instructions for carriage of dangerous goods on RPA
Deliverable Expert Group	DGP
Problem Statement	As growth in air traffic increases, a corresponding increase in air cargo containing dangerous goods can be anticipated. Hazards presented by dangerous goods can result in fire or explosion on board aircraft (both passenger and cargo) with consequential loss of life.
Expected Benefits	Transporting such cargo on RPA will result in no loss of life on board the aircraft if a dangerous goods accident were to occur.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
649	PANS-TRG (Doc 9868) / Training Provisions for Remote Pilots	31-Jul-20	30-Nov-20	Late	RPASP	-	-
369	Doc 9284 - Tech Ins for the ST of DG by Air (Doc 9284) / Instructions on how to handle dangerous goods carried on RPA	30-Jun-20	30-Nov-20	Late	DGP	-	B1-RPAS
688	*Doc 9284SU - Supplement to the Tech Instructions (Doc 9284SU) / Amendment*	*31-Jul-20*	*30-Nov-20*	*Late*	*DGP*	-	*B1-RPAS*

ROI-7-2020-3	ATM separation for RPA
Deliverable Expert Group	RPASP
Problem Statement	With the evolution of unmanned aircraft systems, air navigation service providers need to be provided with safe separation minima that will allow the integration of this type of aircraft into a non-segregated airspace.
Expected Benefits	Integration of unmanned aircraft systems into non segregated airspace using safe separation minima.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
687	Annex 18 / Amendment		30-Nov-20	Late	DGP	-	B1-RPAS

ROI-7-2020-4	RPASP Operations 2020
Deliverable Expert Group	RPASP
Problem Statement	There is an increasing demand for RPAS operators to be able to operatre in non-segregated airspace and at aerodromes. Provisions of the Chicago Convention apply, however they cannot be implemented as written for manned aviation. States, industry and operators need guidance on how to safely and efficiently address RPAS.
Expected Benefits	Provide States with a global framework for RPAS operations.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1519	Annex 6 - Part II / ROC Development: Requirements for issuance of RPAS operator certificate (ROC), Develop provisions (SARPS and guidance) for the ROC	01-Jul-20	30-Nov-21	Late	FLTOPSP	RPASP.007.02	-
1492	Annex 6 - Part IV / airworthiness and operations requirements for C2 link RCP	01-Jul-20	30-Nov-21	On-schedule	RPASP	RPASP.007.02	B1-RPAS
1520	Annex 6 - Part IV / ROC Development: Requirements for safety management on RPAS operators and operations and coordinate with appropriate ICAO expert groups the development of provisions	31-Jul-20	30-Nov-21	Late	SMP	RPASP.007.02	B1-RPAS
1522	Annex 6 - Part IV / ROC Development: Develop a template for the ROC and provisions for operations specifications	01-Jul-20	30-Nov-21	Late	FLTOPSP	RPASP.007.02	B1-RPAS
1527	Annex 6 - Part IV / C2 Communications service provider: Provisions for C2 link RCP and approval/acceptance of C2 link service providers	31-Jul-20	30-Nov-21	On-schedule	RPASP	RPASP.007.02	B1-RPAS
1531	Annex 6 - Part IV / Operational Requirements: Define requirements for handovers between RPS, develop provisions	01-Jul-20	30-Nov-21	On-schedule	FLTOPSP	RPASP.007.02	B1-RPAS
1532	Annex 6 - Part IV / Operational Requirements: Initial requirements for IFR RPAS operations in controlled airspace / aerodromes, develop provisions	01-Jul-20	30-Nov-21	On-schedule	FLTOPSP	RPASP.007.02	B1-RPAS
1521	Annex 19 / ROC Development: Requirements for safety management on RPAS operators and operations and coordinate with appropriate ICAO expert groups the development of provisions	01-Jul-20	30-Nov-21	Late	SMP	RPASP.007.02	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1533	PANS-OPS Vol I (Doc 8168) / Changes to accommodate RPA	01-Jul-20	30-Nov-21	On-schedule	RPASP	RPASP.007.02	-

ROI-8 Optimise aerodrome departure/arrival rates in all meteorological conditions

Description	Procedures and guidance to allow the utilisation of technology and information to increase airport movement rates under all meteorological conditions: 1) collection, use and exchange of information; 2) collaboration; 3) human performance, training and support tools; 4) ATM procedures; 5) Flight procedures; and 6) CNS enablers
Measured By	Comparing number of operations (take-offs and landings) during VMC and IMC.

2016

Work Package No. Work Package Title

ROI-8-2016-1 Standards and procedures to enable Cat I approaches and landings based on SBAS

Deliverable Expert Group IFPP

Problem Statement SBAS approach procedures are currently limited to a minimum descent altitude of 250', which restricts airport access, even though the navigational accuracy allows for CAT 1 capability.

Expected Benefits Increased airport accessibility, procedures with vertical guidance

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
265	Annex 10 - Vol I / Standards on SBAS Cat I	30-Jun-10	30-Nov-10	Completed	NSP	-	B0-APTA
266	PANS-OPS Vol II (Doc 8168) / Procedure design criteria on SBAS Cat I	30-Jun-14	30-Nov-14	Completed	IFPP	IFPP.011.02	B0-APTA

ROI-8-2016-4 Standards, procedures and guidance for applying the new approach reclassification criteria on runway infrastructure requirements

Deliverable Expert Group ACTF

Problem Statement New provisions are required to support the implementation of the new approach reclassification criteria as well as for the supporting ground facilities.

Expected Benefits Consistent application of new approach classification combined with standard supporting airport ground facilities will result in improved and more efficient airport operations

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
276	Annex 2 / Amended definitions as a consequential to the new approach classification	30-Jun-13	30-Nov-14	On-schedule	ACTF	-	-
277	Annex 6 - Part I / New approach classification SARPs	30-Jun-13	30-Nov-14	On-schedule	ACTF	-	-
278	Annex 6 - Part II / New approach classification SARPs ground facilities	30-Jun-13	30-Nov-14	On-schedule	ACTF	-	-
279	Annex 6 - Part III / New approach classification SARPs ground facilities	30-Jun-13	30-Nov-14	On-schedule	ACTF	-	-
555	Annex 10 - Vol I / Amended definitions as a consequential to the new approach classification	30-Jun-13	30-Nov-14	On-schedule	ACTF	-	-
280	Annex 14 - Vol I / Amended definitions as a consequential to the new approach classification	30-Jun-13	30-Nov-14	On-schedule	ACTF	-	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
283	PANS-ATM (Doc 4444) / Amended definitions as a consequential to the new approach classification		30-Nov-14	On-schedule	ACTF	-	-
281	PANS-OPS Vol I (Doc 8168) / Amended definitions as a consequential to the new approach classification	30-Jun-13	30-Nov-14	On-schedule	ACTF	-	-
282	PANS-OPS Vol II (Doc 8168) / Amended definitions as a consequential to the new approach classification	01-Jul-13	30-Nov-14	On-schedule	ACTF	-	-
287	Doc #### - Circ. App. Class. (Doc ####) / Explanatory information on approach classification	01-Jul-13	30-Nov-14	On-schedule	ACTF	-	-
286	Doc 336 - Circ. On PBN Charting (Doc 336) / Guidance on PBN approach charting	30-Jun-14	30-Nov-14	On-schedule	IFPP	-	-

ROI-8-2016-5	Improved separation requirements for departures (45 degrees, Equivalent Lateral Separation Operation (ELSO))
Deliverable Expert Group	SASP
Problem Statement	Todays separation criteria for arrivals and departure from airports with more than one runway imposes restriction to airport operations and airspace capacity that can be eliminated through the use of more advanced ground and onboard capabilities.
Expected Benefits	New criteria for separation of arriving and departing aircraft will increase airspace and airport capacity with a consequent more efficient use of the air navigation system as a whole.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
851	PANS-OPS Vol II (Doc 8168) / Procedure design criteria for reduced divergence departures		31-Dec-14	On-schedule	SASP	SASP.004.01	-

2018

Work Package No.	Work Package Title

ROI-8-2018-10	Aircraft operations on winter-contaminated runways using a global reporting format for effective runway surface condition assessment
Deliverable Expert Group	FLTOPSP
Problem Statement	Ineffective braking due to runway contamination is one of the major risk factors in runway excursion events. Late or inaccurate runway condition reports have contributed to many safety incidents and investigations have revealed shortfalls in the accuracy and timeliness of assessment and reporting methods currently provided for in ICAO provisions and guidance material.
Expected Benefits	Runway friction measurements are not suitable in all weather conditions when the runway is contaminated and the information when used in reports could be misleading to pilots. Pilots of modern aircraft also need reports that are directly related to the performance of the aircraft. Aerodrome operators need clear guidelines on maintaining runway friction and assessing conditions for reports. In addition, both airport operators and pilots need to understand the meaning of the report contents, including the terms “damp” and “slippery when wet”, and how to use it effectively. New techniques for the assessment of braking action on contaminated surfaces are now available or under development, and need to be incorporated in ICAO provisions.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
158	Annex 6 - Part I / Technology for runway safety (on- board equipment) provisions	01-Jul-18	30-Nov-18	On-schedule	FLTOPSP	OPSP.009.01	B1-SURF
159	Annex 6 - Part II / Technology for runway safety (on- board equipment) provisions	01-Jul-18	30-Nov-18	On-schedule	FLTOPSP	OPSP.009.01	B1-SURF
233	PANS-OPS Vol I (Doc 8168) / Procedures for using the runway surface condition assesment information	01-Jul-18	30-Nov-18	On-schedule	FLTOPSP	-	-
1028	PANS-OPS Vol I (Doc 8168) / Technology for runway safety (on- board equipment) provisions	30-Jul-18	30-Nov-18	On-schedule	FLTOPSP	OPSP.009.01	B1-SURF
1031	PANS-OPS Vol I (Doc 8168) / Procedures for runway safety (visual aids)	01-Jul-18	30-Nov-18	On-schedule	FLTOPSP	*OPSP.010.02 (DONE)	-
1032	PANS-OPS Vol II (Doc 8168) / Procedures for runway safety (visual aids)	01-Jul-18	30-Nov-18	On-schedule	FLTOPSP	*OPSP.010.02 (DONE)	-
1034	Doc #### - Circ on technology for runway safety (VA) (Doc ####) / Circular in technology for runway safety (visual aids) (Or provisions as recommended by Panel. See element PANS-OPS in this element)	01-Jul-18	30-Nov-18	On-schedule	FLTOPSP	*OPSP.010.02 (DONE)	B1-SURF

ROI-8-2018-12	Update PBN Flight planning and RTF provisions (PBNSG0005)
Deliverable Expert Group	PBNSG
Problem Statement	Currently PANS ATM (Doc 4444) flight plan section includes a limited set of PBN navigation specifications. It does not include the recent additions of RNP 2, RNP 0.3 or A-RNP, or the optional functionality requirements of many specifications. Additionally there is a need for PBN phraseology to be verified to ensure there is no ambiguity related to PBN clearances.
Expected Benefits	More accurate information regarding the PBN capabilities of the aircraft will be passed to ATC allowing better utilisation of existing routes, and an reduced risk of aircraft operating on a route using PBN capabilities they are not certified for. Standard phraseology will ensure there is no ambiguity in clearances.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1578	PANS-ATM (Doc 4444) / Update description of Block 18 PBN codes to include current specifications and optional functionality, as well as standard phraseology related to PBN	31-Jul-18	30-Nov-18	On-schedule	ATMOPSP	-	-
1579	Doc TRN - Training Courses / Update to PBN CBT and classroom course content		30-Jun-18	On-schedule		-	-

ROI-8-2018-13	Improvement of airport accessibility through SBAS procedures
Deliverable Expert Group	IFPP
Problem Statement	Development of criteria which will result in an improved Airport accessibility
Expected Benefits	

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1586	PANS-OPS Vol I (Doc 8168) / Develop provisions for the application of approach procedures utilizing SBAS with barometric vertical navigation for the guidance of flight operations personnel and flight crew.		30-Nov-18	On-schedule	IFPP	IFPP.008.02	-
1587	PANS-OPS Vol II (Doc 8168) / Develop design criteria for the application of approach procedures utilizing SBAS with barometric vertical navigation		30-Nov-18	On-schedule	IFPP	IFPP.008.02	-

ROI-8-2018-14	Removal of CAT IIIA, IIIB, and IIIC definitions and removal of visibility references for Category I, II and III operations
Deliverable Expert Group	FLTOPSP
Problem Statement	The Category III definitions are outdated because they are no longer utilized for aircraft certification or operational authorization. The visibility references in the category definitions are also outdated and not consistent with Performance Based Approach Classification and Flexible Aerodrome Operating Minima.
Expected Benefits	Update instrument approach Category III definitions, including visibility refrences, to accommodate performance based enhancements in flight operations

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1633	Doc - Feasibility Study / Review Annex 6, Parts I, II, III for references to Category definitions and asses the removal of visibility requirements on the Category IIIA, IIIB, IIIC definition.		01-Jan-01	On-schedule	FLTOPSP	FLTOPSP.027.01	-
1634	Annex 6 - Part I / Amend definitions and approach operation provisions regarding Category IIIA, IIIB, IIIC operations		30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.027.01	-
1635	Annex 6 - Part II / Amend definitions and approach operation provisions regarding Category IIIA, IIIB, IIIC operations.	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.027.01	-
1636	Annex 6 - Part III / Amend definitions and approach operation provisions regarding Category IIIA, IIIB, IIIC operations.	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.027.01	-
1637	Annex 10 - Vol I / Amend definitions and approach operation provisions regarding Category IIIA, IIIB, IIIC operations to make them consistent the Annex 6	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.027.01	-
1638	Annex 14 - Vol I / Amend definitions and approach operation provisions regarding Category IIIA, IIIB, IIIC operations to make them consistent the Annex 6	30-Jun-18	30-Nov-18	On-schedule	ADOP	FLTOPSP.027.01	-
1640	PANS-ATM (Doc 4444) / Amend definitions and approach operation provisions regarding Category IIIA, IIIB, IIIC operations to make them consistent the Annex 6	30-Jun-18	30-Nov-18	On-schedule	ATMOPSP	FLTOPSP.027.01	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1639	PANS-OPS Vol I (Doc 8168) / Amend definitions and approach operation provisions regarding Category IIIA, IIIB, IIIC operations to make them consistent the Annex 6	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.027.01	-

ROI-8-2018-15	Review and revision of the Manual of All-Weather Operations Manual (MAWO) to provide helicopter specific guidance
Deliverable Expert Group	
Problem Statement	The All Weather Operations Manual improves safety by helping States and Operators interpret and apply ICAO all-weather related standards and recommended practices. While much of the AWOM may be beneficially applied to helicopter operations, helicopter specific guidance is not presently included. Certain helicopter all weather operations present unique challenges and risks.
Expected Benefits	Expand guidance in Manual of All-Weather Operations (Doc 9365) to include helicopter operations

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1644	Doc - Feasibility Study / Conduct a helicopter specific gap analysis of the current MAWO		01-Jan-01	On-schedule	FLTOPSP	FLTOPSP.029.01	-
1645	Doc 9365 - Manual of All WX OPS (Doc 9365) / Helicopter specific guidance to fill identified MAWO gaps	30-Nov-16	01-Jan-01	On-schedule	FLTOPSP	FLTOPSP.029.01	-

ROI-8-2018-16	Review of some expressions, e.g. basic vs advanced aircraft, vision systems and advanced vision systems.
Deliverable Expert Group	
Problem Statement	More elaborated definitions or descriptions have been suggested during document reviews.
Expected Benefits	Guidance on the concept of advanced vs basic aircraft in the context of approach operations

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1654	Annex 6 - Part I / Basic vs advanced aircraft definitions/descriptions in Attachment I	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.034.01	-
1655	Annex 6 - Part II / Basic vs advanced aircraft definitions/descriptions in Attachment 2.B	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.034.01	-
1656	Annex 6 - Part III / Basic vs advanced aircraft definitions/descriptions in Attachment I	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.034.01	-
1657	Doc 9365 - Manual of All WX OPS (Doc 9365) / Basic vs advanced aircraft definitions/descriptions	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.034.01	-

ROI-8-2018-17	Adding “Operational Credits” to the list of items to consider when establishing Aerodrome Operating Minima
Deliverable Expert Group	FLTOPSP
Problem Statement	Operational Credits is an established basis for reducing Aerodrome Operating Minima but it is missing from the list of items to take into account when establishing aerodrome operating minima.

