REPORT OF

THE FIFTY-SIXTH MEETING OF

THE EUROPEAN AIR NAVIGATION PLANNING GROUP

(Paris, 24 to 27 November 2014)

PREPARED BY THE EUROPEAN AND NORTH ATLANTIC OFFICE OF ICAO 2014

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0. INTRODUCTION

Place and duration

0.1 The Fifty-Sixth Meeting of the European Air Navigation Planning Group (EANPG) took place in the premises of the European and North Atlantic (EUR/NAT) Office of ICAO from 24 to 27 November 2014.

Attendance

0.2 The Meeting was attended by 92 representatives of 35 member and non-member States and by observers from 8 international organisations. A list of participants is at **AppendixA** to this Report.

Officers and Secretariat

0.3 Mr Phil Roberts, the Chairman of the EANPG, presided over the meeting throughout its duration. Due to the unavailability for part of the meeting of Mr Luis Fonseca de Almeida, ICAO Regional Director, Europe and North Atlantic, Mr George Firican, Deputy Director, was the Acting Secretary to the EANPG; Mr Firican was assisted by Mr Celso Figueiredo, Mr Christopher Keohan, Mr Sven Halle, Ms Cornelia Lüdorf, Mr Elkhan Nahmadov, Mr Nicolas Rallo, Mr Sarantis Poulimenakos, Mr Rodolphe Solomon from the ICAO EUR/NAT Office, Mr Abbas Niknejad from the MID Office. Additional assistance was provided by Ms Patricia Cuff, Ms Leyla Suleymanova and Ms Isabelle Hofstetter from the European and North Atlantic Office.

Conclusions, Decisions and Statements

0.4 The EANPG records its action in the form of Conclusions, Decisions and Statements with the following significance:

> **Conclusions** deal with matters which, in accordance with the Group's terms of reference, merit directly the attention of States or on which further action will be initiated by ICAO in accordance with established procedures.
>
> **Decisions** deal with matters of concern only to the EANPG and its contributory bodies.
>
> Note: in order to qualify as such, a Decision or a Conclusion shall be able to respond clearly to the "4W" criterion (What, Why, Who and When)
>
> **Statements** deal with a position reached by consensus regarding a subject without a requirement for specific follow-up activities.

Agenda and Documentation

0.5 The Group agreed to the following agenda for organising the work of the Meeting and the structure of the report:

Agenda Item 1: Review of significant international aviation developments

1.1 Update from ICAO Secretariat

1.2 Updates from States and International Organisations

Agenda Item 2: Previous EANPG follow up

Agenda Item 3: Aviation safety

3.1 Update from RASG-EUR

3.2 Air Navigation Safety related issues

Agenda Item 4: Planning and Implementation

4.1 Reports from the Contributory Bodies

4.2 Implementation of the Performance Framework

4.3 ASBU Implementation Activities

4.4 Amendments to ICAO documents

4.5 Volcanic Ash Contingency Plan

4.6 Inter-Regional Coordination

4.7 Aeronautical Information Management

Agenda Item 5: Monitoring

5.1 Outcome of the RVSM/RMA Symposium

5.2 RMAs report

5.3 RMA EUR area of accreditation

5.4 RMA operations

Agenda Item 6: Deficiencies

6.1 Amendments to the AN Deficiencies List

Agenda Item 7: Any other business

0.6 The list of documentation reviewed by the Meeting is at **Appendix B** to this Report.

1. REVIEW OF SIGNIFICANT INTERNATIONAL AVIATION DEVELOPMENTS

1.1 UPDATE FROM ICAO SECRETARIAT

ICAO update

1.1.1 The EANPG was informed about recent significant international aviation developments and took note of the amendments to a number of ICAO Annexes and Procedures for Air Navigation Services (PANS) including Annexes 1, 4, 6, 10, 14, 15, 16, 17 and *Procedures for Air Navigation Services – ICAO Abbreviations and Codes* (PANS-ABC, Doc 8400), *Procedures for Air Navigation Services – Training* (PAN-TRG, Doc 9868), *Procedures for Air Navigation Services – Air Traffic Management* (PANS-ATM, Doc 4444) and the *Procedures for Air Navigation Services - Aircraft Operations* (PANS-OPS, Doc 8168) that had been adopted since the last EANPG meeting. The meeting was also informed about the proposed amendments to ICAO Annexes and PANS Documents (Annexes 6, 10, 13, 18 and 19, PANS-ATM and PANS-TRG).

1.1.2 A number of ICAO State Letters and ICAO Documents on a wide range of subjects had also been published since the last meeting.

1.1.3 The EANPG noted with appreciation the summary of the new provisions becoming applicable in November 2014. It was noted that more information on the status of development of other new or revised guidance material which were important to support implementation in the EUR Region could be requested for further investigation through the Secretariat.

1.1.4 The EANPG was informed that the moratorium on Proposals for Amendments (PfAs) to the Regional Supplementary Procedures (SUPPs) (Doc 7030) had been extended until 31 December 2014 due to an unexpected increase in the workload at ICAO Headquarters including MH370 and MH17-related activities and to the complex work required to produce a comprehensive revision of Doc 7030.

New Regional Air Navigation Plan (ANP) Template and Development of the new eANP

1.1.5 The EANPG was presented with information concerning the work of the Secretariat working group on development of the Air Navigation Plan (eANP WG) to fulfil the Twelfth Air Navigation Conference (AN-Conf/12) Recommendation 6/1 *[Regional performance framework – planning methodologies and tools regarding the alignment of regional ANPs with the fourth edition of the Global Air Navigation Plan (GANP) (Doc 9750)]* which was completed in April 2014. The EANPG noted that the Council approved on 18 June 2014 (202nd session, Fourth meeting) the new eANP templates (Volumes I, II and III) and the corresponding procedure for amendment.

1.1.6 The EANPG recalled that it agreed at EANPG/55 to mandate the COG to take action, as appropriate, to ensure that the development of the European eANP, based on the approved ANP Template, be included in the work programmes of its Contributory Groups and that the relevant Parts of the European eANP be presented for endorsement by the EANPG as soon as available (EANPG Conclusion 55/01 *Development and approval of the European eANP* refers).

1.1.7 The EANPG noted that the Secretariat was in the process of populating as much as possible the Volumes and would present them to the relevant members of the EANPG Contributory Bodies to review the drafts when completed. It was also noted that progress reports from the relevant EANPG Contributory Groups concerning the work being done would be made at future EANPG COG meetings.

1.1.8 With regard to the challenges faced in the development of the European eANP, in particular, the population of Tables on Flight Information Regions (FIR)/Upper Flight Information Regions (UIR) and Search and Rescue Regions (SRR) boundaries in Volume I, the EANPG agreed that only currently approved FIR and SRR boundary coordinates should be used in order to avoid States that have unresolved FIR or SRR boundary issues raising objections when the PfA of Volume I is circulated.

1.1.9 Consequently, the EANPG agreed that the PfA of Volume I be circulated without the Tables ATM I-1 *(Flight Information Regions (FIR)/Upper Flight Information Regions (UIR) of the Region)* and SAR I-1 *(Search and Rescue Regions (SRR) of the Region)* on the understanding that the ICAO Secretariat would undertake the necessary action to include only currently approved FIR and SRR boundary coordinates in the approved version. Therefore the EANPG agreed to the following:

EANPG Conclusion 56/01– PfA of Volume I of European eANP

That, in support of the development and finalisation of the European Air Navigation Plan, the ICAO Regional Director, Europe and North Atlantic, on behalf of the EANPG, circulate the PfA of Volume I of European eANP when it is finalised, without Table ATM I-1 *(Flight Information Regions (FIR)/Upper Flight Information Regions (UIR) of the Region)* and Table SAR I-1 *(Search and Rescue Regions (SRR) of the Region)*, on the understanding that the ICAO Secretariat will undertake necessary action to include only currently approved FIR and SRR boundary coordinates in the approved version.

1.1.10 The EANPG noted that States were required to use Table AOP II-1 *(Requirements and capacity assessment in international aerodromes in the Region)*, in Volume II, as the primary basis for the list of aerodromes in the entire eANP. Consequently, all aerodromes listed in Tables MET and CNS in Volumes I and II should be consistent with those shown in Table AOP II-1. Additionally, it was noted that the spelling of all aerodromes in the eANP should be identical with those in *ICAO Location Indicators* (ICAO Doc 7910) to enable the appropriate links in the electronic database and to ensure accuracy of the data.

1.1.11 However, in reviewing the responsible EANPG Contributory Bodies that should take part in the review and development of the EUR eANP, it was found that the current EANPG working structure did not cover all the requirements for the development of the eANP (e.g. the Aerodromes/Aerodrome Operations (AOP) and Search and Rescue (SAR) Parts). Additionally, for the Air Traffic Management (ATM) Part, coordination with States in the Western part of the EUR Region and EUROCONTROL would be required. Therefore, the EANPG agreed to the following table of shared responsibilities:

Volumes I & II - Part	Responsible Contributory Bodies (groups reporting to EANPG and external bodies)
Part 0 – Introduction	ICAO Secretariat
Part I – General Planning Aspects (GEN)	ICAO Secretariat
Part II – Aerodromes / Aerodrome Operations (AOP)	EUROCONTROL AOT
Part III – Communications, Navigation and Surveillance (CNS)	AFSG and FMG / EUROCONTROL CNS
Part IV - Air Traffic Management (ATM)	ATMGE and RDGE (for Eastern part of EUR Region only) / EUROCONTROL NETOPS
Part V - Meteorology (MET)	METG
Part VI - Search and Rescue (SAR)	ATMGE and RDGE / EUROCONTROL NETOPS
Part VII - Aeronautical Information Management (AIM)	COG/AIM TF / EUROCONTROL AIM/SWIM Team

1.1.12 In this respect, it was also agreed that the Secretariat should contact the relevant international organisations to ensure that coordination mechanisms were put in place within their organisations to review and approve the texts of all Volumes of the EUR eANP. It was noted that further discussions on the most efficient means to coordinate these outcomes with the Secretariat were required.

1.1.13 As the population of several Tables require data from States, it was noted that focal points for each State should be nominated to enable coordination with the ICAO Secretariat and to provide the data

required. However, the EANPG recognised that a large amount of human resources were required to conduct the task of verification and data entry of the information received from States. In this respect, the EANPG noted the Secretariat request for possible support from States and International Organisations.

1.1.14 Based on the above, the EANPG agreed to the following::

EANPG Conclusion 56/02 – Collection and Coordination of Data for population of European eANP

That, in support of the development and finalisation of the European Air Navigation Plan (EUR eANP), the ICAO Regional Director, Europe and North Atlantic, on behalf of the EANPG:

i) invite States to:

   i) provide updates to all Tables in Volumes I and II of the EUR eANP, on the principle that all aerodromes found in Tables MET and CNS are consistent with those in Table AOP II-1, and that the spelling of all aerodromes in the eANP are consistent with those in Doc 7910; and

   ii) nominate a focal point to enable coordination with ICAO Secretariat on the updates to all Tables in the European eANP; and

ii) invite EUROCONTROL, EC, SESAR JU, airspace users and other relevant stakeholders to establish mechanisms to ensure that coordination will be ensured in the drafting, review and approval of text in all Volumes before their inclusion in PfAs to the EUR eANP.

1.1.15 The EANPG was presented with the contents of Volumes I and II, Parts 0-Introduction and Part I-General Planning Aspects (GEN), that had been progressed up to the time of the meeting. With reference to Volume I, Part I GEN, the EANPG noted that an appropriate text in paragraph 1.2, regarding sub regional groupings, needed to be developed in coordination with relevant international organisations. With reference to Volume I, Table GEN I-1 *(Flight Information Regions (FIR) / Upper Information Regions (UIR) of the ICAO EUR Region)* and Volume II, Table GEN II-1 *(Homogeneous ATM Areas and/or Major Traffic Flows identified in the EUR Region)*, the EANPG noted that the some information on FIRs required clarification. It was noted that following clarifications from States and international organisations, the finalised drafts would be presented to the COG/62 meeting in May 2015.

1.1.16 In this respect, the EANPG mandated the COG to endorse the final drafts of the Proposals for Amendment to the eANP, on the behalf of EANPG, as soon as the material was completed. Therefore the EANPG agreed to the following:

EANPG Decision 56/01 – Progress approval of PfAs to Volumes I and II of the European eANP

That, in support of the development and finalisation of the new European Air Navigation Plan, the EANPG Programme Coordinating Group (EANPG COG) be mandated, on behalf of the EANPG, to review and endorse the finalised drafts of the proposals for amendment to Volumes I and II of the ICAO European eANP.

Progress on Alignment of Areas of Applicability of Air Navigation Plans and Regional Supplementary Procedures

1.1.17 The EANPG was provided with a progress report on the actions that were being taken in follow-up to AN-Conf/12 Recommendation 6/11 *[Regional performance framework – alignment of air navigation plans and regional supplementary procedures]* regarding the process of alignment of the areas of applicability of all *Regional Air Navigation Plans* (ANP) and *Regional Supplementary Procedures* (SUPPs, Doc 7030). It was noted that the alignment of the areas of applicability of the ANPs, initiated in April 2013, was close to completion.

1.1.18 With regard to the alignment of the areas of applicability of the SUPPs with the areas of applicability of the ANPs by the ICAO Secretariat, the EANPG noted that a revised version of the SUPPs (Doc 7030), which would include the changes recommended in Recommendation 6/11, would be submitted to the Air Navigation Commission (ANC) and the President of the Council for approval in the first quarter of 2015. It was noted that details of the proposed changes to the SUPPs could be found in AN Conf/12 WP/24.

Planning and Implementation Regional Group (PIRG) Activities in Other Regions

1.1.19 The EANPG was apprised of the activities of the planning and implementation regional groups (PIRGs) in other regions, which was noted along with a summary of the review of the corresponding PIRG meeting reports by the Air Navigation Commission.

TRASAS/4 Outcome

1.1.20 The EANPG was presented with the outcome of the fourth meeting of the Trans-Regional Airspace and Supporting ATM Systems Steering Group (TRASAS/4) that was held in the ICAO Asia and Pacific (APAC) Office, Bangkok, Thailand, from 29 to 31 October 2014. The EANPG noted that the TRASAS/4 agreed on 9 Conclusions, the following three having an impact on the work of EANPG:

TRASAS Conclusion 4/4 – Advanced Inter-Regional ATS Route Development Task Forces

That the TRASAS:

a) endorse the concept of advanced PBN Highways utilising the most efficient PBN standards, prioritisation for efficient flight levels and the least restrictive civil/military practices to link major population centres; and

b) Support the set-up of Advanced Inter-Regional ATS route Development Task Forces (AIRARD/TF), with a proposed route implementation date in the 2018-2020 timeframe.

Note*: Suggested AIRARD/TFs may include: Europe – East/Southeast Asia; East Asia – North America; North America – Europe. The concerned PIRGs to agree on the ToRs and Working Programme*

TRASAS Conclusion 4/6 – Draft Guide on Operations when Volcanic Ash Impacts NOPAC, PACOTS and trans-east routes

That the EUR (EAST) VOLCEX/SG:

a) Continue to develop the draft Guide on Operations when Volcanic Ash Impacts NOPAC, PACOTS and trans-east routes by:

i) updating operational focal points;

ii) developing procedures to establish PACOTS during volcanic ash events;

iii) provide simplified NOTAM examples pointing to information (e.g. SIGMET for tactical decision making and VAA/VAG for planning); and

iv) any other points identified by the group.

b) Publish the Guide on the ICAO portal;

c) Consider the guide as a supplement to respective regional volcanic ash contingency plans; and

d) Notify concerned parties of the above.

TRASAS Conclusion 4/9 – Interregional ICAO workshop on the language proficiency requirements implementation

That the appropriate ICAO Regional Offices, organise and convene a joint Language Proficiency Implementation and Harmonisation Workshop for the States in the ICAO Asia/Pacific, European and Middle East Regions, during the second half of 2015.

1.2 UPDATE FROM STATES AND INTERNATIONAL ORGANISATIONS

PBN Implementing Rule Development

1.2.1 The EANPG noted that the European Commission (EC) was working on the 'PBN implementation in the EATMN', to advance the harmonised implementation of performance-based navigation (PBN) within Europe. The objectives of this task were to ensure the safe, efficient and harmonised implementation of PBN specifications and functionality in the European Air Traffic Management Network (EATMN). The regulatory provisions being developed by the European Aviation Safety Agency (EASA) would build on the regulatory approach consultation previously undertaken by EUROCONTROL as part of the previous mandate and will take due regard of the European concept for PBN operations.

1.2.2 The draft PBN implementation regulatory provisions were envisaged to be introduced in a new subpart to the existing Airspace Usage Regulation (Commission Regulation (EU) No 1332/2011) and would define the navigation specifications and functionalities that were to be used and the dates by which they were to be applied to meet the local performance needs and those established by European Union Implementing Regulation (EU IR) No 390/2013 2013 laying down a performance scheme for air navigation services and network functions. The provisions were also being developed to be consistent with SESAR Deployment and the regulation on the Pilot Common Projects, the ATM Functionality AF#1 – Extended AMAN and PBN in high density TMAs.

1.2.3 The EANPG noted an EASA Notice of Proposed Amendment was planned to be published for consultation by mid-December 2014 for a three month consultation period. During this consultation period EASA planned to organise a focussed consultation workshop in early 2015, where the provisions presented in the proposal could be discussed with all stakeholders. The EASA Opinion was envisaged to be published and delivered to the European Commission by the end of June 2015 and EC was planning a vote for this regulation in the Single Sky Committee (SSC) in the 4th quarter of 2015.

EU Implementing Rule on Data Link Services

1.2.4 The EC provided the EANPG with an update of the implementation of the EU IR on Data Link Services (Regulation (EC) No 29/2009) that entered into force on 6 February 2009 and became applicable from 7 February 2013. The EANPG noted that as of end of 2013 the EC was made aware of technical problems in the implementation of data link services consisting of frequent disconnections of the data link between aircraft and ground systems known as "provider abort". The EC asked EASA to conduct a technical investigation, the outcome of which was published on 27 May 2014. EASA, in its report to the EC essentially identified as root causes:

- capacity limitations linked to the use of a single frequency instead of multi-frequency communication;
- possible radio-frequency interferences, notably due to lack of coordinated (centralised) ground deployment.

1.2.5 As a follow-up of that report, the EC tasked the SESARJU (SJU) to prepare a plan to execute the EASA recommendations and organised on 17 June 2014 a stakeholder workshop to consult on the required next steps, and notably to discuss the need to review the Regulation and the possible options for that. Preference was given to a 2 step approach:

- Step 1: Extend the applications dates for airborne and ground implementation from 2015 to 20xx;

- Step 2: Replace the Regulation, upon results of SJU work, through tasking EASA to conduct new regulatory process for Data Link.

1.2.6 The way forward was discussed during the workshop on 17 June 2014 and the EC arrived at the conclusion that the most sensible course of action was:

- To execute the EASA recommendations, notably through SJU planned work and studies;
- To adapt the legal framework in a two-step approach, while keeping the momentum of Data Link Services deployment.

1.2.7 A follow-up workshop had taken place on 9 October 2014 to discuss Step 1 of the two-step approach. The proposed way forward should consist of a number of parallel actions:

a) The EC to re-confirm the SJU Data Link Services work plan and ensure execution of the launched actions; to that end, a close reporting/steering mechanisms should be proposed by the Commission;

b) The EC to re-confirm willingness to:

- Keep momentum: deployment to be pursued when safety and continuity of operations is not endangered;
- Re-create a "workable" legal framework in Step 1;
- Consider incentives in Step 2 focussing first and foremost on upgrades (hardware or software) of already deployed systems.

1.2.8 After the workshop of 9 October 2014, and ideally, to be confirmed by the decision of the Single Sky Committee meeting of 14-15 January 2015, the EC should proceed with the two-step approach, and adopt the most appropriate legal text for Step 1 (i.e. extension of the application dates of the Regulation).

1.2.9 The EC clarified that, pending notably the availability of ground systems, ANSPs should not restrict access to their airspace to those aircraft operators not yet data link equipped. The EC was also preparing a third decision on permanent exemptions for aircraft fulfilling the criteria for exemptions as laid out in Article 14 of the Regulation.

Progress on SES and SESAR

1.2.10 The EANPG was provided with information about the progress of the Single European Sky (SES) and its SES ATM Research Programme (SESAR), for elements linked to the work of ICAO. After the packages of legislation known as SES-I (2004) and SES-II (2009) the European Commission proposed a SES-II-Plus package, to be agreed by the European Parliament and the European Council. It was noted that the European Parliament had already agreed on its opinion and work was in progress at the Council level and the Italian Presidency, aiming to conclude on the main items in December 2014. After that, the Council and Parliament would have to reach an agreement on the way forward.

1.2.11 The EANPG noted that in November 2014, EASA would publish its draft proposal to update Regulations 1035/2011 and 1034/2011, for oversight and common requirements. This work would contain proposals to include the ICAO meteorological (MET) provisions from Annex 3 in EU regulations.

1.2.12 The EANPG also noted that the publication of the draft proposal for the Standardised European Rules of the Air (SERA) Part C was expected to take place in November 2014, to complement the previous parts, A and B which had already been approved. The EANPG recalled that this Regulation aimed

to standardise the rules of the air in Europe, based on the ICAO provisions, transposing Annexes 2 and 11, but also some elements from PANS-ATM, Annexes 3 and 10.

1.2.13 The EANPG was informed that the second reference period of the EU Performance Scheme had been prepared and decisions would have to be taken at the Single Sky Committee (SSC) in January 2015.

