Council of the
European Union

Brussels, 5 July 2019
(OR. en)

10716/19

AVIATION 134
CLIMA 198
ENV 664
RELEX 650

'I/A' ITEM NOTE

From:	General Secretariat of the Council
To:	Permanent Representatives Committee/Council
Subject:	Preparation of the 40th ICAO Assembly (Montreal, 26 September - 4 October 2019) Second batch of European working papers – Endorsement

On the basis of a draft presented by the Commission services, and following consultation of the European Civil Aviation Conference (ECAC), the Aviation Working Party examined the text of six Working Papers and one Information paper to be submitted by Finland on behalf of the European Union and its Member States to the 40th Assembly of the International Civil Aviation Organisation (ICAO), which will be held from 26 September to 4 October 2019 in Montréal.

At its meeting on 4 July 2019, the Working Party reached agreement on the text of the papers as set out in the Attachments A-G in the Annex to this note, and decided to submit them to COREPER and Council for final endorsement.

In the light of the above, subject to confirmation by COREPER, Council is invited:

– to confirm the text of the Working Papers and the Information Paper as set out in the Annex to this note;

– to authorise the Presidency to submit these papers on behalf of the European Union and its Member States to the 40th Assembly of ICAO.

ANNEX

Attachment A

A40-WP/xxxx

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International Civil Aviation Organization

WORKING PAPER

ASSEMBLY — 40TH SESSION

TECHNICAL COMMISSION

Agenda Item 30: Other issues to be considered by the Technical Commission

ENABLING INTEGRATED CROSS-BORDER OVERSIGHT

(Presented by Finland on behalf of the European Union and its Member States[1], the other Member States of the European Civil Aviation Conference[2]; and by EUROCONTROL)

1 Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom.

2 Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Iceland, Republic of Moldova, Monaco, Montenegro, North Macedonia, Norway, San Marino, Serbia, Switzerland, Turkey and Ukraine.

EXECUTIVE SUMMARY

The working paper describes the challenges posed to States in conducting effective cross-border oversight of organisations, which have activities in more than one State. It proposes that by enabling 'cooperative oversight' States can better and more efficiently respond to new operational concepts and technological developments and proposes a method to develop a common understanding of cooperative oversight in a 'total systems approach'.

Action: The Assembly is invited to:

a) note that the uptake of innovation and new business models in aviation is leading to increased cross-border operations, posing challenges to States in conducting oversight of such operations;
b) urge States to enhance cooperation to ensure effective oversight of cross-border operations;
c) acknowledge the role of the State of the Operator in conducting such oversight;
d) request ICAO to develop the appropriate framework for cooperative oversight as proposed in paragraph 2.7;
e) acknowledge that the implementation of risk-based oversight and integrated risk management are enablers to effective safety risk management; and
f) Adopt the Resolution on Cooperative Oversight in Appendix A.

Strategic Objectives:	This working paper relates to the Strategic Objectives of Safety and of Economic Development of Air Transport.
Financial implications:	The activities referred to in the attached assembly paper will be undertaken subject to the resources available in the 2020 – 2022 Regular Programme Budget and/or from extra budgetary contributions.
References:	Annex 19, ICAO Doc. 9859, Safety Management Manual, Resolution A36-6 recalling Assembly Resolution A35-7, AN-Conf-13 Doc.10115, AN-Conf-13 / WP 46 on emerging issues

1. INTRODUCTION

1.1 Safety oversight ensures a safe operating environment and enables a State to discharge its international obligations and responsibilities under the Chicago Convention. It ensures that risks are identified and addressed regardless of where they originate, be it from operations in another State or operations of another aviation domain.

1.2 Cross-border operations have introduced new challenges for States in conducting oversight of organisations performing such operations. Examples of cross-border operations are training organisations with satellite operations in other States, so-called group operations, where air operators with AOCs in different States belong to a single parent company or holding, or aerodrome operators with activities in different States belonging to a single parent company or holding, or cross-border Air Navigation Service Providers.

1.3 Enhanced cooperation between States will support an effective and risk-based oversight of such organisations in an integrated manner.

1.4 Some States have already developed solutions for cooperative oversight concepts in response to new cross-border business models. For example, WP/133 presented at the 13th Air Navigation Conference in 2018 described the challenges for States in overseeing aircraft interchange between airlines due to the formation of large holding companies, alliances and joint ventures, resulting in Recommendation 7.3/1 g)[3].

1.5 The role of the State of the Operator (SoO) is important as an enabler of risk-based cooperative oversight and as a means to ensure efficient use of oversight resources. Therefore, this paper also proposes a review of ICAO's SARPs that relate to the role of the SoO and State of Registry (SoR) to address identified barriers to cooperative oversight.

2. COOPERATIVE OVERSIGHT

2.1 The concept of cooperative oversight refers to States cooperating with each other to ensure oversight on the basis of identified risks, safety priorities and past oversight activities of organisations performing cross-border activities. In a cooperative oversight scenario, the State responsible for oversight of the organisation may agree to have oversight tasks performed by the State where the activity takes place or enter into an agreement with another State or a Regional Safety Oversight Organisation (RSOO), for example to ensure systematic mutual exchange of information or sharing of resources. In the scope of cross-border activities, the notion of cooperative oversight is directly linked to the concept of an integrated oversight.

2.2 Integrated oversight means that the State includes in its oversight programme any activity of organisations it certifies or of organisations certified by other States, but taking place within its territory, when so mutually agreed.

[3] 'That ICAO request an appropriate group of experts to further review and explore a process that would facilitate short-term (successive) aircraft interchange operations.'

2.3 The Chicago Convention prescribes the duties of the SoR. The SoO is responsible for example for the issuance of the Air Operator Certificate (AOC) in accordance with Annex 6 or of other certificates. The regulatory framework of the SoO can enable oversight to focus on 'where the risks' are, i.e. in the operational environment. Regional Safety Oversight Organisations (RSOOs) can also facilitate cooperative oversight amongst States to enable risk-based and more efficient oversight. In all scenarios, cooperative oversight needs to be based on clear lines of responsibility and accountability.

2.4 Satellite-based CNS services**4** provided by SatCOM, GNSS, and satellite-based ADS-B systems are provided at regional and global level. The application of a cooperative or integrated safety oversight model to Satellite-based CNS services is also particularly relevant.

2.5 The provisions of Article 83bis of the Chicago Convention, providing for transfer of certain tasks from the SoR to the SoO, may not sufficiently address the need for cooperative oversight of complex cross-border or multinational operations. Therefore, ICAO should be requested to review the SARPs that relate to the role and responsibility of the State of the Operator (SoO) vs. the role and responsibilities of the State of Registry (SoR) to determine if there are barriers to cooperative oversight and to address those identified barriers, while considering operations with or without an Article 83bis agreement. In this context, ICAO should assess the wider concept of cooperative oversight with the aim of developing more efficient and effective oversight models to assist States in meeting their obligations under the Chicago Convention.

2.6 To support a common understanding of cooperative oversight, it is proposed that ICAO undertakes the following activities:

- To collect information on oversight challenges resulting from technological developments such as Satellite-based CNS service provision, cross-border and multinational operations, or other complex oversight scenarios from all regions and States;

- To foster a global common understanding of cooperative oversight by developing a 'tool-kit on cooperative oversight'. Such a tool-kit should focus on practical solutions, describing different cooperative oversight arrangements and stages of cooperation. The tool-kit should contain model agreements on oversight activities and provide sample solutions on issues such as the allocation of resources and distribution of oversight tasks;

- To review the relevant ICAO SARPs and guidance material to assess the drivers and possible barriers to cooperative oversight arrangements. This may include considerations on the benefit of the role of the State of Operation as a facilitator of cooperative oversight arrangements.

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4 WP xx to the Assembly on Interference-resilient satellite-based CNS systems

- To remain relevant in a fast-changing world, not only in terms of technology but also in terms of State and industry operating models, ICAO strengthens its cross-domain approach across the whole spectrum of the aviation system and apply and promote integrated risk management.[5]

2.7 New industry business models also demonstrate the need to strengthen the cross-domain approach applied by authorities. Industry is increasingly implementing integrated management systems, encompassing safety, security, quality, human resource and other areas. Such integrated management systems are used to steer and manage all of the organisation activities. Safety hazards and threats are analysed in a holistic manner with mitigating actions taken in the most suitable area and ensuring appropriate balancing of various risks. Moreover, States should apply and promote integrated risk management when developing their State Safety Programme and plans to enable more focussed oversight.

3. CONCLUSIONS

3.1 Effective safety oversight is a crucial pillar in the safe and orderly running of the aviation system. Oversight shall be able to ensure risks are identified and adequately addressed regardless of where they originate, be it from operations in another State or operations of another aviation domain. States are experiencing challenges in conducting oversight in such cross-border activities. This paper proposes that a cooperative oversight system would assist States in addressing these challenges.

3.2 Risk-based oversight is also an important pillar of safety risk management. Safety hazards and threats should be analysed in a holistic manner with mitigating actions taken in the most appropriate area. Therefore, this paper concludes that in the context of technological innovations and cross-border operating models and integrated management systems, States should develop a common understanding of cooperative oversight to enable integrated cross-border oversight.