Expected Benefits	An updated list of considerations for establishing aerodrme operating minima.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1658	Annex 6 - Part I / Revise Aerodrome operating minima SARPS with “Operational Credit” concept	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.035.01	-
1659	Annex 6 - Part II / Revise Aerodrome operating minima SARPS with “Operational Credit” concept	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.035.01	-
1660	Annex 6 - Part III / Revise Aerodrome operating minima SARPS with “Operational Credit” concept	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.035.01	-

ROI-8-2018-18	Provision of information from Vision Systems to both pilot stations
Deliverable Expert Group	FLTOPSP
Problem Statement	Vision systems can provide the flight crew with superior situational awareness and flight guidance. However, if both pilot stations are not equipped then pilots will not have the same information.
Expected Benefits	Standarized enhanced vision equippage requiermetns on pilot seats.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1662	Annex 6 - Part I / Revise Vision System SARPS equipment requirements/recommendations	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.036.01	-
1663	Annex 6 - Part II / Revise Vision System SARPS equipment requirements/recommendations	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.036.01	-
1664	Annex 6 - Part III / Revise Vision System SARPS equipment requirements/recommendations	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.036.01	-
1661	Doc 9365 - Manual of All WX OPS (Doc 9365) / Guidance on equipment requirements in MAWO	30-Jun-18	01-Jan-01	On-schedule	FLTOPSP	FLTOPSP.029.01	-

ROI-8-2018-11	Improved separation requirements for departures (45 degrees, Equivalent Lateral Separation Operation (ELSO))
Deliverable Expert Group	SASP
Problem Statement	Todays separation criteria for arrivals and departure from airports with more than one runway imposes restriction to airport operations and airspace capacity that can be eliminated through the use of more advanced ground and onboard capabilities.
Expected Benefits	New criteria for separation of arriving and departing aircraft will increase airspace and airport capacity with a consequent more efficient use of the air navigation system as a whole.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
293	PANS-ATM (Doc 4444) / New separation criteria for depature procedures based on PBN capabilities	31-Dec-18	31-Dec-18	Late	SASP	SASP.004.01	-

ROI-8-2018-5	Standards and procedures to enable Cat II/III approaches and landings based on GBAS

Deliverable Expert Group	IFPP
Problem Statement	Currently GBAS approaches are restricted to CAT 1 operations, even though the navigational capability can meet CAT II/III criteria. This results in restricted airport accessibility under adverse weather conditions.
Expected Benefits	Increased airport accessibility/procedures with vertical guidance to all airport runways

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
269	Annex 10 - Vol I / Standards to cover GBAS use as a landing aid under Cat II/III	30-Jun-18	30-Nov-18	On-schedule	NSP	-	B1-APTA
1591	PANS-OPS Vol I (Doc 8168) / Develop GBAS Cat. II/III Criteria for the guidance of flight operations personnel and flight crew.		30-Nov-18	On-schedule	IFPP	IFPP.010.02	-
270	PANS-OPS Vol II (Doc 8168) / Procedure design criteria for GBAS Cat II/III	30-Nov-18	30-Nov-18	On-schedule	IFPP	IFPP.010.02	B1-APTA
309	Doc 9849 - GNSS Manual (Doc 9849) / Update of manual to cover GBAS use as a landing aid under Cat II/III	01-Jul-18	30-Nov-18	On-schedule	NSP	-	B1-APTA

ROI-8-2018-6	Standards and procedures for PBN approaches and charting
Deliverable Expert Group	IFPP
Problem Statement	Currently there is no standardization of PBN approaches and charting. This leads to confusion in the cockpit as to what approach is approved to be flown. There is no standardization in the application of visual approaches utilizing PBN
Expected Benefits	Standardization and harmonization of all PBN approach charting. Reduced confusion.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
566	PANS-OPS Vol I (Doc 8168) / Visual procedures utilizing PBN	30-Jun-18	30-Nov-18	Not approved	FLTOPSP	-	B1-APTA
272	PANS-OPS Vol II (Doc 8168) / Visual procedures utilizing PBN	30-Jun-18	30-Nov-18	On-schedule	IFPP	-	B1-APTA
567	Doc 8697 - Aeronautical Chart Manual (Doc 8697) / Visual procedures utilizing PBN	30-Jun-18	30-Nov-18	Not approved	IFPP	-	B1-APTA

ROI-8-2018-9	Procedures for implementing new wake turbulence categories allowing reduced separation
Deliverable Expert Group	ATMOPSP
Problem Statement	Existing wake turbulence separation minima are overly conservative. Existing categorization of aircraft, for purposes of application of wake associated wake turbulence separation minima, result in too few number of categories, refinement into more categories will support application of corresponding optimized minima.
Expected Benefits	Significant increased aerodrome capacity.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
294	PANS-ATM (Doc 4444) / Provisions on improved Wake Turbulence Criteria	30-Jul-18	30-Nov-18	On-schedule	ATMOPSP	-	B1-WAKE

ROI-8-2018-1	Standards and procedures for multiple GNSS constellations and frequencies of operations to support a satellite-based augmentation system (SBAS) and ground-based augmentation system (GBAS)
Deliverable	NSP

Expert Group	
Problem Statement	New GNSS core constellation and augmentation systems are being deployed and existing ones enhanced, This will improve robustness and availability in-line with the growing demands being placed on GNSS systems by various ATM applications and procedures. These new developments need to be supported by appropriate ICAO standards and provisions in order to meet the needs of civil aviation.
Expected Benefits	The introduction of new GNSS constellations and augmentation systems together with the enhancement of existing ones will improve the availability and performance of GNSS systems in-line with the new ATM applications and procedures that will exploit them.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1589	Doc - Feasibility Study / Investigation of feasibility of GBAS supporting Terminal Area Operations		30-Nov-18	On-schedule	IFPP	IFPP.009.02	-
298	Annex 10 - Vol I / Standards to support SBAS support via multiple constellations and frequencies	30-Jul-18	30-Nov-18	Late	NSP	NSP.003.01	B1-APTA
1131	Annex 10 - Vol I / Standards to support GNSS multi-constellation dual frequency	30-Jul-18	30-Nov-18	On-schedule	NSP	NSP.002.01	B1-APTA
1132	Annex 10 - Vol I / Standards to support GBAS support via multiple constellations and frequencies	30-Jul-18	30-Nov-18	Late	NSP	NSP.005.01	B1-APTA
1134	Annex 10 - Vol I / Develop provisions for ARAIM	30-Jul-18	30-Nov-18	Late	NSP	NSP.004.01	-
302	PANS-OPS Vol I (Doc 8168) / Update to flight procedures to allow multiple GNSS constellations	30-Jul-18	30-Nov-18	On-schedule	IFPP	-	-
303	PANS-OPS Vol II (Doc 8168) / Update to flight procedures to allow multiple GNSS constellations	30-Jul-18	30-Nov-18	On-schedule	IFPP	-	B1-APTA
300	Doc 9613 - PBN Manual (Doc 9613) / Update to navspecs to allow multiple GNSS constellations	30-Jul-18	30-Nov-18	On-schedule	IFPP	-	B1-APTA
1590	Doc 9613 - PBN Manual (Doc 9613) / Integration of GBAS in PBN		30-Nov-18	On-schedule	PBNSG	IFPP.009.02	-
299	Doc 9849 - GNSS Manual (Doc 9849) / Update to allow SBAS support via multiple constellations and frequencies	31-Jul-18	30-Nov-18	Late	NSP	NSP.003.01	B1-APTA
1133	Doc 9849 - GNSS Manual (Doc 9849) / Update to allow GBAS support via multiple constellations and frequencies	30-Jul-18	30-Nov-18	Late	NSP	NSP.005.01	B1-APTA
1135	Doc 9849 - GNSS Manual (Doc 9849) / Develop an operational concept for ARAIM	30-Jul-18	30-Nov-18	Late	NSP	NSP.004.01	-
301	Doc 9997 - PBN OPS App Manual (Doc 9997) / Update to OPS approval to allow multiple GNSS constellations	30-Jul-18	30-Nov-18	On-schedule	PBNSG	-	B1-APTA

ROI-8-2018-2	Procedures for PBN parallel runway operations
Deliverable Expert Group	SASP
Problem Statement	Currently procedures for parallel operations are based solely on the fact that both runways are provided with ILS and other navigation capabilities are not used for this type of operation.
Expected Benefits	PBN approach procedures for parallel runways will reduce the limitations where this type of operation can be

applied and increase airport and airspace capacity through more optimized operations.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
852	PANS-ATM (Doc 4444) / Separation minima for RNP parallel approaches	30-Jun-18	30-Nov-18	Late	SASP	SASP.005.01	B1-APTA
585	PANS-OPS Vol I (Doc 8168) / Flight procedure requirements for pilots	30-Nov-18	30-Nov-18	Late	FLTOPSP	-	-
305	PANS-OPS Vol II (Doc 8168) / Procedure design criteria for PBN parallel operations	30-Jul-18	30-Nov-18	On-schedule	IFPP	-	-
855	PANS-OPS Vol II (Doc 8168) / Procedure design criteria for PBN parallel approaches Procedures for Air Navigation Services — Aircraft Operations (OPS) (Doc 8168)	30-Jul-18	30-Nov-18	Late	SASP	SASP.005.01	-
853	Doc 9643 - Manual on SOIR (Doc 9643) / Guidance on PBN parallel approaches		30-Jun-18	On-schedule	SASP	SASP.005.01	-

ROI-8-2018-3	Improved PBN procedures based on new track data
Deliverable Expert Group	IFPP
Problem Statement	The design of PBN procedures is based on conservative criteria and navigation performance. Separation minima is also based on conservative aircraft performance. Consequently the full benefits of PBN are not being realized.
Expected Benefits	Improved PBN procedure design criteria based on improved data, leading to improved airport accessibility. Improved PBN separation minima based on improved data leading to increased airspace capacity.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
308	PANS-ATM (Doc 4444) / Improved PBN separation minima based on improved data to increase capacity and efficiency through reduced separation standards and obstacle clearance requirements.	01-Jul-18	30-Nov-18	On-schedule	SASP	-	-
307	PANS-OPS Vol II (Doc 8168) / Improved PBN design criteria based on improved data to increase capacity and effciency through reduced separation standards and obstacle clearance requirements.	01-Jul-18	30-Nov-18	On-schedule	IFPP	IFPP.011.02	-
1592	Doc 9905 - RNP AR P. Design Manual (Doc 9905) / Improved PBN Design criteria based on improved data		30-Nov-18	On-schedule	IFPP	IFPP.011.02	-
1593	Doc - Untitled / Data Collection of track keeping performance (request to States)		01-Jan-01	On-schedule	IFPP	IFPP.011.02	-
1594	Doc - Untitled / Analyse track keeping performance data		01-Jan-01	On-schedule	IFPP	IFPP.011.02	-

2020

Work Package No.	Work Package Title

ROI-8-2020-1	Development of PBN reversion capability (PBNSG0004)
Deliverable Expert Group	PBNSG
Problem Statement	Whilst the majority of PBN operations are based on GNSS, an aim of the PBNSG has been to develop reversion capabilities for use during potential interference/outage of the GNSS signal. Whilst it is not a universal

	solution, DME/DME use for RNP 1 would provide a reversion option in many areas and could be considered as a useful tool.
Expected Benefits	Progress towards a toolkit of reversion options for use when GNSS signals are not available/sufficient quality

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1580	Doc - Placeholder / Develop PBN Reversion strategy document		30-Dec-18	On-schedule		-	-
1581	Annex 10 - Vol I / Update Annex to include use of DME for RNP 1	31-Jul-20	30-Nov-20	On-schedule	NSP	-	-
1582	Doc 9613 - PBN Manual (Doc 9613) / Update descriptions of RNP 1 to include DME/DME	31-Aug-18	30-Dec-18	On-schedule		-	-
1583	Doc 9997 - PBN OPS App Manual (Doc 9997) / Define approval requirements for receiver/FMS to allow RNP 1 DME/DME position updating	31-Aug-18	31-Dec-18	On-schedule		-	-

ROI-8-2020-2	Update PBN Flight planning and RTF provisions (PBNSG0005)
Deliverable Expert Group	PBNSG
Problem Statement	Currently PANS ATM (Doc 4444) flight plan section includes a limited set of PBN navigation specifications. It does not include the recent additions of RNP 2, RNP 0.3 or A-RNP, or the optional functionality requirements of many specifications.
Expected Benefits	More accurate information regarding the PBN capabilities of the aircraft will be passed to ATC allowing better utilisation of existing routes, and an reduced risk of aircraft operating on a route using PBN capabilities they are not certified for.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1577	PANS-ATM (Doc 4444) / Ensure FF-ICE captures PBN requirements correctly	31-Jul-20	30-Nov-20	On-schedule	ATMRPP	-	B2-FICE

ROI-9 Improve efficiency of TMA operations

Description

Procedures and guidance to optimise flight trajectories in terminal airspace to improve the following parameters: distance flown, time spent in terminal airspace, level/speed restrictions and fuel burn through : 1) collection, use and exchange of information; 2) collaboration; 3) human performance, training and support tools; 4) ATM procedures; 5) Flight procedures; and 6) CNS enablers

Measured By

Distance flown, time spent in terminal airspace, level/speed restrictions, fuel burn

2014

Work Package No.	Work Package Title
ROI-9-2014-1	Guidance on PBN OPS approval
Deliverable Expert Group	IFPP-PBNWG
Problem Statement	PBN Ops approval guidance material for new PBN specifications RNP .03, RNP APCH, Advanced RNP) does not exist. Therefore airlines cannot be approved for these operations.
Expected Benefits	Ops Approval for all PBN specifications leading to increased operational efficiency.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
561	Doc 9997 - PBN OPS App Manual (Doc 9997) / Update to include RNP 0.3, RNP APCH and Advanced RNP	30-Nov-14	30-Nov-14	Late	IFPP-PBNWG	-	-
1091	Doc 9997 - PBN OPS App Manual (Doc 9997) / PBN OPS App Manual First Edition		30-Nov-13	Completed	IFPP-PBNWG	-	B0-CDO

ROI-9-2014-2	Guidance on PBN airspace design
Deliverable Expert Group	IFPP-PBNWG
Problem Statement	Guidance material on how to use the PBN concept in Airspace Design is required to maximize the use of airspace and increase capacity.
Expected Benefits	Increased airspace capacity, more efficient terminal and en-route operations, deconflicted arrival and departure routes

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
332	Doc 9992 - Manual on the Use of PBN AD (Doc 9992) / New manual on how to apply PBN concept in airspace design		30-Nov-13	Completed	IFPP-PBNWG	-	-

ROI-9-2014-3	Updated PBN navigation specifications
Deliverable Expert Group	IFPP-PBNWG
Problem Statement	PBN Manual does not include new PBN specifications (Advanced RNP, RNP APCH, RNP 0.3); therefore guidance on their use is not available.
Expected Benefits	Application of new PBN specifications will allow for reduced operations approvals and increased airport accessibility

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
333	Doc 9613 - PBN Manual (Doc 9613) / Update to PBN manual for RNP 0.3, RNP Apch and advanced RNP		30-Nov-13	Completed	IFPP-PBNWG	-	-

ROI-9-2014-4	PBN flight procedures to complement the PBN NAVSPECs
Deliverable Expert Group	IFPP
Problem Statement	Instrument Flight Procedure design criteria for new PBN specifications does not exist (RNP 0.3, Advanced RNP, RNP APCH). Consequently, procedures cannot be designed to these specifications and the benefits cannot be attained.
Expected Benefits	Increased airport accessibility, procedures with vertical guidance

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
334	PANS-OPS Vol II (Doc 8168) / New procedure design criteria on RNP 0.3, RNP APCH, and advanced RNP, including RF turns	30-Jun-14	30-Nov-14	On-schedule	IFPP	-	-

ROI-9-2014-5	Guidance on integration of CDOs in terminal airspace
Deliverable Expert Group	IFPP
Problem Statement	Additional guidance is required for the integration of CDOs in terminal airspace as well as updates to current CBT, to support expanded global application,
Expected Benefits	More efficient descents/arrivals leading to significant reductions in aircraft fuel burn and environmental emissions.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
558	PANS-OPS Vol I (Doc 8168) / Supporting clarification on CDO	30-Jun-14	30-Nov-14	Completed	IFPP	-	B0-CDO B1-CDO
557	PANS-OPS Vol II (Doc 8168) / Supporting clarification on CDO	30-Jun-14	30-Nov-14	Completed	IFPP	-	B0-CDO B1-CDO
335	Doc 9931 - CDO Manual (Doc 9931) / New CDO manual	30-Jun-12	30-Nov-12	Completed	IFPP	-	B0-APTA B0-CDO

ROI-9-2014-6	Guidance on integration of CCOs in terminal airspace
Deliverable Expert Group	IFPP
Problem Statement	Additional guidance is required for the integration of CCOs in terminal airspace as well as updates to current CBT, to support expanded global application,
Expected Benefits	More efficient departures leading to earlier attainment of optimum flight altitude and resulting in significant reductions in aircraft fuel burn and environmental emissions.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
559	PANS-OPS Vol I (Doc 8168) / Supporting clarification on CCO	30-Jul-14	30-Nov-14	Completed	IFPP	-	B0-CCO
560	PANS-OPS Vol II (Doc 8168) / Supporting clarification on CCO	30-Jul-14	30-Nov-14	Completed	IFPP	-	B0-CCO

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
336	Doc 9993 - CCO Manual (Doc 9993) / New manual on application of CCO in terminal airspace		30-Nov-13	Completed	IFPP	-	B0-CCO

2016

Work Package No.	Work Package Title
ROI-9-2016-6	Update of PBN manual in line with developments in MASPS, MOPS (PBNSG0006)
Deliverable Expert Group	PBNSG
Problem Statement	In order to keep the PBN specifications up to date it is necessary to review updates to MASPS, MOPS etc and determine which elements are relevant ofr inclusion into the PBN manual.
Expected Benefits	Update of PBN nav specs to include latest functionality requirements

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1615	Doc - Placeholder / Update other documents as required based on specification updates	30-Jun-16	30-Dec-16	On-schedule	PBNSG	-	-
1614	Doc 9613 - PBN Manual (Doc 9613) / Update specifications in line with recent updates to MASPS and MOPS		30-Mar-16	On-schedule	PBNSG	-	-