1.2.14 The EANPG noted that a call for proposals in order to establish the SESAR Deployment Manager and the Implementation level of SESAR deployment governance named as "the SESAR Deployment Framework Partnership" was launched on 30 June 2014 and was closed on 15 October 2014. It was noted that only one bid had been received and this was now being assessed by the EC.

1.2.15 The EANPG was informed that on 16 December 2014 the SJU would launch a campaign for the update of the ATM Master Plan, in which all stakeholders would be consulted. The SJU was expected to present its formal proposal for the update before summer 2015, after which the partners in the SJU would have to discuss and approve the update, during the 3rd or 4th quarter of 2015.

Update from the EUR/NAT Aviation Security Group (ENAVSECG/03)

1.2.16 The EANPG was provided with an update of the activities of the EUR/NAT Aviation Security (AVSEC) Group (ENAVSECG) which was of shared interest for air navigation and aviation safety, namely the ATM cybersecurity initiatives and the promotion of awareness of the hazardous risk of laser illumination of aircraft.

1.2.17 The EANPG was furthermore informed about the recent global ICAO initiative on cybersecurity and the establishment of the “Industry High Level Group” incorporating ICAO, ACI, IATA, ICCAIA, IFALPA and CANSO, which jointly developed an Action Plan/Road Map for signature on 5 December 2014.

1.2.18 The AVSEC side of both initiatives was coordinated at the global (AVSEC Panel) and European (EUR/NAT AVSEC Group) levels; the topics however required the same level of coordination and cooperation with the air navigation stakeholders to ensure the safety of civil aviation. The EANPG noted the information provided and invited the Secretariat to keep it updated with upcoming developments.

Joint Service Provision Area Initiative

1.2.19 The EANPG was presented with information on the establishment and activities of the Joint Service Provision Area Initiative (JSPAI) gathering the efforts of five Civil Aviation Authorities (Albania, Kosovo[1], Montenegro, The former Yugoslav Republic of Macedonia (fYROM), Hungary[2]) and four air navigation service providers (Albania, The fYROM, Kosovo and Hungary) with the aim to create a proactive relationship and cooperation among regional neighbouring CAAs, ANSPs and enabling interface with neighbouring Functional Airspace Blocks (FAB). The EANPG also noted that several projects had been approved by the participating stakeholders and were in various stages of development.

1.2.20 The EANPG noted the presentation which was a positive contribution to the ATM collaboration in the area and wished every success to the JSPAI in their current and future activities.

[1] *This designation should be without prejudice to the current Kosovo international status and in line with UNSCR 1244*
[2] *Hungary is invited to participate, as appropriate, in the JSPA Initiative based on the temporary role allocated by NATO for the normalization of the upper airspace over Kosovo*

2. PREVIOUS EANPG FOLLOW UP

2.1 UPDATE ON FOLLOW-UP ACTIONS TO EANPG/55 CONCLUSIONS AND DECISIONS

2.1.1 The Secretariat presented the EANPG with a report on the implementation of EANPG/55 Conclusions and Decisions and the activities performed by the ICAO EUR/NAT Office and a summary of pending tasks. The EANPG noted the good progress of the Conclusions and Decisions, most of them being finalized (25 of 29 EANPG Conclusions) and the remaining four being addressed through various EANPG papers at the current meeting.

2.1.2 The EANPG was also informed on the actions taken by the Air Navigation Commission (ANC) on the report of the fifty-fifth meeting of EANPG after its review. The EANPG recalled that the ANC would take action only on those Conclusions that would require approval by the ANC. The ANC determined that no specific items of the EANPG/55 Report required action by the Council.

2.1.3 The ANC referred the EANPG/55 Report to its Working Group for Strategic Review and Planning (WG/SRP) on 4 March 2014 following which the Commission itself reviewed the report. The Commission noted the EANPG/55 Report and took specific action on certain conclusions. In general, the WG/SRP remarked that the conclusions and decisions were exclusively aimed at the Regional Office and States; however, the WG/SRP considered that the reports contained useful information on the implementation status of provisions and safety issues encountered in the region.

2.1.4 The WG/SRP commended the work of the EANPG on regional planning for the implementation of the Aviation System Block Upgrades (ASBUs), and particularly the development of a template that other regional groups should, if not already done, consider (Conclusions 55/2 and 55/3 refer). The WG/SRP discussed the various merits of the implementation planning activities and the implications on States with respect to mandates and reporting in the regional air navigation plans.

2.1.5 The WG/SRP remarked on the purpose and context of a Statement. It was underlined that the EANPG was the only PIRG that had issued Statements. With respect to Statement 55/1 the WG/SRP commented that it was a better approach than that adopted by the ICAO Assembly. By focusing initially on improving runways with non-precision approach the cost and safety benefit analyses could be more favourable. The WG/SRP also suggested that a review of Assembly Resolution A37-11 should consider the EANPG approach.

2.1.6 The WG/SRP commented on the importance of holding a reduced vertical separation minima (RVSM) and Regional Monitoring Agencies (RMAs) Symposium (Conclusion 55/26 refers) and that the ANC should follow-up on the outcomes.

3. AVIATION SAFETY

3.1 UPDATE FROM RASG-EUR

3.1.1 The EANPG was provided with an update on the activities of the European Regional Aviation Safety Group (RASG-EUR) and in particular of the ICAO EUR Regional Expert Safety Team (IE-REST) and the four IE-REST ad-hoc groups.

3.1.2 The EANPG noted the main outcomes of the RASG-EUR/03, and in particular:

i) the endorsement of eight Safety Enhancement Initiatives (SEIs), along with associated Detailed Implementation Plans (DIPs) and Outputs, to be launched in the IE-REST area (part of the ICAO EUR Region composed of non-EASA Member States);

ii) the six priority safety targets and associated metrics adopted by the RASG-EUR for the ICAO EUR Region; and

iii) the creation of the RCOG reporting (R-REP) ad-hoc group to work on issues related to the development of annual safety reports for the ICAO EUR Region.

3.1.3 The ICAO Secretariat highlighted the areas in which coordination and/or cooperation between the EANPG and the RASG-EUR were important .The EANPG took note of the concerns related to the lack of resources to support some of the R-REP and IE-REST activities. Accordingly, the EANPG invited its members to contribute as much as possible to the activities of the RASG-EUR, in particular those of the R-REP as well as those of the IE-REST related to runway safety and to occurrence reporting and analysis.

3.1.4 With respect to runway safety, the EANPG took note that Albania agreed to host a runway safety go-team at Tirana airport in 2015, and that Montenegro would be ready to support a similar initiative.

3.2 AIR NAVIGATION SAFETY RELATED ISSUES

Occurrences involving civil and military aircraft over the High Seas

3.2.1 The EANPG was presented with a working paper showing the main results of an analysis on occurrences involving civil and military aircraft over the High Seas conducted by the EUROCONTROL Safety Regulation Commission.

3.2.2 The EANPG noted the paper but expressed their reservation regarding the accuracy of some of the information provided (e.g. the wrong/misleading identification of some areas covered by the surveys) or the applicability of some of the statements when considering the provisions of Chicago Convention (i.e. Articles 3a and 3d).

3.2.3 The EANPG also noted that, although occurrences appeared in several geographical areas, the most affected airspace, considering the number of incidents and especially their severity was over the Baltic Sea. This situation was attributed to the specific geopolitical situation in the region, the complexity of the airspace structure with several FIRs, different area control centres (ACCs) and multiple national military coordination partners.

3.2.4 IFALPA expressed their concerns on the threats to the safety of operations caused by these types of occurrences. The EANPG agreed that appropriate civil/military arrangements and coordination procedures were instrumental to reducing the likelihood of serious incidents or accidents involving civil and military aircraft over the High Seas and recalled the outcome of EANPG/51 on a similar subject and the agreement reached through EANPG Conclusion 51/03. The EANPG could not reach a consensus regarding the text of a Conclusion to reflect the safety concerns regarding operations involving civil and military aircraft operating in the airspace over the High Seas, although the two following versions had been considered:

> Version 1: "*That, noting the growing safety concern regarding events involving civil and military aircraft over the High Seas, the ICAO Regional Director, Europe and North Atlantic, on behalf of the EANPG, remind States and International Organizations concerned to take action, in accordance with EANPG Conclusion 51/03, to review and enhance at national and international level their civil/military arrangements and coordination procedures, with a view to reducing the risk of serious incidents or accidents.*"
>
> Version 2: "*That, noting the growing safety concern regarding events involving civil and military aircraft over the High Seas, the ICAO Regional Director, Europe and North Atlantic, on behalf of the EANPG, urge States and International Organizations concerned to take action to review and enhance at national and international level their civil/military arrangements and coordination procedures, involving all State authorities, with a view to reducing the risk of serious incidents or accidents and paying due attention to the EANPG Conclusion 51/03*."

3.2.5 Following an animated debate, the EANPG agreed to the following:

EANPG Conclusion 56/03 – Safety concerns regarding operations involving civil and military aircraft over the High Seas

That, noting the growing safety concern regarding events involving civil and military aircraft over the High Seas, the ICAO Regional Director, Europe and North Atlantic, on behalf of the EANPG, encourage States and International Organizations concerned to take action, in accordance with EANPG Conclusion 51/03, to review and enhance at national and international level their civil/military arrangements and coordination procedures involving all State authorities concerned, with a view to reducing the risk of serious incidents or accidents.

4. PLANNING AND IMPLEMENTATION ISSUES

4.1 REPORTS FROM THE CONTRIBUTORY BODIES

Outcomes of Frequency Management Group (FMG)

4.1.1 The EANPG was provided with the outcomes of the work of the Frequency Management Group (FMG). It was noted that some of the outcomes were reviewed and approved by COG/59 (COG/59 report refers).

EAPPRI vs Radio Regulation

4.1.2 The EANPG noted that the FMG was provided with the European Action Plan for the Prevention of Runway Incursions (EAPPRI) and discussed a specific recommendation to improve situational awareness for aircraft and vehicles occupying the manoeuvring areas by conducting all communications on a common frequency, while ensuring that there was no regulatory conflict with the provisions of the ITU (International Telecommunication Union) Radio Regulations. Therefore the following Conclusion was agreed:

EANPG Conclusion 56/04 – Use of TWR Frequencies by Ground Vehicles Involved in Runway Operations

That, in line with ICAO *Manual on the prevention of runway incursions* (Doc 9870) and the *European Action Plan for the Prevention of Runway Incursions* (EAPRI), the European Provider States are invited to allow the use of TWR frequencies by vehicles involved in runway operations, where required.

Note: Any such use should be subject to local safety assessments taking into account issues such as: training, operating procedures and the use of one language in radiotelephony communications between air crews, vehicle drivers and TWR controllers as well as enforcement measures.

Consideration of terrain masking

4.1.3 The EANPG noted that the FMG discussed a simplified approach for the inclusion of terrain masking when calculating the compatibility of co-channel VHF communications (COM2) frequency assignments and explored the ways in which it may be implemented. Based on the FMG input, the EANPG agreed to the following:

EANPG Conclusion 56/05 – Use of Terrain Masking for Compatibility Calculations

That the ICAO Regional Director, Europe and North Atlantic, on behalf of EANPG, invite EUROCONTROL to modify the MANIF AFM to support a trial period for the use of terrain masking when calculating the co-channel compatibility of VHF assignments.

Inter-regional and intra-regional coordination issues

4.1.4 The EANPG was informed that the recent transfers of some States from the African (AFI) and Middle East (MID) Regions to the European (EUR) Region would require a procedure to ensure that the frequency assignments for these States were compatible with those in the EUR on an ongoing basis. This would require enhanced inter-regional coordination to be performed through the relevant Regional Offices. The availability of the ICAO Global Database of frequency assignments was expected to facilitate such coordination. In order to ensure such enhanced coordination, it would be required to improve the methods of information exchange between the global and EUR databases.

4.1.5 Therefore the EANPG agreed to the following:

EANPG Conclusion 56/06 – Data Format for Exchange of Information between ICAO Global Database and SAFIRE

That the ICAO Regional Director, Europe and North Atlantic, on behalf of EANPG, invite EUROCONTROL to develop the SAFIRE functions to send and receive information from the ICAO global database of frequency assignments.

4.1.6 In addition, the EANPG noted that there were States in the EUR Region not using the SAFIRE tool for coordination of frequency assignments. This was creating some interface issues and concerns for potential harmful interference. In order to facilitate the resolution of this situation and discuss procedural issues related to integration of the newly transferred States, strengthened coordination between the parties involved would be required. Therefore , the EANPG agreed to the following:

EANPG Conclusion 56/07 – Organisation of a Coordination Meeting on Inter- and Intra-Regional Issues

That the ICAO Regional Director, Europe and North Atlantic:

a) organize a coordination meeting in cooperation with EUROCONTROL and States concerned regarding intra-regional frequency management and coordination issues; and

b) take necessary measures to ensure appropriate participation from the adjacent ICAO Regional Offices in the EANPG FMG activities in order to facilitate inter-regional frequency management and coordination issues.

Use of VHF VOLMET

4.1.7 The EANPG noted that the FMG was presented with a proposal to review the VHF frequency use principles for VOLMET Meteorological Broadcast for aircraft in-flight. It was noted that the provision for the EUR VHF VOLMET broadcast system is described in detail in FASID Part VII – ATS. There were 60 VHF frequencies listed for the EUR Region, all 25 kHz-spaced. Therefore the EANPG agreed to the following:

EANPG Conclusion 56/08 – Review the EUR Needs for VOLMET VHF Transmissions and their Frequency Usage Parameters

That the ICAO Regional Director, Europe and North Atlantic, on behalf of EANPG, invite EUROCONTROL and the EANPG Contributory Bodies (METG, FMG and ATMGE):

a) review the VHF VOLMET broadcasts needs in the ICAO EUR Region; and

b) identify potential measures to improve the efficiency of the frequency spectrum use related to the VHF VOLMET broadcasts.

Fast track for coordination of assignments

4.1.8 The EANPG noted the information that FMG faced several requests for urgent frequency coordination that had been raised in recent months for special events and exceptional situations. It was also noted that such requests are arising on a regular basis in all States. The EANPG agreed that a mechanism to ensure a faster coordination was required and agreed to the following:

EANPG Conclusion 56/09 – Coordination of Urgent Frequency Assignments

That the ICAO Regional Director, Europe and North Atlantic, on behalf of EANPG, invite EUROCONTROL to implement a trial period of the procedure for the coordination of urgent frequency assignments.

Performance Based Navigation (PBN) Issues

4.1.9 The EANPG was provided with the outcomes of the 9th Meeting of the ICAO EUR PBN TF which was convened on 17-19 September 2014 in the EUR/NAT Office of ICAO in Paris, France, and was combined with the 20th Meeting of the EUROCONTROL NSG in line with the outcomes of COG/59 (COG/59 report para 6.30-6.31 refer). The EANPG noted that the PBN TF elected a new Chairman, Mr. Marc Troller (Switzerland) as the previous one Mr. Thomas Buchanan (Switzerland) had resigned. The EANPG thanked Thomas for his excellent chairmanship of the PBN TF which he was chairing since its inception, and wished him all the best in his future endeavours.

Follow up on EANPG Conclusion 55/15 - Training needs for procedure designers

4.1.10 The EANPG was provided with the results of a survey carried out in follow-up to EANPG Conclusion 55/15. The survey confirmed that there was scarcity of qualified personnel in the areas of PANS-OPS procedures design and oversight. Therefore, the following measures were proposed:

a) As an interim solution, to organise a workshop to discuss common problems and possible resolutions in order to assist in resolving the identified deficiencies in the PANS-OPS design and oversight areas;

b) As part of the workshop, roles and responsibilities of PANS-OPS oversight as described by ICAO Doc 8168 (PANS-OPS) would be discussed;

c) The next meeting of the PBN TF would include a session to share experience on PANS-OPS oversight issues and prepare an agenda for the workshop; and

d) States that have indicated availability of spare expertise to share on PANS-OPS design and oversight, to be invited to use the ICAO EUR Memorandum of Cooperation on sharing of flight procedure design resources as approved by EANPG Conclusion 55/14.

4.1.11 In view of the above, the EANPG agreed to the following:

EANPG Conclusion 56/10 – ICAO workshop on PANS-OPS procedures design and oversight

That, the ICAO Regional Director, Europe and North Atlantic, on behalf of the EANPG:

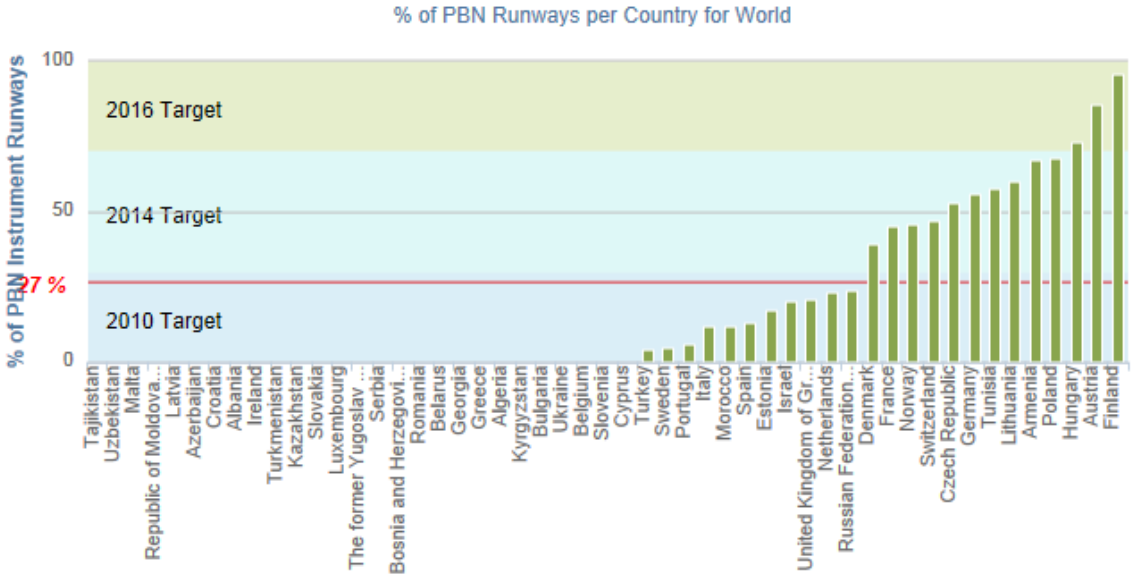
a) undertake necessary actions to organise a workshop on PANS-OPS procedures design and oversight; and

b) invite States to support the Workshop by making their experts available for presentations and discussions.

PBN status of implementation

4.1.12 The EANPG was provided with the latest status of PBN implementation in the EUR Region. The information presented reflected some substantial progress; however, this was still not satisfactory to meet the timelines of ICAO Assembly Resolution on PBN (A37-11 refers).

4.1.13 Figure 1 provides the status of PBN approaches implementation as made available on the ICAO global PBN implementation monitoring tool.



4.1.14 The EANPG noted that there were three (3) PBN implementation progress tracking mechanisms currently in use:

a) PBN implementation database on the ICAO Headquarters website (updated by inputs from the Regional Offices and other inputs);

b) ICAO EUR ANP mechanism with CNS 4b Table (also includes information on implemented and planned approach and landing navaids and other than PBN approach procedures) and status table; and

c) EUROCONTROL map tool.

4.1.15 In order to avoid duplication of efforts, the EANPG agreed to the following:

EANPG Conclusion 56/11 – PBN implementation monitoring

That:

a) the new format of CNS 4b Table as provided in **Appendix C** to this Report be approved;

b) EUROCONTROL be invited to implement appropriate measures to ensure that information in the PBN map tool is harmonised with the CNS 4b Table; and

c) ICAO be invited to implement appropriate measures to ensure that the global PBN implementation progress monitoring database is harmonised with the CNS 4b Table taking into account the need to avoid duplication.

PBN flight planning requirements

4.1.16 The EANPG was provided with an update on the latest developments on the new concept Flight and Flow Information for a Collaborative Environment (FF-ICE). It was noted that there were a number of PBN specifications that were not catered for in the current flight planning provisions of PANS-ATM. It was noted that in the course of ongoing work on FF-ICE standardization, all current PANS-ATM provisions in terms of the flight plan content would be transferred into the FF-ICE contents. Since not all PBN specifications were covered by the current provisions neither in PANS-ATM nor in the SUPPs, there was a risk that the need for their inclusions in the FF-ICE might be overlooked. In addition, there was a need identified to cater for new PBN specifications in such a timeframe that may not be suitably met by the currently foreseen timelines of the FF-ICE standardization programme. In this respect, the EANPG was informed that the ICAO Performance Based Navigation Sub-Group (PBN SG) had agreed to develop a globally harmonized text on flight planning provisions to be included in the Regional SUPPs (Doc 7030).

4.1.17 In view of the above the EANPG agreed to the following:

EANPG Decision 56/02 – Proposal for amendment to Doc 7030 on PBN flight planning

That:

a) the ICAO EUR PBN TF be tasked to develop, in coordination with the ICAO PBN SG, a proposal for amendment to the EUR SUPPs (Doc 7030) on flight planning provisions; and

b) COG/62 be mandated to review and approve, as appropriate, the proposal for amendment as developed by the EUR PBN TF.