3.3 Next to a common understanding of the enablers and benefits of cooperative oversight, a 'toolkit' on cooperative oversight should be developed to assist States in implementing a standardised approach to cooperative oversight. Such a toolkit should include practical solutions and examples of cooperative oversight.

3.4 The different possible scenarios amongst States regarding the role and responsibility of the State of the Operator (SoO) vs. the role and responsibilities of the State of Registry (SoR) are a challenge and should be assessed to remove any barriers or difficulties for cooperative oversight.

[5] Working Paper xxx on GANP/ATM contains proposals on the ICAO standards-making process.

APPENDIX A

A-40-xx: Cooperative Oversight

Whereas the Chicago Convention and its Annexes provide the legal and operational framework for Contracting States to build a civil aviation safety system based on mutual trust and recognition, requiring that all Contracting States fulfil their obligations in implementing the Standards and Recommended Practices as far as practicable and in adequately performing safety oversight;

Whereas Article 37 of the Chicago Convention requires each Contracting State to collaborate in securing the highest practicable degree of uniformity in regulations and practices in all matters in which such uniformity will facilitate and improve air navigation;

Whereas a primary objective of the Organization continues to be that of ensuring the safety of international civil aviation worldwide;

Recalling that ultimate responsibility for safety oversight rests with Contracting States, who shall continuously review their respective safety oversight capabilities;

Whereas ensuring the safety of international civil aviation is also the responsibility of Contracting States both collectively and individually;

Whereas the improvement of the safety of international civil aviation on a worldwide basis requires the active collaboration of all stakeholders;

Recognizing the increase of multi-national activities of civil aviation entities and challenges faced by Contracting States in conducting effective cross-border oversight of such entities having activities in more than one Contracting State;

Recognizing that cooperative oversight arrangements may enable Contracting States to respond appropriately and efficiently to new business models and technological developments;

Recalling Assembly Resolution 37-5, which, inter alia, urged all Contracting States to share with other Contracting States critical safety information which may have an impact on the safety of international air navigation and to facilitate access to all relevant safety information and encouraged Contracting States to make full use of available safety information when performing their safety oversight functions;

Whereas the Chicago Convention and the Annexes lay out the responsibilities of the State of Operator and Registry;

Whereas the provisions of Article 83bis of the Chicago Convention, providing for transfer of certain tasks from the State of Registry to the State of the Operator, may not sufficiently address the need for cooperative oversight of complex cross-border or multinational operations;

Recalling that the Global Aviation Safety Plan strives to enhance global aviation safety through, inter alia, encouraging risk-based prioritisation and taking data-driven decisions;

The Assembly:

1. Directs the Council to develop a common understanding of cooperative oversight, as an enabler of integrated cross-border oversight, especially in the context of new technological innovations and cross-border operating models, that should also address the sharing or reallocation of responsibilities among the involved States;

2. Directs the Council to facilitate implementation of risk-based oversight as an important pillar of safety risk management by developing a tool-kit on cooperative oversight;

3. Directs the Council to review the SARPs that relate to the role and responsibility of the State of the Operator and the State of Registry to determine if there are barriers to cooperative oversight and to address those identified barriers, also considering operations with or without an Article 83bis agreement.

- END -

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WORKING PAPER

ASSEMBLY — 40TH SESSION

TECHNICAL COMMISSION

Agenda Item 28: Aviation safety and air navigation policy

GANP: ENABLING TIMELY ATM MODERNISATION

(Presented by Finland on behalf of the European Union and its Member States[1], the other Member States of the European Civil Aviation Conference[2]; and by EUROCONTROL)

1 Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom.

2 Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Iceland, Republic of Moldova, Monaco, Montenegro, North Macedonia, Norway, San Marino, Serbia, Switzerland, Turkey and Ukraine.

EXECUTIVE SUMMARY

Air traffic is forecasted to continue growing steadily in the decades to come. The aviation actors need to address the challenges of such growth through adequate modernization of their systems and infrastructures. In addition, they also need to face and address the new challenges - and also opportunities – generated by the emergence of new entrants. The GANP together with the GASP form the strategic planning framework addressing the transformation and digitalisation of ATM from complementary perspectives. An efficient, effective and synchronised maintenance process of these plans is essential to maintain and further improve the value of the strategic planning framework and ensure alignment of the plans.

To meet the aspirational timescales for ATM modernisation, ICAO should adopt risk- and outcome-based approach and more agile processes that more easily involve relevant parties that are not traditionally part of the rulemaking process, while still ensuring transparency and consultation.

Furthermore, ICAO should modernise and strengthen its cross-domain approach to the standard making processes across the whole spectrum of the aviation system. Consistent understanding of Basic Building Blocks, performance needs and performance effects of improvements, together with implementation principles for global services and strategies for GANP implementation, as well as systematic application of civil/military collaboration, are important to enable effective planning decisions to be taken.

Action: See recommendations for action in Chapter 3

Strategic Objectives:	This working paper relates to the Safety and Air Navigation Capacity and Efficiency Strategic Objectives.
Financial implications:	The activities referred to in this paper will be undertaken subject to the resources available in the 2020-2022 Regular Programme Budget and/or from extra budgetary contributions.
References:	Doc 10004, *Global Aviation Safety Plan* Doc 9750, *Global Air Navigation Plan*

1. INTRODUCTION

1.1 Air traffic is forecasted to continue growing steadily in the decades to come. The aviation actors need to address the challenges of such growth through adequate modernization of their systems and infrastructures. In addition, they also need to face and address the new challenges and opportunities generated by the emergence of new entrants.

1.2 The vision for the future of air navigation is the transformation enabled by digitalisation that will deliver high-performing air navigation services to all airspace users, and ensure continuous safety improvements, enhanced security and cyber security, environmental protection, interoperability and increasing cost-efficiency performance where and when needed.

1.3 The delivery of high-performing air navigation services requires a performance-based, data-driven and risk-based approach, built on the endorsement of the vision for the future of air navigation and the critical path to achieve it. It should leave room for regional or State specificities and needs, making sure that "no country is left behind" whilst the overall goal is still pursued. Such approach should also include the establishment of ICAO Standards and Recommended Practices (SARPs) that are not unnecessarily prescriptive.

1.4 To maintain its relevance in this growing and fast-changing environment, ICAO should adapt its 'current way of working' to ensure the safe and timely modernisation and transformation of air navigation in strategic alignment with other domains and to explore ways to bridge the gap between planning/development and implementation of new technologies and operating models.

2. DISCUSSION

Strategic Alignment of GANP and GASP

2.1 Only a proactive worldwide strategy, manifested by the Global Aviation Navigation Plan (GANP) and the Global Aviation Safety Plan (GASP), building on the agile development and deployment of new technologies and changing business models, will bring the required transformation and digitalisation of ATM, deliver performance improvements and realise the "promise of twenty-first century air traffic management".

2.2 The GANP and GASP form the strategic planning framework for the performance based evolution of ATM. The value and relevance of these plans are maintained and enhanced through an efficient, effective and synchronised maintenance process that ensures alignment and complementarity, avoids conflicting objectives and enables the transition to integrated risk management and a holistic cross-domain approach. The integrated application of a strategic planning framework in decision-making processes for implementation and for Research and Development will bring benefits to aviation.

2.3 As part of the maintenance process common actions, relationships and cross references between the plans and other policies and strategies for example on cyber security, should be identified and included. This will ensure that different objectives in these plans do not overlap and are mutually supportive and that related goals and targets are consistent and complementary.

From GANP and GASP to timely and effective implementation

2.4 Recommendation 5.5/3 from the 13th Air Navigation Conference called on ICAO to review and enhance its standard-making processes in order to meet the requirements of the rapid pace of technological developments. To remain relevant in a fast-changing world, not only in terms of technology, but also in terms of State and industry operating models, ICAO should strengthen its cross-domain approach across the whole spectrum of the aviation system and apply and promote integrated risk management. The standard-making processes should be able to act quickly while ensuring transparency, oversight by the Air Navigation Commission for safety and air navigation matters and State consultation.

2.5 Whilst the ICAO standard-making processes have been effective over many years, it is essential for rules and oversight arrangements to keep pace with industry developments so potential benefits to society are realised while emerging risks are not overlooked. However, it will not be possible to review SARPs for every technological or operational change, particularly given the speed at which the industry is growing and developing. A risk- and outcome-based approach to new SARPs should make the objective of the provisions clear but allow options for fulfilling this objective to be flexible. ICAO should develop and adopt more agile rulemaking processes while ensuring transparency and consultation. Such processes should not only be limited to SARPs, but also include other materials and documents, i.e. safety promotion material, implementation packages, manuals or guidance wherever possible, and apply and promote integrated risk management to address new developments initiatives in a timely manner.

2.6 As a concrete proposal, structured use should be made of the large scale ATM modernisation programmes that are aligned with the GANP and involve the ATM community. Through these programmes all material can be developed that is necessary for the global endorsement and implementation of selected GANP elements. It is important to note that such an approach should comply with the ICAO governance for ATM improvements and be framed through a cooperative arrangement that specifies among others, and in an indicative manner, the deliverables, timings, but also the involvement of ICAO expert groups.