ROI-9-2016-1	Updated PBN flight procedures to complement the PBN NAVSPECs
Deliverable Expert Group	IFPP
Problem Statement	Full utilization of PBN capabilities is not being realized, in relation to PBN/Conventional procedure connections, path descriptors and GBAS approaches to parallel runways. As a result full PBN benefits are not attained.
Expected Benefits	More efficient instrument arrival and approach procedures, improved airport accessibility, reduced fuel burn and environmental emissions.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1109	Annex 4 / Harmonization of Charting Criteria, Databases of Criteria, and Avionics Systems with IFP Design	31-Jul-15	30-Nov-15	On-schedule	IFPP	IFPP.005.01	-
350	Annex 6 - Part I / Amend SARPs to differentiate those NAVSPECs that require operational approval and those that do not.	30-Jun-16	30-Nov-16	On-schedule	FLTOPSP	-	-
351	Annex 6 - Part II / Amend SARPs to differentiate those NAVSPECs that require operational approval and those that do not.	01-Jul-16	30-Nov-16	On-schedule	FLTOPSP	-	-
352	Annex 6 - Part III / Amend SARPs to differentiate those NAVSPECs that require operational approval and those that do not.	01-Jul-16	30-Nov-16	On-schedule	FLTOPSP	-	-
1112	Annex 11 / Harmonization of Charting Criteria, Databases of Criteria, and Avionics Systems with IFP Design	31-Jul-15	30-Nov-15	On-schedule	IFPP	IFPP.005.01	-
1111	Annex 15 / Harmonization of Charting Criteria, Databases of Criteria, and Avionics Systems with IFP Design	31-Jul-15	30-Nov-15	On-schedule	IFPP	IFPP.005.01	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
665	PANS-ATM (Doc 4444) / GBAS Landing System (GLS) approaches to parallel runway operations	01-Jul-16	01-Nov-16	On-schedule	SASP	SASP.003.01	B1-APTA
341	PANS-OPS Vol I (Doc 8168) / PANS-OPS Procedures connecting PBN with XLS final approach and APV Procedure criteria for PinS route visual segment missed approach Visual procedures utilizing PBN	30-Jun-16	30-Nov-16	On-schedule	IFPP	IFPP.008.02	-
342	PANS-OPS Vol II (Doc 8168) / PANS-OPS Procedures connecting PBN with XLS final approach and APV Procedure criteria for PinS route visual segment missed approach Visual procedures utilizing PBN	30-Jun-16	30-Nov-16	On-schedule	IFPP	IFPP.008.02	-
845	PANS-OPS Vol II (Doc 8168) / Procedure design criteria for GLS parallel approaches Procedures for Air Navigation Services — Aircraft Operations (OPS) (Doc 8168)	30-Jun-14	30-Jun-14	On-schedule	SASP	SASP.003.01	-
1114	PANS-OPS Vol II (Doc 8168) / Harmonization of Charting Criteria, Databases of Criteria, and Avionics Systems with IFP Design	31-Jul-15	30-Nov-15	On-schedule	IFPP	IFPP.005.01	-
1250	PANS-OPS Vol II (Doc 8168) / Determine necessary changes to existing guidance regarding the renaming of waypoints in the case of relocation	30-Jun-16	30-Nov-16	On-schedule	IFPP	-	-
1252	PANS-OPS Vol II (Doc 8168) / Clarification of the “Path Descriptor “rules for procedure design	30-Jun-16	30-Nov-16	On-schedule	IFPP	-	-
1257	PANS-OPS Vol II (Doc 8168) / Finalization of turn protection and turn area obstacle assessment	30-Jun-16	30-Nov-16	On-schedule	IFPP	-	-
1259	PANS-OPS Vol II (Doc 8168) / Use of CF Leg ad first leg type of departure procedures	30-Jun-16	30-Nov-16	On-schedule	IFPP	-	-
1261	PANS-OPS Vol II (Doc 8168) / GBAS with GP inoperative	30-Jun-16	30-Nov-16	On-schedule	IFPP	-	-
1262	PANS-OPS Vol II (Doc 8168) / Depiction of accuracy requirements for en route segments	30-Jun-16	30-Nov-16	On-schedule	IFPP	-	-
1113	Doc 8126 - AIS Manual (Doc 8126) / Harmonization of Charting Criteria, Databases of Criteria, and Avionics Systems with IFP Design	31-Jul-15	30-Nov-15	On-schedule	IFPP	IFPP.005.01	-
569	Doc 8697 - Aeronautical Chart Manual (Doc 8697) / PBN connecting with XLS final approach and APV Procedure criteria for PinS approach departure route visual segment missed approach	30-Jun-16	30-Nov-16	On-schedule	IFPP	-	-
1110	Doc 8697 - Aeronautical Chart Manual (Doc 8697) / Harmonization of Charting Criteria, Databases of Criteria, and Avionics Systems with IFP Design	31-Jul-15	30-Nov-15	On-schedule	IFPP	IFPP.005.01	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
666	Doc 9643 - Manual on SOIR (Doc 9643) / Procedures for application of GLS parallel approaches	01-Nov-15	01-Oct-16	On-schedule	SASP	SASP.003.01	-

ROI-9-2016-3	ATM separation procedures and phraseologies (Phase I)
Deliverable Expert Group	SASP
Problem Statement	With increasing demand for air transportation, airspace is becoming a scarce resource and reduction in separation using the new onboard and ground capabilities will help to improve airspace capacity. However, new safe separation minima and procedures and associated phraseologies necessary for its use need to be developed to allow the efficient and safe use of the new capabilities.
Expected Benefits	New separation minima and procedures will allow the safe use of onboard and ground capabilities with consequent increase in capacity and reduction in delays caused by imbalances between demand and capacity.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
354	PANS-ATM (Doc 4444) / Enhanced separation minima addressing: - 45 ‘ RNAV arrival and departure separation - PBN based Lateral	30-Nov-16	30-Nov-16	Completed	SASP	SASP.002.01	B1-FRTO
1094	PANS-ATM (Doc 4444) / Limits of a vector. Review the intent of specifying a limit of a vector and suitability of current PANS		30-Nov-16	On-schedule	ATMOPSP	ATMOPSP.003.01	-
1460	PANS-ATM (Doc 4444) / PANS-ATM (Doc 4444) / Enhanced separation minima addressing: - VOR/GNSS lateral separation. PANS-ATM (Doc 4444) / Enhanced separation minima addressing: - VOR/GNSS lateral separation. - 5 nm RNP 1 terminal separation & Circular 324	30-Jun-16	30-Nov-16	Completed	SASP	-	-

ROI-9-2016-4	Provisions on Interval Management procedures (merging and spacing)
Deliverable Expert Group	SP-AIRBWG
Problem Statement	With the rapid increase in air traffic volume and complexity, applications that improve the origanisation of traffic flows and aircraft spacing are needed in the terminal area to maximise aircraft throughput while reducing ATC workload.
Expected Benefits	Safety - reduced ATC workload without unacceptable increase in flight crew workload. Capacity - consistent low variance spacing between paired aircraft (eg; at entry to arrival procedure on final approach) resulting in reduced fuel burn). Efficiency - - early speed advisories removing requirement for latent path lengthening. Continued optimised profile descents (OPDs) resulting in reduced holding times and flight times. Environment - reduced emissions due to reduced spacing and optimised profiles. Cost - labour savings due to reduced ATC workload.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
356	Doc 9994 - Airborne Surveillance Manual (Doc 9994) / Initial guidance to support interval management for flight crew and ATS units.	30-Nov-16	30-Nov-16	Completed	SP-AIRBWG	-	-

2018

Work Package No.	Work Package Title
ROI-9-2018-4	ATM Seperation Procedures and Phraeseology (Phase II)
Deliverable Expert Group	SASP
Problem Statement	With increasing demand for air transportation, airspace is becoming a scarce resource and reduction in separation using the new onboard and ground capabilities will help to improve airspace capacity. However, new safe separation minima and procedures and associated phraseologies necessary for its use need to be developed to allow the efficient and safe use of the new capabilities.
Expected Benefits	New separation minima and procedures will allow the safe use of onboard and ground capabilities with consequent increase in capacity and reduction in delays caused by imbalances between demand and capacity.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1095	PANS-ATM (Doc 4444) / Clarification of procedures when being vectored for final approach		30-Nov-16	On-schedule	ATMOPSP	*ATMOPSP004 (DONE)	-

ROI-9-2018-5	Developing a strategy for the development of the PBN Concept (PBNSG0001)
Deliverable Expert Group	PBNSG
Problem Statement	As the PBN concept matures it is apparent that strategic planning is required to determine to future development, including a plan to investigate the desirability and feasibility of rationalisation of PBN nav specs
Expected Benefits	A clear strategic plan for the long term evolution of the PBN conecpt

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1559	Doc - Placeholder / Develop PBN Strategy document		30-Jun-16	On-schedule	PBNSG	-	-
1560	Doc 9613 - PBN Manual (Doc 9613) / Update PBN Manual to include the clarification of RNP and RNAV functionality and uses	31-Aug-18	31-Dec-18	On-schedule	PBNSG	-	-
1561	Doc 9997 - PBN OPS App Manual (Doc 9997) / Update Ops Approval manual as appropriate to take account of changes identified above	31-Aug-18	31-Dec-18	On-schedule	PBNSG	-	-
1562	Doc TRN - Training Courses / Update to PBN CBT and classroom course content		31-Dec-18	On-schedule	PBNSG	-	-

ROI-9-2018-6	Development of guidance for mixed mode operations (PBNSG0011)
Deliverable Expert Group	PBNSG
Problem Statement	A significant number of legacy aircraft continue to operate within airspace designed using PBN routes and procedures. Currently this results in disruption and a loss of efficiency as these aircraft are accommodated.
Expected Benefits	Greater efficiency of airspace where fleets comprise a mix of PBN capabilities

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1563	Doc - Placeholder / Investigate mixed mode route spacing options	31-Dec-16	30-Jun-17	On-schedule		-	-
1564	Doc - Placeholder / Develop guidance material on the use of mixed mode operations	31-Mar-17	30-Sep-17	On-schedule		-	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules

ROI-9-2018-7	Variations in the depiction of SID/STAR information on aeronautical charts
Deliverable Expert Group	FLTOPSP
Problem Statement	Variations in the depiction of SID/STAR information on aeronautical charts have the potential to undermine the global standardization and/or implementation of PANS-ATM SID/STAR procedures and phraseology.
Expected Benefits	Harmonize and standardize the depoction of SID/STAR information in charts.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1665	Doc - Feasibility Study / Develop from a FLTOPSP perspective, into a CONOPS paper that Identifies the key elements of charting, which if misunderstood or misinterpreted, have the greatest potential to undermine the global implementation of new PANS-ATM provisions.		01-Jan-01	On-schedule	FLTOPSP	FLTOPSP.026.01	-
1631	Annex 4 / Develop provisions to enhance information depiction on SID/STAR charts	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.026.01	-
1632	PANS-OPS Vol II (Doc 8168) / Develop provisions to enhance information depiction on SID/STAR charts	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.026.01	-

ROI-9-2018-3	RNP AR Departures and One Engine Inoperative (OEI) navigation specifications
Deliverable Expert Group	IFPP-PBNWG
Problem Statement	Navigation specifications, design criteria and charting requirements do not exist for RNP AR Departures and OEI. This restricts aircraft operations at terrain challenged airports. While aircraft may land using RNP AR approaches, they cannot depart from the aerodrome because of the lack of RNP AR and OEI.
Expected Benefits	Safe and efficient aircraft departures from terrain challenged airports.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
349	PANS-OPS Vol II (Doc 8168) / Charting requirements RNP AR Departures and OEI Procedures	30-Nov-18	30-Nov-18	On-schedule	IFPP	IFPP.008.02	-

ROI-9-2018-2	Navigation specifications for required time of arrival
Deliverable Expert Group	IFPP-PBNWG
Problem Statement	Navigation specifications for required time of arrival (RTA) does not exist; hence it cannot be implemented and the benefits of RTA cannot be realized.
Expected Benefits	Efficient air traffic flow/reduced delays and airborne holds/reduced ATCO workload/enhanced reliability, repeatability and predictability,

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
574	Doc 9997 - PBN OPS App Manual (Doc 9997) / Updated OPS approval Manual to include RTA	30-Nov-18	30-Nov-18	On-schedule	IFPP-PBNWG	-	B1-RSEQ B1-TBO

2020

Work Package No.	Work Package Title

ROI-9-2020-3 Development of RNP AR Departure specification (PBNSG0003)

Deliverable Expert Group PBNSG

Problem Statement There is a need to develop the concept of RNP AR within the PBN guidance material to include departure criteria in addition to the existing arrivals, for airports where limiting obstacles exist and/or where significant operational efficiencies can be gained. Such procedures are being adopted and a standard is needed to ensure compatibility and consistency

Expected Benefits Standardisation of departures will ensure consistent application of criteria and increase safety

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1569	PANS-ATM (Doc 4444) / Route spacing standards for AR Departures	31-Jul-20	30-Nov-20	On-schedule	SASP	-	-
1567	Doc 8697 - Aeronautical Chart Manual (Doc 8697) / Charting requirements for RNP AR Departures	31-Dec-18	30-Jun-19	On-schedule	IFPP	-	-
1565	Doc 9613 - PBN Manual (Doc 9613) / Update to PBN manual to include new AR departures section;	31-Dec-16	30-Jun-17	On-schedule	PBNSG	-	-
1566	Doc 9905 - RNP AR P. Design Manual (Doc 9905) / Criteria for the development of AR DEP procedures	31-Dec-18	30-Jun-19	On-schedule	IFPP	-	-
1568	Doc 9997 - PBN OPS App Manual (Doc 9997) / Process for approval of new AR DEP specifications		30-Jun-17	On-schedule	PBNSG	-	-
1584	Doc TRN - Training Courses / Update to PBN CBT and classroom course content		30-Dec-19	On-schedule		-	-

ROI-9-2020-4 Development of RF leg utilisation in PBN (PBNSG0002)

Deliverable Expert Group PBNSG

Problem Statement Currently RF legs remain optional in a number of nav specs and there is little evidence of aircraft manufacturers certifying their aircraft to operate them. A number of issues need to be addressed to standardize the use of these leg types.

Expected Benefits

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1608	Doc - Placeholder / Develop RF development strategy document		31-Dec-16	On-schedule	PBNSG	-	-
1612	PANS-ATM (Doc 4444) / Develop improved route spacing standards for aircraft using RF leg functionality	31-Jul-20	30-Nov-20	On-schedule	SASP	-	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1611	PANS-OPS Vol II (Doc 8168) / Revise criteria/instructions for procedure design using RF legs. Requirement for flyby flyover waypoints if RF is mandated in specifications	31-Jul-20	30-Nov-20	On-schedule	IFPP	-	-
1609	Doc 9613 - PBN Manual (Doc 9613) / Update to PBN Manual if change to the nav spec (for example mandatory RF leg) is required, and including guidance on RF leg usage	31-Aug-17	31-Dec-17	On-schedule	PBNSG	-	-
1610	Doc 9997 - PBN OPS App Manual (Doc 9997) / Update to Ops Approval manual to reflect new requirements for mandatory RF leg capability	31-Aug-17	31-Dec-17	On-schedule	PBNSG	-	-
1613	Doc TRN - Training Courses / Update to PBN CBT and classroom course content related to RF legs		31-Dec-17	On-schedule		-	-

ROI-9-2020-2	Guidance on planning of airspace and ATS facilities
Deliverable Expert Group	ATMOPSP
Problem Statement	The application of the rules of the air and the provision of air traffic services requests specific units and process. Guidance provided by ICAO is obsolete due to new concepts and technologies in use nowadays. Non-harmonized or non-compliant implementation of process and/or facilities imposes interoperability problems that increases cost to operators and air navigation service providers and impacts efficiency and safety of operations.
Expected Benefits	Updated guidance to States and air navigation service providers on implementation of services and facilities will improve interoperability with consequent reduction in costs to airspace users and service providers.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
353	Doc 9426 - ATS Planning Manual (Doc 9426) / Complete review according to current procedures and future developments	30-Nov-20	30-Nov-20	Not approved	ATMOPSP	-	B1-WAKE

2022

Work Package No.	Work Package Title

ROI-9-2022-1	Provisions for Interval Management and its counterpart
Deliverable Expert Group	SP-AIRBWG
Problem Statement	With the rapid increase in air traffic volume and complexity, applications that improve the organisation of traffic flows and aircraft spacing are needed in the terminal area to maximise aircraft throughput while reducing ATC workload.
Expected Benefits	Safety - reduced ATC workload without unacceptable increase in flight crew workload. Capacity - consistent low variance spacing between paired aircraft (eg; at entry to arrival procedure on final approach) resulting in reduced fuel burn). Efficiency - - early speed advisories removing requirement for latent path lengthening. Continued optimised profile descents (OPDs) resulting in reduced holding times and flight times. Environment - reduced emissions due to reduced spacing and optimised profiles. Cost - labour savings due to reduced ATC workload.

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
357	PANS-ATM (Doc 4444) / Phraseology and message set for interval management	30-Nov-22	30-Nov-22	Late	SP	SP.010.01	B1-ASEP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
401	PANS-ATM (Doc 4444) / Operational procedure for interval management	30-Nov-22	30-Nov-22	Late	SP	SP.010.01	B1-ASEP
9369	PANS-ATM (Doc 4444) / Operational procedure for interval management		30-Nov-22	Late	ATMOPSP	SP.010.01	-
9370	PANS-OPS Vol I (Doc 8168) / Flight crew procedure to use on board IM equipment		30-Nov-22	Late	FLTOPSP	SP.010.01	-
358	Doc 9994 - Airborne Surveillance Manual (Doc 9994) / Guidance to support interval management procedures	30-Nov-22	30-Nov-22	Late	SP-AIRBWG	SP.010.01	B1-ASEP

ENB-CNS Communication, Navigation and Surveillance (CNS)

2016

Work Package No. Work Package Title

ENB-CNS-2016-1 Guidance on threats to GNSS including malicious threats and space weather.