Point merge and fuel planning

4.1.18 The EANPG noted that the COG discussed a number of issues arising from the increasing implementation of PBN Linear Holding (e.g. Point Merge) procedures aimed at improving and harmonizing arrival operations with existing technologies. The EANPG acknowledged the benefits these procedures would provide but was also aware of impact on fuel efficiency of flight operations. In this respect, the following actions agreed by COG Conclusions 59/03, 59/04 and 59/05 were noted:

1) COG Conclusion 59/3 – PBN Linear Holding Operation Bulletins

That, the EANPG Contributory Bodies, with the support of the Secretariat develop a series of Operation Bulletins (similar with those used in the NAT Region) to:

a) raise the awareness in order to educate and inform all stakeholders concerned on the potential for FMGS fuel warning messages in relation to Point Merge and other linear holding procedures, their meaning, and consequent techniques and means of dealing with these; and

b) advise aircraft operators to apply conservative fuel calculations pending statistical data to predict/show the degree to which linear holding is applied;

Note 1: Operation Bulletins would be developed based on best practices and lessons learned from, inter alia, France, Hungary, Ireland, the United Kingdom, IATA and other sources to be provided to the ICAO Secretariat not later than the end of August;

Note 2: the draft OPS Bulletin should be presented for contributions to PBN TF in September and to COG/60 for revision and endorsement

2) COG Conclusion 59/4 – PBN Linear Holding Related Statistical Related Data Collection

That, the ICAO Regional Director, on behalf of EANPG COG issue a State letter inviting States concerned to request service providers to collect and provide statistical data on the extent to which linear holding is applied and make it available to the aircraft operators in support of their statistical fuel planning

3) COG Conclusion 59/5 – PBN Linear Holding Global Provisions

That, the ICAO Regional Director, on behalf of EANPG COG, take appropriate action that ICAO:

a) develop a roadmap towards global standardization of Linear Holdings design and procedures addressing both ground based and airborne system limitations;

b) publish guidance material on the shortest planable route to final approach, including guidance material on fuel planning for linear holding procedures;

c) develop Linear Holding RCF procedures;

d) develop ATC procedures for runway change situations during PBN Linear Holding Operations; and

e) develop standardized RT phraseology for provision of expected PBN linear holding.

4.1.19 The EANPG noted that further discussion on this subject took place at the EUR PBN TF supported by inputs from France, Ireland, the United Kingdom and IATA. It was noted that ICAO Annex 6 and EASA Air OPS Regulation required operators to plan fuel uplift based on taxi fuel, trip fuel, contingency fuel, alternate fuel, final reserve fuel, additional fuel and extra (ICAO: discretionary) fuel. Operators plan fuel on the "Expected Approach", defined as the STAR (standard terminal arrival route) and Approach Procedure for the runway in use. Holding fuel was normally part of the contingency fuel. If the Point Merge STAR was the only STAR which can be filed in the ATC Flight Plan, the complete Merge Arc would become part of the trip and the trip fuel would increase accordingly even if rarely flown and if considered as Linear Holding, therefore fuel efficiencies were lost.

4.1.20 The EANPG noted that the ICAO fuel planning guidance in Doc 9976 was being updated to explicitly address Point Merge and allow operators to account for linear holding as part of contingency fuel.

4.1.21 The EANPG was informed that in order to advance this work, a team of experts led by the ICAO Secretariat and composed of EUR PBN TF members from France, Ireland, the United Kingdom and IATA would review the inputs provided and develop material for raising awareness in line with the COG decisions.

4.1.22 The EANPG was made aware of the publication of the OPS Bulletin mentioned in 4.1.18 1) above.

Outcomes of Air Traffic Management Group – Eastern Part of the ICAO EUR Region (ATMGE)

4.1.23 The EANPG noted the main outcomes of the latest Air Traffic Management Group – Eastern Part of the ICAO EUR Region meetings (ATMGE/19 and ATMGE/20) which took place in April 2014 in Baku, Azerbaijan and in the ICAO EUR/NAT Office in Paris in November 2014.

4.1.24 The EANPG took note of the information from the ATMGE States' reports, which addressed all relevant activities regarding Communication, Navigation and Surveillance (CNS) system implementation programmes, including the status of national PBN implementation plans. The ATM related activities, including upgrades to existing ATC (Air Traffic Control) system infrastructure or plans for the procurement of new automated ATC systems, ACC re-sectorisation programs, together with up-to-date information on airport infrastructure and TMA (Terminal Area) improvements were also presented in the State reports.

4.1.25 It was also noted that the ATMGE also discussed aspects related to regional and/or global ATM interoperability aspects (e.g. Free Route Airspace implementation, FAB initiatives including Cross Border Services developments, OLDI implementation coordination, Radar Data exchange, FDP exchange, implementation of new ATM systems, ATC sector/division level changes, preparation for international events) as well as information on new State aviation rules and regulations. The EANPG noted also the status update (as agreed at COG/59) on the proposed changes regarding the RT (radiotelephony) phraseology differences between the English and the Russian versions of ICAO documents: Annex 10 Vol II, ICAO Doc 4444 (PANS-ATM) and ICAO Doc 9432 (*Manual of Radiotelephony*).

4.1.26 The EANPG was informed on the results of the State reports regarding the implementation of the ASBU Block 0 modules (EANPG Conclusion 55/03 refers) and noted that a process with regard to regional monitoring of ASBU implementation had been implemented as a result of the ATMGE/19 meeting. Consequently, States were invited to take all necessary measures in order to ensure a complete overview of the status of ASBU Block 0 implementation (especially on the six ASBU Block 0 modules which had been given the highest priority at EANPG/55, namely, B0-APTA, B0-SURF, B0-FICE, B0-DATM, B0-ACAS and B0-SNET) within the entire ICAO EUR Region.

4.1.27 The EANPG confirmed the election of Mr. Vjacheslavs Karetnikovs (from Latvia) as Chairperson and Mr. Eduard Ceabei (from Republic of Moldova) as Vice-Chairperson of the ATMGE for the next 4 years.

Outcomes of Route Development Group Eastern Part of the ICAO EUR Region (RDGE)

4.1.28 The EANPG noted the main outcomes of the latest Route Development Group – Eastern Part of the ICAO EUR Region meetings (RDGE/20 and RDGE/21) which took place in the European and North Atlantic (EUR/NAT) Office of ICAO in April and October 2014. The RDGE/20 meeting marked the 10 year anniversary of the Group which was created in 2004 as a successor to the former Meeting for the Planning and Coordination of Implementation of ATS Routes through the airspace of the Eastern Part of the Region including Middle Asia (TARTAR).

4.1.29 The EANPG took note of the information from the RDGE States' reports, which indicated for RDGE/20 an average general increase (between a decrease of minus 12.0% and a maximum increase of 14.1%, with an average of around **3.4%** of overall traffic increase) in traffic figures when compared with the traffic figures for the same time period in the previous year.

4.1.30 At the RDGE/21 the States' reports, indicated a mixed situation when compared with the traffic figures for the previous year: a maximum decrease of 40.0% and a maximum increase of over 30%, with a positive average of **2.1%** of overall traffic. The reasons of this decline were related to the situation in Syria and Iraq, as well as the avoidance of the Simferopol FIR and some parts of the European airspace (Ukraine) for flights to/from Europe.

4.1.31 As a result of the unavailability of part of the Ukrainian airspace, the traffic increased significantly (over 30%) in several FIRs, most of the new flows being concentrated in a small area over the south-west part of the Black Sea. This shift in flows resulted in a massive traffic drop in some other FIRs (e.g. overflight traffic in Chisinau FIR has significantly decreased by nearly 40% in the period from April to September 2014) and a concentration of traffic on specific ATS routes (e.g. in Georgia most of the overflight traffic is now concentrated on one ATS route N644). The EANPG also noted that during both RDGE meetings a total number of 198 new ATS route proposals were implemented and 22 major airspace change projects became operational.

4.1.32 The EANPG noted that the four RDGE Subgroups reviewed a total number of 394 existing proposals and agreed on 66 new route proposals to be incorporated into the various ATS Route Catalogues. The absence of delegations from several key States as well as the lack of feedback from several other States, which prevented the optimization of the ATS route network in the ICAO European Region, was noted with regret by the RDGE. Consequently, the EANPG stressed the importance of the continuous participation from all concerned States to the RDGE meetings and supported the need for trans- and inter-regional coordination activities in order to progress the optimization of the ATS route network.

4.1.33 The EANPG confirmed the re-election of Mr. Sergej Smirnov (from Lithuania) as Chairperson and Mr. Yury Bazulev (from Latvia) as Vice-Chairperson of the RDGE for the next 4 years.

ICARD Five Letter Name Code (5LNC) Issues

4.1.34 The EANPG was updated with the main outcomes of the first meeting of the ICAO/ EUROCONTROL ICARD Five Letter Name Code (5LNC) Task Force (ICARD 5LNC TF) which took place in the EUROCONTROL premises in Brussels, Belgium from 4 to 5 November 2014. The joint ICAO/ EUROCONTROL Task Force had been set up following an agreement reached at 83rd meeting of the EUROCONTROL Route Network Development Subgroup meeting (RNDSG/83) in October 2014 to look into several critical issues related to 5LNC and the ICAO Code and Route Designator Database (ICARD). There had been a rising demand for 5LNC over recent years, mainly to support PBN implementation. It was noted that although significant progress had been made, the following issues related to 5LNC requests through ICARD were still largely encountered:

- worldwide duplicated codes;
- like sounding codes in close proximity or on the same flight planned route causing potential safety risks;
- shortage of available codes which are pronounceable and meet the sound-like proximity check requirements;
- differences between 5LNC data registered in ICARD and published in national Aeronautical Information Publications (AIPs); and
- technical problems of the ICARD platform.

4.1.35 The EANPG noted that the majority of the States in the ICAO EUR Region had registered ICARD Authorized Users. It was noted that the Task Force reviewed all the procedures and responsibilities of both the ICARD Data Manager and State Authorized Users and proposed solutions for the issues identified in 4.1.34 above.

4.1.36 The current version of ICARD, developed in 2008 presented numerous technical problems that would need to be addressed. The usage of the system had a slow response time and several functionalities were deficient. The need to transfer the existing ICARD database to a new platform (Phase 1) had been clearly identified by ICAO Headquarters and the necessary actions had already started. The transfer of the ICARD database to a new platform could be completed by end of 2015. Phase 2 of the project should consist of enhancing the current functionalities.

4.1.37 The shortage of codes in the EUR Region and the increasing demand for designators for specific projects (helicopter operations, unnamed waypoints, boundary points) which were not used by ATC had

raised the question of the possible use of five-alphanumeric 'name-codes' in the en-route environment. According to ICAO Annex 11 and PANS-OPS (Doc 8168), the use of alphanumeric codes was only allowed for terminal procedures and not in the en-route environment.

4.1.38 The EANPG also noted that a drafting session for the revised ICARD guidelines would take place in February 2015 during the RNDSG meeting. The final drafted guidelines would be reviewed during the second meeting of the ICARD TF, scheduled to take place on 14 and 15 April 2015. The EANPG invited the Task Force to continue its work, to provide a report to EANPG COG/62 for final review, endorsement and further coordination with other ICAO Regions and ICAO Headquarters.

4.1.39 In support of the ICAO/ EUROCONTROL ICARD 5LNC Task Force work the EANPG agreed to the following:

EANPG Conclusion 56/12 – Implementation of harmonized and efficient ICARD 5LNC

That the ICAO Regional Director, Europe and North Atlantic, on behalf of the EANPG, invites ICAO Headquarters to issue a State Letter to urge States to:

a) use the ICARD database for 5LNC reservations; and

b) release all un-used 5LNCs.

Outcome of Meteorology Group of the EANPG (METG)

4.1.40 The EANPG noted that the twenty-fourth meeting of the Meteorology Group (METG/24) of the European Air Navigation Planning Group (EANPG) was held at the European and North Atlantic Office of ICAO, Paris from 23 to 26 September 2014. The METG/24 meeting was attended by 90 experts from 36 States in the EUR Region as well as Iceland and the United States and 5 international organizations (European Organisation for the Safety of Air Navigation (EUROCONTROL), European Aviation Safety Agency (EASA), International Air Transport Association (IATA), International Civil Aviation Organization (ICAO), and the World Meteorological Organization (WMO)). The sixtieeth meeting of the EANPG Programme Coordination Group (COG/60) held in Paris from 14 to 17 October 2014 reviewed the outcomes of the METG/24 meeting and agreed to two COG Decisions and two COG Conclusions as well as formulating five draft Conclusions and two draft Decisions for consideration by the EANPG.

Volcanic Ash Exercises

4.1.41 The EANPG noted events related to volcanic ash exercises, and in particular, the fifth meeting of the Volcanic Ash Exercises Steering Group for the (far) eastern part of the EUR Region (EUR (EAST) VOLCEX/SG/5) which was held in Petropavlovsk-Kamchatsky, Russian Federation from 5 to 7 August 2014 which developed objectives and attributes of the next volcanic ash exercise called VOLKAM15. VOLKAM15 would take place from 15 April 2015 at 2200 UTC to 16 April 2015 at 0400 UTC and simulate an eruption of a volcano called Ksudach.

4.1.42 One of the objectives that would be tested relates to tactical re-routes in the airspace of both Russian Federation and Japan, and in particular, possibly testing a draft letter of agreement that proposes contingency procedures between Petropavlovsk and Fukuoka FIRs. Lastly, a draft document containing procedures for volcanic ash events that impact trans-east routes, northern Pacific (NOPAC) routes and Pacific Organized Track System (PACOTS) was being developed and was reviewed at the fourth meeting of the Trans-Regional Airspace and Supporting ATM Systems Steering Group (TRASAS) held in Bangkok, Thailand from 29 to 31 October 2014.

4.1.43 TRASAS/4 agreed that the EUR (EAST) VOLCEX/SG should a) continue to develop the draft Guide on Operations when Volcanic Ash Impacts NOPAC, PACOTS and trans-east routes by i) updating operational focal points; ii) developing procedures to establish PACOTS during volcanic ash events; iii) provide simplified NOTAM examples pointing to information (e.g. SIGMET for tactical decision

making and VAA/VAG for planning; and iv) any other points identified by the group; b) publish the Guide on the ICAO portal; c) consider the Guide as a supplement to respective regional volcanic ash contingency plans; and d) notify concerned parties of the above (paragraph 1.1.20 refers).

4.1.44 The EANPG noted that the timing of the next EUR/NAT exercise, VOLCEX15, should be based on the developments associated with the updates and adoption of the volcanic ash contingency plan for the EUR and NAT Regions, which could be available by mid-2015. Therefore, VOLCEX15 should take place during the second half of 2015 and be coordinated with EUROCONTROL and other players concerned.

Special air-reports on volcanic ash

4.1.45 The EANPG recalled special air-reports on volcanic ash from aircraft were described in Annex 3 and PANS-ATM (Doc 4444). In testing the dissemination of these reports in volcanic ash exercises, it was revealed that the ICAO provisions may not be clear enough for stakeholders to construct and disseminate these reports properly. Differences in formatting exist in the provisions, depending on whether the report was used in downlink or uplink mode and format differences existed between Annex 3 and PANS-ATM (Doc 4444). A table of these differences is provided at **Appendix D** to this Report**.**

4.1.46 The EANPG agreed that there may be a need for harmonization of the message format of special air-reports on volcanic ash in Annex 3 (downlink and uplink) as well as PANS-ATM to minimize potential errors resulting from the different order of elements, different meaning to flight levels and different nomenclature. If this were done, downlink and uplink differences would no longer be an issue and the ambiguity of using uplink (e.g. reports sent to World Area Forecast Centres (WAFCs) would not be used to uplink to aircraft by the WAFCs) would disappear. Given the above, the EANPG agreed to the following:

EANPG Conclusion 56/13 – Format of special air-report on volcanic ash

That the ICAO Regional Director, Europe and North Atlantic, undertake the necessary action to address the appropriate ICAO working structure at the global level the need to consider harmonizing the format of special air-report on volcanic ash in Annex 3 and PANS-ATM.

Safety Risk Assessment (SRA) Approach

4.1.47 The meeting noted the updated maps provided by EUROCONTROL Network Manager related to the Safety Risk Assessment (SRA) approach referencing how SRA approach was applied referencing volcanic ash concentration charts as well as common SRA recognition for States. Currently, 8 (2) of 38 States under the European Commission would not allow operators to use their airspace contaminated with high (high and medium) volcanic ash. The EANPG agreed to promote COG Conclusion 60/06 to an EANPG Conclusion in order to have ICAO request non-ECAC (European Civil Aviation Conference) States (Maghreb States, Israel, States in the Eastern part of the Region) as well as States within the ECAC area that did not yet reply to the EUROCONTROL survey on SRA to provide their SRA approach and common SRA recognition practice. Therefore, the EANPG agreed to the following Conclusion:

EANPG Conclusion 56/14 – EUR wide SRA approach information

That the ICAO Regional Director, Europe and North Atlantic, invite non ECAC States (Maghreb States, Israel, States in the Eastern part of the Region) as well as States within the ECAC area that did not yet reply to the EUROCONTROL survey on Safety Risk Assessment (SRA) to provide their approach to SRA and common SRA recognition practice.

4.1.48 The EANPG also agreed to communicate to the RASG EUR the possible need to verify non-EUR operators follow SRA or similar approach when entering EUR during a volcanic ash event. In this regard, IATA emphasized that this was not done for severe weather events, such as thunderstorms.

Radioactive Cloud

4.1.49 The EANPG noted the table-top nuclear exercise called 'NUCLEAR 14' was conducted from 19 to 20 November 2014 at EUROCONTROL. The exercise was organised within the framework of the network crisis management EUROCONTROL/Network Manager (NM), supported by the European Aviation Crisis Coordination Cell (EACCC). Fifty-eight participants from 9 States (2 of which were observers), 4 ANSPs, one airport and ACI, 2 airlines as well as IATA and ELFAA, 4 Meteorological and Radiation Protection organisations, 4 railways, ICAO, EU Emergency Response Coordination Centre (ERCC) and Joint Research Centre (JRC).

4.1.50 The exercise simulated a major incident at a fictitious nuclear power plant in Poland noting there are no nuclear power plants in Poland. The scenario led to a worst-case scenario of a reactor meltdown, which resulted in moderate to significant nuclear contamination across some parts of Europe, impacting a number of airports and European airspace.

4.1.51 The exercise exposed that maps on nuclear contamination catering for aviation were insufficient since products produced by Regional Specialized Meteorological Centres (RSMCs) only provided information from the surface to 500 meters above ground level. In addition, in accordance with current procedures messages on notification of a nuclear event from RSMCs were only distributed to the FIR where the nuclear event occurred as well as adjacent FIRs. Other feedback from participants will be processed and considered in the draft report to be available for review in early 2015 before the debrief meeting in February 2015. The meeting noted that the Russian Federation also hosts a RSMC (Obninsk) that would be used in such an event where products on nuclear contaminants would be used by Roshydromet (such as producing SIGMET).

Corrected SIGMET

4.1.52 The EANPG agreed that corrected SIGMET messages issued by many Meteorological Watch Offices (MWOs) should not be used for the time being because a) corrected SIGMET was not currently referenced in Annex 3, b) the use of series number in this case was ambiguous and could cause difficulty for the user to identify the changed elements in the SIGMET and c) the ICAO Meteorological Information Exchange Model (IWXXM) currently did not allow for corrected SIGMET. Consequently, the EANPG agreed to the following:

EANPG Conclusion 56/15 – Develop Guidelines on how to correct SIGMET

That the ICAO Regional Director, Europe and North Atlantic, undertake the necessary action to address the development of guidance material on how to correct a SIGMET message in order to avoid misinterpretation by users and be compatible with the IWXXM schema and Annex 3 template, to the appropriate ICAO working structure at the global level.

AUTO METAR

4.1.53 The EANPG agreed that clarity was needed on the label AUTO when METAR and SPECI from automatic observing systems (ICAO Annex 3, Chapter 4.7.3) were updated to include TREND, wind shear and/or state of the runway, as many States in the EUR Region combine AUTO with these extra elements. TREND is produced by a human and sometimes, wind shear and state of the runway was observed or confirmed by a human. Therefore, the EANPG agreed to the following:

EANPG Conclusion 56/16 – ICAO provisions related to the use of AUTO for reporting meteorological information from automatic observing systems

That the ICAO Regional Director, Europe and North Atlantic, on behalf of the EANPG, invite the appropriate ICAO working structure at the global level to review the ICAO provisions related to the use of AUTO for reporting meteorological information from automatic observing systems for cases where TREND or wind shear or state of the runway is added.

Regional Air Navigation Plan – MET Part

4.1.54 With reference to the EUR Regional Air Navigation Plan – MET Part, the proposed changes provided by IATA as well as those provided by States were included in the EUR FASID, Part VI (MET) as provided at **Appendix E**, which would be processed in accordance to established procedures. Consequently, the EANPG agreed to the following:

EANPG Conclusion 56/17 – Proposal for amendment to Part VI (MET) of European ANP (Doc 7754)

That the ICAO Regional Director, Europe and North Atlantic, undertake the necessary action to process a proposal for amendment to Part VI (MET) of the EUR Air Navigation Plan (Doc 7754) as indicated at **Appendix E** to this Report.

MET/ATM

4.1.55 The EANPG noted that Annex 3 did not provide maximum transfer delay times for corresponding MET and ATM displays for elements such as visibility and runway visual range (RVR) and surface wind. The COG agreed that the transfer delay time should be defined or recommended in the most appropriate guidance material (e.g. ICAO Doc 9837 – *Manual on Automatic Meteorological Observing Systems of Aerodromes*) for corresponding MET and ATM displays. Consequently, the EANPG agreed to the following:

EANPG Conclusion 56/18 – Maximum transfer delay for MET and ATM displays

That the ICAO Regional Director, Europe and North Atlantic, undertake the necessary action to request the appropriate ICAO working structure at global level in order to develop guidance material (e.g. Doc 9837) addressing the maximum transfer delay time with reference to corresponding MET and ATM displays.