Implementation Strategies

2.7 The baseline for the ATM Systems Block Upgrade (ASBU) framework is provided through the Basic Building Blocks (BBBs) framework. The BBBs define the basic services to be provided to support international civil aviation according to ICAO SARPs and therefore assist ICAO Regions and States with the preparation of their regional, sub-regional and national air navigation plans. While the BBB framework is an international statement on what ICAO considers to be the globally applicable baseline of services to international civil aviation, it shall not entail for States additional implementation obligations and/or specific reporting/compliance demonstration mechanisms.

2.8 The new GANP performance catalogue, which defines the Performance Indicators per KPA in a hierarchical structure, will assist decision-makers in selecting the GANP elements that address the specific performance needs of Regions and States. Understanding of the performance effects of the GANP elements should be further enhanced through collecting and analysing performance measurements from operational experiences using agreed Performance Indicator specifications.

2.9 The updated GANP addresses civil/military collaboration in a more systematic manner. Civil and military aviation activities should remain mutually supportive as on one hand, effective security and defence contribute to a sustainable civil aviation sector and preserves passenger confidence and; on the other hand, the ATM system enables security and defence missions and training carried out by the military. In this way, the military community should be involved in ATM modernisation programmes to keep the highest possible level of interoperability between civil-military systems, thereby preserving ability to fulfil security and sovereignty missions given by their authorities.

2.10 Modernisation and digitalisation of ATM increasingly require operational services with a global scope (e.g. World Area Forecast System, Space Weather monitoring, SWIM Registry, GADSS Distress Tracking Repository and global Flight and Flow information distribution). The setting up and maintenance of these global services would require agreed key principles to facilitate that the services are delivered in a cost-effective and robust manner and to prevent unnecessary proliferation. A good principle is to setup and maintain the services at Regional level whenever possible while ensuring global consistency and interoperability.

2.11 Whereas there is an urgent need to progress the ATM digitalisation and transformation through the development and implementation of the operational improvements in the GANP, for some Regions and States operational performance enhancements can be realized through implementation of best practices. For others, enabled by technological innovation, it may be more cost-effective to “leap-frog” by skipping one or more evolution steps. To support States and Regions with these decisions it is important that ICAO collects and shares information on best practices, benchmark results, performance measurements and possible implementation strategies, also with regard to “leap-frogging”.

3. CONCLUSION

The Assembly is invited to:

a) Support that the GANP 2019 in conjunction with the GASP 2019 form the strategic framework driving the digitalisation and transformation of air navigation and ATM.
b) Request ICAO to develop a process, which ensures the consistency and complementarity between the GANP and GASP, and other relevant policies and strategies such as on cyber security, in particular through an agreed maintenance and holistic alignment approach for these plans.
c) Request ICAO to make use of largescale ATM modernisation programmes under the conditions specified in section 2.6 to realise the digitalisation and transformation of air navigation and ATM in a timely manner.
d) Request ICAO to operate its standard-making processes in a manner that is sufficiently agile to be able to adapt quickly and proportionally to new technologies and operating models without touching upon the principles enshrined in the Chicago Convention.
e) Request ICAO, with regard its standard-making processes, to modernise and strengthen its cross-domain approach across the whole spectrum of the aviation system and to apply and promote integrated risk management to address new initiatives and emerging issues in a timely way.
f) Discuss and agree to use the understanding of BBBs as described in section 2.7.
g) Request ICAO to develop key principles for global services as mentioned in section 2.10 and for ATM enhancements using, besides GANP ASBUs and BBBs elements, also best practices and to facilitate collecting and sharing of information on these best practices.

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(Information paper)

English only

WORKING PAPER

ASSEMBLY — 40TH SESSION

TECHNICAL COMMISSION

Agenda Item 30: Other issues to be considered by the Technical Commission

Rotorcraft Safety Roadmap

(Presented by Finland on behalf of the European Union and its Member States[1], the other Member States of the European Civil Aviation Conference[2]; and by EUROCONTROL)

[1] Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom.

2 Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Iceland, Moldova, Monaco, Montenegro, North Macedonia, Norway, San Marino, Serbia, Switzerland, , Turkey and Ukraine.

EXECUTIVE SUMMARY

The European Union Aviation Safety Agency (EASA) launched in December 2018 a Rotorcraft Safety Roadmap[3] aimed to improve overall rotorcraft safety by 50% within the next 10 years, make positive and visible changes to the safety trends within the next 5 years and develop performance-based and proportionate solutions to help maintain competitiveness and sustainability of the rotorcraft industry.

Although the Roadmap originally targets Europe, this paper suggests that objectives, contents and safety enhancements could be expanded beyond Europe.

The Assembly is invited to note the proposals of the EASA Rotorcraft Safety Roadmap summarised in this paper.

Strategic Objectives:	This working paper relates to the Safety Strategic Objective.

1. INTRODUCTION

1.1 With over 7,700 civil rotorcraft operating across the Member States of EASA, helicopters provide a wide range of services to the community. Rotorcraft are extensively used in a variety of operations, including commercial air transport, Helicopter Emergency Medical Services (HEMS), surveillance, police and State flights, aerial work, agriculture and General Aviation (GA). They also support a significant part of the economies of various countries through offshore operations.

1.2 Currently in EASA Member States[4], there is on average one non-fatal rotorcraft accident per week, and 1.3 fatal accidents per month: this calls for ambitious and effective improvement measures.

3 https://www.easa.europa.eu/download/Events/Rotorcraft%20Safety%20Roadmap%20-%20Final.pdf

4 European Union (EU) Member States plus the non-EU European countries Iceland, Liechtenstein, Norway and Switzerland, identified as EASA associated countries.

1.3 Based on a review of European and worldwide rotorcraft safety data, EASA decided to launch a top-down strategic approach to set and meet an ambitious target to cut number of accidents by half in Europe. The dataset considered for developing the Roadmap consisted of all civil rotorcraft accidents worldwide from 2008 to 2017. This dataset was large enough to extract statistically meaningful information.

1.4 A group of external experts from National Aviation Authorities (NAAs) and industry was tasked to develop, together with EASA, a Rotorcraft Safety Roadmap with proposals to achieve the above ambitious safety objective. The roadmap focuses on transversal issues and includes training, operations, initial and continuing airworthiness and innovation.

1.5 EASA released and presented the Rotorcraft Safety Roadmap in December 2018 during the 12th EASA Rotorcraft Symposium in Cologne, Germany. The Roadmap's vision is to achieve significant safety improvement with a growing and evolving aviation industry.

1.6 The Roadmap originally applies to the EASA Member States[5]. EASA suggested a first scope extension to the ICAO EUR-NAT region in the information paper IE-REST/13-IP/06, presented on 3/04/2019 in the 13th ICAO EUR Regional Expert Safety Team (IE-REST) meeting at ICAO EUR/NAT Office in Paris, France. IE-REST is the expert safety team of the European Regional Aviation Safety Group (RASG-EUR).

1.7 This paper suggests that the EASA Rotorcraft Safety Roadmap could be valuably expanded beyond EASA Member States and ICAO EUR/NAT region.

2. OBJECTIVES AND ACTIONS

2.1 Based on the safety data considered, the priority was set on light conventional rotorcraft, small operators and general aviation, and training.

2.2 Strategic Objectives:

2.2.1 Improve overall Rotorcraft safety by 50% within the next 10 years, measured by the number of Rotorcraft accidents in Europe for all types of EASA operations with at least a fatality or a serious injury.

2.2.2 Make positive and visible changes to Rotorcraft safety trends within the next 5 years.

2.2.3 Develop performance-based and proportionate solutions to help maintain competitiveness, and the sustainability of the Rotorcraft industry.

2.3 Define and Organise Actions by Work-Streams:

2.3.1 Safety Data Analysis

Engage with OEMs in collecting and aggregating flight hours and data on the number of cycles of their products and develop a framework to exchange information with EASA while respecting personal data protection obligations. In addition, the EASA Network of Analysis (NoA) will engage with National Aviation Authorities (NAAs) to facilitate the collection of fleet and flight hours by the NAAs.

2.3.2 Safety Promotion and Communication

Communication and Safety Promotion are powerful means to raise awareness, change behaviours and enhance safety.

Another key aspect of Safety Promotion is to reinforce existing strategic safety partnerships, which bring together rotorcraft stakeholders and create synergies across the community both in Europe and worldwide. The International Helicopter Safety Team (IHST), recently established as the International Helicopter Safety Foundation (IHSF), brings together various regional safety initiatives at global level, including the European Safety Promotion Network Rotorcraft (ESPN-R) coordinated jointly by EASA and Airbus Helicopters.

The EASA Safety Promotion Strategy aims to reach out and raise awareness to influence safety behaviours. The Strategy encompasses a wide variety of target audiences, including Rotorcraft. EASA's Safety Promotion activity is carried out under the "Safety *Together*!" brand and the new EASA Safety Promotion website has a specific Rotorcraft Domain gathering all information useful to the Rotorcraft community.