Deliverable Expert Group NSP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1138	Doc 9718 - ICAO RF Handbook (Doc 9718) Vol. I / Develop guidance on the detection, reporting and resolution of GNSS RFI .ICAO RF Handbook (Doc 9718)	30-Jul-16	30-Nov-16	On-schedule	NSP	NSP.006.02	-
288	Doc 9849 - GNSS Manual (Doc 9849) / Amendment providing information on malicious threats and impact of space weather and their mitigation	30-Jul-16	30-Nov-16	On-schedule	NSP	NSP.007.01	-
1137	Doc 9849 - GNSS Manual (Doc 9849) / Develop guidance on the detection, reporting and resolution of GNSS RFI. GNSS Manual (Doc 9849)	30-Jul-16	30-Nov-16	On-schedule	NSP	NSP.006.02	-
1139	Doc 9849 - GNSS Manual (Doc 9849) / Develop guidance on space weather effects on GNSS. GNSS Manual (Doc 9849)	30-Jul-16	30-Nov-16	On-schedule	NSP	NSP.007.01	-

ENB-CNS-2016-2 Provisions on alternative/back-up to GNSS - Report on Alternative Position, Navigation and Timing (APNT) solution.

Deliverable Expert Group NSP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
552	Doc #### - Report on APNT (Doc ####) / Report on Alternative Position Navigation and Timing (APNT)	31-Jul-16	30-Nov-16	On-schedule	NSP	NSP.009.02	-

ENB-CNS-2016-4 Provisions on the exchange of information using the aeronautical telecommunication network over the internet protocol suite

Deliverable Expert Group CP-DCIWG

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
415	Doc 9896 - Manual on ATN using IPS Standards and Protocols (Doc 9896) / Second Amendment providing information updates provisions for voice and other services	30-Jul-16	30-Nov-16	On-schedule	CP-DCIWG	CP.006.01	-

ENB-CNS-2016-5 Upgrade of SARPS and Guidance for VDL Mode-2 to increase datalink capacity to meet future requirements.

Deliverable Expert Group CP-DCIWG

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
418	Doc 9776 - Manual on VDL Mode-2 (Doc 9776) / Amemdment to support multi-frequency operations	30-Jul-16	30-Nov-16	On-schedule	CP-DCIWG	-	-

ENB-CNS-2016-6 SARPS and guidance for a broadband datalink to be used on the airport surface

Deliverable Expert Group CP-DCIWG

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
578	Annex 10 - Vol III / Amendments to accommodate Airport Surface Datalink	30-Jul-16	30-Nov-16	On-schedule	CP-DCIWG	CP.005.01	B1-SURF
420	Doc #### - Manual on Airport Surface Datalink 88 (Doc ####) / First Edition	30-Jul-16	30-Nov-16	On-schedule	CP-DCIWG	CP.005.01	-

ENB-CNS-2016-7 Develop technical provisions for surveillance and collision avoidance systems

Deliverable Expert Group SP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
754	Doc 9924 - Aeronautical Surveillance Manual (Doc 9924) / Develop guidance material on flight testing of new surveillance systems.		30-Nov-16	On-schedule	SP	SP.008.01	-

2018

Work Package No. Work Package Title

ENB-CNS-2018-6 Ground-based Safety Nets

Deliverable Expert Group SP-AIRBWG

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1452	Doc #### - Manual on Ground-based Safety Nets / Development of guidance on STCA, MSAW and APW		30-Nov-18	Late	SP-AIRBWG	SP.011.01	B1-SNET
1453	Doc #### - Manual on Ground-based Safety Nets / Development of guidance on approach path monitor (APM)	30-Nov-18	30-Nov-18	Late	SP	SP.011.01	B1-SNET

ENB-CNS-2018-5 Develop Technical Provisions for surveillance systems and collision avoidance systems

Deliverable Expert Group SP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
758	Doc #### - Report on Assessment of the need for NG of CAS (Doc ####) / Assess the need for a new generations of collision avoidance systems (ACAS-X) and generate a report.		30-Nov-18	Completed	SP	-	-

2020

Work Package No.	Work Package Title
ENB-CNS-2020-1	Provisions on Air Navigation Security
Deliverable Expert Group	

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
430	Annex 4 / Amendments related to air navigation security	30-Jul-20	30-Nov-20	Not approved	IMP	-	-
431	Annex 10 - Vol I / Amendments related to air navigation security	30-Jul-20	30-Nov-20	Late	NSP	-	-
432	Annex 10 - Vol II / Amendments related to air navigation security	31-Jul-20	30-Nov-20	Late		CP.007.01	-
433	Annex 10 - Vol III / Amendments related to air navigation security	30-Jul-20	30-Nov-20	Late	CP-DCIWG	CP.007.01	-
434	Annex 10 - Vol IV / Amendments related to air navigation security	30-Jul-20	30-Nov-20	Late	SP	-	-
435	Annex 15 / Amendments related to air navigation security	31-Jul-20	30-Nov-20	On-schedule	IMP	-	-
436	Annex 17 / Amendments related to air navigation security	30-Jul-20	30-Nov-20	Not approved	AVSECP	-	-
437	Doc 9985 - ATM Security Security Manual (Doc 9985) / Amendments related to air navigation security	31-Jul-20	30-Nov-20	Late		CP.007.01	-
627	Doc - Untitled / Guidance on the rules and provisions and the applications permitted to use the public internet	31-Jul-20	30-Nov-20	On-schedule	IMP	-	-

ENB-CNS-2020-2	Provisions on the exchange of information using the Aeronautical Telecommunications Network over the Internet Protocol Suite
Deliverable Expert Group	CP-DCIWG

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
548	Annex 10 - Vol III / Amendment with updates on Addressing and Naming conventions and their Management and security	30-Jul-20	30-Nov-20	Late	CP-DCIWG	CP.006.01	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
454	Doc 9869 - PBCS Manual (Doc 9869) / expanding the scope to add ground-ground data link communications, subject to the approval of a job card, currently being developed/coordinated.	30-Jul-20	30-Nov-20	On-schedule	CP-OPDLWG	-	-
453	Doc 9896 - Manual on ATN using IPS Standards and Protocols (Doc 9896) / Third Update - providing improved architecture, addressing, naming conventions and their management and security	30-Jul-20	30-Nov-20	Late	CP-DCIWG	CP.006.01	-

ENB-CNS-2020-3 Provisions to support future Aeronautical Communcations

Deliverable Expert Group CP-DCIWG

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
629	Annex 10 - Vol V / New provisions to support future aeronautical communications	30-Jul-20	30-Nov-20	On-schedule	FSMP	FSMP.005.01	-

ENB-HP Human Performance

2016

Work Package No. Work Package Title

ENB-HP-2016-5 FRMS for Pilots

Deliverable Expert Group FRMSTF

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1033	Annex 6 - Part II / Amend to align GA FM SARPs with FM SARPs	31-Jul-16	30-Nov-16	Completed	FRMSTF	-	-
831	Doc 9966 - FRMS Manual for Regulators (Doc 9966) / Revise to update current contents and include oversight of prescriptive FM approaches for Airline Operators		30-Sep-15	On-schedule	FRMSTF	-	-
832	Doc 9966 - FRMS Manual for Regulators (Doc 9966) / Revise to include oversight of FM approaches for GA Operators of Large and Turbojet Aeroplanes		30-Sep-15	On-schedule	FRMSTF	-	-
1035	Doc #### - IMP of FM for GA OPS (Doc ####) / Develop guidance for GA operators in the management of fatigue in pilots of large and turbojet aeroplanes	30-Sep-14	30-Nov-15	On-schedule	FRMSTF	-	-

ENB-HP-2016-6 FRMS for Generic Aviation Personnel

Deliverable Expert Group FRMSTF

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1027	*Doc #### - FRMS Imp Guide for OP (Doc ####) / Revise to update current contents and include implementation of prescriptive FM approach by airline operators for flight and cabin crew*	*01-Apr-15*	*30-Sep-15*	*On-schedule*	*FRMSTF*	-	-

ENB-HP-2016-1 Fatigue Management for ATC

Deliverable Expert Group FRMSTF

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1029	Annex 11 / Develop fatigue management SARPs for ATCs		30-Mar-16	On-schedule	FRMSTF	-	-
833	Doc 9966 - FRMS Manual for Regulators (Doc 9966) / Revise to include oversight of FM approaches for ATCs		30-Sep-15	On-schedule	FRMSTF	-	-
1030	Doc #### - IMP of FM Approaches for ATC's (Doc ####) / Develop guidance for ANSPs in the implementation of FM approaches for ATCs	01-Apr-15	30-Sep-15	On-schedule	FRMSTF	-	-

ENB-HP-2016-3	Competency-Based Training and Assessment of aviation personnel
Deliverable Expert Group	NGAP-ATM

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
465	PANS-TRG (Doc 9868) / Develop new provisions for competency-based training of ATCOs	30-Jul-16	30-Nov-16	Completed	ICAO-ANB	-	-
617	PANS-TRG (Doc 9868) / Develop new provisions for competency-based training of ATSEPs	30-Jul-16	30-Nov-16	Completed	*ANB-NBa	-	-
1052	PANS-TRG (Doc 9868) / Revise provisions to include clarifications to competency-related terms	30-Jul-16	30-Nov-16	On-schedule	*ANB-NBa	-	-
1054	Doc 7192 - Training Manual (Doc 7192) / Update Part E-2- Air Traffic Safety Electronic Personnel (ATSEP) to include guidance on the implementation of competency-based training of ATSEPs	30-Jul-16	30-Nov-16	On-schedule	*ANB-NBa	-	-
1055	Doc #### - ATCO Training Manual (Doc ####) / Develop guidance on the implementation of competency-based training of ATCOs	30-Jul-16	30-Nov-16	On-schedule	*ANB-NBa	-	-

2018

Work Package No.	Work Package Title
ENB-HP-2018-2	Competency-based trainnig and assessment of aviation personnel
Deliverable Expert Group	ICAO-ANB

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1067	*Doc 10011 - Manual on Aeroplanes Upset Prev. and Recov. Trainning (Doc 10011) (not out yet) / Update based on revised competency-related definitions*	*30-Jul-18*	*30-Sep-18*	*On-schedule*	**ANB-HDe*	-	-
1062	Doc 8984 - Manual of Civil Av. Med. (Doc 8984) / Update based on revised competency-related definitions	30-Jul-18	30-Nov-18	On-schedule	NHPSG	-	-
1068	Doc 9284 - Tech Ins for the ST of DG by Air (Doc 9284) / Update based on revised competency-related definitions	31-Jul-16	30-Nov-18	Late	*ANB-NBa	-	-
1059	Doc 9625 - Manual of Criteria for Qualification of FSTD (Doc 9625) / Update based on revised competency-related definitions	30-Jul-18	30-Nov-18	Completed	*ANB-HDe	-	-
1060	Doc 9841 - Manual on the Approval of Training Organizations (Doc 9841) / Update based on revised competency-related definitions	30-Jul-18	30-Nov-18	On-schedule	ICAO-ANB	-	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1058	Doc 9906 - QA Manual for Flight Proc Design Vol VI (Doc 9906) / Update based on revised competency-related definitions	30-Jul-18	30-Nov-18	On-schedule	*ANB-NBa	-	-
1065	Doc 9995 - Manual EBT (Doc 9995) / Update based on revised competency-related definitions	30-Jul-18	30-Nov-18	Late	*ANB-HDe	-	-

ENB-HP-2018-3 Human Performance in the Cockpit

Deliverable Expert Group NHPSG

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
909	Annex 6 - Part I / Proposed amendment on flight deck activities SOP	30-Jul-16	30-Nov-18	On-schedule	FLTOPSP	OPSP.004.01	-
910	Annex 6 - Part II / Proposed amendment on flight deck activities SOP	30-Jul-16	30-Nov-18	On-schedule	FLTOPSP	OPSP.004.01	-
911	Annex 6 - Part III / Proposed amendment on flight deck activities SOP		31-Dec-15	On-schedule	FLTOPSP	OPSP.004.01	-

ENB-HP-2018-1 Fatigue Management

Deliverable Expert Group FRMSTF

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
464	*Doc 9966 - FRMS Manual for Regulators (Doc 9966) / Revise to include oversight of FM approaches for Aviation Maintenance Engineers*	*30-Nov-18*	*30-Nov-20*	*On-schedule*	*FRMSTF*	-	-
1046	*Doc #### - IMP of FM for AMEs (Doc ####) / Develop guidance for AMOs in the implementation of FM approaches for AMEs*		*30-Nov-20*	*Late*	*FRMSTF*	-	-

2020

Work Package No. Work Package Title

ENB-HP-2020-1 Fatigue Management

Deliverable Expert Group FRMSTF

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1045	*Annex 6 - Part I / Develop fatigue management SARPs for AMEs*		*01-Nov-20*	*On-schedule*	*FRMSTF*	-	-

ENB-IM Information Management

2016

Work Package No. Work Package Title

ENB-IM-2016-1 Provisions on the collection, use and exchange of information (MET, AIM and ATM)

Deliverable Expert Group IMP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
441	Annex 3 / Requirements for digital information	01-Jul-16	01-Nov-16	On-schedule	METP	-	B0-DATM B1-AMET
630	Annex 15 / Exchange Models	31-Jul-13	30-Nov-13	Completed	AIGP-AIMSG	-	B0-DATM

ENB-IM-2016-2 System Wide Information Management (SWIM) concept and provisions

Deliverable Expert Group IMP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
442	Doc 10039 - Manual on SWIM Concept (Doc 10039) / First Edition		30-Nov-16	On-schedule	ATMRPP	*ATMRPP004 (DONE)	B0-DATM

2018

Work Package No. Work Package Title

ENB-IM-2018-1 Provisions on collection, use and exchange of information (MET, AIM and ATM)

Deliverable Expert Group IMP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
444	Annex 4 / Final amendment on the transition from AIS to AIM	30-Jul-16	01-Nov-18	On-schedule	AIGP-AIMSG	-	B0-DATM
445	Annex 15 / Final Amendment (39) supporting transition from AIS to AIM	30-Jul-16	01-Nov-18	On-schedule	AIGP-AIMSG	-	B0-DATM
446	Doc #### - PANS-AIM (Doc ####) / Introduction of PANS-AIM	30-Jul-16	01-Nov-18	On-schedule	AIGP-AIMSG	-	B0-DATM
631	Doc 8126 - AIS Manual (Doc 8126) / Guidance to support PANS-AIM	30-Nov-18	30-Nov-18	On-schedule	AIGP-AIMSG	-	B0-DATM B1-SWIM

ENB-IM-2018-3 ATM Information Reference Model

Deliverable Expert Group IMP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
447	Doc #### - Manual on the ATM RM (Doc ####) / New manual on the ATM Reference Model	01-Nov-18	01-Nov-18	Not approved	IMP	IMP.002.01	B1-DATM

2020

Work Package No.	Work Package Title
ENB-IM-2020-1	System Wide Information Management (SWIM) concept and provisions
Deliverable Expert Group	IMP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
633	Annex 10 - Vol III / Provisions to support SWIM	01-Jul-20	05-Nov-20	On-schedule	CP-DCIWG	-	B1-SWIM
634	Annex 11 / Provisions on making use of SWIM		30-Nov-20	On-schedule	IMP	-	B1-DATM B1-SWIM
635	Annex 15 / Provisions on the use and support of SWIM	31-Jul-20	30-Nov-20	On-schedule	IMP	-	B1-DATM B1-SWIM
443	Doc 10039 - Manual on SWIM Concept (Doc 10039) / Second Edition	01-Nov-20	01-Nov-20	Not approved	IMP	-	B1-DATM B1-SWIM

ENB-IM-2020-2	Provisions and guidance on the use of improved NOTAM system
Deliverable Expert Group	IMP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
448	Annex 3 / Amendment on the requirements of the use of improved operational information access for MET	31-Jul-20	30-Nov-20	On-schedule	METP	-	B1-DATM
449	Annex 11 / Amendment on the requirements on the use of improved operational information access for ATM	31-Jul-20	30-Nov-20	Not approved	IMP	-	B1-DATM
636	Annex 11 / Amendment on the requirements on the use of improved operational information access for AIM	31-Jul-20	30-Nov-20	On-schedule	IMP	-	B1-DATM
450	PANS-ATM (Doc 4444) / Amendment on the requirements on the use of improved operational information access for ATM	30-Jul-20	30-Nov-20	Not approved	IMP	-	B1-DATM B1-SWIM
451	Doc #### - PANS-AIM (Doc ####) / Procedures and guidance on the general use improved operational information access (including chages to NOTAM)	31-Jul-20	30-Nov-20	Not approved	IMP	-	B1-DATM B1-SWIM

ENB-MET Meteorology

2016

Work Package No. | Work Package Title

ENB-MET-2016-1 Provisions for discribution and use of enhanced meterological information related to hazards (including volcnic ash and radioactive release) and new ATM requirements

Deliverable Expert Group METP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
746	Annex 3 / Improved resolution of WAFS forecast information; availability of volcanic ash and tropical cyclone advisory information, AIRMET and special air reports in digital form; rationalisation of SIGMET, AIRMET and special air reports (uplink)		30-Nov-16	On-schedule	METP	-	B0-AMET
747	Annex 3 / Requirements for the provision of METAR/SPECI, TAF and SIGMET in digital form.		30-Nov-16	On-schedule	METP	-	B1-AMET
828	Doc 9691 - Manual on VARMTCC (Doc 9691) / Provision of information on sulphur dioxide and other hazardous gases in the atmosphere.		31-Dec-15	On-schedule	METP	*IAVWOPSG001	B0-AMET
826	Doc 9766 - Manual on IAVW (Doc 9766) / Provision of information on sulphur dioxide and other hazardous gases in the atmosphere. Handbook on the International Airways Volcano Watch (IAVW): Operational Procedures		31-Dec-15	On-schedule	METP	*IAVWOPSG001	B0-AMET