METG Terms of Reference (ToRs)

4.1.56 The EANPG noted that the composition of the METG was outdated and that an update to the member list was needed as to include EUR Member States, Iceland, and the United States as well as listing the international organisations present and to include CANSO and agreed to the following:

EANPG Decision 56/03 – Composition of METG

That:

a) the Terms of Reference (ToRs) of the Meteorology Group is amended as provided at **Appendix F** to this Report; and

b) the ICAO Regional Director, Europe and North Atlantic, undertake the necessary action to update the EANPG Handbook accordingly.

4.2 IMPLEMENTATION OF THE PERFORMANCE FRAMEWORK

COG Performance Task Force

4.2.1 The EANPG was presented with an update of the work of the COG Performance Task Force and in particular the activities aimed at the implementation of the ICAO EUR Regional Performance Framework. The COG Performance Task Force worked in the spirit of the EANPG conclusions, in particular to raise awareness of States and stakeholders and to support States, especially in the Eastern part of the Region, in the implementation of the framework. In this respect:

a) a presentation of the Regional Performance Framework (as described in the ICAO EUR Doc 030) was provided during the World ATM Congress event (Madrid, 5 March 2014), with invitation circulated through State Letter EUR/NAT 14-0139.TEC of 20 February 2014;

b) a dedicated workshop was held in Baku (Azerbaijan) on 10-11 April 2014, at the kind invitation of the Azerbaijan Air Navigation Services Department "Azerbaijan Hava Yollari" CJSC (AZERAERONAVIGATSIA), in conjunction with ATMGE/19 meeting and conducted in Russian and English language. The workshop was attended by 23 participants from 7 States and 2 organizations;

c) a questionnaire (in Russian and English language) to all States in the Region was circulated with State Letter EUR/NAT 14-0318.TEC on 14 May 2014 to address the implementation phase (e.g. availability of data, participation in the EU/ EUROCONTROL processes, use of Key Performance Areas and Indicators) and also requiring the nomination of a Focal Point; plus a number of reminders extending the deadline for responses were sent out in June and July 2014.

4.2.2 The EANPG noted that the results of the survey through the questionnaire (referred in c) above) indicated a low response rate, as only 17 States (mainly from States already covered by EU or EUROCONTROL processes) responded in the given time frame. Two States (Russian Federation and Israel), outside the EU or EUROCONTROL areas provided their replies and nominated a focal point. After the COG meetings in July and October, 4 additional States provided their replies and nominated a focal point, all of them from the EU area, Denmark provided a reply after the submission of the Working Paper for EANPG and was therefore not yet included in WP07. It was recalled that the main aim of the questionnaire was to especially involve States in the Eastern part of the Region as well as States in northern Africa. The questionnaire in fact was designed to identify difficulties in the availability of data and obstacles in the implementation of the framework. The lack of responses from those specific States did not provide for a clear and comprehensive picture on the level of understanding and the availability of performance data in the different areas.

4.2.3 The Task Force had a teleconference in September 2014 and discussed the latest developments, stressing the importance of having available inputs and nominated Focal Points from all States to support the implementation of the performance framework. The Task Force also discussed a prototype tool to support the Secretariat in managing the performance data and results. It was expected that an extended version would be developed in 2015 to cover the needs for the collection/aggregation/consolidation of performance data/results provided by States in all the Key Performance Areas (KPAs), including the preparation of the annual report to the EANPG.

4.2.4 The EANPG noted the work of the Task Force and supported the COG PERF TF activities in order to facilitate the implementation phase. Therefore the EANPG agreed to the following:

EANPG Conclusion 56/19 – Implementation of the ICAO EUR Region performance framework

That the ICAO Regional Director, Europe and North Atlantic, on behalf of the EANPG:

a) circulate a State Letter urging those States who have not yet responded, to provide by 31 December 2014, their replies to the questionnaire prepared by the COG Performance Task Force;

b) organize, in the first half of 2015 and in the Eastern part of the ICAO EUR Region, a dedicated workshop for nominated Focal Points to support the implementation of the Regional Performance Framework; and

c) also taking into consideration the results of the dedicated workshop, request States to provide performance results according to ICAO EUR Doc 030 provisions, in order to have a first regional report at EANPG/57 in 2015.

4.2.5 The Chairman thanked the Russian Federation for their support in translating the ICAO EUR Doc 030. In the ensuing discussions Tunisia remarked that the nominated focal points should have access to all necessary information and that the response from Tunisia would be sent before the end of 2014.

4.3 ASBU IMPLEMENTATION ACTIVITIES

Aviation System Block Upgrade (ASBU)

4.3.1 The EANPG noted concerns by the METG in terms of implementation of: 1) Aviation System Block Upgrade (ASBU) MET modules which would eventually incorporate outcomes from the Meteorology Divisional Meeting 2014; 2) exchanging OPMET in digital form (recommendation Nov 2016, requirement Nov 2019 for METAR/SPECI, TAF and SIGMET); and 3) deployment of SESAR which could lead to different or additional requirements for MET services. The EANPG agreed that outcomes from EANPG Conclusion 55/03 – EUR ASBU Implementation Plan Publication – part b) *request guidance from ICAO Headquarters on how the ASBU implementation plans would be processed and what efforts have been made to coordinate reporting activities with other PIRGs* could be used to assist in updating the Terms of Reference of the METG and supporting groups. The EANPG agreed that guidance for all EANPG contributory bodies on implementing ASBU modules was needed and agreed to the following:

EANPG Decision 56/04 – Guidance for sub-groups on implementing ASBU modules

That to achieve efficient and timely implementation of ASBU modules, the EANPG COG:

a) provide necessary guidance to the EANPG Contributory Bodies on implementing ASBU modules in the EUR Region; and

b) propose updates to the terms of reference and composition of the Contributory Bodies, if required.

4.4 AMENDMENTS TO ICAO DOCUMENTS

PANS AND SUPPS Implementation

4.4.1 EANPG/56 observed that PANS and SUPPS were operational in nature, and therefore could have a very immediate, direct effect on aviation safety, efficiency and regularity. The application of PANS and SUPPS was recommended to States which retained the final responsibility to determine which procedures would be best suited to their operational environment.

4.4.2 EANPG/56 further noted that ICAO was increasingly relying on PANS, and was developing new PANS (PANS MET, ADR, AIM), in order to retain in Annexes only broad, mature, stable Standards and Recommended Practices (SARPs) specifying functional and operational requirements.

4.4.3 In view of the above, EANP/56 agreed that it would be appropriate for ICAO to:

a) draw States' attention to the importance of PANS and SUPPS for aviation safety, efficiency, and regularity; and

b) further elaborate on what would be expected from a State which decided to implement a PANS and SUPPS provision.

4.4.4 To that effect, EANPG discussed a proposal for amendment to the Forewords to the Regional SUPPs (Doc 7030) and PANS, and agreed to the following:

EANPG Conclusion 56/20 – Proposals for amendments to PANS and SUPPs Forewords

That the ICAO Regional Director, Europe and North Atlantic, in the behalf of EANPG:

a) undertake the necessary action to process the proposed amendments to PANS and SUPPs (Doc 7030) Forewords, as detailed in **Appendix G** to this Report; and

b) inform ICAO Headquarters on the need for further guidance to be added to the Forewords to SUPPs and PANS, about which regulatory measures are expected from a State having decided to apply a PANS or SUPPs provision.

Note: 'regulatory measures' means the issuance of a regulation, or document of sufficient administrative force (e.g. operations manual approved by the regulator) and appropriate oversight in order to ensure implementation in the field.

Use of ATS Surveillance Systems in the aerodrome control service

4.4.5 The EANPG was presented with a proposal for amendment to PANS-ATM (Doc 4444) related to the provisions for the use of ATS surveillance systems in aerodrome control service. It was recalled that the current list of functions to be performed by an aerodrome controller regarding the use of surveillance systems in aerodrome control service did not include the task of maintaining separation between succeeding arriving aircraft on the same final approach.

4.4.6 In this respect, the EANPG noted that the ATS authorities could prescribe procedures which would allow transfer of responsibility for providing separation to the aerodrome controller when an ATS surveillance system was available whilst, PANS-ATM did not include this specific function. Therefore, the EANPG agreed to the following:

EANPG Conclusion 56/21 – Use of ATS Surveillance in Aerodrome Control Service

That the ICAO Regional Director, Europe and North Atlantic, on behalf of the EANPG undertake the necessary action to process the proposed amendment to PANS-ATM (Doc 4444,), as detailed in **Appendix H** to this Report.

Abbreviated Position Reports

4.4.7 The EANPG was presented with a proposal for amendment to the European (EUR) SUPPs, (Doc 7030) related to provisions pertaining to abbreviated positions reports. The EANPG recalled that the requirements for position reports were set out in ICAO Annex 2, paragraph 3.6.3, defining pilots'

responsibilities in regard to position reporting and the capacity of an ATS authority to exempt flights from mandatory position reporting.

4.4.8 At the same time, ICAO Annex 10, Vol. II, established rules for initial calls to ATS through standards for transfer of VHF communications (paragraph 5.2.2.6 refers).

4.4.9 The EANPG noted that detailing the rules for position reports, PANS-ATM (Doc 4444) paragraph 4.11 brought together the content of the voice position report and the RTF (radiotelephony) procedure for air-ground voice communication changeover. It was also noted that this combination might be justified since normally, the transfer of communication (especially for airborne aircraft) occurred over compulsory reporting points. However, procedures for position reports and initial calls to ATS should be distinguished clearly as well as their abbreviations.

4.4.10 The EANPG noted that the EUR SUPPs (Doc 7030), paragraph 3.1.4 appeared to assume that the requirements for position reports and initial calls were identical, and interchangeable; introducing the risk that information not part of position report but with safety relevant element of the initial call (e.g. wake turbulence "HEAVY", or RVSM, 8.33 and RNAV capabilities / exemption status) might be overlooked and inadvertently omitted by the pilots.

4.4.11 The EANPG agreed that to rectify such ambiguity it was proposed to delete sub-paragraph 3.1.4.2 of EUR SUPPs (Doc 7030), thus leaving the entry for abbreviated position reports only.

4.4.12 Therefore, the EANPG agreed to the following:

EANPG Conclusion 56/22 – PfA to the SUPPs, Provisions related to abbreviated position reports

That the ICAO Regional Director, Europe and North Atlantic, undertake the necessary action to process the proposed amendment to the European (EUR) Regional Supplementary Procedures (Doc 7030), as detailed in **Appendix I** to this Report.

Provisions related to ACAS RA

4.4.13 EUROCONTROL presented a proposal for amendment (PfA) related to the existing airborne collision avoidance system (ACAS) resolution advisory (RA) provisions in PANS-ATM (Doc 4444) and PANS-OPS, Volume I (Doc 8168). Several issues were presented which would, in the view of EUROCONTROL (ATM Procedures Development Sub-Group (APDSG) and Safety Nets: Planning Implementation & eNhancements Sub-Group (SPIN SG)), need further clarification and/or changes, (such as to avoid using expressions like "affected" aircraft), provide guidance on actions to be taken by a controller with regards to other aircraft, re-emphasize the need to report RA and "clear of conflict", and provide the air traffic controller (ATCO) with the means to query if an aircraft is clear of conflict.

4.4.14 The proposed provisions were presented to the ATMGE/20 meeting and it was found that the proposed changes, especially for PANS-ATM, were introducing an ambiguity into the timeframe in which the ATCO ceases to be responsible for providing separation between the aircraft involved in ACAS RA and the point when the ATCO re-assumes this responsibility. This could, especially in multi-aircraft encounters, lead to unnecessary disruption/confusion in the cockpit, as the ATCO might interfere in a timeframe where the flight crew just had a "clear of conflict" against intruder 1, but would just be receiving shortly another ACAS RA against the additionally involved intruder 2. In addition the ATMGE was also not convinced that the introduction of a pilot requirement to immediately notify ATC when the "clear of conflict" message was send out by ACAS would be feasible, in particular when the initial notification of the RA to ATC which would require a deviation from the current ATC instruction/clearance should be done as soon as possible.

4.4.15 During the EANPG discussions, several delegations expressed their views that the value of the operational rationale, which is linked to the low rate of the "clear of conflict" reports from pilots, should not be lost. A possible way forward could be the review of some of the proposed wording or the insertion of

a note for further clarity, which would not diminish the initial intentions of the PfA. IFALPA expressed their concerns with the existing PfA in WP16 and supported the proposal to clarify the PfA as indicated in Flimsy 02 which was submitted by the Secretariat. Consequently the EANPG agreed to the following conclusion:

EANPG Conclusion 56/23 – Provisions related to ACAS RA

That the EANPG:

a) invites the Secretariat to organise a meeting with EUROCONTROL and all involved stakeholders (e.g. ATMGE States, IFALPA, IFATCA, OPS-Panel Secretary) in the first quarter of 2015 to clarify the issues related to the change proposal and report the outcome to the COG/62; and

b) mandate the COG/62 to process the PfA, as appropriate.

Provisions related to Loss of Vertical Navigation Performance Required in RVSM

4.4.16 The EANPG was presented with a PfA to the EUR SUPPs (Doc 7030) related to provisions addressing loss of vertical navigation performance required for RVSM.

4.4.17 The EANPG was informed that the wording of paragraph 9.5.1.1 of the EUR SUPPs (Doc 7030) was not mapping accurately the scenarios of potential loss of RVSM performance with the actions expected from the pilot-in-command, in particular the possibility for a pilot to deviate from his/her current clearance, without the consent and explicit ATC authorization, due to loss of required RVSM performance.

4.4.18 The EANPG agreed to the proposal to remove the last part of paragraph 9.5.1.1 since the loss of the technical ability to maintain the required RVSM performance did not automatically affect the immediate safety of the flight if continuing under the current clearance.

4.4.19 The EANPG noted that the remaining text provided clear instructions so as to what the pilot and the ATC should do in such situations. In addition, the removed part of the paragraph 9.5.1.1 should be relocated to paragraph "9.5.3 - Severe Turbulence – Non Forecast". Therefore, the EANPG agreed to the following:

EANPG Conclusion 56/24 – PfA to the SUPPs, Provisions related to Loss of Vertical Navigation Performance required for RVSM

That the ICAO Regional Director, Europe and North Atlantic, undertake the necessary action to process the proposed amendment to European Regional Supplementary Procedures (Doc 7030), as detailed in **Appendix J** to this Report.

Provisions related to Aerodrome Traffic Circuit

4.4.20 The EANPG was presented with a PfA to PANS-ATM (Doc 4444) related to the procedures for aerodrome control service following the action by the ATM Procedures Development Sub Group of the EUROCONTROL – Network Operations Team (APDSG) to review the existing provisions of PANS-ATM (Doc 4444) as well as local practices submitted by the stakeholders.

4.4.21 The EANPG noted that the existing provisions for aerodrome traffic circuit could be further improved to ensure a harmonised design and application in operations. Since additional guidance on how to control an aerodrome traffic circuit was necessary, it was proposed to add a new paragraph 7.7.1.3 to the section in PANS-ATM (Doc 4444), paragraph 7.7, addressing the control of the traffic in the traffic circuit, as follows:

"7.7.1.3 When so instructed by the controller, pilots shall obtain approval prior to turning on to any of the aerodrome traffic circuit legs. When extending an aerodrome traffic circuit leg, pilots should report to ATC as soon as there is a risk that the visual contact with the runway cannot be maintained."

4.4.22 The EANPG also noted that a reference to the use of "upwind" should be made as guidance for a harmonised use of term in aerodrome traffic circuit operations. Therefore, it was proposed to add a note to PANS-ATM (Doc 4444) paragraph 7.7.2.1, illustrating a scenario where an instruction to follow an "upwind" direction could be used, as follows:

"Note. - A controller may, inter alia, clear an aircraft to enter the traffic circuit by instructing the aircraft to continue in an upwind direction, parallel to the runway before crossing the runway axis to join the downwind leg."

4.4.23 Therefore, the EANPG agreed to the following:

EANPG Conclusion 56/25 – PfA to ICAO Doc 4444, Provisions related to Aerodrome Traffic Circuit

That the ICAO Regional Director, Europe and North Atlantic, on behalf of the EANPG, undertake the necessary action to process the proposed amendments to PANS-ATM (Doc 4444), in **Appendix K** to this Report.

Cold Temperature Correction

4.4.24 In follow-up to EANPG Conclusion 54/1 *[Cold temperature correction guidance material]*, EUROCONTROL presented the EANPG with a progress report on the on-going work to improve the application of Cold Temperature Correction (CTC) procedures through the development of guidelines and tools to support a common, harmonised determination and application of the CTC to minimum flight altitudes by ATS.

4.4.25 In order to support States, Air Navigation Service Providers (ANSP) and aircraft operators in the common and harmonised determination and application of the low temperature correction to minimum flight altitudes by ATS, a set of guidelines and tools in the form of *Guidelines for Cold Temperatures Corrections by ATS* document and an *OPS Bulletin* had been developed (**Appendix L** to this Report refers).

4.4.26 In this respect, the EANPG agreed to the following Conclusion:

EANPG Conclusion 56/26 – Cold Temperature Corrections

That, noting the developments for a consistent and harmonised application of correction to minimum flight altitudes in case of low temperatures, the ICAO Regional Director, Europe and North Atlantic, on behalf of the EANPG:

a) urge States, Air Navigation Service Providers (ANSP) and operators to observe the requirements for altimetry correction in low temperatures; and

b) strongly recommend States to use the *Guidelines for Cold Temperatures Corrections by ATS* as presented in **Appendix L** to this Report to review and adjust, if necessary, the temperature correction methods used within their area of responsibility.

4.4.27 The EANPG also noted that draft proposals for amendment (PfA) to the PANS-ATM (Doc 4444) and PANS-OPS (Doc 8168) had been developed by the COG TF drafting group in conjunction with ATS proposals developed by EUROCONTROL. The EANPG agreed to task the COG to review the final version of the proposals for amendment to be presented after coordination within the EUROCONTROL

APDSG/NETOPS groups. The EANPG agreed as well that the OPS Bulletin, after a final revision by the COG/61 be published as soon as possible. Therefore the EANPG agreed to the following:

EANPG Decision 56/05 – PfA to ICAO Docs 4444 and 8168 (Vol I), related to Cold Temperature Corrections

That the EANPG COG members, with the support of EUROCONTROL and international organisations concerned (e.g. IATA, IFALPA):

a) develop proposals for amendment to the ICAO global documents (PANS-ATM. Doc 4444 and PANS-OPS, Doc 8168) on cold temperature corrections;

b) finalise as soon as possible the OPS Bulletin in order to provided interim guidance to airspace users to ensure a harmonised application of cold temperature correction to minimum altitudes; and

c) report progress to EANPG COG/62 and EANPG/57.

Updating of ICAO Doc 7910

4.4.28 The EANPG recalled that, since 2008, several inaccuracies in the information published in ICAO Doc 7910, *Location Indicators,* had been reported. Location indicators were essential identifiers used globally in almost every air navigation system, database, message and process and also used in aircraft avionics for air to ground data link communications (i.e. NSAP (network service access point) addresses). Therefore it was of utmost importance that the list of location indicators be managed in a precise, uniform and timely manner.

4.4.29 As the process for the assignment, publication and management of ICAO Location Indicators in general was described in the "Foreword" section of Doc 7910, this section would require modifications as several practices and recommendations were obsolete, the relevant requirements of the Aeronautical Telecommunication Network (ATN) needed to be reflected and the updating procedures and accountabilities in the management of the information in the Document called for an unambiguous definition. Also, some sentences needed to be re-arranged to improve readability and consistency. For the same reasons, some minor modifications needed to be made to the "Foreword" section of *Designators For Aircraft Operating Agencies, Aeronautical Authorities And Services* (Doc 8585).

4.4.30 Subsequent to COG Conclusion 56/02, a proposal to amend the Forewords of both Doc 7910 and Doc 8585 was submitted to ICAO Headquarters aiming to assist in resolution of the inaccuracies reported. The EANPG noted that despite efforts to solve this issue, inaccuracies continued to be recorded and reported and the Forewords of Doc 7910 and 8585 had not been amended.

4.4.31 The EANPG was informed that the ICAO Instrument Flight Procedures Panel (IFPP) has developed an update on location indicator coding including an amendment proposal to Doc 7910 for review by the Air Navigation Commission. The proposal suggested the use of alphanumeric characters for the coding of location indicators to counter a possible shortage of available location indicators which could become evident in particular with the introduction of performance based navigation. The use of numbers in location indicators however could have a negative impact on the proper function of the Aeronautical Fixed Service including implications on the delivery of message for ATM, MET and AIM purposes. It should be noted that such an amendment proposal would have a broad impact on the aeronautical system which would go beyond the IFPP's area of responsibility. Hence a full impact assessment would be required before such a proposal could be further processed.

4.4.32 Taking into account the above, the EANPG agreed to the following:

EANPG Conclusion 56/27 – Location Indicators

That the EANPG:

i) recognising that Location Indicators are essential identifiers used globally in almost every air navigation activity and therefore it is of utmost importance that they be managed in a precise, uniform and timely manner;

ii) recalling outstanding EANPG/COG Conclusion 56/02; and

iii) noting the repeated reports provided by the AFSG and sharing its concerns about the quality of the information contained in the ICAO Doc 7910, *Location Indicators*, and the lack of progress in updating the process for assignment, publication and management of Location Indicators:

invite

a) the Regional Director, Europe and North Atlantic to take, as a matter of urgency, the necessary action to expedite the review of the practices for maintaining ICAO Doc 7910, *Location Indicators*, and the establishment of a more effective, unambiguous process for amending information in this Document; and

b) ICAO to make the ICAO Doc 7910, *Location Indicators*, readily available to Contracting States.