2.3.3 Improving Training Safety: Less Checking, More Training and Less Training Accidents

Training is both as an opportunity and a risk area, as a significant number of in-flight accidents occur in training flights. The Roadmap proposes to reduce checking and do more training, while reducing the risks associated with training flights.

2.3.4 Encourage and Promote the Development and Use of New Types of Affordable Training Devices

Encourage and promote the development and use of new types of affordable training devices will better serve light and medium helicopters currently in operation and reduce number of accidents notably in training flights.

2.3.5 Helicopter Design Improvements and Certification Specifications Modernisation

Support the industry and improve certification efficiency by maintaining Certification Specifications up to date with advancements in technology. A number of rulemaking tasks are scheduled in the coming years to provide safety and efficiency improvements. Details can be found in the European Plan for Aviation Safety (EPAS) 2019-2023[6], Sections 5.5 and 7.7 and in the EUR Regional Aviation Safety Plan (RASP) 2019–2023[7], Section 4.3.

2.3.6 Simplification and Securing Financial Support for Safety Enhancements

Enhance the visibility and understanding of the various instruments available in Europe to provide financial support for supporting the introduction and on-board installation of technologies with safety benefits.

2.3.7 Encourage the Development of a Positive Safety Culture and Introduce the Concept of Continued Aviation Education (CAE)

Developing of a positive safety culture in all rotorcraft-related activities is key to improve safety. The operational focus will be on airmanship, sharing of information and just culture. The Roadmap next considers introducing a concept of Continued Aviation Education (CAE) using experience from the Continued Medical Education (CME) and assess applicability to rotorcraft personnel: Accountable Managers, Nominated Personnel, pilots, instructors, examiners and inspectors, and maintenance staff.

6 https://www.easa.europa.eu/sites/default/files/dfu/EPAS_2019-2023%20final.pdf

7 https://www.icao.int/EURNAT/EUR%20and%20NAT%20Documents/EUR%20RASP/EUR%20RASP%202019-2023.pdf

2.3.8 Facilitate and Encourage the Introduction of New Technologies

New technologies can bring substantial safety improvements. This work-stream includes promoting the installation and retrofit of technologies being developed within the rotorcraft industry or already available in other industries and finding ways to facilitate installation in rotorcraft. Emerging technologies are now at levels of maturity, also called Technology Readiness level (TRL), such that they can be introduced into the rotorcraft sector and bring safety benefits.

2.3.9 Create Market Incentives, Achieve Industry Consensus on Key Solutions and Reduce Administrative Burdens

The Rotorcraft Safety Roadmap includes other enablers and actions such as creating market incentives, securing financial support for safety improvements, achieving industry consensus on key solutions for voluntary adoption through industry standards and safety promotion, developing targeted regulatory actions when necessary and reduce administrative burdens, especially for the small operators.

3. CONCLUSION

3.1 The Assembly is invited to note the contents of this paper.

— END —

International Civil Aviation Organization

A40-XXXX-WP/xxxx

23/04/2019

WORKING PAPER

ASSEMBLY — 40TH SESSION

EXECUTIVE COMMITTEE

Agenda Item XX:

MANAGEMENT OF ENVIRONMENTAL IMPACTS AROUND AIRPORTS

(Presented by Finland on behalf of the European Union and its Member States[1] and the other Member States of the European Civil Aviation Conference [2])

1 Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom.

2 Albania, Armenia, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Moldova, Monaco, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine and United Kingdom.

EXECUTIVE SUMMARY

Improvements in the environmental performance of aviation are crucial in order to achieve the ICAO environmental goals on noise and air quality, and thereby manage the environmental impacts around airports.

The ICAO 'Balanced Approach to aircraft noise management' is an existing key instrument for noise management at airports (reduction of noise at source, land-use planning, operational procedures, operating restrictions). In order to maintain its effectiveness, the Balanced Approach has to be properly implemented and each of the 4 pillars has to be kept up to date to ensure they can contribute as part of the overall approach. This paper proposes amendments to the ICAO Assembly Resolution on local noise-related operating restrictions.

In addition, a comprehensive approach should be developed for the management of air quality around airports. The agreement on a new aircraft engine non-volatile Particulate Matter (nvPM) emissions standard for both mass and number reinforces the control of engine emissions at source. The implementation of environmental management systems at airports also provides essential processes to address air quality issues.

Action: The Assembly is invited to:

a) reaffirm that mitigation measures to address noise and air quality impacts around airports should remain central to future international, national and regional policies;
b) reaffirm the importance of the ICAO environmental goals to (1) limit or reduce the number of people affected by significant aircraft noise and (2) limit or reduce the impact of aviation emissions on local air quality;
c) support the ICAO Balanced Approach and the need for all four pillars to be maintained in order to ensure it remains an effective tool to manage airport noise;
d) note that the composition of the global fleet has evolved over time with new technology penetrating the market, such that only 2.5% of total operations in Europe during 2017 were made by Chapter 3 aircraft, and that certain airports have already implemented operating restrictions on aircraft that are Chapter 3 compliant;
e) conclude that consideration shall be given to updating the statement in the 'Local noise-related operating restrictions' section of ICAO Assembly Resolution A39-1, as presented in Appendix I, which originates from 2001, such that operating restrictions are permitted on Chapter 4 aircraft of MTOM of 55,000kg and over, as well as those certified to earlier standards, if justified under the Balanced Approach;
f) note the increasing importance of a comprehensive approach for managing air quality around airports, especially those impacts from aircraft and airport equipment emissions.

Strategic Objectives:	This working paper relates to the Strategic Objective of Environmental Protection.
Financial implications:	The activities referred to in this paper will be undertaken subject to the resources available in the 2020-2022 Regular Programme Budget and/or from extra budgetary contributions.

References:	Chicago Convention and its Annex 16 A39-1

1. ENVIRONMENTAL IMPACTS AROUND AIRPORTS

1.1 The number of flights is increasing worldwide, and at most large airports. For instance, by 2040, in Europe, there will be 53% more flights than in 2017[3], and an average growth of 1.9% per year. By 2035, in the absence of appropriate efforts, some 20 major European airports will face significant congestion and related environmental impacts due to the higher level of traffic. Additionally, the number of major European airports that handle more than 50,000 annual aircraft movements is expected to increase from 82 in 2017 to 110 in 2040[4]. A similar trend can be observed at the global level and, in fact, growth in other areas of the world, such as Asia, is even faster.

1.2 Against this background, the authors of this paper welcome the fact that the new Annex 16 Volume 1 Chapter 14 noise standard for aircraft with an MTOM of 55,000 kg and over became applicable from 31 December 2017. Long-term exposure to aircraft noise is linked with a variety of health impacts, including ischaemic heart disease, sleep disturbance, annoyance and cognitive impairment[5]. The new noise standard will help mitigate these impacts.

3 www.eurocontrol.int/sites/default/files/content/documents/official-documents/reports/challenges-of-growth-2018.pdf

4 www.easa.europa.eu/eaer/

5 www.euro.who.int/en/publications/abstracts/environmental-noise-guidelines-for-the-european-region-2018

1.3 In terms of mitigating the impact of aviation emissions on airport air quality levels, the authors of this paper also welcome the recent agreement at the CAEP/11 meeting in February 2019 on a new aircraft engine non-volatile Particulate Matter (nvPM) emissions standard for both mass and number. A comprehensive approach should be developed for the management of air quality around airports including aspects from ultrafine particles. A recent European study highlighted the importance of mitigating environmental impacts from aircraft engine emissions at idle, which occur predominantly on airport aprons.[6] In light of this, the authors of this paper welcome the work on mitigating environmental impacts through fuel specifications (e.g. sulphur), and through the application of measures through airport environmental management systems. Airports initiatives include low emission vehicle fleets, on-site production and purchasing of renewable energy, provision of Fixed Electrical Ground Power (FEGP) and Pre-Conditioned Air (PCA) at airport gates and improving public transport systems to increase surface access.

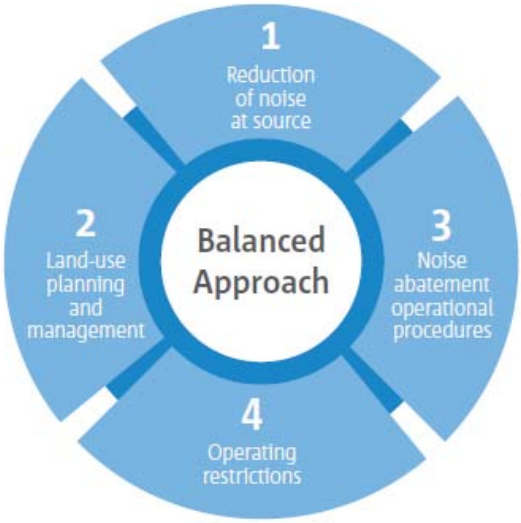
1.4 Acknowledging the expected increase in exposure of local populations to aviation activities in term of noise and air quality, as well as the problem of the public acceptability of aviation as a whole, it is crucial that measures to address these environmental challenges remain central to future international, national and regional policies.