ENB-MET-2016-2 Guidance on the use of digital meteorological information

Deliverable Expert Group METP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
750	Doc 10003 - Manual on Digital Exchange of AMET Information (Doc 10003) / Manual on the digital exchange of information (Doc 10003). Guidance on the digital exchange of meteorological information		30-Nov-16	On-schedule	METP	-	B1-AMET

2018

Work Package No. | Work Package Title

ENB-MET-2018-1 Meteorological Requirements and Integration

Deliverable Expert Group METP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1677	Annex 3 / Provisions for the establishment of air traffic management requirements for aeronautical meteorological service capabilities to support ATM operations Block 1.	31-Jul-18	30-Nov-18	On-schedule	ATMRPP	ATMRPP.006.01	B1-AMET
1714	Annex 3 / Restructured document to contain functional and performance requirements		30-Nov-20	On-schedule	METP	METP.005.01	-
1680	Annex 11 / Provisions for the establishment of air traffic management requirements for the use/integration of aeronautical meteorological information in ATM operations decision support processes.	31-Jul-18	30-Nov-18	On-schedule	ATMRPP	ATMRPP.006.01	B1-AMET
1681	PANS-ATM (Doc 4444) / Procedures for the use/integration of aeronautical meteorological information in ATM operations decision support processes.	31-Jul-18	30-Nov-18	On-schedule	ATMRPP	ATMRPP.006.01	B1-AMET
1715	Doc #### - PANS-MET (Doc ####) / Develop PANS-MET document including technical specifications		30-Nov-20	On-schedule	METP	METP.005.01	B1-AMET
1678	Doc 8896 - Manual of Aeronautical Meteorological Practice / Update related guidance material to support the implementation of Annex 3 Amendment.	31-Jul-18	30-Nov-18	On-schedule	ATMRPP	ATMRPP.006.01	-
1679	Doc 9377 - Manual on Coordination between ATS, AIS and AMS / Update related guidance material to support the implementation of Annex 3 Amendment.	31-Jul-18	30-Nov-18	On-schedule	ATMRPP	ATMRPP.006.01	-
1682	Doc - Untitled / Update related guidance material to support the use/integration of aeronautical meteorological information in trajectory-based operations.		01-Jan-01	On-schedule	ATMRPP	ATMRPP.006.01	-

ENB-MET-2018-2 ENB-MET-2018-2

Deliverable Expert Group METP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1687	Doc 10003 - Manual on Digital Exchange of AMET Information (Doc 10003) / Update related guidance material to support the implementation of Annex 3 Amendments	31-Jul-18	30-Nov-18	On-schedule	METP	METP.004.01	B1-AMET
1686	Doc 8896 - Manual of Aeronautical Meteorological Practice / Update related guidance material to support the implementation of Annex 3 Amendments	31-Jul-18	30-Nov-18	On-schedule	METP	METP.004.01	-

ENB-MET-2018-3 Meteorological Information and Service Development

Deliverable Expert Group METP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1688	Annex 3 / Proposals for inclusion in Amendment 78 to Annex 3 to meet operational requirements in line with the GANP and to integrate WAFS information into the SWIM environment.	31-Jul-18	30-Nov-18	On-schedule	METP	METP.003.01	B1-AMET
1695	Annex 3 / Proposals for inclusion in Amendment 78 to Annex 3 to meet operational requirements in line with the GANP and to integrate the information on the release of radioactive material into the atmosphere into the SWIM.	31-Jul-18	30-Nov-18	On-schedule	METP	METP.006.01	B1-AMET
1696	Annex 3 / Proposals for inclusion in Amendment 78 to Annex 3 to establish a regional advisory system to meet operational requirements in line with the GANP and to integrate the information on the provision of hazardous weather into the SWIM environment.	31-Jul-18	30-Nov-18	On-schedule	METP	METP.009.01	B1-AMET
1698	Annex 3 / Initial proposals for inclusion in Amendment 78 to Annex 3 to meet operational requirements in line with the GANP and to integrate space weather information into the SWIM.	31-Jul-18	30-Nov-18	On-schedule	METP	METP.009.01	B1-AMET
1703	Annex 3 / Proposals to update Annex 3 to meet current and evolving operational requirements in line with the GANP and to integrate IAVW information into the SWIM.	31-Jul-18	30-Nov-18	On-schedule	METP	METP.003.01	-
1705	Annex 3 / Standards for IWXXM compliant METAR, SPECI, TAF and SIGMET exchange	31-Jul-18	30-Nov-18	On-schedule	METP	METP.004.01	B1-AMET
1689	Doc #### - Regional Air Navigation Plans / Based on Annex 3 amendment, update of the Regional Air Navigation plans as necessary	31-Jul-18	30-Nov-18	On-schedule	METP	METP.003.01	-
1701	Doc #### - SADIS User Guide / Update related guidance material to support the implementation of Annex 3 Amendment.	31-Jul-18	30-Nov-18	On-schedule	METP	METP.008.01	-
1704	Doc #### - WIFS User Guide / Update related guidance material to support the implementation of Annex 3 Amendment.	31-Jul-18	30-Nov-18	On-schedule	METP	METP.010.01	-
1706	Doc #### - PANS-MET (Doc ####) / Amendment to facilitate the introduction of the meteorological component of SWIM.	31-Jul-18	30-Nov-18	On-schedule	METP	METP.004.01	B1-AMET
1690	Doc 8896 - Manual of Aeronautical Meteorological Practice / Update related guidance material to support the implementation of Annex 3 Amendment.	31-Jul-18	30-Nov-18	On-schedule	METP	METP.003.01	-
1691	Doc 9377 - Manual on Coordination between ATS, AIS and AMS / Update related guidance material to support the implementation of Annex 3 Amendment.	31-Jul-18	30-Nov-18	On-schedule	METP	METP.003.01	-
1692	Doc 9691 - Manual on VARMTCC (Doc 9691) / Update related guidance material to support the implementation of Annex 3 Amendment.	31-Jul-18	30-Nov-18	On-schedule	METP	METP.003.01	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1693	Doc 9750 - GANP (Doc 9750) / Update related guidance material to support the implementation of Annex 3 Amendment.	31-Jul-18	30-Nov-18	On-schedule	METP	METP.003.01	-
1694	Doc 9766 - Manual on IAVW (Doc 9766) / Update related guidance material to support the implementation of Annex 3 Amendment.	31-Jul-18	30-Nov-18	On-schedule	METP	METP.003.01	-
1697	Doc - Untitled / Develop criteria necessary for ICAO Regions to select advisory centres		30-Sep-16	On-schedule	METP	METP.007.01	-
1699	Doc - Untitled / Finalize the concept of operations for Space Weather Information Services and associated roadmap	31-Jul-18	30-Nov-18	On-schedule	METP	METP.009.01	-

ENB-MET-2018-4 Meteorlogical governance considerations

Deliverable Expert Group METP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1717	Doc 9161 - Manual on Air Navigation Services Economics / Update Guidance material to facilitae multi-regional service provision	31-Jul-18	30-Nov-18	On-schedule	METP	METP.011.01	-

2022

Work Package No. Work Package Title

ENB-MET-2022-1 Meteorological Requirements and Integration

Deliverable Expert Group METP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1683	Annex 3 / Provisions for the establishment of air traffic management requirements for aeronautical meteorological service capabilities to support ATM operations Block 2.	31-Jul-22	30-Nov-22	On-schedule	ATMRPP	ATMRPP.006.01	-
1684	Doc 8896 - Manual of Aeronautical Meteorological Practice / Update related guidance material to support the implementation of Annex 3 Amendment.	31-Jul-22	30-Nov-22	On-schedule	ATMRPP	ATMRPP.006.01	-
1685	Doc 9377 - Manual on Coordination between ATS, AIS and AMS / Update related guidance material to support the implementation of Annex 3 Amendment.	31-Jul-22	30-Nov-22	On-schedule	ATMRPP	ATMRPP.006.01	-

ENB-SM Safety Management

2014

Work Package No. Work Package Title

ENB-SM-2014-1 Enhanced SSP and SMS imlpementation/assessment tools and training

Deliverable Expert Group ICAO-ANB

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
588	Doc #### - Safety Management Toolkit (Doc ####) / Further Updates	01-Jun-14	01-Jun-14	On-schedule	ICAO-ANB	-	-

2016

Work Package No. Work Package Title

ENB-SM-2016-1 Enhanced Provisions to promote the collection, analysis and protection of safety infromation

Deliverable Expert Group SMP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
590	Annex 13 / Annex 13 / Enhanced provisions for the legal protection of Information gleaned from accident and incident investigations including para 5.12 and attachment E, as well as protection of flight recorder recordings in routine operations (Annex 6).	31-Jul-16	30-Nov-16	On-schedule	AIGP	AIGP.005.01	-
591	Annex 19 / Enhanced provisions for the legal protection of Information generated from Safety Management activities	31-Jul-15	30-Nov-16	On-schedule	GEPAIR	-	-
763	Annex 19 / Enhanced provisions for the collection analysis and exchange of Safety data and Safety information including the protection of the data throughout the process	31-Jul-16	30-Nov-18	On-schedule	SMP	SMP.010.03	-
806	Doc 9859 - Safety Management Manual (Doc 9859) / Guidance material to support the improved collection analysis exchange and protection of safety data and safety information	31-Dec-16	31-Jul-16	On-schedule	SMP	SMP.010.03	-

ENB-SM-2016-2 Extensions of SMS applicability to organizations respondible for the Type Design and manufacture of Engines and Propellers

Deliverable Expert Group SMP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
786	Annex 8 / Propose amendment to Annex 8	31-Jul-16	30-Nov-18	On-schedule	AIRP	AIRP.001.03	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
593	Annex 19 / Extension of the SMS applicability to Engine and Propeller Design Organizations and Manufacturers	31-Jul-16	30-Nov-18	On-schedule	SMP	SMP.008.02	-

ENB-SM-2016-3 SMS scope/applicability to address functions and services realated to or in drect support of the safe operation of aircaft.

Deliverable Expert Group SMP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
813	Annex 19 / Address safety management activities pertaining to functions and services related to, or in direct support of the safe operation of aircraft	31-Jul-16	30-Nov-18	On-schedule	SMP	SMP.012.01	-
814	Doc 9859 - Safety Management Manual (Doc 9859) / Guidance for safety management activities pertaining to functions and services related to, or in direct support of the safe operation of aircraft	31-Dec-16	30-Jun-17	On-schedule	SMP	SMP.012.01	-

2018

Work Package No. Work Package Title

ENB-SM-2018-1 Enhanced Provisions for the Integration of State Safety Programmes and Safety Management Systems

Deliverable Expert Group SMP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
597	Doc 9859 - Safety Management Manual (Doc 9859) / Safety performance indicators and/or methodology for their development	31-Dec-16	30-Jun-17	On-schedule	SMP	SMP.011.01	-
1121	Doc 9859 - Safety Management Manual (Doc 9859) / Guidance material and tools to facilitate the interaction of SMS and SSP	31-Dec-16	30-Jun-17	On-schedule	SMP	SMP.013.01	-

ENB-SM-2018-2 Enhanced Coordination of Emergency Response Planning

Deliverable Expert Group SMP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
598	Annex 19 / Enhanced coordination of Emergency Response Planning at the State level	31-Jul-16	30-Nov-18	On-schedule	SMP	SMP.009.03	-
773	Doc #### - New ICAO Document (Doc ####) / Guidance for emergency planning and coordination for States and service providers	01-Jul-18	31-Dec-18	On-schedule	SMP	SMP.009.03	-

ENB-SM-2018-3 Extensions of SMS applicability to organizations respondible for the Type Design and manufacture of Engines and Propellers

Deliverable Expert Group	SMP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
788	Doc 9760 - AIR Manual (Doc 9760) / Proposed amendment to Airworthiness Manual (Doc 9760)	31-Jul-17	31-Jul-18	On-schedule	AIRP	AIRP.001.03	-
789	Doc 9859 - Safety Management Manual (Doc 9859) / Propose recommendations to SMP to amend Safety Management Manual (SMM) (Doc 9859)	31-Dec-16	31-Jul-17	On-schedule	SMP	AIRP.001.03	-

2020

Work Package No.	Work Package Title
ENB-SM-2020-1	Enhanced Provisions for the Integration of State Safety Programmes and Safety Management Systems
Deliverable Expert Group	SMP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1118	Annex 19 / Provisions to facilitate the interaction between SMS and SSP	31-Jul-20	30-Nov-20	On-schedule	SMP	SMP.013.01	-

ENB-SM-2020-2	Enhanced Coordination of Emergency Response Planning
Deliverable Expert Group	SMP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
599	Annex 1 / Sector-specific emergency response planning and coordination provisions	31-Jul-20	30-Nov-20	On-schedule	SMP	SMP.009.03	-
600	Annex 6 - Part I / Sector-specific emergency response planning and coordination provisions	31-Jul-20	30-Nov-20	On-schedule	FLTOPSP	SMP.009.03	-
601	Annex 6 - Part II / Sector-specific emergency response planning and coordination provisions	31-Jul-20	30-Nov-20	On-schedule	FLTOPSP	SMP.009.03	-
602	Annex 6 - Part III / Sector-specific emergency response planning and coordination provisions	31-Jul-20	30-Nov-20	On-schedule	FLTOPSP	SMP.009.03	-
603	Annex 8 / Sector-specific emergency response planning and coordination provisions	31-Jul-20	30-Nov-20	On-schedule	AIRP	-	-
604	Annex 11 / Sector-specific emergency response planning and coordination provisions	30-Jul-20	30-Nov-20	On-schedule	ATMOPSP	SMP.009.03	-
605	*Annex 13 / Sector-specific emergency response planning and coordination provisions*	*30-Jul-20*	*30-Nov-20*	*On-schedule*	*AIGP*	*SMP.009.03*	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
606	*Annex 14 - Vol I / Sector-specific emergency response planning and coordination provisions*	*31-Jul-20*	*30-Nov-20*	*On-schedule*	*ADOP*	*SMP.009.03*	-
607	*Annex 14 - Vol II / Sector-specific emergency response planning and coordination provisions*	*31-Jul-20*	*30-Nov-20*	*On-schedule*	*ADOP*	*SMP.009.03*	-
608	Annex 17 / Sector-specific emergency response planning and coordination provisions	31-Jul-20	30-Nov-20	On-schedule	AVSECP	SMP.009.03	-
609	Annex 18 / Sector-specific emergency response planning and coordination provisions	01-Jul-20	01-Nov-20	On-schedule	DGP	SMP.009.03	-

REC-A Activities related to the maintenance of provisions (Annexes, PANs, SUPPs and Manuals)

1

Work Package No. | Work Package Title

REC-A-OPS-ED ACAS mode of operation in an emergency descent

Deliverable Expert Group

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1652	Doc - Feasibility Study / Study ACAS procedures during emergency descents		01-Jan-01	On-schedule	FLTOPSP	FLTOPSP.033.01	-
1653	PANS-ATM (Doc 4444) / Based on the results of required action 1 and if deemed appropriate, propose amendments to PANS-ATM with respect to ACAS mode of operation during emergency descents	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.033.01	-

REC-A-OPS-HEL/GA Review and Evaluation of Annex 6 Part III Section III International General Aviation Helicopters

Deliverable Expert Group FLTOPSP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1648	Doc - Feasibility Study / Review the existing Annex 6 Part III Section III Helicopter GA to assess suitability – decide on a revision plan (i.e. whether to divide into General and Complex Operations sub Sections)		01-Jan-01	On-schedule	FLTOPSP	FLTOPSP.031.01	-
1649	Annex 6 - Part III / As a result of required action 1, draft new Helicopter GA General and Complex Operations subsections for Annex 6 Part III	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.031.01	-

REC-A-OPS-HEL/PERF Review and Clarification of Annex 6 Part III Section II Chapter 3 Helicopter Performance Operating Limitations

Deliverable Expert Group FLTOPSP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1650	Doc - Feasibility Study / Review Annex 6 Part III Section II Chapter 3 and assess for clarity of intent and consistency		01-Jan-01	On-schedule	FLTOPSP	FLTOPSP.032.01	-
1651	Annex 6 - Part III / Amendment to Chapter 3 Helicopter Performance Operating limitations.	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.032.01	-

REC-A-OPS- Update Doc 9376 - Preparation of an OPS Manual

OPS/MAN

Deliverable Expert Group FLTOPSP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1666	Doc 9376 - Preparation of an Operations Manual (Doc 9376) / Re-alignment of guidance to Annex Part I provisions	30-Nov-16	01-Jan-01	On-schedule	FLTOPSP	FLTOPSP.037.01	-

REC-A-OPS-PWL/TLTR Powerlift/Tiltroter Operations

Deliverable Expert Group FLTOPSP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1641	Doc - Feasibility Study / Conduct a gap analysis on Annexes 1, 6, 8,11, 14 and 16 identifying areas of improvement and rulemaking		01-Jan-01	On-schedule	FLTOPSP	FLTOPSP.028.01	-
1643	Annex 16 - Vol I / Amendment addressing environmental considerations of Powerlift/Titrotor aircraft	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.028.01	-
1642	Doc #### - Powerlift/Tiltrotor (Doc XX) / Develop guidance material, in the form of a manual or circular, for the introduction of Tiltrotor operations	30-Nov-17	01-Jan-01	On-schedule	FLTOPSP	FLTOPSP.028.01	-

REC-A-SAR-2018 Maintenance of Annex 12 SARPs and Other Supporting Provisions

Deliverable Expert Group

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1429	Annex 12 / Improved provisions for timely and adequate provision of Search and Rescue Services	01-Jul-18	30-Nov-18	On-schedule	ICAO-ANB	-	-

2014

Work Package No. Work Package Title

REC-A-AIG-2014 Maintenance of Annex 13 SARPs and other related SARPs with the corresponding Supporting Guidance.