4.5 VOLCANIC ASH CONTINGENCY PLAN

Draft EUR Volcanic Ash Contingency Plan

4.5.1 The EANPG recalled that the outcome of ICAO's International Volcanic Ash Task Force (IVATF) and subsequent change to paragraph 15.8 of the *Procedures for Air Navigation Services – Air Traffic Management* (PANS-ATM, Doc 4444) called for a revision of the EUR Volcanic Ash ATM Contingency Plan (VACP). It was also noted that the North Atlantic Systems Planning Group (NAT SPG) endorsed at its 50th meeting an update of the *Volcanic Ash Contingency Plan – NAT Region* (NAT VACP) based on the IVATF "ATM Volcanic Ash Contingency Plan Template" (AVACPT), with the consequence that the EUR and NAT VACP were no longer aligned.

4.5.2 The EANPG was informed that, in the wake of the endorsement of the new NAT VACP applicable 13 November 2014, COG/59 convened a teleconference of its Volcanic Ash Task Force (COG VATF) to address the issue, which resulted in the establishment of a small group tasked to develop a first draft EUR VACP, to be reviewed at COG/60, with a view that the future EUR VACP should be as consistent as possible with the NAT VACP.

4.5.3 The EANPG noted that, in the drafting process, the small group also elaborated a Critique of the AVACPT, which contained more than twenty items, further extended when reviewed at COG/60, that needed to be corrected or addressed in the development of a regional contingency plan. In addition, the "*Principles to be applied to the creation of a single volcanic ash contingency plan for the EUR and NAT regions*", were developed, then reviewed, and endorsed at COG/60.

4.5.4 The EANPG was apprised of the current draft EUR VACP (**Appendix M** refers) as reviewed and endorsed at COG/60, and was informed that coordination with NAT SPG was still under way, with the aim to identify ways to align the two EUR and NAT VACPs. At is 45th meeting beginning of November 2014 the NAT Implementation Management Group (NAT IMG/45) was briefed on the status of work, and agreed that an EUR/NAT Volcanic Ash Task Force would need to be established in agreement with the EANPG in order to progress towards a common VACP. NAT IMG/45 was also invited to consider the current draft as input from the COG to the gap analysis requested by NAT SPG. The EANPG noted that the NAT Safety Oversight Group (NAT SOG) would be briefed at its 11th meeting, early December 2014.

4.5.5 The EANPG noted that extensive comments had been received from one State suggesting the addition of more detailed guidance in the VACP for Meteorological Watch Offices, and agreed that these comments should be reviewed by the METG with the aim to achieve broad regional support. It was considered that the addition of agreed guidance on MWO procedures would be easy to integrate into the VACP in a future version.

4.5.6 The EANPG/56, endorsed the draft EUR VACP (**Appendix M** refers), and supported that, as guidance for the further development of the future VACP, the draft should as suggested by COG:

a) use the term "contamination" or "contaminant" where appropriate, so that the plan would not have to be changed if current work of various ICAO groups on the consideration of volcanic contaminants other than ash result in changes to the requirements to provide information beyond ash;

b) use the term "ash" where only this contaminant is addressed or when referring to current ICAO SARPs and guidance material that are specific for volcanic ash;

c) contain a new recommendation that Volcanic Ash Advisory Centres (VAACs) and MWOs request that ACCs/flight information centres (FICs) solicit special air-reports of volcanic activity from pilots flying in areas of known or suspected volcanic activity, especially in circumstances where other sources of information are not sufficient to provide a thorough assessment of the contamination (paragraphs 225 and 635 refer);

d) contain a new requirement that VAACs should publish information on their products to facilitate their use by airspace users in Safety Risk Assessments and operational decisions (paragraph 240 refers);

e) contain a new requirement that VAACs should have arrangements to receive additional data on airspace contamination to verify the VAAs and to amend them if necessary (paragraphs 250 and 260 refer);

f) contain a new requirement for States to ensure that operational personnel have clear instructions on which (supplementary) information shall or may be used for planning and execution of operations (paragraph 330 refers);

g) contain guidance on airspace measures, also defining the competent authority (paragraphs 350 – 400 refer);

h) recall Annex 11 provisions and user requirements, that suggest that in case of contingency situations the first aim should be to provide sufficient capacity to satisfy the user demand and consider flow restrictions only if this fails. The draft therefore uses the expression Air Traffic Capacity and Flow Management (ATCFM) (paragraphs 410 – 440 refer)

i) recognise that the *Handbook on the International Airways Volcano Watch (IAVW)* (Doc 9766) does not differentiate the ACC actions in different phases of an eruption. As these actions are functionally different, an amendment to Doc 9766 would be suggested (paragraph 605 refers); and

j) recognise that volcanic eruptions that do not affect airspace (e.g. Bardarbunga 2014) have so far not been correctly addressed in the definition of the phases (A note to paragraph 710 clarifies the necessary action).

4.5.7 The EANPG, recognizing the tight timeline proposed, supported the COG's action plan for the completion of the future EUR VACP as follows:

a) co-ordination with NAT SOG on 3 December;

b) expert contributions to Appendices and Attachments by 30 January 2015;

c) completion of final draft by 31 March 2015;

d) review of final draft by correspondence (COG members) by 30 April 2015;

e) adoption of final version of future EUR VACP by Spring COG 2015 on behalf of EANPG; and

f) adoption of final version of future NAT VACP by NATSPG (June 2015).

4.5.8 Based on the foregoing, the EANPG agreed to the following:

EANPG Conclusion 56/28 – Revised *Volcanic Ash Contingency Plan – EUR Region* (EUR VACP, EUR Doc 019)

That:

a) the ICAO Regional Director, Europe and North Atlantic be invited to take necessary action to establish, early 2015, an EUR/NAT Volcanic Ash Task Force with the aim to align the two volcanic ash contingency plans;

b) EANPG COG continue the development of the new *Volcanic Ash Contingency Plan – EUR Region* (EUR VACP, EUR Doc 019) in accordance with items b) to d) of the action plan contained in paragraph 4.5.7 of the EANPG/56 Report; and

c) EANPG COG/62 be mandated to adopt the new *Volcanic Ash Contingency Plan – EUR Region* (EUR VACP, EUR Doc 019) on behalf of the EANPG, even if no consensus with the NAT Region is achieved.

4.5.9 EANPG/56 also agreed that the Secretariat would edit the current EUR VACP (EUR Doc 019) removing current operational references to the NAT, to avoid any ambiguity in the interim until a new EUR Region VACP would be endorsed.

4.6 INTER-REGIONAL COORDINATION

Crisis Management Framework Working Group

4.6.1 The EANPG recalled that at its 55th meeting it was agreed to establish, in response to Recommendation 4/8 from the 12th ICAO Air Navigation Conference, a COG Crisis Management Framework Working Group (CRISIS MFWG). The Working Group was tasked to develop a crisis management framework for the ICAO EUR Region which should be used as guidance material to the States on how to deal with different crises scenarios.

4.6.2 The working group was tasked with the development of a crisis management framework for the ICAO EUR Region which would:

- focus on crisis management aspects while ensuring a link to major disruption contingency plans;
- build on arrangements and experience of the European Aviation Crisis Coordination Cell (EACCC);
- be a basis for pan/intra-regional cooperation;
- build on existing ICAO arrangements within the EUR Region;
- include guidance for States to help them in enhancing the level of preparedness to threat scenarios and disruptive events; and
- be used as a framework for coordination with other crisis management organisations both within the EUR Region and also in neighbouring Regions.

4.6.3 The EANPG was informed that a small group of subject matter experts from France, Italy, United Kingdom, IATA, ICAO, European Commission and EUROCONTROL/Network Manager (Chair) participated in the work of the CRISIS MFWG. The working group developed the framework document together with decision making principles, which should support the harmonisation in the management and decision making of the described crisis events.

4.6.4 The EANPG noted that the last COG/60 meeting discussed and endorsed and agreed the Crisis Management Framework (CMF) document for presentation to the EANPG/56 for endorsement. The EANPG noted that this Crisis Management Framework should be seen as a live document and that States in the EUR Region which already have a crisis coordination process/mechanisms in place for the European Aviation Crisis Coordination Cell (EACCC) model could be considered for inclusion in the next version of the document. During the discussions, and following interventions from IFALPA and Tunisia, it was agreed that the framework document would be amended to ensure the consistency of the framework document with the State's requirements/obligations and responsibilities from a variety of ICAO provisions (e.g. States responsibility to have contingency plans in place from Annex 11).

4.6.5 In order to improve the contents of the next version of the document, the EANPG invited States and stakeholders to provide for additional contributions, including additional possible crisis scenarios.

4.6.6 The EANPG noted that the document encouraged the partnership with relevant stakeholders at national, regional and inter-regional level and recognised the importance to establish a close cooperation amongst key stakeholders beyond the boundaries of the ICAO EUR Region.

4.6.7 The EANPG noted that following the completion of its tasking in an efficient and effective manner, the CRISIS WG had been disbanded by the COG and agreed to the following:

EANPG Conclusion 56/29 – Crisis Management Framework Document (EUR Doc 31)

That the ICAO Regional Director, Europe and North Atlantic, on behalf of the EANPG:

a) undertake the necessary action to publish the Crisis Management Framework Document as Version 1 of the ICAO EUR Doc 031, as detailed in **Appendix N** to this Report; and

b) invite all States in the EUR Region and International Organisations that already have a crisis coordination process in place to contribute to the development of the Document with additional examples to the EACCC model.

Ukraine Airspace Update

4.6.8 The EANPG was presented with an update on the air traffic situation in Ukrainian airspace and the impact of its partial unavailability on the ATM network in terms of capacity and environment. The presentation provided by Ukraine covered a comparison of the traffic situation in Ukrainian airspace of 02 August 2013 (1977 flights) versus 01 August 2014 (790 flights), highlighted two safety cases (Safety Case for Simferopol FIR, May 2014 and a Safety Case for all airspace of Ukraine including Simferopol FIR, Oct 2014) and information on changes affecting the airspace of Ukraine (as published in the Ukraine AIP) and the international activities meant to address the situation in the Simferopol FIR. Ukraine emphasized it took all necessary measures to safeguard the safety of air navigation and continued a proper service provision within its area of responsibility. All airspace of Ukraine was available for planning and usage, except prohibited areas. The EANPG also noted the statement[3] made by the Russian Federation[4] (**Appendix O** refers). Ukraine did not agree with the statement made by the Russian Federation.

4.6.9 The EANPG recalled that on 2 April 2014, ICAO, circulated a State Letter (SL EUR/NAT 14-0243.TEC), raising attention to the possible existence of serious risks to the safety of international civil flights, due to the publication by the Russian Federation of a series of notices to airmen (NOTAMs) modifying the Simferopol FIR (under the responsibility of Ukraine), and their intent to provide air traffic

[3] The information provided in this Statement is made available without warranty of any kind; the ICAO and EANPG accept no responsibility or liability whether direct or indirect, as to the currency, accuracy or quality of the information, nor for any consequence of its use. The designations and the presentation of material in this Statement do not imply the expression of any opinion whatsoever on the part of ICAO or EANPG concerning the legal status of any country, territory, city or area of its authorities, or concerning the delimitation of its frontiers or boundaries.

[4] Post meeting Note: The Russian Federation disagreed with the inclusion of the footnote 3 in para 4.6.8. This was noted by the Secretariat.

services (ATS) within that airspace. Due to the unsafe situation where more than one ATS provider may be controlling flights within the same airspace from 3 April 2014, 0600 UTC onwards, the State Letter advised that consideration should be given to measures to avoid the airspace and circumnavigate the Simferopol FIR with alternative routings.

4.6.10 As a result of the situation in Simferopol FIR and the unavailability of the airspace in the eastern part of Ukraine, compounded with the avoidance of the airspace over Syria and Iraq, the traffic shifted and concentrated in a small area over the south-west part of the Black Sea challenging the ATM system capacity in Turkey and I. R. Iran.

4.6.11 The EANPG noted that ICAO facilitated several meetings between the concerned parties, with the aim to find an acceptable solution and ensure the availability of the airspace in a safe and efficient manner. These efforts continued, under the umbrella of ICAO including at its highest level.

4.6.12 The EANPG was also informed on the recent Council resolution on Malaysia Airlines flight MH17, destroyed over eastern Ukraine on 17 July 2014, and welcomed the leading role and efforts of ICAO, supported by States, organizations and industry players, for further improvement of international standards and sharing of best practices in relation to the safety of civil aircraft at or near conflict zones to prevent recurrence of such tragic events in future.

4.6.13 It was also noted that the resolution urged States to take all necessary measures to safeguard the safety of air navigation, including the establishment of robust arrangements to identify, assess and share information and respond to risks to civil aircraft from activities in conflict zones, though, *inter alia*, effective coordination of civil and military activities within conflict zones and, if considered necessary when the safety of civil aircraft was deemed to be compromised, take appropriate airspace management measures within their jurisdictions such as access restrictions or the closure of airspace, or the issuance of advisories to airspace users.

4.6.14 Therefore the EANPG agreed to the following:

EANPG Statement 56/01 – Airspace availability in Simferopol FIR

That the EANPG, noting the negative impact of unavailability of the Simferopol FIR airspace urges the two concerned parties, with the support of ICAO including at its highest level, to expedite finding an acceptable solution as soon as possible.

4.7 AERONAUTICAL INFORMATION MANAGEMENT

AIM Global Developments

4.7.1 The EANPG was apprised of the latest developments in the AIM field at the global level through the review of the outcomes of the AIS-AIM SG/8 (Montreal, Canada, 4-8 November 2013) and AIS-AIM SG/9 (Tokyo, Japan, 21-25 April 2014) (Aeronautical Information Services (AIS) to Aeronautical Information Management (AIM) Study Group) meetings, in particular with the status of Annex 15 restructuring and development of the new *Procedures for Air Navigation Services – Aeronautical Information Management* (PANS-AIM) and other AIS/AIM related SARPs. It was noted that the list of Study Notes and Information Papers issued for the AIS-AIM SG/8 and 9 meetings as well as the Summary of Discussions are available on the AIM website at: **http://www.icao.int/safety/ais-aimsg/Lists/Meetings/AllItems.aspx**

4.7.2 The EANPG was apprised of the establishment of the Information Management Panel (IMP), to elaborate on necessary concepts and develop a global and interoperable approach to ensure effective management of information within the global air navigation system. It was highlighted that, France, Germany, Russian Federation, Turkey and EUROCONTROL from the EUR Region were invited by the ANC

to nominate experts for membership on the IMP. First meeting of the IMP is planned to be held in January 2015.

eTOD implementation in the EUR Region

4.7.3 The EANPG was informed of the status of the Electronic Terrain and Obstacles Data (eTOD) implementation for Area 1 and Area 4 in the EUR Region through the data on the implementation status as provided by online platform designed by EUROCONTROL for monitoring of the eTOD implementation and the 28th COG Aeronautical Information Management (AIM) Task Force (COG/AIM TF/28) meeting. It was highlighted that although provision of terrain and obstacle datasets for eTOD Area 1 and Area 4 has been mandated by ICAO through Annex 15 since 2008, however the majority of States have still difficulty in eTOD implementation and the overall level of implementation is low. Accordingly, the EANPG agreed to the following:

EANPG Decision 56/06 – Assess the inclusion of deficiencies related to the lack of provision of eTOD data for Area 1 and Area 4

That:

a) the EANPG COG assess the appropriateness to add new deficiencies related to the lack of provision of eTOD data for Area 1 and Area 4 to the list of Air Navigation Deficiencies; and

b) report proposed action to the EANPG/57.

4.7.4 The EANPG recalled that EANPG Conclusion 54/8 urged States to publish air navigation obstacles in their national AIPs. Accordingly, the EANPG, under the Agenda Item 6 (Deficiencies), approved the inclusion of the Air Navigation Deficiency related to the publication of air navigation obstacles in National AIPs for Bosnia and Herzegovina, Bulgaria, the FYROM and Ukraine (paragraph 6.1.7 refers)

Transition from AIS to AIM

4.7.5 The EANPG was apprised of the outcomes of the EUROCONTROL Aeronautical Information Management (AIM) & System Wide Information Management (SWIM) Team (AIM/SWIM Team-7, Brussels, Belgium, 23-24 September 2014) and COG/AIM TF/27 (Paris, France, 22-24 April 2014) related to supporting States in the AIS to AIM transition.

4.7.6 The EANPG was informed of the concern of the AIM/SWIM Team-7 meeting regarding the methods that could be adopted by the ICAO EUR/NAT Office to resolve the existing AIS/AIM deficiencies and provide assistance with implementation to the States. The EANPG also noted that the COG/AIM TF/27 meeting requested consultancy with the ICAO EUR/NAT Office about the chances to realize a Special Implementation Project (SIP) to help the States in the Eastern part of the EUR/NAT Region with the transition from AIS to AIM. Accordingly, the EANPG agreed to the following Conclusion:

EANPG Conclusion 56/30 – Support States in the AIS to AIM transition

That the ICAO Regional Director, Europe and North Atlantic, on behalf of the EANPG, invite EUROCONTROL AIM/SWIM Team and the COG/AIM Task Force to:

a) identify specific actions to support those States facing difficulties in the transition from AIS to AIM; and

b) provide an update to COG/63 and EANPG/57.

4.7.7 The EANPG recalled that the EANPG Conclusion 55/05 tasked the Secretariat to take necessary measures, in coordination with ICAO Headquarters, other Regional Offices and other Organizations (as appropriate), and with the support of EUROCONTROL and the COG/AIM Task Force, to

develop a methodology to assess and report progress in the transition from AIS to AIM at regional and global level.

4.7.8 The EANPG was informed that, as follow-up action to the EANPG Conclusion 55/05, through a collaborative effort initiated since March 2014 by the EUR/NAT and MID Offices, with the support of the EUROCONTROL and COG/AIM Task Force, a draft Methodology for reporting and assessing the progress related to the transition from AIS to AIM has been developed, as at **Appendix P** to this report.

4.7.9 The EANPG recognized that the intention of the Methodology is not to introduce a new data collection channel/questionnaire. Accordingly, the EANPG agreed that the Methodology will use the existing data collection channels (Regional eANP, European Single Sky ImPlementation (ESSIP) mechanism, AIM/SWIM Team and COG/AIM TF resources, etc.), for the purpose of collecting its needed data.

4.7.10 In connection with the above, the EANPG noted the draft Methodology, as an initial draft Regional framework for monitoring the progress achieved for transition from AIS to AIM and invited the Secretariat to follow-up with the concerned parties the finalization of the Methodology and present progress reports to COG/62, COG/63 and EANPG/57.

4.7.11 The EANPG was informed that in line with the provisions of ICAO Annexes (i.e. Annex 9, Annex 15, etc.), an international airport is defined as "*any airport designated by the Contracting State in whose territory it is situated as an airport of entry and departure for international air traffic …*". Therefore, it was noted that, once an airport is designated by a State as an international airport in the State's National AIP (section AD1.4), all ICAO requirements for international airports (e.g. eTOD area2, etc.) would be considered as mandatory for that airport. It was also noted that the inclusion of airports in the list of international aerodromes required in the region was based on the decision/approval of the concerned States. Nevertheless, once an airport was included in that list, all information related to the associated air navigation services (COM, NAV, MET, SUR etc.) required for international operations should be made available in the specific sections of the regional air navigation plan.

4.7.12 The EANPG noted EUROCONTROL updates on AIM and SWIM developments in 2014, as provided by the EUROCONTROL.

5. MONITORING

5.1 OUTCOME OF THE RVSM/RMA SYMPOSIUM

Main Results from the ICAO reduced vertical separation (RVSM) and Regional Monitoring Agencies (RMAs) Symposium

5.1.1 The EANPG recalled that at the EANPG/55 in November 2013 the two Regional Monitoring Agencies (RMAs) within the ICAO EUR Region (European RMA and the RMA EURASIA) raised RVSM/RMA specific issues of common concern, such as the responsibilities of States in the RVSM approval process or the importance of a consistent policy throughout the EUR Region regarding non-approved aircraft flying within the RVSM airspace. In response to the EANPG Conclusion 55/01, a dedicated ICAO RVSM and RMA Symposium was organized at the EUR/NAT Office of ICAO in Paris from 11 to 12 September 2014, with the following main objectives:

- remind States of the ICAO Annex 6 requirements;
- present participants with the current RMA operating procedures;
- clarify roles and responsibilities in the monitoring framework;
- describe current operational problems and main issues;
- present specific problems related to State aircraft operations;
- address problems associated with RVSM approvals;

- highlight issues associated with Altimeter System Errors (ASE);
- discuss long-term RMA monitoring requirements;
- ensure stakeholder's commitment; and
- use the symposium outcome for further refinement of the RMA processes and future activities.

5.1.2 The symposium was attended by 41 participants from 7 States, the EUR RMA, RMA EURASIA, NAT CMA and 6 international organizations and it was confirmed that RVSM operations would only be completely assured when all requirements and/or pre-requisites were followed by all stakeholders (States, aircraft operators, aircraft manufacturers). A number of key issues were identified, such as roles and responsibilities of various stakeholders, initial certification approvals, RVSM approval management processes, exchange of data with RMAs, list of non-compliant/non-approved aircraft, Flight Plan Issues, Large Height Deviations and State aircraft issues.

5.1.3 The symposium identified several possible actions addressed to those States and stakeholders failing to comply with their obligations, which would range from the inclusion of States into the Air Navigation (AN) Deficiencies List, the publication of a non-compliant/non-approved aircraft list, the prohibition of individual aircraft from RVSM operation, the use of USOAP (Universal Safety Oversight Audit Programme) CMA (Continuous Monitoring Approach) Mandatory Information Requests (MIRs) process, the prohibition of all aircraft operating in RVSM from a particular aircraft operator/State, the suspension of RVSM operation in a specific area up to the suspension of RVSM in a Region.