2. ICAO BALANCED APPROACH FOR MANAGEMENT OF NOISE IMPACTS AROUND AIRPORTS

2.1 The sustainable development of air transport requires mitigation measures aimed at reducing the noise impact from aircraft around airports, with the objective to limit or reduce the number of people affected by significant aircraft noise and fostering compatibility between aviation activities and residential areas, in particular where night flights are concerned.

2.2 The ICAO Balanced Approach to airport noise management should remain the foundation of noise regulation for aviation as a global industry. It recognises the value of, and does not prejudge, relevant legal obligations, existing agreements, current laws and established policies. The Balanced Approach is a single harmonised instrument that encompasses various elements.

[6] Non-volatile particle emissions from aircraft turbine engines at ground-idle induce oxidative stress in bronchial cells, Hulda R. Jonsdottir, Mathilde Delaval, Zaira Leni1, Alejandro Keller, Benjamin T. Brem, Frithjof Siegerist, David Schönenberger, Lukas Durdina, Miriam Elser, Heinz Burtscher, Anthi Liati & Marianne Geiser, Nature Communications Biology, March 2019, https://doi.org/10.1038/s42003-019- 0332-7



2.3 The application of the Balanced Approach frames the discussion around mitigation measures taken following its principles. It reduces the risk of disputes when, after consideration of all other elements of the Balanced Approach, operating restrictions are required.

2.4 Along these lines, in the implementation of the Balanced Approach it is important that requirements and actions linked to it are correctly, broadly and timely ensured. The citizens and the local political responsible shall be well informed about the principles and potential of the Balanced Approach, to take sound decisions based on cost-efficiency.

3. BALANCED APPROACH PILLAR ON OPERATING RESTRICTIONS

3.1 The Balanced Approach is a consistent way to address the noise problem in the most cost-effective way on an airport-by-airport basis. This is only possible when the four pillars of the Balanced Approach are kept up to date, and in line with the technological potential for improvement of new products, growing transport demand, the growing push towards urbanisation and the necessity to protect human health.

3.2 The ICAO Committee on Aviation Environmental Protection (CAEP) work programme for the next three years already contains some work items aimed at reviewing the application and efficiency of the first 3 of the 4 pillars of the Balanced Approach, namely on source noise control, operational opportunities to reduce noise and land-use planning.

3.3 With respect to the fourth pillar concerning the use of operating restrictions, Appendix E of the current ICAO Resolution A39-1 on noise and air quality, *"…..urges States not to permit the introduction of any operating restrictions aimed at the withdrawal of aircraft that comply, through either original certification or recertification, with the noise standards in Volume I, Chapter 4 and Chapter 14 of Annex 16 and any further stringency levels adopted by the Council*".

3.4 This particular statement has been part of the 'Local noise-related operating restrictions' section of ICAO Assembly Resolutions since 2001. During this time, the composition of the global fleet has evolved with new technology penetrating the market such that only approx. 2.5% of total operations in Europe during 2017 were made by Chapter 3 aircraft. In addition, certain airports have already implemented operating restrictions on aircraft that are Chapter 3 compliant.

3.5 With the above in mind, and to ensure that all pillars of the Balanced Approach remain fit for purpose and up-to-date, it is proposed to amend the Assembly Resolution A39-1 to permit operating restrictions to Chapter 4 aircraft with an MTOM of 55,000 kg and over, as well as those certified to earlier standards, if justified under the Balanced Approach.

Appendix 1 – Proposed update to the existing text in A39-1 Appendix E

on 'Local noise-related operating restrictions'

Whereas certification standards for subsonic jet aircraft noise are specified in Volume I of Annex 16;

Whereas for the purposes of this Appendix an operating restriction is defined as any noise-related action that limits or reduces an aircraft's access to an airport;

Whereas Appendix C to this Resolution calls for States to adopt a balanced approach to noise management when addressing noise problems at their international airports;

Whereas further reductions in noise at source are expected as a result of the adoption of new noise certification standards in Volume I of Annex 16 and through the assimilation of noise reduction technology in the fleet;

Whereas at many airports, land-use planning and management and noise abatement operational procedures are already being used and other noise mitigation measures are in place, although urban encroachment continues in certain cases;

Whereas implementation of the phase-out of aircraft which comply with the noise certification standards in Volume I, Chapter 2 of Annex 16 but which exceed the noise levels in Volume I, Chapter 3 of Annex 16 (as provided for in Appendix D to this Resolution) has been completed in some States and, assuming continued growth in aviation activity, without further action the number of people exposed to aircraft noise at some airports in those States may increase;

Whereas there are significant regional differences in the extent to which aircraft noise is expected to be a problem over the next two decades and some States have consequently been considering placing operating restrictions on certain aircraft which comply with the noise certification standards in Volume I, Chapter 3 or Chapter 4 of Annex 16;

Whereas if operating restrictions on Chapter 3 or Chapter 4 aircraft are introduced at certain airports, this should be based on the balanced approach and relevant ICAO guidance (Doc 9829) and should be tailored to the specific requirements of the airport concerned;

Whereas these restrictions could have a significant economic impact on fleet investments of aircraft operators from States other than those in which the restrictions are imposed;

Recognizing that these restrictions go beyond the policy established in Appendix D to this Resolution and other relevant policy guidance developed by ICAO;

Recognizing that ICAO places no obligation on States to impose operating restrictions on Chapter 3 or Chapter 4 aircraft;

Recognizing that the noise standards in Annex 16 were not intended to introduce operating restrictions on aircraft and, specifically, that the standards contained in Annex 16, Volume I, Chapter 4 for aircraft that have a MTOM of less than 55,000 kg, and Annex 16, Volume I, Chapter 14, and any further stringency levels adopted by the Council, are based on the understanding that it is for certification purposes only; and

Recognizing that the noise standards in Annex 16 were not intended to introduce operating restrictions on aircraft and, specifically, that the standards contained in Annex 16, Volume I, Chapter 4 and Chapter 14, and any further stringency levels adopted by the Council, are based on the understanding that it is for certification purposes only; and

Recognizing in particular that States have legal obligations, laws, existing arrangements and established policies which may govern the management of noise problems at their airports and could affect the implementation of this Appendix;

The Assembly:

1. *Urges* States to ensure, wherever possible, that any operating restrictions be adopted only where such action is supported by a prior assessment of anticipated benefits and of possible adverse impacts;

2. *Urges* States not to introduce any operating restrictions at any airport on aircraft which comply with Annex 16, Volume I, Chapter 3 ~~of Annex 16~~, or on aircraft that have a MTOM of 55,000 kg and over and which comply with Annex 16, Volume I, Chapter 4, before:

a) completing the phase-out of aircraft which exceed the noise levels in Volume I, Chapter 3 of Annex 16, at the airport concerned; and

b) fully assessing available measures to address the noise problem at the airport concerned in accordance with the balanced approach described in Appendix C;

3. *Urges* States which, despite the considerations in Resolving Clause 2 above, permit the introduction of restrictions at an airport on the operations of aircraft which comply, either through original certification or recertification, with Annex 16, Volume I, Chapter 3 ~~of Annex 16~~, or with Chapter 4 for aircraft that have a MTOM of 55,000 kg and over:

a) to base such restrictions on the noise performance of the aircraft, as determined by the certification procedure conducted consistent with Annex 16, Volume I;

b) to tailor such restrictions to the noise problem of the airport concerned in accordance with the balanced approach;

c) to limit such restrictions to those of a partial nature wherever possible, rather than the complete withdrawal of operations at an airport;

d) to take into account possible consequences for air transport services for which there are no suitable alternatives (for example, long-haul services);

e) to consider the special circumstances of operators from developing countries, in order to avoid undue hardship for such operators, by granting exemptions;

f) to introduce such restrictions gradually over time, where possible, in order to take into account the economic impact on operators of the affected aircraft;

g) to give operators a reasonable period of advance notice;

h) to take account of the economic and environmental impact on civil aviation; and

i) to inform ICAO, as well as the other States concerned, of all such restrictions imposed; and

4. *Further urges* States not to permit the introduction of any operating restrictions aimed at the withdrawal of aircraft that comply, through either original certification or recertification, with the noise standards in Annex 16, Volume I, Chapter 4 for aircraft that have a MTOM less than 55,000 kg ~~and~~ or in Annex 16, Volume I, Chapter 14 ~~of Annex 16 and~~or any further stringency levels adopted by the Council.

— END —

A40-XXXX-WP/xxxx

23/04/2019

International Civil Aviation Organization

WORKING PAPER

ASSEMBLY — 40TH SESSION

TECHNICAL COMMISSION

Agenda Item 30: Other issues to be considered by the Technical Commission

NEW ENTRANTS

(Presented by Finland on behalf of the European Union and its Member States[1], the other Member States of the European Civil Aviation Conference[2]; and by EUROCONTROL)

1 Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom.

2 Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Iceland, Republic of Moldova, Monaco, Montenegro, North Macedonia, Norway, San Marino, Serbia, Switzerland, Turkey and Ukraine.