Deliverable Expert Group AIGP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1384	Doc 9756.4 - Manual of AAII Part IV (Doc 9756) / Amend manual by expanding guidance material on safety recommendations		30-Nov-14	Completed	AIGP-AIMSG	-	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1385	*Doc 9756.4 - Manual of AAII Part IV (Doc 9756) / Revise and update acident and incident investigation guidance material*		*30-Nov-14*	*Completed*	*AIGP-AIMSG*	-	-

REC-A-OPS-2014 Maintenance of Annex 6 SARPs and Other Supporting Provisions

Deliverable Expert Group FLTOPSP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
918	Annex 6 - Part II / EDTO Provisions		31-Dec-14	On-schedule	FLTOPSP	*OPSP.007.01 (DONE)	-
1455	Doc #### - Circular on Helicopter Emergency Transport Services / New guidance for Helicopter Emergency Transport Services		30-Nov-14	On-schedule	FLTOPSP	-	-

2016

Work Package No. Work Package Title

REC-A-AGA-2016 Maintenance of Annex 14 SARPs and Other Supporting Provisions

Deliverable Expert Group ADOP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
697	*Annex 14 - Vol I / Clarification of existing SARPS for visual aids, clearance distances,...*	*31-Jul-16*	*30-Nov-16*	*On-schedule*	*ADOP*	*ADOP.011.02*	-
698	*Annex 14 - Vol II / Clarification of definitions*	*30-Jun-16*	*30-Nov-16*	*On-schedule*	*ADOP*	-	-
1124	*Doc 9157.5 - Aerodrome Design Manual, Part 5 (Doc 9157) / Complete revision of 1983 Manual*	*30-Jun-16*	*30-Nov-16*	*On-schedule*	*ADOP*	-	-

REC-A-AIG-2016 Maintenance of Annex 13 SARPs and other related SARPs with the corresponding Supporting Guidance.

Deliverable Expert Group *ANB-AdK

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1389	Annex 6 - Part I / SARPs for extended duration CVRs	30-Jul-16	30-Nov-16	Completed	FLTOPSP-FLIRECWG	FLRECP.005.01	-
1392	Annex 6 - Part I / SARPs to determine the accident site within a limited area (to expedite flight recorder recovery)	15-Jul-16	30-Nov-16	Completed	FLTOPSP-FLIRECWG	FLRECP.004	-
1390	Annex 6 - Part II / SARPs for extended duration CVRs	30-Jul-16	30-Nov-16	Completed	FLTOPSP-FLIRECWG	FLRECP.005.01	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1400	*Annex 9 / Consider developing of SARPs regarding the establishment by States of legislation, regulations and/or policies to support victims of civil aviation accidents and their families.*	*15-Jul-16*	*25-Feb-16*	*Completed*	*FALP*	-	-
690	Annex 13 / Provisions for functional independence of accident investigation authorities	15-Jul-16	30-Nov-16	On-schedule	AIGP	-	-
1553	Annex 13 / Provide proposal relating to AIG-related meetings to improve investigations and share lessons and best practices.		30-Nov-16	On-schedule	AIGP	AIGP.009.02	-
514	Doc 9756.1 - Manual of AAII Part I (Doc 9756) / Revise and update acident and incident investigation guidance material	31-Jul-15	31-Jul-15	Completed		-	-
1545	Doc 9756.3 - Manual of AAII Part III (Doc 9756) / Assess the use and cost-benefit of emerging technologies to assist investigations (e.g. smartphone technology for recording flight data, GPS positioning and site survey, electronic tablets, 3D scanning and UAS-assisted recording of accident sites).		30-Nov-17	On-schedule	AIGP	AIGP.001.02	-
1544	Doc 298 - Training Guidelines for Aircraft Accident Investigators (Circ 298) / Develop guidelines for the implementation of evidence-based training for investigators		30-Nov-17	On-schedule	AIGP	AIGP.001.02	-
1542	Doc 315 - Hazards at Aircraft Accident Sites (Circ 315) / Discuss and propose occupational hazard protection for investigators during on-site work involving undeployed rocket-assisted emergency parachute systems		30-Nov-16	On-schedule	AIGP	AIGP.001.02	-
1543	Doc 315 - Hazards at Aircraft Accident Sites (Circ 315) / Develop guidelines for investigations in hostile environments		30-Nov-16	On-schedule	AIGP	AIGP.001.02	-

REC-A-ATS-2016 Maintenance of Annex 11 SARPs and Other Supporting Provisions

Deliverable Expert Group *ANB-CDa

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
903	PANS-ATM (Doc 4444) / Aircraft emergency descent procedures provisions	01-Jul-16	30-Nov-16	On-schedule	FLTOPSP	*OPSP001.02 (DONE)	-
1420	PANS-ATM (Doc 4444) / Develop aircraft emergency descent procedures provisions		30-Nov-16	On-schedule	FLTOPSP	FLTOPSP.033.01	-
1422	PANS-ATM (Doc 4444) / Procedures for harmonized use and exchange of RVSM monitoring data among RMAs		30-Nov-16	On-schedule	SASP	-	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1425	Doc 9937 - Manual of Operating Procedures and Practices / Revision to Manual 9937 related to vertical collision risk		30-Nov-16	On-schedule	SASP	-	-
1424	Doc 7030 - EUR and NAT Regional SUPPs / Maintenance of Regional Supplementary Procedures (SUPP) to facilitate the regional implementation		30-Nov-16	On-schedule	ICAO-ANB	-	B0-TBO

REC-A-CNS-2016 Maintenance of Annex 10 SARPs and Other Supporting Provisions

Deliverable Expert Group ICAO-ANB

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1483	Annex 10 - Vol I / Harmonization of relevant ICAO and RTCA provisions for SBAS		30-Nov-16	On-schedule	NSP	-	-
1484	Annex 10 - Vol I / Reflect best practice in provision of ILS distance - to -treshold information (NP)		30-Nov-16	On-schedule	NSP	-	-
1485	Annex 10 - Vol I / Update GLONASS SARPs to reflect the evolution of the system (NP)		30-Nov-16	On-schedule	NSP	-	-
203	*Annex 10 - Vol III / Extension of SELCAL Pool*	*30-Nov-16*	*30-Nov-16*	*On-schedule*	*CP-DCIWG*	*ACP.003.01*	-
1454	PANS-OPS Vol I (Doc 8168) / Provisions on new ACAS logic. Revised altitude levelling laws and auto-coupling.	30-Jul-16	30-Nov-16	On-schedule	SP	-	B0-ACAS
1122	Doc #### - AR on RTNAs (Doc ####) / Assessment report on the potential impact of rationalization on operations by general aviation and air carriers with smaller aircraft (DME-DME availability and inertial technology) to be published on ICAO PBN website	30-Nov-16	30-Nov-16	On-schedule	NSP	NSP.008.02	-
1123	Doc #### - Guidance mat. On RTNAs (Doc ####) / Guidance material on rationalization of terrestrial navigation aids	30-Nov-16	30-Nov-16	On-schedule	NSP	NSP.008.02	-
1213	Doc - Untitled / Develop and coordinate, through State review and Council approval, an ICAO Position on the various items on the agenda of ITU WRC-15.	15-Jul-15	15-Jul-15	Completed	FSMP	-	-
1216	Doc - Untitled / Develop technical analyses and other input material for meetings of the ITU Radiocommunication Sector (ITU-R) to assist with their WRC preparatory studies.		30-Nov-15	Completed	FSMP	-	-
1223	Doc - Untitled / Doc - Untitled / ICAO and member states prusue this matter (VSAT) in the ITU-R and during WTRC-15, to prevent any international mobile telecommunications spectrum allocation that compromises the availability of the aeronautical very small aperture terminal networks.		30-Nov-15	Completed	FSMP	-	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1476	Doc - Untitled / Assist ICAO Secretariat to conduct frequency spectrum workshops in the ICAO Regions		30-Nov-15	Completed	FSMP	-	-

REC-A-DGS-2016 Maintenance of Annex 18 SARPs and Other Supporting Provisions

Deliverable Expert Group DGP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
707	Annex 18 / Requirements for State inspection systems for dangerous goods plus new and amended definitions		30-Nov-13	On-schedule	DGP	-	-
1242	Annex 18 / Requirements for SMS, dangerous goods in the mail and dangerous goods training		30-Nov-15	On-schedule	DGP	-	-
751	Doc 9284 - Tech Ins for the ST of DG by Air (Doc 9284) / Biennial harmonization of dangerous goods regulations with all modes of transport while addressing air-specific needs		01-Jan-15	Completed	DGP	-	-
1240	Doc 9481 - Emergency Response Guidance for A/C Incidents Involving DG (Doc 9481) / Biennial harmonization of dangerous goods regulations with all modes of transport while addressing air-specific needs		01-Jan-15	Completed	DGP	-	-
1241	Doc 9284SU - Supplement to the Tech Instructions (Doc 9284SU) / Biennial harmonization of dangerous goods regulations with all modes of transport while addressing air-specific needs		01-Jan-15	Completed	DGP	-	-

REC-A-FPD-2016 Maintenance of PANS-OPS and Other Supporting Provisions

Deliverable Expert Group IFPP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1585	Doc - Placeholder / Develop amended USOAP Protocol Questions on IFP Design		30-Nov-16	On-schedule	IFPP	IFPP.001.04	-
708	PANS-OPS Vol I (Doc 8168) / PANS-OPS Vol. I re-write	30-Jun-18	30-Nov-18	On-schedule	IFPP	IFPP.002.02	-
1144	*PANS-OPS Vol II (Doc 8168) / Determine if AMA data in the current form is required*	*30-Jun-16*	*30-Nov-16*	*On-schedule*	*IFPP*	-	-
1249	PANS-OPS Vol II (Doc 8168) / Determine necessary changes to existing guidance regarding publishing single direction airways	30-Jun-16	30-Nov-16	On-schedule	IFPP	-	-
1258	*PANS-OPS Vol II (Doc 8168) / Review of figures in PANS-OPS Vol II to ensure better clarity*	*30-Jun-16*	*30-Nov-16*	*On-schedule*	*IFPP*	-	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1260	PANS-OPS Vol II (Doc 8168) / Temperature Correction Formula in PANS-OPS Vol II. Development of off-set Baro-VNAV criteria.	30-Jun-16	30-Nov-16	On-schedule	IFPP	-	-
1263	PANS-OPS Vol II (Doc 8168) / Revision of SBAS Lines of Minima	31-Jul-16	30-Nov-16	Completed	IFPP	-	-
1140	Doc 9905 - RNP AR P. Design Manual (Doc 9905) / Update FAS Calculator	30-Jun-16	30-Nov-16	On-schedule	IFPP	-	B0-APTA
1141	Doc 9905 - RNP AR P. Design Manual (Doc 9905) / Update existing mathematical equations	30-Jun-16	30-Nov-16	On-schedule	IFPP	-	B0-APTA
1142	Doc 9905 - RNP AR P. Design Manual (Doc 9905) / Requirements for RF Display for missed approach	30-Jun-16	30-Nov-16	On-schedule	IFPP	-	B0-APTA

REC-A-MED-2016 Activities related to the maintenance of provisions

Deliverable Expert Group

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
717	Annex 1 / 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		30-Nov-16	On-schedule	MPSG	-	-
1061	Doc 8984 - Manual of Civil Av. Med. (Doc 8984) / Update and enhance guidance on provisions to increase the emphasis on health promotion, and on the application of safety management principles in the medical assessment process		31-Dec-16	On-schedule	ICAO-ANB	-	-

REC-A-MET-2016 Maintenance of Annex 3 SARPs and Other Supporting Provisions

Deliverable Expert Group

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
712	Doc 7475 - Working arrangement between ICAO and WMO / Update of Working arrangements between ICAO and WMO	01-Jul-18	30-Nov-16	On-schedule	METP	-	-

REC-A-OPS-2016 Maintenance of Annex 6 SARPs and Other Supporting Provisions

Deliverable Expert Group FLTOPSP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
906	Annex 6 - Part I / Cargo compartment fire suppression systems consideration for Flight Planning		31-Dec-16	On-schedule	FLTOPSP	*OPSP002.02 (DONE)	-
914	*Annex 6 - Part I / Harmonisation of applicability, terms and language*		*30-Nov-16*	*On-schedule*	*FLTOPSP*	**OPSP.006.01 (DONE)*	-
1039	Annex 6 - Part I / Next Steps for Continuous Descent Final Approach Operations (CDFA) Provisions		31-Jul-16	On-schedule	FLTOPSP	OPSP.015.02	-
905	Annex 6 - Part II / Amendment proposals for non EDTO operators based on cargo compartment fire suppression systems diversion requirement		31-Dec-14	On-schedule	FLTOPSP	*OPSP002.02 (DONE)	-
907	Annex 6 - Part II / Cargo compartment fire suppression systems consideration for Flight Planning		31-Dec-14	On-schedule	FLTOPSP	*OPSP002.02 (DONE)	-
915	*Annex 6 - Part II / Harmonisation of applicability, terms and language*		*30-Nov-16*	*On-schedule*	*FLTOPSP*	**OPSP.006.01 (DONE)*	-
917	*Annex 6 - Part II / Correct typo and applicability errors within Annex Part II*		*30-Nov-16*	*On-schedule*	*FLTOPSP*	**OPSP.006.01 (DONE)*	-
1040	Annex 6 - Part II / Next Steps for Continuous Descent Final Approach Operations (CDFA) Provisions		31-Jul-14	On-schedule	FLTOPSP	OPSP.015.02	-
916	*Annex 6 - Part III / Harmonisation of applicability, terms and language*		*30-Nov-16*	*On-schedule*	*FLTOPSP*	**OPSP.006.01 (DONE)*	-
1041	Annex 6 - Part III / Next Steps for Continuous Descent Final Approach Operations (CDFA) Provisions		31-Jul-14	On-schedule	FLTOPSP	OPSP.015.02	-
908	PANS-OPS Vol I (Doc 8168) / Cargo compartment fire suppression systems consideration for Flight Planning		31-Dec-14	On-schedule	FLTOPSP	*OPSP002.02 (DONE)	-
1043	PANS-OPS Vol I (Doc 8168) / Next Steps for Continuous Descent Final Approach Operations (CDFA) Provisions		31-Jul-16	On-schedule	FLTOPSP	OPSP.015.02	-
1044	PANS-OPS Vol II (Doc 8168) / Next Steps for Continuous Descent Final Approach Operations (CDFA) Provisions		31-Jul-14	On-schedule	FLTOPSP	OPSP.015.02	-
1089	*Doc 8335 - Manual of Procedures for Ops Insp., Certif. and Cont Surv (Doc 8335) / Amendment resulting from Annex 6 new/updated provisions (e.g. EDTO, fuel, vision systems, efb, etc.)*		*30-Nov-15*	*Late*	*ICAO-ANB*	-	-
1042	Doc 9365 - Manual of All WX OPS (Doc 9365) / Next Steps for Continuous Descent Final Approach Operations (CDFA) Provisions		30-Jun-14	On-schedule	FLTOPSP	OPSP.015.02	-
1047	*Doc 9691 - Manual on VARMTCC (Doc 9691) / Guidance material for general aviation operations in volcanic ash*		*30-Nov-16*	*Completed*	*FLTOPSP*	**OPSP.016.01 (DONE)*	-

REC-A-PEL-2016	Maintenance of Annex 1 SARPs and Other Supporting Provisions
Deliverable Expert Group	ICAO-ANB

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1079	*Annex 1 / Update provisions related to language proficiency requirements based on feasibility study concerning data link operations*		*30-Nov-20*	*On-schedule*	*ICAO-ANB*	-	-
1083	PANS-TRG (Doc 9868) / Provisions for new CBT procedures for ATC		30-Nov-16	On-schedule	NGAP-ATM	-	-
1086	Doc 10011 - Manual on Aeroplanes Upset Prev. and Recov. Trainning (Doc 10011) (not out yet) / Amendment resulting from UPRT / LOC-I Symposium return of experience		30-Nov-16	Completed	ICAO-ANB	-	-
1087	Doc 9379 - Manual of Proc. For Establish. And Mang. Of a SPLS (Doc 9379) / Guidance on new Annex 1 SARPS related with UPRT and RPA		30-Nov-16	On-schedule	ICAO-ANB	-	-
1085	*Doc 9625 - Manual of Criteria for Qualification of FSTD (Doc 9625) / Amendment resulting from UPRT provisons and regular update*		*30-Nov-14*	*On-schedule*	*ICAO-ANB*	-	-
1082	*Doc 9841 - Manual on the Approval of Training Organizations (Doc 9841) / Amend guidance for new PANS-TRG provisons (eg. ATC new CBT procedures)*		*30-Nov-16*	*On-schedule*	*ICAO-ANB*	-	-
1084	Doc 9995 - Manual EBT (Doc 9995) / Amendment resulting from EBT implementation return of experience		30-Nov-16	On-schedule	ICAO-ANB	-	-
1088	*Doc #### - MST for Helicopter Pilots (Doc ####) / New manual with guuidance on mission-Specific training for helicopter pilots*		*30-Nov-16*	*On-schedule*	*ICAO-ANB*	-	-