5.1.4 The coordination with the RASG-EUR was also identified as a key activity and the EANPG agreed to present the outcome of the Symposium and the results of this meeting regarding the RVSM/RMA safety related aspects to the RASG-EUR/4 meeting in February 2015.

5.1.5 The EANPG noted that as a follow-up of EANPG Conclusions 55/27 and 55/38 and the symposium findings and proposed actions, the Secretariat circulated two letters reminding States to take all necessary measures to implement the actions required by EANPG/55 Conclusions and by the ICAO (Headquarter) State Letter AN 13/11.1-14/38. The status of responses to State Letters (referenced EUR/NAT SL 14-0229 of 28 March 2014 and EUR/NAT 14-EUR/NAT 14-0530 of 16 September 2014) were presented to the EANPG for a decision on actions against those States which failed to provide evidence on the status of their compliance with ICAO provisions on RVSM related issues (paragraphs 6.1.8 to 6.1.10 refer).

5.1.6 The Czech Republic expressed their appreciation to the Secretariat for the excellent organization of this event and proposed to have this event on a more regular basis.

5.2 RMAs REPORTS

RVSM Safety Monitoring Reports for 2013 from both RMAs

5.2.1 The EANPG noted that the both Regional Monitoring Agencies conduct their programme of aircraft height monitoring, RVSM approval verification and safety assessment for the RVSM Airspace in the EUR Region in accordance with the requirements of Annex 11 (13th Edition), Annex 6 (9th Edition) and the ICAO Docs 9574 (2nd Edition) [*Manual on Implementation of a 300 m (1000 ft) Vertical Separation Minimum between FL 290 and FL 410 inclusive*] and ICAO Doc 9937 (1st Edition) [*Manual of Operating Procedures and Practices for Regional Monitoring Agencies in Relation to the Use of a 300 m (1000 ft) Vertical Separation Minimum above FL 290*].

5.2.2 Consequently, the EANPG was presented with the results of the 2013 EUR RMA Safety Monitoring Report and with the results of the flight safety monitoring in the airspace of the Eastern part of the ICAO European Region by the RMA EURASIA for the 2013. The EANPG also noted the preliminary safety assessment provided by the RMA EURASIA for the period up to October 2014. The EANPG also

noted that Uzbekistan and Turkmenistan did not provide information for safety assessment to the EURASIA RMA.

5.2.3 The EANPG noted that the EUR RMA estimated that both quantitative safety objectives had been satisfied for the reporting year 2013. The data provided by the EUROCONTROL HMU (height monitoring unit) monitoring infrastructure remained representative and ensured a high degree of confidence that the technical risk estimate was statistically accurate. However, there was only a low level of confidence in the accuracy of the estimation of the total risk result, due to the very low number of Large Height Deviation and other operational incident reports received by the EUR RMA.

5.2.4 The EANPG noted and acknowledged that the EUR RMA proactive efforts to reduce the number of flights by non-approved aircraft and to address technical problems associated with large ASE contributed to the confidence that the continued use of RVSM in European airspace was safe. Additional factors like the progress in improving State/RMA communications, raising awareness of RVSM safety issues at State level and developing improved guidance material contributed to the continued safe use of RVSM in Europe.

5.2.5 The EANPG also noted that the EURASIA RMA calculations had indicated that the level of overall and technical collision risk in the Eurasian RVSM airspace in 2013 corresponded to the established target values. The EANPG noted that for the year 2013, the flight safety level for the Eastern part of the ICAO EUR Region met the requirements of ICAO, and all four objectives of the Safety Policy had been achieved.

5.2.6 The EANPG was also informed that the Russian Federation had recently integrated the EURASIA RMA activities including future height monitoring capabilities into the Federal development programme. The data collected during the first ten months of 2014 and the results of their pre-processing had shown that there was sufficient reason to believe that the technical and operational risk in 2014 in the airspace of the Eastern part of the ICAO EUR Region (Eurasian RVSM airspace) would also meet the envisaged target values. Therefore, the EANPG agreed to the following:

EANPG Statement 56/02 – Annual RVSM SMR Results

That the EANPG, noting the reports provided by the European Regional Monitoring Agencies (EUR RMA and RMA EURASIA), is satisfied that Reduced Vertical Separation Minimum (RVSM) operations in the ICAO European Region met the four safety objectives for the year 2013.

Note: It should be noted that confidence in the accuracy of the estimate for the total risk remains very low due to the low number of LHDs and other operational error reports sent to the RMA.

5.3 RMA EUR AREA OF ACCREDITATION

Accreditation of the EUR RVSM Region to Algeria

5.3.1 The EANPG recalled the transfer of Algeria from the AFI ANP to the EUR ANP, and therefore the need that Algeria be included into the EUR RVSM region and in the area of responsibility of the EUR RMA. Assuming that the high level agreement for the transfer of Algeria to the EUR RVSM region would be approved shortly, the EANPG was informed about the detailed roles and responsibilities of each party (i.e. Algeria and the RMA), with regards to the future cooperation.

5.3.2 The EANPG also noted that the cost associated with the inclusion of Algeria within the EUR RVSM region was considered as minimal. Therefore the EANPG agreed to the following:

EANPG Conclusion 56/31 – Inclusion of Algeria within the EUR RVSM region

That the ICAO Regional Director, Europe and North Atlantic:

a) coordinate an agreement with EUROCONTROL that Algeria be included in the area of responsibility of the EUR RMA; and

b) invite Algeria to nominate a focal point to coordinate with the EUR RMA.

5.4 RMA OPERATIONS

Draft Guidance Material on the enforcement of ICAO RVSM requirements from both RMAs

5.4.1 The EANPG took note of the two working papers from the EUR RMA and the RMA EURASIA on the development of guidance material (i.e. EUR Doc 009 *Guidance material on the implementation of a 300 m (1000 ft) vertical separation minimum in the European RVSM airspace*) for the post RVSM implementation environment which would assist States to take appropriate actions in order to ensure the safety of operations in the RVSM airspace in full compliance with the requirements contained in the ICAO provisions.

5.4.2 Due to the limited time available for coordination since the RVSM/RMA Symposium, it was not possible to finalise the work on the guidance material during the EANPG. Consequently, the following EANPG Conclusion was agreed:

EANPG Conclusion 56/32 – RVSM Operations Guidance Material

That:

a) the EUR RMA, RMA EURASIA and ICAO Secretariat jointly finalize the draft Guidance Material, as presented in **Appendix Q** to this Report before 15 March 2015;

b) the EUR RMA and RMA EURASIA review EUR Doc 009 in order to determine its appropriateness for post RVSM implementation and, if affirmative, align it with the current provisions in the ICAO Annexes and Documents and include the final guidance material as referenced in a) above;

c) the EANPG mandates the COG/62 to review and approve the revised EUR Doc 009; and

d) the ICAO Regional Director, Europe and North Atlantic is invited to publish and circulate the approved EUR Doc 009 to all concerned stakeholders.

6. DEFICIENCIES

6.1 AMENDMENTS TO THE AIR NAVIGATION DEFICIENCIES LIST

Review of the list of Air Navigation Deficiencies

Deletions agreed upon by COG/60

6.1.1 The EANPG noted the content of EANPG/56 WP24 and took note of the deletions agreed upon by COG/60, namely:

- the deficiency EUR-AIS-03-04 registered against the Russian Federation (related to non-adherence to AIRAC procedures);
- the deficiency EUR-AIS-01 08 registered against Belarus (related to the implementation of WGS-84); and

- the deficiency EUR-AIS-04-06 registered against Moldova (related to the lack of mechanism to ensure compliance with ICAO Annex 4 and Doc. 8168 (PANS-OPS) provisions).

Meteorology

6.1.2 The EANPG recalled EANPG Conclusion 55/19 that tasked the ICAO EUR/NAT Regional Office to add to the list of EUR air navigation deficiencies those States non-compliant to Annex 3, Table A3-2 provisions in respect to information on the state of the runway included as supplementary information in METAR and SPECI, as identified in the monitoring period January and February 2014. The EANPG noted that the eleventh meeting of the EUR Data Management Group (DMG/11, Brussels, Belgium, 18-20 March 2014) had produced a list of aerodromes and States not compliant fulfilling MET Decision 23/9, and that the status of implementation was as indicated in the following table:

State	**Implementation date** – state of the runway in supplementary information in METAR and SPECI as per Annex 3, Appendix 3, Table A3-2
Finland (only EFOU non-compliant)	Spring 2014 – confirmed implementation METG/24
Iceland	1 September 2014 – confirmed implementation METG/24
Luxembourg	Compliant system running in shadow mode Spring 2015 – informed at METG/24
Romania	1 April 2014 (complete) – confirmed implementation post DMG/12
Russian Federation	Implementation plan expected for METG/24 Once approved by Ministry of Justice, in 180 days.

6.1.3 Given the above, the EANPG agreed to include Luxembourg and the Russian Federation to the list of Air Navigation Deficiencies in the EUR Region and track progress on the expected implementation as provided in the table.

EANPG Conclusion 56/33 – Deficiencies related to the inclusion of the state of the runway as supplementary information in METAR and SPECI

That the ICAO Regional Director, Europe and North Atlantic, on behalf of the EANPG, add Luxembourg and the Russian Federation to the list of EUR air navigation deficiencies related to the inclusion of the state of the runway as supplementary information in METAR and SPECI.

6.1.4 With reference to a list of OPMET issues identified by IATA at the METG/24 meeting, the EANPG was informed that the thirteenth meeting of the Data Management Group (DMG/13, Vienna, 28-30 October 2014) had reviewed this list (reference Appendix K to the METG/24 Report and METG Draft Conclusion 24/15) by comparing with monitoring results provided by the Data Management Group for the period 1-14 September 2014. The EANPG noted that the DMG/13 agreed that no additions to the list of Air Navigation Deficiencies in the EUR Region were required but nevertheless requested the following:

- Algeria to provide an implementation plan to provide 24-hour TAF instead of 9-hour TAF for DAAE, DAAJ, DAAS, DAAV, DABT, DAOB and DAUB

- Algeria to provide FT consistently for DAUA;
- Germany to provide clarification of when OPMET is available for EDJA and EDTD;
- Tajikistan to provide an implementation plan to provide 24-hour TAF instead of 9-hour TAF for UTDD; and
- Turkmenistan to provide an implementation plan to provide 24-hour TAF instead of 9-hour TAF for UTAA (for all the time).

6.1.5 The EANPG noted that the EUR FASID Table MET 1A entries for UUBI, USRK and UUEM in the Russian Federation would be removed and thus OPMET data would no longer be required to be distributed internally for these aerodromes.

AIM Related Deficiencies

6.1.6 The EANPG was informed that the ICAO EUR/NAT Office had received confirmation by Spain, on 19 November 2014, that corrective actions had been implemented to ensure to the resolution of the deficiency registered against Spain for non-adherence to AIRAC Procedures (due to late postponement of AIRAC). Accordingly, the EANPG agreed to remove the deficiency EUR-AIS-03-02.

6.1.7 With respect to EANPG Conclusion 54/8 on the *Publication of air navigation obstacles in National AIP*, the EANPG agreed to include Bosnia and Herzegovina, Bulgaria, the fYROM and Ukraine to the list of EUR air navigation deficiencies as these four States had not yet published the information related to air navigation in the section ENR 5.4 of the AIP, in accordance with Annex 15 provisions (EANPG56 WP11 refers).

EANPG Conclusion 56/34 – Deficiencies related to the publication of air navigation obstacles in National AIP

That the ICAO Regional Director, Europe and North Atlantic, on behalf of the EANPG, add Bosnia and Herzegovina, Bulgaria, the FYROM and Ukraine to the list of EUR air navigation deficiencies related to the publication of air navigation obstacles in National AIP.

Compliance with the Reduced Vertical Separation Minima (RVSM) approval process and the related safety oversight requirements

6.1.8 The EANPG was informed about the outcome of the European Reduced Vertical Separation Minimum (RVSM)/ Regional Monitoring Agencies (RMA) Symposium (EANPG56 WP25 refers), which had been held at the ICAO EUR/NAT Office in Paris from 11 to 12 September 2014. The symposium had recalled the various roles and responsibilities of all involved stakeholders and highlighted the States' oversight responsibilities in order to ensure that the ongoing operations in the RVSM airspace continue to meet the required level of safety. In particular, the symposium had addressed the RVSM approval aspects and the safety risks associated with aircraft operating in RVSM airspace without having the required RVSM capability or approvals (State Letter AN 13/11.1-14/38 refers).

6.1.9 In this respect, the EANPG was informed that several States had failed to respond to the State Letter EUR/NAT 14-0229.TEC dated 28 March 2014, in which information on a number of specific RVSM-related safety oversight requirements had been requested, and to the State Letter EUR/NAT 14-0530.TEC dated 16 September 2014, which had urged States to take all necessary measures to implement the actions required by EANPG Conclusions 55/27 and 55/38 and by the ICAO State Letter AN 13/11.1-14/38 and indicated that failure to respond as required above might result in the inclusion of the States concerned into the Air Navigation Deficiencies List of the ICAO EUR Region, based on the EANPG/56 Decision.

6.1.10 The EANPG agreed to add the following 9 States to the list of Air Navigation Deficiencies in the EUR Region, as these States had failed to provide replies to either the State Letter EUR/NAT 14-

0229.TEC or EUR/NAT 14-0530.TEC: Algeria, Andorra, Bosnia and Herzegovina, Bulgaria, Croatia, Lithuania, Morocco, Tunisia and Turkmenistan.

EANPG Conclusion 56/35 – Deficiencies related to State RVSM related requirements

That:

a) the ICAO Regional Director, Europe and North Atlantic, on behalf of the EANPG:

i) amend the list of EUR Air Navigation Deficiencies to add the following States: Algeria, Andorra, Bosnia and Herzegovina, Bulgaria, Croatia, Lithuania, Morocco, Tunisia and Turkmenistan, having failed to provide replies to either the State Letters EUR/NAT 14-0229.TEC or EUR/NAT 14-0530.TEC, and consequently having failed to provide evidence of compliance with State RVSM related requirements contained in Annexes 6 and 11 to the Chicago Convention;

ii) urge all States in the ICAO EUR Region to perform, by 15 May 2015, a self-assessment for the protocol question ANS 7.115 ("If RVSM is implemented in airspace, does the State ensure that a process has been established and implemented to verify that aircraft are approved for operation in RVSM airspace, and that the information is forwarded to the Regional Monitoring Agency (RMA) on a regular basis?"), attaching all relevant evidence on the USOAP CMA On-Line-Framework (OLF); and

b) COG be tasked to review, in cooperation with the EUR RMA and the Eurasia RMA, replies provided by the States to the above mentioned protocol question, and propose amendments to the list of EUR Air Navigation Deficiencies, as well as the subsequent triggering of Mandatory Information Requests (MIRs) for the States concerned.

6.1.11 The EANPG took note that Lithuania reported that they had not received the above mentioned State Letters and that they would provide replies before the end of 2014.

Updated List of Deficiencies

6.1.12 The approved updated version of the List of Air Navigation Deficiencies is presented at **Appendix R** to this Report.

7. ANY OTHER BUSINESS

7.1 PROPOSED UPDATES TO THE EANPG HANDBOOK

7.1.1 The EANPG was provided with a proposed update to the 1st Edition (2013) of the *EANPG Handbook* (EUR Doc 001). The amendments proposed included:

- editorial updates to the diagram showing the EANPG Working Structure, Objectives, Terms of Reference, Composition and Working methods and effectiveness of the EANPG;
- updates to the Mandate of the COG;
- editorial updates to the General work and Work Programme of the EANPG Contributory Bodies, AFSG, ATMGE, AWOG, FMG, METG and RDGE;
- updates to the Composition of the METG;
- replacement of the Terms of Reference of the COG Task Force on Training by Terms of Reference of COG Task Force on Language Proficiency Requirements Implementation (LPRI);
- inclusion of Terms of Reference of the EUR Search and Rescue Task Force (EUR SAR TF);
- update of format of the List of EUR Documents and the Responsible Groups for their Maintenance; and

- other editorial updates such as inclusion of the Terms of References of the COG Performance Task Force, VOLCEX Subgroups (East and West) and EUR Search and Rescue Task Force.

7.1.2 The EANPG noted that all editorial revisions were made in order to correctly reflect the current various stakeholders involved in civil aviation area in the ICAO EUR Region as well as the new aviation system environment that replaced the former CNS/ATM system.

7.1.3 With reference to the EANPG COG, the EANPG noted that some revisions were editorial and related to clarification of the establishment and consolidated terms of reference of the EANPG COG. In addition, it was agreed that the following bullet point would be added to the Terms of Reference of the EANPG COG:

- When specifically determined by the EANPG, the COG may be mandated to reach decisions on specific matters.

7.1.4 The EANPG agreed to replace the Terms of Reference of the COG Task Force on Training by the Terms of Reference of COG Task Force on Language Proficiency Requirements Implementation (LPRI).

7.1.5 The EANPG noted that the new format of the table showing the *List of Documents Promulgated by the EANPG* were aimed at clarifying the responsibilities of the relevant EANPG Contributory Bodies to the EUR Documents concerned.

7.1.6 It was noted that several updates to the Terms of Reference of a number of EANPG Contributory Bodies and COG Task Forces that had been previously approved by the EANPG COG had been omitted inadvertently in the 1st Edition. In this respect, it was noted that the Secretariat would ensure that these would be included in Amendment 1 before it was published. Additionally, the revised composition of the METG and the Terms of Reference of the new EUR Search and Rescue Task Force (EUR SAR TF) as referenced in the discussions in this Report (paragraphs 4.1.56 and 7.2.1 to 7.2.4 refer) would be incorporated in Amendment 1.

7.1.7 On the basis of the above, the EANPG endorsed the proposed revisions to the First Edition (2013) of EUR Doc 001, *EANPG Handbook*, and the following EANPG Conclusion:

EANPG Conclusion 56/36 – Amendment 1 to the First Edition of EUR Doc 001, EANPG Handbook (2013)

That, the ICAO Regional Director, Europe and North Atlantic:

a) take the necessary steps to update the EANPG Handbook (EUR Doc 001) with Amendment 1, as shown in **Appendix S** to this Report; and

b) publish the First Edition (2013) of the EANPG Handbook (EUR Doc 001), Amendment 1 on the ICAO EUR/NAT website no later than 15 January 2015.

7.1.8 After the publication of Amendment 1, the EANPG noted that further work would be done with regard to the Working Procedures of the Route Development Group – East (RDGE) concerning inclusion of ATS route amendments in the eANP as these would be revised after the EUR eANP was approved.

7.1.9 Additionally, in noting one of the concerns of the METG in terms of implementation of Aviation System Block Upgrade (ASBU) MET modules which would eventually incorporate outcomes from the Meteorology Divisional Meeting 2014, the EANPG agreed that outcomes from EANPG Conclusion 55/03 [*EUR ASBU Implementation Plan Publication* – b) refers] requesting guidance from ICAO Headquarters on how the ASBU implementation plans would be processed and what efforts have been made

to coordinate reporting activities with other PIRGs could be used to assist in updating the Terms of Reference of all EANPG Contributory Groups.(paragraph 4.3.1 refers)

7.1.10 With reference to the proposed revised composition of the EANPG COG, the EANPG discussed a proposal in which the EANPG COG would be made up of a core group of permanent representatives from the founding Member States and international organisations, in particular, those States who have a strong track-record of most heavily supporting the work of the EANPG COG, and rotational posts of nominated representatives from regional groupings. Ad-hoc representatives from other States and international organisations may also be invited to participate in the work of the Group by the Chairman for specific issues and for an agreed period of time.

7.1.11 For the rotational posts, it was proposed that the tenure be 6 meetings of the EANPG COG which usually spanned a 2-year period. Nominations for the rotational post representatives of regional groupings (approximately 6-8 groupings of States to represent the entire ICAO EUR Region) would be submitted to the EANPG for consideration and approval but should be supported on a regional or sub-regional basis.

7.1.12 In the ensuing discussion, it was underlined that as the working group of the EANPG, EANPG COG members were expected to contribute very actively to the work of the Group to ensure the most effective conduct of the annual EANPG meetings. This contribution included delivery of task forces and/or other resources. Whilst seeking to maximise representation but minimising the overall numbers for practical purposes, it was recognised that the effectiveness of the EANPG COG needed to be preserved. It was also stressed that it was essential that all EANPG COG members ensured prior co-ordination and adequate de-briefing took place before and after meetings in order to co-ordinate positions and provide feedback.

7.1.13 The EANPG also noted the suggestion that the tenure for rotational posts be extended to 3 years to take into account the learning process during the handover period when the representative who steps down is accompanied by his/her replacement at several meetings. It was also suggested to add CANSO and IFATCA into the list of international organisations. In order to avoid relying too heavily on the EANPG COG to make decisions on behalf of the EANPG, the idea to use the process of approval by correspondence was also put forward.

7.1.14 The EANPG recognised that more work was required to clearly identify the criteria as well as the practicalities for the nomination and approval processes of rotational members of regional groupings.

7.1.15 In order to provide full transparency on the work of the EANPG COG to all EANPG members, the Secretariat informed the EANPG that access to the ICAO Portal, group "COG", would be granted to all EANPG members. More information could be obtained from the Secretariat.