EXECUTIVE SUMMARY

This paper summarises the key issues in the rapidly evolving domains of UTM and Higher Airspace operations and calls for action by ICAO to support this evolution in a safe, secure and harmonised manner.

Action: The Assembly is invited to:

a) Encourage ICAO to continue in its role as an international forum that facilitates improved cooperation, collaboration and the sharing of best practices to support regional initiatives.
b) Request ICAO to provide the necessary follow-up activities that build on those regional initiatives by encouraging increased dialogue between the various types of "New Entrants", States, existing aviation stakeholders, the space community and industry.
c) Call upon States to establish regulations and procedures within a harmonised and scalable global framework, to facilitate the integration of "New Entrants" operations in a manner that does not compromise safety and security, place undue burden on the environment, and does not disproportionately affect the regularity and efficiency of civil and military operations~~, or adversely affect its environmental impact~~.
d) Urge ICAO to set up a process with the full involvement of States, to initiate timely review of the full range of ICAO provisions to consider the need for modifications to those provisions to address the needs of UTM and Higher Airspace Operations.
e) Support the proposed Assembly Resolution attached to this WP.

Strategic Objectives:	This working paper relates to the Safety and Air Navigation Capacity and Efficiency Strategic Objectives.
Financial implications:	The activities referred to in this paper will be undertaken subject to the resources available in the 2020-2022 Regular Programme Budget and/or from extra budgetary contributions.
References:	Doc 10115, AN-Conf/13 Recommendations 5.1/1, 5.2/1 and 5.5/3

1. INTRODUCTION

1.1 New Entrants represent an increasing body of actors who are seeking to implement new aviation concepts in airspace where there is currently little managed activity. The scope covers UAS Traffic Management (UTM), typically in airspace below 500 feet, including over cities, and Higher Airspace Operations, in airspace above levels used by existing airspace users, typically above FL660. These actors are often new to aviation and use or intend to use new technologies and air vehicle concepts, experimental prototypes, or sometimes aircraft still in the R&D phase (e.g. supersonic or hyper-sonic projects), manned and unmanned, for which there is currently little or no regulation, standardisation or certification requirements in place.

1.2 It is certain that all these emerging activities will, to varying degrees, have an impact on current aviation and on the air navigation system as a whole, so they must be governed appropriately in order to encourage and enable these new businesses while maintaining the high level of safety, regularity, efficiency and security for all existing airspace users. This will require creation of an innovative, collaborative and harmonised global framework. Moreover, such operations must respect the privacy of the citizen and be sustainable from an environmental perspective.

1.3 In many cases, integration of New Entrants will call for increasing levels of digitalisation and automation in both vehicle operation and service provision, all of which highlight areas where ICAO currently has few provisions. Given the novel nature of some of these concepts, ICAO work will also require a review of some of the core features of the current aviation system, such as flight rules, airspace classification, liability and the role of the human.

2. UAS TRAFFIC MANAGEMENT

2.1 UAS Traffic Management (UTM), known in Europe as 'U-space'[3], is the name given to the evolving concept for the safe, effective and efficient management of those UAS that will require a distinct management environment to conventional manned aircraft. For convenience, the commonly-used term 'drone' will be used in this WP to describe the UAS in scope of UTM. Although the scope of UTM typically covers those UAS that operate at very low level (< 500 ft), the ultimate UTM vision allows for operations at any altitude and in any airspace. At present, ICAO has informal measures in place to address UTM, such as the UAS Advisory Group (UAS-AG), created by the ICAO secretariat, and sponsors events such as "Drone Enable" to bring together key UTM stakeholders.

[3] U-Space concept is constituted by a set of services conceived for unmanned highly automated vehicles allowing their integration with manned aviation. These services will also be useful for manned aviation and will support a highly digitalised/automated future for European aviation.

2.2 As UTM matures as a result of State and regional regulatory and research initiatives, and the pace of its development and implementation increases around the world, there is a need for ICAO to take a more formal role to achieve greater State involvement. ICAO's involvement should build on existing studies and initiatives and standardisation activities, to ensure global harmonisation and to bring the governance of drone operations formally under the aegis of the GANP. This would include ensuring coordination of UTM standards and development under the broader topic of Urban Air Mobility (UAM) where relevant.

2.3 International UTM programmes are showing that a risk and performance-based approach to implementation of UTM is required, which is in common with ICAO's wider aviation approach. Consequently, ICAO needs to be a focal point, in cooperation with the regional offices, to harmonise a global UTM integrated safety risk assessment model, and a performance framework, that will support the safe, secure and efficient operation of drones, including addressing the protection of life and the safety of third parties. The implementation approach should consider not only how drones will operate amongst other drones, but should also address the safe operations of the airspace users most likely to be encountered at lower altitudes, especially low-level operations by military aircraft, general aviation, sports aviation and rotorcraft. The impact on the operations and security of airports should also be addressed.

2.4 The growth in the number and variety of drone operations is driven by bottom-up business needs, and the approach taken by ICAO should recognise the importance of supporting new and evolving business models to allow these nascent industries to thrive, while supporting rapidly-evolving societal demands for a digitally-connected world.

2.5 Successful implementation of UTM requires full interoperability between UTM regulations, procedures and technology, and existing ICAO provisions. Moreover, it seems likely that UTM will have an impact on many aspects of civil and military aviation, such as the Rules of the Air, airspace classification, the role of automation, liability, legal issues and the impact on the environment. As a consequence, ICAO needs to determine the best mechanism, ensuring the full involvement of States, for undertaking a review of SARPS and other provisions so that, once the UTM concept stabilises, such a review should be conducted in a timely manner to support the implementation of UTM and development of its underlying regulatory framework.

3. HIGHER AIRSPACE OPERATIONS

3.1 Higher Airspace Operations refer to operations that take place in airspace above where conventional IFR operations occur. Although the upper and lower vertical limits are not formally defined, this airspace is typically above FL 660 up to space, or around 100 km

3.2 The principles for managing and integrating all kinds of higher airspace operations are, as yet, not standardised or formally defined, but there is a wide variety of civil and military activities anticipated, from unmanned balloons to hypersonic passenger aircraft and sub-orbital flights, that will require new or modified mechanisms for airspace and air traffic management. It is necessary for appropriate provisions to be defined at ICAO level, taking advantage of and relying more on existing regional initiatives. Such ICAO provisions should be flexible and proportionate enabling creative use of the airspace to current and future uses.

3.3 The definition of all aspects of Higher Airspace Operations is politically sensitive and so needs early global coordination to respect States' security and sovereignty while supporting a regional/global approach that enables operations without replicating the more fragmentary definition of airspace at lower levels.

3.4 The variety of operations emerging for this airspace volume is such that some form of management is envisaged, but it does not necessarily need to follow the model of ATM below it. Operators may be able to take more of a role in managing their fleets within ICAO guidelines, making use of new services and technologies. It may be possible to adapt existing or emerging ATM concepts to support such operations (for example trajectory-based operations or advanced flexible use of airspace) or it may need an entirely new model. This could require a global framework to avoid airspace boundaries fragmentation, since some higher airspace operations involve inter-continental trajectories.

3.5 Although traffic density is unlikely to approach the levels of more conventional aviation, the disparity in performance between the emerging vehicles presents special challenges that need addressing. For example, as altitude increases the nature of flight itself changes from being dependent on atmospheric interaction to one based on orbital physics. Consequently, close coordination with the space community will be essential.

3.6 Vehicles operating in Higher Airspace will usually have to transit conventional airspace on their way up and down. Given that many of the vehicles will not be able to operate in the same manner as conventional aircraft during this transit phase, additional provisions may be required to accommodate this activity. However, it is essential that any such provisions have a proportional impact on civil and military operations, with no negative impact on safety and security, while not having a disproportionate impact on the performance of the ATM network as a whole.

3.7 Higher airspace operations may not be consistent with existing fundamental ICAO provisions, such as the Rules of the Air. Consequently, ICAO needs to determine how best to review all relevant ICAO provisions to identify regulatory obstacles and any need for change. This investigation should build on the work being conducted by those States that are already starting to accommodate higher airspace operations.

3.8 Any ICAO framework should enable sustainable growth of the airspace use and be constructed to minimise the environmental impact of those operations, providing a pragmatic and timely implementation matched to the airspace usage.

4. ASSEMBLY RESOLUTION

4.1 The draft Resolution at Appendix A calls for ICAO action to facilitate a harmonised approach to the integration of New Entrants into the global ATM environment.

5. CONCLUSION

5.1 ICAO needs to position itself as the global focal point for the integration of New Entrants. Provisions should evolve proportionately, in such a way to enable operations by New Entrants without unduly impacting the wider range of civil and military airspace users. This needs to be done while maintaining aviation safety, and respecting contracting States' rights and prerogatives in terms of national security and sovereignty over airspace above their territory. Since operations by New Entrants are already starting, there is a need to ensure the pragmatic and timely implementation of higher airspace operations, matched to user needs, capabilities and the anticipated volume of future activities.