REC-A-SAR-2016 Maintenance of Annex 12 SARPs and Other Supporting Provisions

Deliverable Expert Group *ANB-CDa

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1430	*Doc #### - IAMSAR Manual / Revision to IAMSAR Manual*		*30-Nov-16*	*On-schedule*	*ICAO-ANB*	-	-

REC-A-SM-2016 Maintenance of Annex 19 SARPs and Other Supporting Provisions

Deliverable Expert Group SMP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
721	Annex 19 / Integrated SSP framework; Pre-requisites for SSP Implementation; Delegation of SSP functions; Further development of risk-based oversight; Safety management of States' own activities; Concept of safety culture;	31-Jul-16	30-Nov-18	On-schedule	SMP	SMP.007.03	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
760	Annex 19 / Criteria for common SMS acceptance; consistent use of "responsibility" and "accountability"; mechanisms to improve the SMS performance of service providers	31-Jul-16	30-Nov-18	On-schedule	SMP	SMP.008.02	-
764	Doc 9859 - Safety Management Manual (Doc 9859) / Hazard identification and Risk Assessment process; tools to assess the service provider's SMS	31-Dec-16	30-Jun-17	On-schedule	SMP	SMP.011.01	-
1100	Doc 9859 - Safety Management Manual (Doc 9859) / Criteria for common SMS acceptance; consistent use of "responisbility" and "accountability"; mechanisms to improve the SMS performance of service providers	31-Dec-16	01-Jul-17	On-schedule	SMP	SMP.008.02	-
1373	Doc 9859 - Safety Management Manual (Doc 9859) / Guidance for: the integrated SSP framework; pre-requisites for SSP implementation; Delegation of SSP functions; Further development of a risk-based oversight; Safety management of States' own activities; concept of safety culture	31-Dec-16	01-Jul-17	On-schedule	SMP	SMP.007.03	-

2018

Work Package No.	Work Package Title
REC-A-AGA-2018	Maintenance of Annex 14 SARPs and Other Supporting Provisions
Deliverable Expert Group	ADOP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1050	*Annex 14 - Vol I / Restructuring of Annex 14 Vol I*		*30-Nov-18*	*On-schedule*	*ADOP*	*ADOP.004.01*	-
1126	*Annex 14 - Vol I / Maintenance of SARPs.*		*30-Nov-18*	*On-schedule*	*ADOP*	-	-
1209	*Annex 14 - Vol I / Overall review of visual aids*	*01-Jul-18*	*30-Nov-18*	*On-schedule*	*ADOP*	*ADOP.011.02*	-
1214	*Annex 14 - Vol I / Consequential change of definition between Cat II and Cat II (350 m RVR to 300 m RVR)*	*01-Jul-18*	*30-Nov-18*	*On-schedule*	*ADOP*	*ADOP.019.02*	-
1127	*Annex 14 - Vol II / Maintenance of SARPs*		*30-Nov-18*	*On-schedule*	*ADOP*	*ADOP.010.02*	-
1208	*Annex 14 - Vol II / Updated version to reflect onshore-offshore distinction*	*01-Jul-18*	*30-Nov-18*	*On-schedule*	*ADOP*	-	-
1212	*Annex 14 - Vol II / Review of FATO surface provisions*	*01-Jul-18*	*30-Nov-18*	*On-schedule*	*ADOP*	*ADOP.010.02*	-
1210	*Doc 9157.4 - Aerodrome Design Manual, Part 4 (Doc 9157) / Updated guidance after review of visual aids*	*01-Jul-18*	*30-Nov-18*	*On-schedule*	*ADOP*	*ADOP.011.02*	-
1125	*Doc 9261 - Heliport Manual (Doc 9261) / Comprehensive update of the 1995 manual, dividing it into two sections to address seperately onshore and offshore heliports*		*30-Nov-18*	*On-schedule*	*ADOP*	*ADOP.010.02*	-

REC-A-AIG-2018 Maintenance of Annex 13 SARPs andother related SARPs with the corresponding Supporting Guidance

Deliverable Expert Group *ANB-AdK

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
509	Annex 6 - Part I / Introduction of light-weight recorders	15-Jul-18	30-Nov-18	On-schedule	FLTOPSP-FLIRECWG	-	-
822	*Annex 6 - Part I / Development of future flight Recorder Provisions removing unnecessary complexity and prescription*	*31-Jul-18*	*30-Nov-18*	*On-schedule*	*FLTOPSP-FLIRECWG*	*FLRECP.003.01*	-
9372	*Annex 6 - Part I / Revise parameters lists in Annex 6, Part I taking into consideration required action of Job-card FLR003 Rev1.*	*29-Jun-18*	*30-Nov-18*	*On-schedule*	*FLTOPSP-FLIRECWG*	*FLIRECSWG.006.01*	-
9375	Annex 6 - Part I / Discuss and propose amendments for the general requirements for crash-protected flight recorder versus lightweight flight recorder in Annex 6, Part I	29-Jun-18	30-Nov-18	On-schedule	FLTOPSP-FLIRECWG	FLIRECSWG.008.01	-
510	Annex 6 - Part II / Introduction of light-weight recorders	31-Jul-18	30-Nov-18	On-schedule	FLTOPSP-FLIRECWG	-	-
823	*Annex 6 - Part II / Development of future flight Recorder Provisions removing unnecessary complexity and prescription*	*31-Jul-18*	*30-Nov-18*	*On-schedule*	*FLTOPSP-FLIRECWG*	*FLRECP.003.01*	-
1393	Annex 6 - Part II / SARPs to determine the accident site within a limited area (to expedite flight recorder recovery)	15-Jul-16	15-Jul-18	On-schedule	FLTOPSP-FLIRECWG	FLRECP.004	-
9373	*Annex 6 - Part II / Revise parameters lists in Annex 6, Part II taking into consideration required action of Job-card FLR003 Rev1.*	*30-Jun-18*	*30-Nov-18*	*On-schedule*	*FLTOPSP-FLIRECWG*	-	-
9376	*Annex 6 - Part II / Discuss and propose amendments for the general requirements for crash-protected flight recorder versus lightweight flight recorder in Annex 6, Part II*	*29-Jun-18*	*30-Nov-18*	*On-schedule*	*FLTOPSP-FLIRECWG*	-	-
824	*Annex 6 - Part III / Development of future flight Recorder Provisions removing unnecessary complexity and prescription*	*31-Jul-18*	*30-Nov-18*	*On-schedule*	*FLTOPSP-FLIRECWG*	*FLRECP.003.01*	-
1391	Annex 6 - Part III / SARPs for extended duration CVRs	31-Jul-18	30-Nov-18	On-schedule	FLTOPSP-FLIRECWG	FLRECP.005.01	-
1394	Annex 6 - Part III / SARPs to determine the accident site within a limited area (to expedite flight recorder recovery)	31-Jul-18	30-Nov-18	On-schedule	FLTOPSP-FLIRECWG	FLRECP.004	-
9374	*Annex 6 - Part III / Revise parameters lists in Annex 6, Part III taking into consideration required action of Job-card FLR003 Rev1.*	*29-Jun-18*	*30-Nov-18*	*On-schedule*	*FLTOPSP-FLIRECWG*	-	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
9377	*Annex 6 - Part III / Discuss and propose amendments for the general requirements for crash-protected flight recorder versus lightweight flight recorder in Annex 6, Part III*	*29-Jun-18*	*30-Nov-18*	*On-schedule*	*FLTOPSP-FLIRECWG*	-	-
1397	Annex 13 / Consider upgrading recommended practice 5.4.3 to a Standard to allow unrestricted access to all evidence material during an investigation	31-Jul-18	30-Nov-18	On-schedule	AIGP	AIGP.002.02	-
1399	Annex 13 / Consider upgrading recommended practice 6.11 and 6.12 to a Standard and clarify link with Annex 19 provisions on State Safety Assurance	31-Jul-18	30-Nov-18	On-schedule	AIGP	AIGP.002.02	-
1547	Annex 13 / Review interaction between Annex 12 and Annex 13 to clarify provisions when aircraft remains missing at the end of the search and rescue phase and the search continues to locate the aircraft for investigation purposes.	31-Jul-18	30-Nov-18	On-schedule	AIGP	AIGP.004.02	-
1548	Annex 13 / Review provisions in Annex 13 with relation to the delegation of an investigation; issuance of Final Reports and interim statements	31-Jul-18	30-Nov-18	On-schedule	AIGP	AIGP.004.02	-
1398	Doc #### - Guidance on protocols between AIBs and judiciary (Doc ####) / Develop guidance on the establishment of protocols or agreements between accident investigation and judicial authorities	31-Dec-17	31-Dec-18	On-schedule	AIGP	AIGP.005.01	-
1551	Doc 9756.1 - Manual of AAII Part I (Doc 9756) / Update guidance material for the investigation of serious incidents to be included in the next revision of Doc 9756		30-Dec-18	On-schedule	AIGP	AIGP.007.02	-
1546	Doc 9756.4 - Manual of AAII Part IV (Doc 9756) / Discuss and propose guidance for the classification “destroyed” related to damages sustained by an aircraft in an accident.		30-Nov-18	Completed	AIGP	*AIGP.003.01 (SUPERCEDED)	-
819	Doc #### - Manual for maintenance of Flight Recorders (Doc ####) / New guidance material on maintenance of flight recorders	31-Dec-18	31-Dec-18	On-schedule	FLTOPSP	FLRECP.001.02	-
738	Doc 10019 - Manual on RPAS (Doc 10019) / Provisions for the introduction or enhancement of flight recorders in RPAs	30-Jun-15	31-Dec-17	Completed	FLTOPSP-FLIRECWG	FLRECP.002	-

REC-A-AIR-2018	Maintenance of Annex 8 SARPs and Other Supporting Provisions
Deliverable Expert Group	AIRP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
793	Annex 8 / Develop provisions for the State of Design to notify other Contracting States in cases of transfer of the Type Certificate to a different holder. (Or guidance material as recommended by Panel. See element AIR Manual in REC-A-AIR-2016)	31-Jul-17	30-Nov-17	Late	AIRP	AIRP.007.01	-
795	Annex 8 / Develop guidance material on the “probability descriptor” (Or guidance material as recommended by Panel. See element AIR Manual in REC-A-AIR-2016)	31-Jul-17	30-Nov-17	Late	AIRP	AIRP.007.01	-
797	Annex 8 / Establish the applicability of Annex 8, Part IIIB to single engine aeroplane over 5700 kg single engine aeroplane over 5700 kg (Or guidance material as recommended by Panel. See element AIR Manual in REC-A-AIR-2016)	31-Jul-17	30-Nov-17	Late	AIRP	AIRP.007.01	-
799	Annex 8 / Address changes to the stall warning requirements in Annex 8, Part IVB (Or guidance material as recommended by Panel. See element AIR Manual in REC-A-AIR-2016)	31-Jul-17	30-Nov-17	Late	AIRP	AIRP.007.01	-
801	Annex 8 / Establish the applicability of weight limitation for all aircraft for cargo compartment protection. (Or guidance material as recommended by Panel. See element AIR Manual in REC-A-AIR-2016)	31-Jul-17	30-Nov-17	Late	AIRP	AIRP.007.01	-
810	*Annex 8 / Develop provisions for the transmission State of Design and handling by State of Registry of Security Sensitive Airworthiness Information if this action is determined to correct an unsafe condition and comply with the applicable airworthiness requirements (Or guidance material as recommended by Panel. See element AIR Manual in REC-A-AIRP-2018)*	*31-Jul-17*	*30-Nov-17*	*Late*		*AIRP.006.01*	-
794	Doc 9760 - AIR Manual (Doc 9760) / Develop provisions for the State of Design to notify other Contracting States in cases of transfer of the Type Certificate to a different holder	31-Jul-17	31-Jul-18	Late	AIRP	AIRP.007.01	-
796	Doc 9760 - AIR Manual (Doc 9760) / Develop guidance material on the “probability descriptor”	31-Jul-17	31-Jul-18	Late	AIRP	AIRP.007.01	-
798	Doc 9760 - AIR Manual (Doc 9760) / Establish the applicability of Annex 8, Part IIIB to single engine aeroplane over 5700 kg single engine aeroplane over 5700 kg	31-Jul-17	31-Jul-18	Late	AIRP	AIRP.007.01	-
800	Doc 9760 - AIR Manual (Doc 9760) / Address changes to the stall warning requirements in Annex 8, Part IVB	31-Jul-17	31-Jul-18	Late	AIRP	AIRP.007.01	-
804	Doc 9760 - AIR Manual (Doc 9760) / Establish the applicability of weight limitation for all	31-Jul-17	31-Aug-18	Late	AIRP	AIRP.007.01	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
811	*Doc 9760 - AIR Manual (Doc 9760) / Develop provisions for the transmission State of Design and handling by State of Registry of Security Sensitive Airworthiness Information if this action is determined to correct an unsafe condition and comply with the applicable airworthiness requirements*	*31-Jul-17*	*31-Jul-18*	*Late*	*AIRP*	*AIRP.006.01*	-

REC-A-ATS-2018 Maintenance of Annex 11 SARPs and Other Supporting Provisions

Deliverable Expert Group ICAO-ANB

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1433	Annex 11 / Provisions on remotely operated ATS		30-Nov-18	On-schedule	ATMOPSP	ATMOPSP.007.01	B1-RATS
1423	*PANS-ATM (Doc 4444) / Maintenance of PANS-ATM to align with the latest development of technologies and procedures as well as to correct editorial errors.*		*30-Nov-18*	*On-schedule*	*ICAO-ANB*	-	-
1434	PANS-ATM (Doc 4444) / Procedures on remotely operated ATS		30-Nov-18	On-schedule	ATMOPSP	ATMOPSP.007.01	B1-RATS
1435	PANS-ATM (Doc 4444) / Voice phraseologies associated with runway safety programme		30-Nov-18	On-schedule	ATMOPSP	ATMOPSP.010.01	B1-APTA

REC-A-CNS-2018 Maintenance of Annex 10 SARPs and Other Supporting Provisions

Deliverable Expert Group ICAO-ANB

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1230	Annex 10 - Vol III / Provisions on the future communication infrastructure	31-Jul-18	30-Nov-18	Late	CP-DCIWG	-	-
1286	Annex 10 - Vol IV / Develop provisions to mitigate the effects of erroneous information on ATC displays due to interference affecting 1030/1090 MHz based surveillance systems	30-Jul-18	30-Nov-18	On-schedule	SP	*ASP001	-
1478	Annex 10 - Vol IV / Update Annex 10 Volume IV relating to surveillance and collision avoidance systems in light of operational experience		30-Nov-18	On-schedule	SP	-	-
1481	Doc 8071 - Manual on Testing of Radio Navigation Aids / Update Doc 8071 relating to surveillance and collision avoidance systems in light of operational experience		30-Nov-18	On-schedule	SP	-	-
1128	Doc 9718 - ICAO RF Handbook (Doc 9718) Vol. I / Maintenance and update of the ICAO frequency spectrum strategy and policy.	31-Mar-17	30-Nov-18	On-schedule	FSMP	FSMP.001.01	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1474	Doc 9718 - ICAO RF Handbook (Doc 9718) Vol. I / Improve Frequency Assignment Planning criteria for the frequency band 117.975 - 137MHz.		30-Sep-17	On-schedule	FSMP	FSMP.005.01	-
1136	Doc 9849 - GNSS Manual (Doc 9849) / Maintenance of GNSS Manual (Doc 9849)	01-Jul-18	30-Nov-18	On-schedule	NSP	NSP.002.01	-
1482	Doc 9863 - Airborne Collision Avoidance System (ACAS) Manual (Doc 9863)Manual (Doc 9863) / Update Doc 9863 relating to surveillance and collision avoidance systems in light of operational experience		30-Nov-18	On-schedule	SP	-	-
1285	Doc 9924 - Aeronautical Surveillance Manual (Doc 9924) / Develop provisions to eliminate or reduce to an acceptable level the interference affecting 1030/1090 MHz based surveillance systems	30-Jul-18	30-Nov-18	On-schedule	SP	*ASP001	-
1479	Doc 9924 - Aeronautical Surveillance Manual (Doc 9924) / Update Doc 9924 relating to surveillance and collision avoidance systems in light of operational experience”		30-Nov-18	On-schedule	SP	-	-
1229	Doc ### - WGS-84 Manual / Revision and update of WGS-84 Manual		30-Nov-18	On-schedule	ICAO-ANB	-	-
1129	Doc -- - Report on the Prevention of IMT SA / Develop position on the prevention if IMT SA/ICAO and other member States to pursue this matter (VSAT) in the ITU-R to prevent any international mobile telecommunications spectrum allocation comprises the availability of the aeronautical very small aperture networks.		30-Nov-18	On-schedule	ICAO-ANB	-	-
1477	Doc - Untitled / Assist ICAO Secretariat to conduct frequency spectrum workshops in the ICAO Regions		30-Nov-18	On-schedule	FSMP	FSMP.002.01	-
1480	Doc 9871 - Technical Provisions for Mode S Services and Extended Squitter / Update Doc 9871 relating to surveillance and collision avoidance systems in light of operational experience”		30-Nov-18	On-schedule	SP	-	-