7.1.16 On the basis of the above, the EANPG agreed that wording on the future composition of the EANPG COG that would be acceptable to all parties should be finalized by the EANPG COG for approval by EANPG/57. In this respect, the following EANPG Decision was agreed:

EANPG Decision 56/07 – Revised Composition of the EANPG COG

That, to ensure an appropriate balance between the size and effectiveness of the EANPG COG, the EANPG COG be mandated to:

a) review the wording on the future composition of the EANPG COG based on the proposal provided in the EANPG/56 Report; and

b) present the final proposed text concerning the future composition of the EANPG COG to EANPG/57.

7.2 SEARCH AND RESCUE CAPABILITY IN EUR REGION

7.2.1 The EANPG was presented with an assessment of the EUR States compliance with the ICAO USOAP protocol questions (PQ) associated with the provision of search and rescue (SAR) in accordance with Annex 12 requirements. The assessment indicated a significant lack of effective implementation of the above mentioned provisions in the EUR Region. Therefore, the EANPG discussed ways and means to address this situation.

7.2.2 In this regard, the EANPG noted the European Civil Aviation Conference (ECAC) activities regarding SAR Cooperation in the ECAC area. It was noted that ECAC launched a *"Compendium of European Search and Rescue cross-border Arrangements"* project that developed an inventory of the formal arrangements regarding SAR in the ECAC area. In addition, it was noted that a Conference would be held in order to promote the establishment of new cross-border cooperation arrangements. The EANPG agreed on the necessity to establish a close coordination with ECAC in order to avoid duplication of efforts regarding SAR initiatives.

7.2.3 The EANPG recalled the Annex 12 provision requiring adjacent States to coordinate their SAR plans. It was emphasized that the ICAO EUR/NAT Office should play an essential role in facilitation such coordination, as well as assisting in cataloging the international letters of agreement on SAR coordination and coordination of SAR Exercises (SAREX). In addition, there was a need for a EUR-wide mechanism to share experience on SAR and achieve more harmonisation in areas as SAR training programmes.

7.2.4 In view of the above, the EANPG agreed to establish a EUR SAR Task Force (EURSAR/TF) with the Terms of Reference as provided at **Appendix T**. Therefore the EANPG agreed to the following:

EANPG Decision 56/08 – Enhance and improve Search and Rescue capability in European and North Atlantic Regions

That the ICAO Regional Director, Europe and North Atlantic,

a) take appropriate measures to establish the EURSAR/TF (**Appendix T** to this Report, *EURSAR/TF Terms of Reference – ToR*, refers) to discuss, submit concepts and fill gaps in SAR capabilities in order to improve the overall capability of the SAR system throughout the EUR Region;

b) urge States to consider ways to enhance and improve SAR capability in the Region; and

c) encourage States to discuss and submit concepts to future EANPG sessions on how gaps in the SAR Capability Matrix may be addressed.

7.3 ICAA PRESENTATION

7.3.1 Under this agenda item, Mr Victor Kourenkov, Vice President, International Consultancy and Analysis Agency (ICAA) "AviaSafety" introduced the International Consultancy and Analysis Agency. The Agency was established in 2008, joined Flight Safety Foundation in 2009, joined Independent Investigators Society in 2011, joined the International Helicopter Safety Team (IHST)-CIS and the RASG EUR in 2014. The objectives of the Agency are fostering a safety culture among aviation personnel and industry leaders in CIS, identification of risk factors in aviation safety and development of risk mitigation measures, familiarization of traveling public with the state of safety in the world, implementation of international flight safety best practice in Russia and the CIS and encouraging voluntary and impunity exchange of safety information. The Agency is open for cooperation to all interested parties (more detailed information on the scope of activities was published under EANPG56 PR05.

7.4 UPDATE TO THE GANP

7.4.1 The EANPG noted that the *Global Air Navigation Plan* (GANP, Doc 9750) would be updated based on inputs received from all stakeholders. The feedback would support ICAO to identify necessary updates/improvements of this global planning document to ensure that it would be a valuable tool in the future. The updated GANP would be reviewed by the ANC and approved by the Council during their 2015 Session in order to be presented for endorsement by ICAO Member States at the 39th Session of the Assembly (September/October 2016). Accordingly, the EANPG thanked the EC for their support to provide a consolidated input to the questionnaire from the EU Member States. The EANPG encouraged its members to use the questionnaire presented at **Appendix U** and provide the ICAO EUR/NAT Office (gfirican@paris.icao.int and ihofstetter@paris.icao.int) with their feedback on the use of the fourth edition of the GANP and its possible improvement, no later than 15 January 2015.

7.5 CERTIFICATE OF OUTSTANDING ACHIEVEMENT AWARDED TO MR LADISLAV MIKA

7.5.1 The EANPG Chairman advised the EANPG that a Certificate of Outstanding Achievement was presented to the long-standing member of the Group, Representative of the Czech Republic, Mr Ladislav Mika (Ladi Mika) at the COG/60. The EANPG recalling that Mr Mika started his activity within the European Air Navigation Planning Group (EANPG) and COG over thirty years ago and had served the EANPG as its Vice-Chairman for a significant period of this time, stressed their appreciation towards Mr Mika's continuous and unconditional support to the ICAO activities and outstanding personal contribution to the sustainable development and safety of international civil aviation within the framework of the EANPG.

7.6 NEXT MEETING

7.6.1 The EANPG agreed to convene its next meeting in the European and North Atlantic Office of ICAO in Paris, France, from 23 to 26 November 2015.

7.6.2 The EANPG noted the following dates for EANPG-COG meetings:

- EANPG-COG/62, Lisbon, Portugal from 25 to 29 May 2015
- EANPG-COG/63, Paris, France, 13 to 16 October 2015
- EANPG-COG/64, Paris, France, 27 November 2015

Appendix A – List of Participants

*(paragraph 0.2 refers***)**

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Appendix B – Meeting documentation

(paragraph 0.6 refers)

WP/IP	Ag It	Title	Presented by
WP01	0	Provisional Agenda	Secretariat
WP02	1.1	EANPG conclusions and decisions follow-up	Secretariat
WP03	4.1	FMG Outcome	Secretariat (NAE)
WP04 + AppA-B-C	4.1	METG/24 Outcomes	Secretariat (KEC)
WP05+ AppA-B-C	4.1	Performance Based Navigation Issues	Secretariat (NAE)
WP06	1.1	Development of the new EUR eANP	Secretariat (CUP)
WP07	4.2	COG Performance TF	Secretariat (HAS)
WP08	4.6	Crisis Management Framework Working Group	Secretariat (HAS)
WP09	4.1	RDGE	Secretariat (HAS)
WP10	4	Progress Report ICARD TF	Secretariat (cup-hoi)
WP11	4	ETOD Implementation in the EUR Region	Secretariat (NIA)
WP12 Rev1	4	ICAO Assistance to States in Transition from AIS to AIM	Secretariat (NIA)
WP13	4	Methodology for reporting and assessing the progress related to the transition from AIS to AIM	Secretariat (NIA)
WP14	4.4	Use of ATS surveillance systems in the aerodrome control service	Eurocontrol (FIC)
WP15	4.4	Abbreviated Position Reports	Eurocontrol (FIC)
WP16	4.4	Provisions related to ACAS RA	Eurocontrol (HAS)
WP17	4.4	Provisions related to Loss of Vertical Navigation Performance Required in RVSM	Eurocontrol (FIC)
WP18	4.4	Provisions related to Aerodrome Traffic Circuit	Eurocontrol (FIC)
WP19	4.4	Cold Temperature Correction	Secretariat (HAS)
WP20	3.2	Occurrences involving civil and military aircraft over the High Seas	Eurocontrol (RAN)
WP21	5	Accreditation of the EUR RVSM Region to Algeria	Eurocontrol (HAS)
WP22	3.1	RASG-EUR Update	Secretariat (RAN)
WP23 + AppC	4.5	Draft EUR/NAT Volcanic Ash Contingency Plan	COG VATF (KEC+SAL)
WP24 **Rev1** + App	6	Review of the list of Air Navigation Deficiencies	Secretariat (RAN)
WP25	5.1	Main Results from the ICAO reduced vertical separation minimum (RVSM) and Regional Monitoring Agencies (RMAS) Symposium	Secretariat (HAS)

WP/IP	Ag It	Title	Presented by
WP26	4.4	Updating of ICAO DOC 7910 Provisions	Secretariat (FIC)
WP27	3 4.1	PANS and SUPPS Implemenation	France (FIC)
WP28 + App Rev1	7	Proposed Updates To The EANPG Handbook	Secretariat (FIG)
WP29 Rev1	5.2	Final Results for 2014 EUR RVSM SMR	Eurocontrol (HAS)
WP30	2	Search and Rescue Capability in NAT Region	Secretariat (FIC)
WP31	5	Support and Guidance for States to enforce RVSM Requirements	Eurocontrol (HAS)
WP32	5.2	Report on Flight Safety Monitoring in EURASIA RVSM Airspace	RMA Eurasia (HAS)
WP33	4.1	ATMGE	Secretariat (HAS)
WP34	5.4	Preliminary Guiding Material on Enforcement of Implementation of ICAO RVSM Requirements	RMA Eurasia (HAS)
IP01	-	Meeting schedule	Secretariat
IP02	-	Meeting documentation	Secretariat
IP03 Rev2	1.1	ICAO Update	Secretariat
IP04	4	Steeped Climbs – Operational Issues and Effects on Conformance Monitoring and Safety Nets	UK (FIC)
IP05	3	Update on topics discussed within the framework of the third meeting of the EUR/NAT Aviation Security Group (ENAVSECG/03) affecting the European Air Navigation Planning Group (EANPG)	Secretariat (LUC)
IP06 + AppA	4	AIM Global Developments	Secretariat (NIA)
IP07 + AppA-B-C	1.1	New Regional Air Navigation Plan (ANP) Template and Procedure for Amendment	Secretariat (FIG)
IP08	1.1	Information on the Revision of the Regional Supplementary Procedures (DOC 7030)	Secretariat (FIG)
IP09	1.1	Planning and Implementation Regional Group (PIRG) Activities in Other Regions	Secretariat (FIG)
IP10	1.2	PBN Implementing Rule Development	EC (NAE)
IP11	1.2	EU Implementing Rule on Data Link Services	EC (NAE)
IP12	1.2	Progress on SES and SESAR	EC (FIC)
IP13	4	Updates on the Status of Etod Implementation and AIM and SWIM	Eurocontrol

WP/IP	Ag It	Title	Presented by
		Developments	
PR	**Ag It**	**Title**	**Presented by**
PR01	1.2	Joint Service Provision Area Initiative	Montenegro (FIG)
PR02	1.1	TRASAS/4 Outcome	Secretariat (FIG)
PR03	3	ATM/Cybersecurity – ICAO's next steps	Secretariat (LUC)
PR04	1.2	Optimization of Traffic Flows in Ukrainian Airspace	Ukraine
PR05	1.2	Aviation Safety : International Consultancy and Analysis Agency	ICAA
FL	**Ag It**	**Title**	**Presented by**
Flimsy01	6.1	Supplementing Discussion of WP/24 – Review of the list of Air Navigation Deficiencies	Secretariat (RAN)
Flimsy02	4.1	Provisions related to ACAS RA – in support WP16	Secretariat (HAS)
Flimsy03	4	Flimsy on the status of implementation of the Safety Risk Assessment methodology (SRA) in Europe	Eurocontrol
Flimsy04	4	Safety Risk Assessment (in support of Flimsy03)	Secretariat
Flimsy05	6	Supporting Discussion of: WP/24 AND FL01 – AN DEFICIENCIES	Secretariat

Appendix C – New CNS 4b Table

(paragraph 4.1.15 refers)

Document provided separately

Appendix D – Special Air Report on Volcanic Ash – Format Differences

(paragraph 4.1.45 refers)

Reference	**Special air-report on volcanic ash message**
Annex 3, Appendix 4, Table A4-1 (downlink)	ARS UA322 N5503 E17020 FL300 to 390 OBS AT 0105Z VA CLD FL300/390 Why are flight levels presented in two different ways (using 'to' versus '/')? Should flight levels be presented twice in the same message?
Annex 3, Appendix 6, Table A6-1 (uplink)	ARS UA322 VA CLD FL300/390 OBS AT 0105Z N5503 E17020 *FL300* Annex 3, Appendix 6, Table A6-1 at the end of the above message allows for a flight level, however, one of the corresponding examples allows for a range of flight levels. Why is flight level information allowed twice? Note, it has been recommended that special air-report (uplink) will permit a range of flight levels in the level section – i.e. FLnnn/nnn with applicability of Amendment 77 to ICAO Annex 3.
PANS-ATM Appendix 1 part 2 – message received at ACC (downlink)	SPECIAL UAL322 5503North17020East 0105 FLIGHT LEVEL 300 CLIMBING TO FLIGHT LEVEL 350 VOLCANIC ASH CLOUD The flight levels described are those of the aircraft and not necessarily a description of the vertical limits of the phenomenon PANS ATM would seem to indicate no other figures could follow 'VA CLD'. Annex 3 (Table A4-1 and Table A6-1) would suggest you can include FLnnn/nnn immediately after 'VA CLD' references Flight level provided is that of the aircraft not necessarily where the volcanic ash is observed to be – METWSG/5 Action Agreed 5/23 proposes to align this with Annex 3, Appendix 4, Table A4-1 (downlink) Aircraft identification is different from that used in the examples in Annex 3, Appendix 4, Table A4-1 and Appendix 6, Table A6-1
PANS-ATM Appendix 1 part 3 (voice) – message to be sent to MWO	ARS UAL322 5503N17020E 0105 F300 ASC F350 VA CLD Notice the MWO would still have to make a change to include 'OBS AT' and 'Z' for the time in UTC and 'FL' to describe flight levels as well as change the order of information from The flight levels described are those of the aircraft and not necessarily a description of the vertical limits of the phenomenon There should be a consistency of order of items, whether downlink or uplink, as well as reporting (e.g. OBS AT timeZ) Aircraft identification is different from that used in the examples in Annex 3, Appendix 4, Table A4-1 and Appendix 6, Table A6-1

Appendix E – Proposal For Amendment to Part VI (MET) of the EUR Air Navigation Plan (Doc 7754)

(paragraph 4.1.54 refers)

Document provided separately

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Appendix F – EUR METG TERMS OF REFERENCE (TORs)

(paragraph 4.1.56 refers)

METEOROLOGY GROUP (METG)

Establishment Renamed in 1990. EANPG Decision 32/9

Terms of reference

The Meteorology Group (METG) is established by EANPG to pursue the tasks of the Group in the field of aeronautical meteorology in support to the relevant ICAO Strategic Objectives (mostly Safety and Efficiency, and to certain extent, Environment and Continuity) with the following TORs:

a) Ensure the continuous and coherent development of the MET Part of the European Air Navigation Plan (Basic ANP and FASID, Doc 7754) and other relevant regional documents taking into account the evolving operational requirements in the EUR Region and the need for harmonization with the adjacent regions in compliance with the Global Air Navigation Plan;

b) Monitor and coordinate implementation of the relevant ICAO SARPs and regional meteorological procedures, facilities and services by the EUR States and where necessary ensure harmonization, taking due account of financial and institutional issues;

c) Identify any deficiencies in the field of aeronautical meteorology in the EUR Region and ensure the development and implementation of relevant action plans by the States to resolve them;

d) Foster implementation by facilitating the exchange of know-how and transfer of knowledge and experience, in particular, between the Western and Eastern parts of the Region;

e) Provide input to the work of appropriate ICAO bodies in the field of aeronautical meteorology, according to the established procedures.

Work Programme

To ensure that the objectives of METG are met in accordance with the TORs, the group shall conduct its work according to a Work Programme endorsed by EANPG and kept under review by the COG. The following are the main principles to be followed in setting up the Work Programme of METG:

a) The work programme shall be composed of tasks and projects with clearly identified deliverables, target dates and responsibilities;

b) The tasks/projects should cover the main implementation domains[5] in MET which are subject to regional planning and implementation;

c) The progress on the tasks/projects should be reviewed regularly by METG and reported to COG and EANPG to ensure that the target dates are met and the deliverables are of required quality.

d) To facilitate the execution of its work programme, METG may set up Project Teams, if and when required, charge them with specific tasks and define target dates for their completion. After completion of the task(s), the Project Team(s) will be dissolved.

[5] The main implementation MET domains for the EUR Region at present are: Implementation of the WAFS, including SADIS; Implementation of advisory and warning services (IAVW, SIGMET, AIRMET); Exchange of OPMET information; MET services for ATM.

In conducting its activities, METG should follow the following guidance given to the Group by the EANPG and COG:

- Maintain close coordination with relevant EANPG contributory bodies to ensure harmonious development of the EUR air navigation system as a whole;
- Conduct periodic reviews and originate, as necessary, proposals for amendment of Part VI - MET of the EUR Basic ANP and FASID (Doc 7754) and EUR SUPPs (Doc 7030);
- Seek co-ordination and harmonization with the relevant planning and implementation activities in other ICAO Regions;
- Use different techniques to monitor implementation in the States (such as, regional surveys, monitoring exercises, regional tests and simulations, etc.) and identify deficiencies; conduct risk analysis to prioritize the identified deficiencies and prepare proposals to EANPG to ensure the urgent resolution of safety-related MET deficiencies;
- Identify areas where assistance to individual States or sub-regions is necessary to eliminate deficiencies and improve harmonized implementation of the MET facilities and services through the established mechanisms (e.g., SIP or ICAO TCP projects) and prepare proposals thereon;
- Ensure close liaison between EANPG and the MET operations groups established by ANC: WAFSOPSG, IAVWOPSG, SADISOPSG, and with relevant ANC study groups and/or panels in addressing MET matters; Provide feed-back received from States on problems impeding implementation which need to be addressed by appropriate ICAO bodies;
- Assist the Secretariat in developing and keeping up-to-date of regional guidance material as necessary to foster the implementation by the States of the global requirements and regional procedures on aeronautical meteorology;
- Prepare proposals and support organization of regional seminars and workshops in the field of aeronautical meteorology with emphasis on implementation issues;
- Pay appropriate attention to activities in the field of aeronautical meteorology within other international bodies (WMO, EUROCONTROL, EC) on regional issues and analyze related implementation aspects;
- Identify and refer to COG and EANPG emerging institutional issues related to the planning and implementation of the meteorological services and facilities in order to ensure that such issues are addressed in a coherent manner with the respective ICAO plans, strategies and provisions.

Composition of the METG

~~Armenia (on behalf of Armenia, Azerbaijan and Georgia), Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Ireland, Italy, Kazakhstan (on behalf of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan), Latvia (on behalf of Estonia, Latvia and Lithuania), Netherlands, Portugal, Romania, Russian Federation, Slovakia, Slovenia, Spain, Switzerland, United Kingdom,~~ Representatives from all ICAO Contracting States who are service providers in the EUR air navigation region and part of EUR ANP, Iceland, United States and International Organisations (CANSO, EUROCONTROL, IAOPA, IATA, IFALPA, WMO)

Appendix G – Proposed Amendments to PANS and SUPPS Forewords

(paragraph 4.4.4 refers)

Proposal for amendment to paragraph 3 of the foreword to Doc 7030:

The Regional Supplementary Procedures do not have the same status as Standards and Recommended Practices. The latter are **adopted** by Council in pursuance of Article 37 of the Convention on International Civil Aviation, subject to the full procedure of Article 90. PANS are **approved** by the President of the Council of ICAO on behalf of the Council and SUPPS are **approved** by the Council; the PANS are recommended to Contracting States for worldwide application ~~use~~, whilst the SUPPS are recommended to Contracting States for application in the groups of flight information regions to which they are relevant. PANS and SUPPs are operational in nature, and as a result may have a direct effect on aviation safety, efficiency and regularity. The implementation of procedures is the responsibility of Contracting States. They are applied in actual operations only after, and in so far as, States have enforced them.

Proposal for amendment to the Foreword to PANS, paragraph 4 implementation:

4. Implementation

Procedures for Air Navigation Services (PANS) are operational in nature, and as a result may have a direct effect on aviation safety, efficiency and regularity. The implementation of procedures is the responsibility of Contracting States; they are applied in actual operations only after, and in so far as, States have enforced them. However, with a view to facilitating their processing towards implementation by States, they have been prepared in language which will permit direct use by air traffic services personnel and others associated with the provision of air traffic services to international air navigation.

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Appendix H – Draft Proposal for Amendment to ICAO Doc 4444 (PANS-ATM), Section 8.10 – Use of ATS surveillance systems in the aerodrome control service

(paragraph 4.4.6 refers)

8.10.1.1 When authorized by and subject to procedures and conditions prescribed by the appropriate ATS authority, ATS surveillance systems may be used in the provision of aerodrome control service to perform the following functions:

a) flight path monitoring of aircraft on final approach;

b) flight path monitoring of other aircraft in the vicinity of the aerodrome;

c) establishing separation specified in 8.7.3 between succeeding departing aircraft; ~~and~~

d) maintaining separation between succeeding aircraft on the same final approach; and

e~~d~~) providing navigation assistance to VFR flights.

Appendix I – Draft Proposal for Amendment to ICAO Doc 7030 (EUR-SUPPs), Section 3.1.4 – Abbreviated Position Reports

(paragraph 4.4.12 refers)

3.1.4 Abbreviated Position reports

~~3.1.4.1~~ Unless otherwise specified, ~~Abbreviated~~ position reports should only contain the aircraft identification, position and~~,~~ time ~~and flight level or altitude, unless otherwise specified~~.