ATTACHMENT

ICAO General Assembly Resolution on "New Entrants"

Whereas the Preamble of the Convention on International Civil Aviation stipulates that signatories thereto had "agreed on certain principles and arrangements in order that international civil aviation may be developed in a safe and orderly manner and that international air transport services may be established on the basis of equality of opportunity and operated soundly and economically";

Whereas Annex 11 to the Convention requires a Member State to determine those portions of airspace over its territory within which air traffic services will be provided and, thereafter, to arrange for such services to be established and provided;

Recognizing that, for the purposes of this Resolution, the term "New Entrants" refers to Higher Airspace and UAS Traffic Management (UTM) operations;

Recognizing that there is an increased demand for action from "New Entrants", whose operations are not yet governed by ICAO provisions, and that there is a large disparity in performance in the types of vehicle expected to comprise this new airspace user group;

Recognizing that existing ICAO provisions may need to be amended in order to support operations by "New Entrants";

Recognizing that significant progress has been made concerning "New Entrants" in regional and State initiatives;

Acknowledging the work conducted by the ICAO UAS Advisory Group;

Recalling that the ICAO Global ATM Operational Concept states that all airspace should be a usable resource, any restriction on the use of any particular volume of airspace should be considered transitory, and all airspace should be managed flexibly;

The Assembly resolves that:

1. In view of new entrants operations, the full range of ICAO provisions shall be reviewed to consider the need for modifications to those provisions including, inter alia, the rules of the air, airspace dimensions, airspace classification, liability, licencing, environment and certification;

2. the regulations and procedures established by Member States to govern the operation of "New Entrants", as well as the common use by all airspace users of certain facilities and services, shall be arranged so as to facilitate the integration of these operations while not compromising safety and security and without placing undue burden on the environment. Such an integration shall not disproportionately affect the regularity, environmental sustainability and efficiency of civil and military operations, and that, to the extent practicable, these new operations should comply with the rules of the air in Annex 2;

3. ICAO serves as an international forum that plays a role in facilitating improved cooperation, collaboration and the sharing of best practices to support regional initiatives, and to provide the necessary follow-up activities that build on those initiatives by encouraging increased dialogue between "New Entrants", States, existing aviation stakeholders, the space community and industry.

Associated practices

Member States should seek the most efficient and economic delineation of ATS airspaces, the optimum location of points for transfer of responsibility and the most efficient coordination procedures in cooperation with the other States concerned and with ICAO.

The Council should ensure that the matter of coordination and cooperation in the use of airspace by "New Entrants" and existing airspace users is included, when appropriate, in the agenda of divisional and regional meetings, in accordance with Resolving Clause 3 above.

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International Civil Aviation Organization

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EX/xx

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WORKING PAPER

ASSEMBLY — 40TH SESSION

EXECUTIVE COMMITTEE

Agenda Item 12: Aviation Security - Policy

FOSTERING THE IMPLEMENTATION OF THE GLOBAL AVIATION SECURITY PLAN

(Presented by Finland on behalf of the European Union and its Member States[1] and the other Member States of the European Civil Aviation Conference[2])

1 Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom.

2 Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Iceland, Moldova, Monaco, Montenegro, Republic of North Macedonia, Norway, San Marino, Serbia, Switzerland, Turkey and Ukraine.

Following the passing of UN Security Council Resolutions 2309 (2016) and 2396 (2017), the approval of the Global Aviation Security Plan (GASeP) by the ICAO Council represented a major step towards enhancing ICAO's efforts to build on and improve the global response to aviation security threats. EU/ECAC Member States urge ICAO, States and aviation entities to maintain the momentum so that the objectives of the GASeP can, without delay, be turned into real world results, raising the global bar for aviation security implementation. **Action:** Action for the Assembly is at paragraph 5.	
Strategic Objectives:	This working paper relates to Strategic Objective C — *Security and Facilitation.*
Financial implications:	The activities referred to in this Working paper will be undertaken subject to the resources available in the 2020-2022 Regular Programme Budget and/or from extra budgetary contributions.
References:	Xxx

1. INTRODUCTION

1.1 In October 2016, United Nations Security Council Resolution (UNSCR) 2309 was unanimously passed. This Resolution – the first ever devoted exclusively to aviation security – called upon ICAO and its Contracting States to take steps relating to the creation and updating of Standards, the effective implementation of these Standards, and capacity-building efforts, to meet the ever-evolving global threat to civil aviation from terrorism.

1.2 On 10 November 2017, a major step forward was taken with the approval of the Global Aviation Security Plan (GASeP) by the ICAO Council. The development of the GASeP in just one year – much shorter than the normal preparation period for comparable global plans – is testament to the urgency and importance of meeting the challenges set in UNSCR 2309, as well as building on and improving the global response to aviation security threats more generally.

2. MAINTAINING PROGRESS ON THE GASeP

2.1 As part of its decision in approving the GASeP, the ICAO Council set out targets for the effective implementation of aviation security Standards, to be achieved by 2020, 2023 and 2030. These targets are welcome in helping to maintain momentum in the implementation of the GASeP. The achievement of these targets will be dependent not only on improved performance by individual States in effectively implementing these Standards, but also on the ability of ICAO to continuously monitor progress and in a harmonised manner with the objective of assessing the effective implementation by all Member States. To this end, the proposals for reform of the USAP-CMA set out in A40-WP/XX are very welcome.

2.2 It is important that States not only support each other, but also ICAO's efforts in achieving the GASeP targets and the other elements of the GASeP roadmap. This means effective use of resources available in the 2020-2022 Budget of the Organization, as well as the active participation of States and aviation entities, such as regional and sub-regional organisations and industry stakeholders, in providing expertise and material and non-material support. In doing so, we will collectively ensure that the GASeP provides tangible, real-world, achievements.

3. IMPLEMENTATION OF GASeP IN THE EUROPEAN REGION

3.1 As part of its GASeP implementation efforts, and in line with UN Security Council Resolutions 2309 (2016) and 2396 (2017), and as a contribution to the priorities of the EUR/NAT Region, EU/ECAC Member States have taken numerous steps and initiatives to strengthen its aviation security regimes and to engage in outreach to other non-European States in support of GASeP implementation.

3.2 The active role of regional organisations such as the European Union (EU) and the European Civil Aviation Conference (ECAC) in the field of aviation security has facilitated the harmonisation of aviation security measures at European level as well as fostered the implementation of GASeP. The result is a high level of effective implementation of aviation critical elements, which in the case of EU/ECAC States has reached the level that ICAO defined as a target for 2030.

3.3 Examples of European region commitment to GASeP implementation include:

- The most recent amendment to European Union aviation security legislation, adopted on 23 January 2019[3]. This includes GASeP priority actions in the areas of enhancing risk awareness and response and developing security culture and human capability. In particular, the updated legislation strengthens the background check regime considered essential to efficiently address insider threat, as part of a multi-layered approach to mitigate this threat, including the screening of persons and items carried. The updated legislation also includes other important elements addressing GASeP priority actions, such as to improve technological resources and foster innovation.
- The 2019-2021 ECAC work programme in the field of aviation security defined by ECAC Member States' Directors General is fully consistent with the GASeP priorities as this was also the case for the preceding triennium (2016-2018). This includes support to its States in the development of guidance material on a risk-based approach to aviation security, security culture, security equipment, and incident reporting.

3.4 EU/ECAC Member States and European organisations actively cooperate with all ICAO States, international partners and the ICAO Secretariat, in efforts and initiatives to foster the effective implementation of ICAO aviation security Standards, in support of ICAO's *No Country Left Behind Initiative*. In particular, concrete capacity building initiatives, such as the CASE I[4] project and soon CASE II[5], as well as the ECAC capacity building programme[6] support the GASeP implementation. These efforts are in addition to a wide-range of capacity building activities deployed by individual European States and organisations based in the region on a bilateral or multilateral basis.

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3 Commission Implementing Regulation (EU) 2019/103 of 23 January 2019 amending Implementing Regulation (EU) 2015/1998 as regards clarification, harmonisation and simplification as well as strengthening of certain specific aviation security measures (Text with EEA relevance.), *OJ L 21, 24.1.2019, p. 13–22*

4 The EU-funded and ECAC-implemented CASE Project was launched in 2016, for a duration of four years. Its purpose is to support the efforts of partner States, in Africa and the Arabian Peninsula, to mitigate threats against civil aviation and to improve levels of compliance with ICAO requirements, with a strong focus on quality control measures.

5 The EU-funded and ECAC-implemented CASE II Project is envisaged to start in summer 2020-

6 The ECAC audit and capacity building programmes were launched in 2001 for the benefit of ECAC 44 Member States and opened to the other States of the EUR/NAT regions in 2018.

4. MAXIMISING THE EFFECTS OF CAPACITY BUILDING ACTIVITIES

4.1 The second High Level Conference on Aviation Security (HLCAS/2) in November 2018 recommended that ICAO map existing capacity-building resources and providers so as to have a comprehensive understanding of available capacities; and map delivered, on-going and planned capacity-building activities, so as to have a comprehensive overview of the situation. The HLCAS/2 also noted the importance of ICAO's efforts on high-level actions to trigger political commitment from beneficiary States and sustained benefits of delivered assistance.