REC-A-FPD-2018 Maintenance of PANS-OPS and Other Supporting Provisions

Deliverable Expert Group IFPP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1268	Annex 15 / Portrayal of altitudes on terminal charting	31-Jul-18	30-Nov-18	On-schedule	IFPP	-	-
1288	Annex 15 / Continued review of harmonization in the area of information promulgation and publication	31-Jul-18	30-Nov-18	On-schedule	IFPP	-	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1588	PANS-OPS Vol I (Doc 8168) / Development of provisions for the application of Terminal Procedures supported by GBAS as guidance for flight operations personnel and flight crew.		30-Nov-18	On-schedule	IFPP	IFPP.009.02	-
1266	PANS-OPS Vol II (Doc 8168) / Addition of Step Down Fix publication requirements	31-Jul-18	30-Nov-18	On-schedule	IFPP	-	-
1267	PANS-OPS Vol II (Doc 8168) / Portrayal of altitudes on terminal charting	31-Jul-18	30-Nov-18	On-schedule	IFPP	-	-
1270	PANS-OPS Vol II (Doc 8168) / Continued review of harmonization in the area of information promulgation and publication	31-Jul-18	30-Nov-18	On-schedule	IFPP	-	-
1271	PANS-OPS Vol II (Doc 8168) / Development of RNAV arrival and Departure Charts for ”data detail requirements” and amend chart manual	31-Jul-18	30-Nov-18	On-schedule	IFPP	-	-
1272	PANS-OPS Vol II (Doc 8168) / Clarification of navigation specifications and accuracy requirements for ATS Routes	31-Jul-18	30-Nov-18	On-schedule	IFPP	-	-
1273	PANS-OPS Vol II (Doc 8168) / Clarification of PANS-OPS Vol II criteria regarding minimum intermediate segment length	31-Jul-18	30-Nov-18	On-schedule	IFPP	-	-
1274	PANS-OPS Vol II (Doc 8168) / Harmonization of criteria regarding MSA/TAA and capture regions for Y or T Bar procedure construction	31-Jul-18	30-Nov-18	On-schedule	IFPP	-	-
1275	PANS-OPS Vol II (Doc 8168) / Improvement of of VSS design criteria (NPA-PA-APV) based on operational experience	31-Jul-18	30-Nov-18	On-schedule	IFPP	-	-
1277	PANS-OPS Vol II (Doc 8168) / Development of criteria for MOC reduction for turning departures	31-Jul-18	30-Nov-18	On-schedule	IFPP	-	-
1278	PANS-OPS Vol II (Doc 8168) / ILS/MLS/GBAS/ OCA/H promulgation for NLA	31-Jul-18	30-Nov-18	On-schedule	IFPP	-	-
1279	PANS-OPS Vol II (Doc 8168) / Amendment to PANS-OPS VOL II – GBAS Criteria	31-Jul-18	30-Nov-18	On-schedule	IFPP	-	-
1280	PANS-OPS Vol II (Doc 8168) / ICAO Location Indicator scheme enhancements	31-Jul-18	30-Nov-18	On-schedule	IFPP	-	-
1282	PANS-OPS Vol II (Doc 8168) / Use of GBAS positioning for terminal operations	31-Jul-18	30-Nov-18	On-schedule	IFPP	IFPP.009.02	-
1283	PANS-OPS Vol II (Doc 8168) / Adaptation of procedure design magnetic variation terminology	31-Jul-18	30-Nov-18	On-schedule	IFPP	-	-
1287	PANS-OPS Vol II (Doc 8168) / Significant point publication and depiction requirements	31-Jul-18	30-Nov-18	On-schedule	IFPP	-	-
1269	Doc 8697 - Aeronautical Chart Manual (Doc 8697) / Portrayal of altitudes on terminal charting	31-Jul-18	31-Jul-18	On-schedule	IFPP	-	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1290	Doc 8697 - Aeronautical Chart Manual (Doc 8697) / Development of RNAV arrival and Departure Charts for "data detail requirements" and amend chart manual	31-Jul-18	31-Jul-18	On-schedule	IFPP	-	-
1276	Doc 9906 - QA Manual for Flight Proc Design Vol II (Doc 9906) / Review and complete Quality Assurance Manual for Flight Procedure Design Vol 4 – Procedure design construction	31-Jul-18	30-Nov-18	On-schedule	IFPP	-	-
670	Doc #### - Advanced CRM (Doc ####) / Precision Approach Procedure Collision Risk Model tool update	30-Jun-18	30-Nov-18	On-schedule	IFPP	*IFPP003 (DONE)	-

REC-A-OPS-2018 Maintenance of Annex 6 SARPs and Other Supporting Provisions

Deliverable Expert Group FLTOPSP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
728	*Annex 6 - Part I / Use of terms such as authorization approval and acceptance provisions (Or guidance material as recommended by Panel. See element of the Manual of Procedures for Operations Inspection, Certification and Continued Surveillance (Doc 8335))*		*31-Jul-18*	*On-schedule*	*FLTOPSP*	*OPSP.018.02*	-
729	*Annex 6 - Part II / Use of terms such as authorization approval and acceptance provisions*		*31-Jul-18*	*On-schedule*	*FLTOPSP*	*OPSP.018.02*	-
1019	*Annex 6 - Part II / Dangerous goods Provisions*		*31-Jul-14*	*On-schedule*	*FLTOPSP*	**OPSP.007.01 (DONE)*	-
730	*Annex 6 - Part III / Use of terms such as authorization approval and acceptance provisions*		*31-Jul-18*	*On-schedule*	*FLTOPSP*	*OPSP.018.02*	-
1053	*Doc 8335 - Manual of Procedures for Ops Insp., Certif. and Cont Surv (Doc 8335) / Use of terms such as authorization approval and acceptance provisions*		*31-Jul-18*	*On-schedule*	*FLTOPSP*	*OPSP.018.02*	-

REC-A-OPS-DG/AN6PIII Dangerous goods considerations for Annex 6 Part III

Deliverable Expert Group FLTOPSP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1628	Doc - Feasibility Study / Examine Annex 6 III and determine how provisions that would strengthen the proper carriage of dangerous goods could be incorporated		01-Jan-01	On-schedule	DGP	FLTOPSP.025.01	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1629	Annex 6 - Part III / Develop provisions that will clarify the roles and responsibilities of the State of the Operator, State of shipment and operator with the relevant requirements of Annex 18	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.025.01	-
1630	Annex 6 - Part III / Clarify provisions regarding aerial work, external loads and sling loads.	30-Jun-18	30-Nov-18	On-schedule	FLTOPSP	FLTOPSP.025.01	-

2020

Work Package No.	Work Package Title
REC-A-AIG-2020	Maintenance of Annex 13 SARPs and other related SARPs with the corresponding Supporting Guidance.
Deliverable Expert Group	*ANB-AdK

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1386	Annex 6 - Part I / SARPS for image recording of cockpit area	15-Jul-20	30-Nov-20	On-schedule	FLTOPSP-FLIRECWG	FLIRECSWG.007.01	-
1387	Annex 6 - Part II / SARPS for image recording of cockpit area	31-Jul-20	30-Nov-20	On-schedule	FLTOPSP-FLIRECWG	FLIRECSWG.007.01	-
511	Annex 6 - Part III / Introduction of light-weight recorders	31-Jul-20	30-Nov-20	On-schedule	FLTOPSP-FLIRECWG	-	-
1388	Annex 6 - Part III / SARPS for image recording of cockpit area	15-Jul-20	30-Nov-20	On-schedule	FLTOPSP-FLIRECWG	-	-
816	Annex 6 - Part IV / Provisions for the carriage of flight recorders in RPASs	31-Jul-20	30-Nov-20	On-schedule	FLTOPSP-FLIRECWG	FLRECP.002	B1-RPAS
516	*Annex 13 / Review the provisions for the investigation of serious incidents in Annex 13*	*31-Jul-20*	*30-Nov-20*	*On-schedule*		*AIGP.007.02*	-
1440	*Annex 13 / Review existing SARPs and guidance material to determine whether a specific Standard is required to promote the expeditious testing for problematic use of substances by flight crew members following an aviation accident*	*31-Jul-20*	*30-Nov-20*	*On-schedule*	*MPSG*	*AIGP.002.02*	-
1549	Annex 13 / Provisions for the investigation of accidents and incidents involving RPAS	31-Jul-20	30-Nov-20	On-schedule	RPASP	AIGP.006.01	B1-RPAS
1552	Annex 13 / Guidance on mutual cooperation and delegation of investigations in an Attachment to Annex 13	31-Jul-20	30-Nov-20	On-schedule	AIGP	AIGP.008.01	-
1550	Doc 9756.1 - Manual of AAII Part I (Doc 9756) / Develop additional guidance material for the investigation of RPAS accidents and incidents to be included in the next revision of Doc 9756		30-Nov-20	On-schedule	RPASP	AIGP.006.01	-

REC-A-CNS-2020	Maintenance of Annex 10 SARPs and other supporting provisions.

Deliverable Expert Group	ICAO-ANB						
	Elements	**Expected Effective**	**Expected Applicability**	**Status**	**Element Expert Group**	**Job Card**	**ASBU Modules**
1431	Annex 10 - Vol III / Provisions on next generation ELTs	31-Jul-20	30-Nov-20	On-schedule	FLTOPSP	-	-
619	Annex 10 - Vol V / Inclusion of provisions on the use of 5GHz band	30-Jun-20	30-Nov-20	On-schedule	FSMP	FSMP.005.01	-
1217	Annex 10 - Vol V / Address radio frequency interference issues for aviation and the need for action by States, ICAO and international organizations		30-Nov-19	On-schedule	FSMP	FSMP.004.01	-
1432	Annex 10 - Vol V / Provisions on next generation ELTs	31-Jul-20	30-Nov-20	On-schedule	FLTOPSP	-	-
9368	Doc 9863 - Airborne Collision Avoidance System (ACAS) Manual (Doc 9863)Manual (Doc 9863) / Amend Doc 9863 to ensure performance of surveillance and collision avoidance systems in light of operational experience and emerging technologies.		30-Nov-20	On-schedule	SP	SP.008.01	-
9367	Doc 9871 - Technical Provisions Technical Provisions for Mode S Services and Extended Squitter / Amend Doc 9871 to ensure performance of surveillance and collision avoidance systems in light of operational experience and emerging technologies		30-Nov-20	On-schedule	SP	SP.008.01	-
9366	Doc 9924 - Aeronautical Surveillance Manual (Doc 9924) / Amend Doc 9924 to ensure performance of surveillance and collision avoidance systems in light of operational experience and emerging technologies.		30-Nov-20	On-schedule	SP	SP.008.01	-
1215	Doc - Untitled / Address radio frequency interference issues for aviation and the need for action by States, ICAO and international organizations		30-Nov-19	Completed	FSMP	FSMP.004.01	-
1218	Doc - Untitled / Develop technical analyses and other input material for meetings of the ITU Radiocommunication Sector (ITU-R) to assist with their WRC preparatory studies.		30-Nov-19	On-schedule	FSMP	FSMP.002.01	-
1221	Doc - Untitled / Develop and coordinate, through State review and Council approval, an ICAO Position on the various items on the agenda of ITU WRC-19.		30-Nov-19	On-schedule	FSMP	FSMP.002.01	-
1473	Doc - Untitled / Maintain ITU Radioregularity framework relevant to aviation and keep ICAO provisions and the ITU Radioregulatory framework in sync.		30-Nov-19	On-schedule	FSMP	FSMP.003.01	-
REC-A-OPS-2020	Maintenance of Annex 6 SARPs and Other Supporting Provisions						
Deliverable Expert Group							

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
922	Annex 6 - Part III / Fatigue Management Provisions	01-Jul-20	31-Dec-20	On-schedule	FLTOPSP	*OPSP.007.01 (DONE)	-

2022

Work Package No.	Work Package Title
REC-A-OPS-2022	Maintenance of Annex 6 SARPs and Other Supporting Provisions
Deliverable Expert Group	

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
919	*Annex 6 - Part II / Fatigue Management Provisions*	*01-Jul-22*	*31-Dec-22*	*On-schedule*	*FLTOPSP*	**OPSP.007.01 (DONE)*	-

REC-A-CNS-2022	Maintenance of Annex 10 SARPs and other supporting provisions.
Deliverable Expert Group	ICAO-ANB

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
756	Annex 10 - Vol IV / Amend Annex 10 Volume IV to ensure performance of surveillance and collision avoidance systems in light of oeprational experiene and emerging technologies		30-Nov-22	On-schedule	SP	SP.008.01	-
1219	Annex 10 - Vol IV / Develop provisions on ACAS-X		30-Nov-22	On-schedule	SP	SP.009.01	B2-ACAS
9364	Annex 10 - Vol IV / Develop provisions for ACAS-Xu		30-Nov-22	On-schedule	SP	SP.009.01	-
1220	Doc 9863 - Airborne Collision Avoidance System (ACAS) Manual (Doc 9863)Manual (Doc 9863) / Develop guidance materials on the function and operation of ACAS-X		30-Nov-22	On-schedule	SP	SP.009.01	B2-ACAS
9365	Doc 9863 - Airborne Collision Avoidance System (ACAS) Manual (Doc 9863)Manual (Doc 9863) / Develop guidance materials on the function and operation of ACAS-Xu		30-Nov-22	On-schedule		SP.009.01	-

REC-B	Meteoroligical Operations Group

2022

Work Package No.	Work Package Title
REC-B-2022-1	Meteorological Operations Groups
Deliverable Expert Group	METP

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1707	Doc - Placeholder / Assist ICAO in the coordination of the arrangements between the States/Provider States, international organizations and other stakeholders comprising the IAVW and in ensuring that the global requirements for IAVW information are met.		01-Jan-01	On-schedule	METP	METP.003.01	-
1708	Doc - Placeholder / Assist ICAO in the coordination of the arrangements between the Provider States comprising the WAFS and in ensuring that the global requirements for WAFS information are met.		01-Jan-01	On-schedule	METP	METP.010.01	-
1716	Doc - Placeholder / Assist ICAO in the coordination of the arrangements by the SADIS Provider State in ensuring that the global requirements for the dissemination of global OPMET and WAFS information are met.		01-Jan-01	Not approved	METP	METP.008.01	-

REC-C Activities related to the Global Plans (GASP / GANP)

1

Work Package No. Work Package Title

REC-C-GANP-2019 Global Air Navigation Plan

Deliverable
Expert Group

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1712	Doc 9750 - GANP (Doc 9750) / Review and update/amend the module AMET description for Block 0 and 1, including the SARPs to be delivered.		30-May-17	On-schedule	METP	METP.002.01	-
1713	Doc 9750 - GANP (Doc 9750) / Proposed updates to Block 1 relating to meteorology to support ATM in the terminal area		30-May-17	On-schedule	METP	METP.002.01	-

2016

Work Package No. Work Package Title

REC-C-GANP-2016 Global Air Navigation Plan

Deliverable
Expert Group

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1130	Doc 9750 - GANP (Doc 9750) / Standardization roadmap to be provided to States		30-Nov-16	On-schedule	METP	METP.001.01	-
1369	Doc 9750 - GANP (Doc 9750) / Revision process for maintenance of GANP and update to the GANP module descriptions		31-Jul-15	On-schedule	METP	METP.001.01	-
1370	Doc 9750 - GANP (Doc 9750) / Prioritized technical work programme based on GANP		31-Jul-14	On-schedule	ICAO-ANB	-	-
1401	Doc 9750 - GANP (Doc 9750) / Update to performance improvement areas and ASBU module description, as required		30-Sep-15	On-schedule	METP	METP.001.01	-
1402	Doc 9750 - GANP (Doc 9750) / Improved linkage between GASP and GANP		31-Jul-16	On-schedule	ICAO-ANB	-	-
1403	Doc 9750 - GANP (Doc 9750) / Draft proposal for the next edition of GANP		30-Mar-16	On-schedule	ICAO-ANB	-	-
1616	Doc 9750 - GANP (Doc 9750) / Updated SURF ASBU block 0 and 1 sections including the SARPs to be delivered		30-Apr-15	Completed	FLTOPSP	-	-
1617	Doc 9750 - GANP (Doc 9750) / Updated technology roadmap(s) with the operational thread(s) or technology roadmap(s) when applicable, in particular the Avionics Roadmap.		30-Apr-15	Completed	FLTOPSP	-	-

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1709	Doc 9750 - GANP (Doc 9750) / Review and indicate potential concerns on ASBU module AMET or related Technical enabler objectives and timelines		28-Feb-15	Completed	METP	-	-
1710	Doc 9750 - GANP (Doc 9750) / Review and update/amend the module AMET description for Block 0 and 1, including the SARPs to be delivered.		30-Apr-15	Completed	METP	-	-
1711	Doc 9750 - GANP (Doc 9750) / Review and update the operational thread(s) or technology roadmap(s) when applicable.		30-Apr-15	Completed	METP	-	-

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Deliverable Expert Group

	Elements	Expected Effective	Expected Applicability	Status	Element Expert Group	Job Card	ASBU Modules
1363	Doc 10004 - GASP (Doc 10004) / Process to receive and address recommendations from States and international organizations for amending the GASP		31-Mar-14	Completed	ICAO-ANB	-	-
1366	Doc 10004 - GASP (Doc 10004) / Safety roadmaps to assist GASP in support of the GASP		31-Dec-14	On-schedule	ICAO-ANB	-	-
1367	Doc 10004 - GASP (Doc 10004) / Update to safety objectives and enablers, as required		31-Dec-15	On-schedule	ICAO-ANB	-	-
1368	Doc 10004 - GASP (Doc 10004) / Improved linkage between GASP and GANP		31-Jul-16	On-schedule	ICAO-ANB	-	-
1450	Doc 10004 - GASP (Doc 10004) / Draft proposal for the next edition of GASP		31-Jul-16	On-schedule	ICAO-ANB	-	-