4.2 In support of the GASeP call for increased assistance and the efforts outlined in paragraph 3.3 of this Working Paper, EU/ECAC Member States and regional organisations urge ICAO to implement the HLCAS/2 recommendations above in order to facilitate these efforts.

5. CONCLUSION

5.1 The Assembly is invited to:

- Welcome the expeditious launch of the GASeP following the Resolution of the 39th session of the ICAO Assembly;
- Reaffirm its commitment to achievement of the global targets for effective implementation as set out in the GASeP roadmap;
- Request the ICAO Secretariat to establish a progress reporting mechanism that encourages States to maintain momentum in the implementation of the agreed priority actions, measures and tasks set out in the GASeP and to demonstrate the progress made towards GASeP targets;
- Recognize the work conducted by the Secretariat in consultation with Contracting States to review the scope and methodology of the USAP-CMA and urge the ICAO Secretariat to implement the reforms to the USAP-CMA set out in A40 - WP/XX as a matter of priority;
- Urge the ICAO Secretariat to make resources available to carry out all of the audits required to effectively measure implementation against the globally agreed targets in the GASeP Roadmap and encourage States to support ICAO in its aviation security audit work through the provision of additional resources;
- Urge the ICAO Secretariat to implement the recommendations of the HLCAS/2, in particular in building a comprehensive overview of capacity-building activities and in conducting high-level actions to trigger political commitment from beneficiary States, as noted in paragraph 4.1 of this Working Paper;

- Encourage States to support each other in the implementation of the GASeP;
- Recognize the European region's efforts to implement the GASeP and its support to other regions and States in effective GASeP implementation.

- END -

International Civil Aviation Organization

A40-WP/xxxx

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WORKING PAPER

ASSEMBLY — 40TH SESSION

EXECUTIVE COMMITTEE

Agenda Item 26: Other high-level policy issues to be considered by the Executive Committee

a) ASSISTANCE TO AIRCRAFT ACCIDENT VICTIMS AND THEIR FAMILIES

(Presented by Finland on behalf of the European Union and its Member States[1], the other Member States of the European Civil Aviation Conference[2] and EUROCONTROL)

EXECUTIVE SUMMARY

Although their number has greatly reduced thanks to the effective implementation of ICAO safety-related Standards and Recommended Practices, civil aviation accidents are still a reality international air transport must cope with. It is essential that all ICAO Member States are adequately prepared to deal with these consequences and ensure the same kind of assistance to the victims and their families, no matter where in the world the accident occurs. It is therefore highly desirable to achieve a greater implementation of plans for the assistance of aircraft accident victims, and progress towards the harmonisation of the practices of States in this matter.

1 Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom.

2 Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Iceland, Republic of Moldova, Monaco, Montenegro, Norway, San Marino, Serbia, Switzerland, North Macedonia, Turkey and Ukraine.

Action: The Assembly is invited to: a) Remind States of Assembly Resolution A39-27 and urge them to take the appropriate measures to implement as soon as possible ICAO Annex 9 — Facilitation provisions on assistance to victims, the ICAO Policy on Assistance to Aircraft Accident Victims and their Families (Doc 9998) as well as the Manual on Assistance to Aircraft Accident Victims and their Families (Doc 9973); b) urge States, when adopting such measures, to include adequate and specialized psychosocial training for aircraft and airport operators , and all those involved in the assistance to victims and their families; c) request the Council to consider upgrading Annex 9 Recommended Practice 8.46 for the establishment of legislation, regulations, and/or policies by States to provide assistance to aircraft accident victims and their families, into an International Standard, so as to encourage a global implementation; and d) request the Council to consider introducing a new Annex 9 Recommended Practice so that aircraft and airport operators develop appropriate plans to provide timely and effective assistance to aircraft accident victims and their families.	
Strategic Objectives:	This working paper relates to Strategic Objective A — *Safety and* Strategic Objective C — *Security and Facilitation*
Financial implications:	Any activities relating to this working paper may be made subject to the availability of budgetary resources of the ICAO Regular Program budget for the period 2020-2022.
References:	Annex 9 — *Facilitation* *ICAO Policy on Assistance to Aircraft Accident Victims and their Families* (Doc 9998) *Manual on Assistance to Aircraft Accident Victims and their Families* (Doc 9973) Assembly Resolution A39-27

1. INTRODUCTION

1.1 Although their number has greatly reduced thanks to the effective implementation of ICAO safety-related Standards and Recommended Practices, civil aviation accidents are still a reality international air transport must cope with.

1.2 In addition to the impact on the reliability of aviation safety worldwide, the consequences of accidents are disastrous, not only for the victims but also for their families, and they generate a great impact in our society. Therefore, it is urgent that States are adequately prepared to deal with the consequences of an accident, so that the suffering of the relatives of victims can be mitigated to the greatest extent possible.

1.3 The credibility of global air transport requires that the assistance given to the victims of an aircraft accident and their families be similar no matter where in the world the accident occurs, hence the effective implementation of ICAO provisions in this area is a priority. These considerations go beyond the technical field, having a major human component.

2. BACKGROUND

2.1 In recent years the progress in this area has been significant. ICAO has focused its attention on the assistance to victims, promoting numerous actions so that associations of victims can be heard in the international fora and taken into account in the development of guidance material and international regulations.

2.2 The 38th Session of the ICAO Assembly, in its Resolution A38-1, considered it a humanitarian duty and an optional function of the Council to ensure the harmonization of regulations for dealing with the needs of the victims. In this Resolution, the Assembly urged the Council to give further consideration to the development of Standards and Recommended Practices regarding the establishment by States of legislation, regulations and/or policies to support victims of civil aviation accidents and their family members.

2.3 In June 2015, the ICAO Council adopted Amendment 25 of Annex 9, which embodied a new Recommended Practice 8.46, which provides that Contracting States should establish legislation, regulations and/or policies in support of assistance to aircraft accident victims and their families.

2.4 During the 39th Session of the ICAO Assembly, the importance of having appropriate plans for the assistance of victims, considering the orientation of Doc 9973 and ICAO Policy included in Doc 9998, was reiterated to the States, and the Council was directed to give further consideration to the development of Standards and Recommended Practices to support victims of civil aviation accidents and their family members (Resolution A39-27).

2.5 The special session "Ensuring accident victims and their families are treated the same the world over", alongside the 13th Air Navigation Conference (AN-Conf/13), was held on 16 October 2018. During that session, several States had the opportunity to share their recent experiences in this issue, and highlighted the importance of coordinating the activities of all participants in the assistance to victims. There was consensus on the need that ICAO progressed with everything that could promote the implementation at a global level.

3. ANALYSIS

3.1 It is considered of great importance that States are prepared to properly assist the victims and their families in case of an aircraft accident. There is a unanimous support to the ICAO Policy on Assistance to Aircraft Accident Victims and their Families (Doc 9998) and the Manual on Assistance to Aircraft Accident Victims and their Families (Doc 9973). Also, the initiative of ICAO and the numerous actions taken in recent years are highly appreciated, and, in particular, the conclusions of the October special session on assistance to victims are considered very positive.

3.2 The number of actors involved in an aircraft accident is very high, and the coordination is complex. It is essential that States have previously a carefully developed, updated, and audited Assistance Plan, to ensure that, at the time of its implementation, mistakes that could be avoided with a proper preparation are not committed.

3.3 It is necessary to move towards a greater implementation, at a global level, of the plans for the assistance to victims in all States of ICAO. The authors of this paper are convinced that upgrading this provision to the Standard category would reflect the importance that ICAO attaches to this subject and would encourage those States that still have not done so to implement appropriate plans, and to communicate it to ICAO.

3.4 To this end, States should be encouraged to include, in their Assistance Plans, adequate and specialized psychosocial training for aircraft and airport operators, and all those involved in the assistance to victims and their families.

3.5 Finally, it is considered necessary to introduce a Recommended Practice for aircraft and airport operators, so that they also develop appropriate Plans to provide timely and effective assistance to aircraft accident victims and their families. These plans should be approved by the States, and should include drills in which the effectiveness of the coordination measures is proved.

4. ACTION BY THE ASSEMBLY

4.1 The Assembly is invited to:

a) Remind States of Assembly Resolution A39-27 and urge them to take the appropriate measures to implement as soon as possible the Annex 9 — Facilitation provisions on assistance to victims, the ICAO Policy on Assistance to Aircraft Accident Victims and their Families (Doc 9998) as well as Manual on Assistance to Aircraft Accident Victims and their Families (Doc 9973);
b) urge States, when adopting such measures, to include adequate and specialized psychosocial training for operators of aircraft and airport, and all those involved in the assistance to victims and their families;
c) request the Council to consider upgrading Annex 9 Recommended Practice 8.46 for the establishment of legislation, regulations, and/or policies by States to provide assistance to aircraft accident victims and their families, into an International Standard, so as to encourage a global implementation; and
d) request the Council to consider introducing a new Annex 9 Recommended Practice so that aircraft and airport operators develop appropriate plans to provide timely and effective assistance to aircraft accident victims and their families.

- END -