~~3.1.4.2 In defined portions of the airspace, designated by the appropriate ATS authority, where:~~

~~a) through secondary surveillance radar (SSR), individual identity and verified Mode C information are permanently available in the form of labels associated with the radar position of the aircraft concerned; and~~

~~b) reliable air-ground communications coverage and direct pilot-to-controller communications exist,~~

~~the initial call after changing a radio channel may contain only the aircraft identification and level; subsequently, position reports may contain only aircraft identification, position and time.~~

Appendix J – Draft Proposal for Amendment to ICAO Doc 7030, European (EUR) Regional Supplementary Procedures), Section 9.5 - Loss of Vertical Navigation Performance required for RVSM

(paragraph 4.4.19 refers)

9.5 LOSS OF VERTICAL NAVIGATION PERFORMANCE REQUIRED FOR RVSM

9.5.1 General

9.5.1.1 The pilot shall inform ATC as soon as possible of any circumstances where the vertical navigation performance requirements for RVSM airspace cannot be maintained. In such cases, the pilot shall obtain a revised ATC clearance prior to initiating any deviation from the cleared route and/or flight level. ~~whenever possible. When a revised ATC clearance cannot be obtained prior to such a deviation, the pilot shall obtain a revised clearance as soon as possible thereafter.~~[Editorial Note: text adapted and relocated as new paragraph 9.5.3.1.1]

~~*Note.— An in-flight contingency affecting flight in RVSM airspace pertains to unforeseen circumstances that directly impact on the ability of one or more aircraft to operate in accordance with the vertical navigation performance requirements of RVSM airspace. Such in-flight contingencies can result from degradation of aircraft equipment associated with height keeping or from turbulent atmospheric conditions.*~~[Editorial Note: text relocated under 9.5.1.2]

9.5.1.2 ATC shall render all possible assistance to a pilot experiencing an in-flight contingency. Subsequent ATC actions will be based on the intentions of the pilot, the overall air traffic situation and the real-time dynamics of the contingency.

Note.— An in-flight contingency affecting flight in RVSM airspace pertains to unforeseen circumstances that directly impact on the ability of one or more aircraft to operate in accordance with the vertical navigation performance requirements of RVSM airspace. Such in-flight contingencies can result from degradation of aircraft equipment associated with height-keeping or from turbulent atmospheric conditions.

9.5.2 Degradation of aircraft equipment – pilot reported

(A6, Part I – Chapter 7 and Appendix 4; A6, Part II – Chapter 7 and Appendix 2)

9.5.2.1 When informed by the pilot of an RVSM-approved aircraft operating in RVSM airspace that the aircraft's equipment no longer meets the RVSM requirements, ATC shall consider the aircraft as non-RVSM-approved.

9.5.2.2 ATC shall take action immediately to provide a minimum vertical separation of 600 m (2 000 ft) or an appropriate horizontal separation from all other aircraft concerned that are operating in RVSM airspace. Essential traffic information shall be provided as necessary. An aircraft rendered non-RVSM-approved shall normally be cleared out of RVSM airspace by ATC when it is possible to do so.

9.5.2.3 Pilots shall inform ATC, as soon as practicable, of any restoration of the proper functioning of equipment required to meet the RVSM requirements.

9.5.2.4 The first ACC/UAC to become aware of a change in an aircraft's RVSM status shall coordinate with adjacent ACCs/UACs, as appropriate.

9.5.3 Severe turbulence – not forecast

9.5.3.1 When an aircraft operating in RVSM airspace encounters severe turbulence due to weather or wake vortex that the pilot believes will impact the aircraft's capability to maintain its cleared flight level, the pilot shall inform ATC. ATC shall establish either an appropriate horizontal separation or an increased minimum vertical separation.

9.5.3.1.1 When severe turbulence encountered has made it necessary to immediately deviate from the cleared route and/or flight level, the pilot shall obtain a revised ATC clearance as soon as possible.

9.5.3.2 ATC shall, to the extent possible, accommodate pilot requests for flight level and/or route changes and shall pass on traffic information as required.

9.5.3.3 ATC shall solicit reports from other aircraft to determine whether RVSM should be suspended entirely or within a specific flight level band and/or area.

9.5.3.4 The ACC/UAC suspending RVSM shall coordinate such suspension(s) and any required adjustments to sector capacities with adjacent ACCs/UACs, as appropriate, to ensure an orderly progression to the transfer of traffic.

Appendix K – Draft Proposal for Amendment to ICAO Doc 4444 (PANS-ATM), Chapter 7 – Procedures for Aerodrome Control Service

(paragraph 4.4.23 refers)

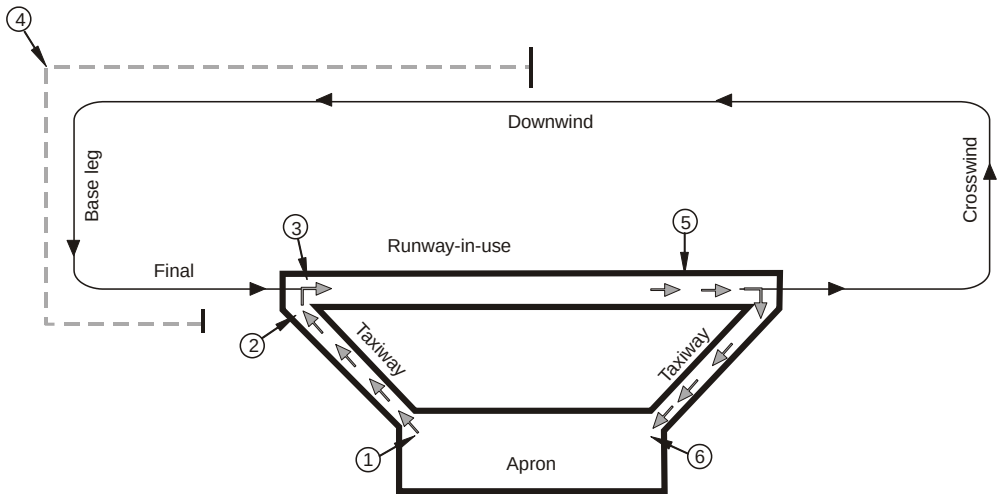

Figure 7-1. Designated positions of aircraft from an aerodrome control tower viewpoint

[…]

7.7 CONTROL OF TRAFFIC IN THE TRAFFIC CIRCUIT

7.7.1 General

7.7.1.1 Aircraft in the traffic circuit shall be controlled to provide the separation minima outlined in 7.9.2, 7.10.1 and 7.11 and Chapter 5, Section 5.8, except that:

a) aircraft in formation are exempted from the separation minima with respect to separation from other aircraft of the same flight;

b) aircraft operating in different areas or different runways on aerodromes suitable for simultaneous landings or take-offs are exempted from the separation minima;

c) separation minima shall not apply to aircraft operating under military necessity in accordance with Chapter 16, Section 16.1.

7.7.1.2 Sufficient separation shall be effected between aircraft in flight in the traffic circuit to allow the spacing of arriving and departing aircraft as outlined in 7.9.2, 7.10.1 and 7.11 and Chapter 5, Section 5.8.

7.7.1.3 When so instructed by the controller, pilots shall obtain approval prior to turning on to any of the aerodrome traffic circuit legs. When extending an aerodrome traffic circuit leg, pilots should report to ATC as soon as there is a risk that the visual contact with the runway cannot be maintained.

7.7.2 Entry of traffic circuit

7.7.2.1 The clearance to enter the traffic circuit should be issued to an aircraft whenever it is desired that the aircraft approach the landing area in accordance with current traffic circuits but traffic conditions do not yet allow a landing clearance to be issued. Depending on the circumstances and traffic conditions, an aircraft may be cleared to join at any position in the traffic circuit.

Note. - A controller may, inter alia, clear an aircraft to enter the traffic circuit by instructing the aircraft to continue in an upwind direction, parallel to the runway before crossing the runway axis to join the downwind leg.

7.7.2.2 An arriving aircraft executing an instrument approach shall normally be cleared to land straight in unless visual manoeuvring to the landing runway is required.

Appendix L – EUROCONTROL GUIDELINES FOR COLD TEMPERATURE CORRECTION BY ATS

(paragraph 4.4.26 refers)

EUROCONTROL Guidelines for Cold Temperature Corrections by ATS

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CONTENTS

EXECUTIVE SUMMARY

This document contains guidance for the ATS Authorities to develop and establish the necessary corrections for the cold temperature effect on altimetry, and a common set of methods to be used for providing the air traffic control with the minimum flight altitudes to be used when corrections for the cold temperature effect on altimetry is required.

It aims to provide a toolbox for ATS authorities and ATS providers to identify, customise and implement harmonised solutions for compensating the effect of low temperatures on altimetry.

It analyses various factors for determining and applying cold temperature corrections and explains the roles of different stakeholders in the process, based on available practices and requirements set forth in ICAO Standards and Recommended Practices and recognises but does not discuss the relation with the responsibilities for obstacle clearance.

The document is structured around a study of the general requirements for cold temperature corrections and relevant ICAO provisions. It elaborates a step-wise process for the practical application of the proposed methodology for cold temperature corrections and contains tabulated corrections for cold temperature effect.

1. Introduction

1.1 *Purpose of the document*

The purpose of this document is to provide guidance for the appropriate ATS authorities to:

- develop and establish a methodology for a consistent application of the corrections for the cold temperature effect on altimetry at the level of airspace design;
- determine the value for minimum vectoring altitude and surveillance altitudes needed to facilitate the application of cold temperature corrections by ATS.

It aims to provide a toolbox for ATS authorities and ATS providers to identify and implement harmonised solutions for compensating the effect of low temperatures on altimetry.

1.2 *Scope of the document*

The document analyses the various factors for determining and applying cold temperature corrections and explains the roles of different stakeholders in the process, based on available practices and requirements set forth in ICAO Standards and Recommended Practices. The scope is limited to methodology for application of cold temperature corrections recognising the strong link with responsibilities for obstacle clearance.

1.3 *Structure of the document*

The "Guidelines for Cold Temperature Corrections by ATS" contain three Chapters and an Annex as follows:

Chapter 1 – introduces the purpose and the scope of the document.
Chapter 2 – analyses the general requirements for cold temperature corrections and relevant ICAO provisions.
Chapter 3 – provides the process for the practical application of cold temperature corrections.
Annex A – contains tabulated corrections for cold temperature effect
Note: The electronic version of the tables including the formulas for calculating the corrections are an indispensable part of these Guidelines available at this link: xxxxxxxxxxxxxxxx

1.4 *Abbreviations*

1.5 *Reference material*

Part	Reference Material
Chapter 2	ICAO Annex 11 ICAO Doc 8168 – PANS-OPS Volume 1 – *Flight Procedures*, Part I, Section 4, Chapter 1, paragraph 1.7.5 ICAO Doc 8168 PANS-OPS, Volume I, Part II, Section 4, Chapter 1, paragraph 1.4.1 ICAO Doc 8168 PANS OPS Volume I, Part III, Section 1, Chapter 4 ICAO Doc 4444, paragraph 8.6.5.2
Chapter 3	ICAO Annex 6, Part 1, 4.2.7.1, 4.2.7.2. and 4.2.7.4 ICAO Annex 15, Appendix 1 PANS-ATM, paragraphs 8.6.5.2 and 3.1.2

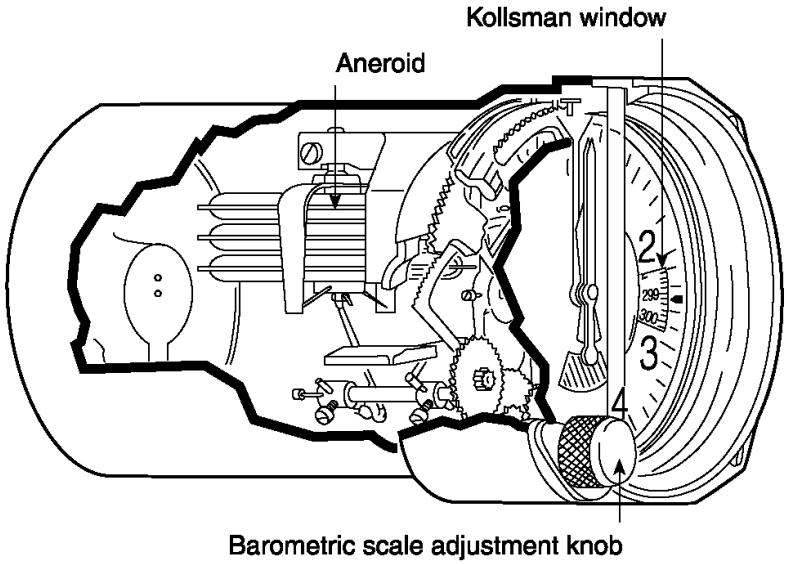
2. Requirements for Temperature Corrections

2.1 *General*

The altitude of an aircraft is determined based on the measurement of atmospheric pressure: the greater the altitude - the lower the pressure. When a barometer is supplied with a nonlinear calibration so as to indicate altitude, the instrument is called a pressure altimeter or barometric altimeter.

An aneroid barometer measures the atmospheric pressure from a static port outside the aircraft. Air pressure decreases with an increase of altitude—approximately 100 hPa per 800 meters or one inch of mercury per 1000 feet near sea level.

The aneroid altimeter is calibrated to show the pressure directly as an altitude above mean sea level, in accordance with a mathematical model defined by the International Standard Atmosphere (ISA). A barometric altimeter is a device that uses the static pressure to indicate the vertical distance from the pressure reference datum. Depending on the pressure reference datum used: 1013.2 hPa, QNH or QFE, a barometric altimeter will indicate Flight Level, Altitude or Height, accordingly.



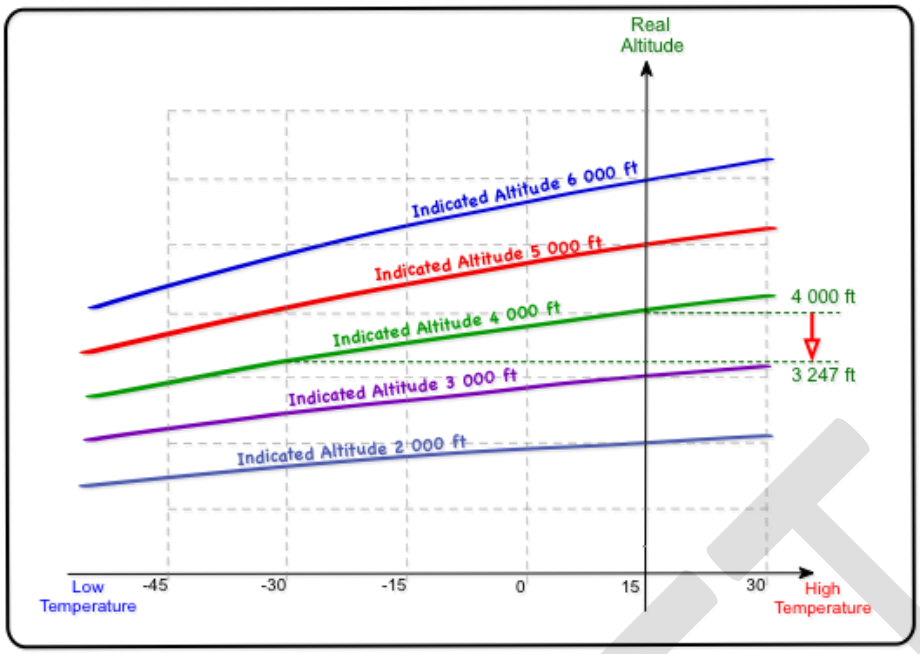
Note: Modern aircraft use pressure sensors and computerised algorithms to indicate altitude on electronic flight deck displays.

The temperature effect on the measurement made by a barometric altimeter can be explained as follows. When the atmosphere is below the temperature for which the altimeter has been calibrated, the molecules of the air lose energy and gravity is able to pull them closer to the earth. Consequently, the density and pressure of the air decrease more rapidly with height. When the atmosphere is warmed to a temperature above that for which the altimeter has been calibrated, the air molecules gain energy and can counter the force of gravity and the change in density and pressure with height is less.

If the altimeter is used under the two conditions it will experience for the same true height change a greater pressure change under the cold conditions than it will under the hot conditions. Since it converts pressure change into height change, the altimeter will register a greater height under the cold conditions than it will under the hot conditions even though the actual height ascended is the same. Consequently, the higher the altitude to be corrected, the larger the value for the correction.

For an accurate assessment of any temperature correction required, the difference from ISA temperature over the whole range of altitudes from the altimeter setting source to the true altitude of the altimeter would be needed. The corrections calculated on the temperature of the aerodrome (known as the altimeter setting source) are over-compensating the effect on altimetry, in the sense that the value for the correction is larger than the minimum needed to ensure compliance with the minimum obstacle clearance criteria

Pressure altimeters are calibrated to International Standard Atmosphere (ISA) conditions. Any deviation from ISA will result in an error proportional to the ISA deviation and to the height of the aircraft above the pressure reference datum.



Note: The diagram shows the relation between the indicated altitude and the temperature variation from ISA.

As it can be observed in the diagram, when the temperature is lower than ISA, an aircraft will be lower than indicated by the barometric altimeter. Alternatively, when the temperature is higher than ISA, the aircraft will be higher than what the baro-altimeter indicates.

Temperatures lower than ISA have an immediate effect on calculating that the appropriate clearance above obstacles exists. The most efficient means to mitigate this effect is to quantify the effect of the difference from ISA in form of an extra correction that should be added to the minimum flight altitudes/heights to ensure the appropriate clearance above obstacles and terrain.

2.2 *ICAO Provisions*

The effect of the temperatures lower than ISA is addressed by ICAO provisions, specific requirements being articulated for the ATS authorities, aircraft operators, flight crew and ATC to ensure that the required safe clearance above terrain and obstacles exists at all times. It must be emphasized that all corrections are necessary to ensure that the minimum obstacle clearance is not compromised.

The requirement to apply temperature correction to minimum altitudes is expressed in different places and in various forms in the *Procedures for Air Navigation Services – Aircraft Operations* (PANS-OPS, Doc 8168), Volume 1 – *Flight Procedures*, Part I, Section 4, Chapter 1:

a) In the context of vertical path control on non-precision approach procedures, § 1.7.5 states that "*In all cases, regardless of the flight technique used [author's note: continuous descent final approach, constant angle descent or step-down descent], a temperature correction shall be applied to all minimum altitudes to control the vertical path of an aircraft on a non-precision approach procedure*".

b) The criteria for approach operations using of Baro-VNAV equipment must take into account the temperature constraints for the design of the obstacle clearance throughout approach and landing phase down to DA/H (§ 1.8.2).

c) Although not directly expressed as a requirement, the temperature correction to minimum altitudes is addressed by having to consider the pressure altimeter error in the design of DA/H for precision approaches (Figure I-4-1-2).

2.2.1 ICAO Recommended Correction Methods

As mentioned in previous paragraphs, the calculated minimum flight altitudes/heights must be adjusted when the ambient temperature on the surface is much lower than that predicted by the standard atmosphere.
In accordance with ICAO Doc 8168, PANS-OPS, it is considered appropriate for practical operational use to apply a temperature correction when the value of the correction exceeds 20[6] per cent of the associated minimum obstacle clearance (MOC). The 20 per cent value represents 200 to 400 feet (depending on the required MOC) that can be used in operations to accommodate small deviations from the range of temperatures for which the corrections where calculated.
ICAO Doc 8168, PANS–OPS, Volume I, provides a number of methods that can be used in specific conditions:

i. 4% height increase for every 10°C below standard temperature as measured at the altimeter setting source. This is safe for all altimeter setting source altitudes for temperatures above –15°C;

ii. when the temperature measured at the altimeter setting source is lower than – 15°C, the required correction should be obtained from applying the formula below. The formula produces results that are within 5% of the accurate correction for altimeter setting sources up to 10 000 ft and with minimum heights up to 5 000 ft above that source.

$$Correction = H \times \left(\frac{15 - t_0}{273 + t_0 - 0.5 \times L_0 \times (H + H_{ss})} \right)$$

where:

H	=	minimum height above the altimeter setting source (setting source is normally the aerodrome unless otherwise specified)
t_0	=	$t_{aerodrome} + L_0 \times h_{aerodrome}$ aerodrome (or specified temperature reporting point) temperature adjusted to sea level
L_0	=	0.00198°C / ft
H_{ss}	=	altimeter setting source elevation
$t_{aerodrome}$	=	aerodrome (or specified temperature reporting point) temperature
$h_{aerodrome}$	=	aerodrome (or specified temperature reporting point) elevation

iii. when more accurate corrections are required, Equation 24 of the Engineering Data Unit (ESDU) publication, Performance, Volume 2, Item Number 77022 could be applied.

$$\Delta h_{correction} = \Delta hP_{Airplane} - \Delta hG_{Airplane} = (-\Delta T_{std}/Lo)\mathbf{ln}[1+Lo\ \Delta hP_{Airplane}/(To + Lo.hP_{Aerodrome})]$$

where:

ΔhPAirplane	=	Aircraft height above aerodrome (pressure)
ΔhGAirplane	=	Aircraft height above aerodrome (geopotential)
ΔTstd	=	temperature deviation from the standard day (ISA) temperature
Lo	=	standard temperature lapse rate with pressure altitude in the first layer (sea level to tropopause) of the ISA
To	=	standard temperature at sea level

The above equations assume a constant off-standard temperature lapse rate. The actual lapse rate may vary considerably from the assumed standard, depending on latitude, time of the year and the real time local weather system. However, the corrections derived from the linear approximation (method ii above) can be taken as a satisfactory estimate for general application at levels up to 13 000 ft. The correction from the accurate calculation is valid up to 36 000 ft.
Where required for take-off performance calculations or wherever accurate corrections are required for non-standard (as opposed to off-standard) atmospheres, appropriate methods are given in Engineering Sciences

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[6] The airspace designers considers 20 per cent rule necessary to provide the flexibility for small variations of temperature outside the range for which the corrections are calculated and incorporated into the minimum flight altitudes values provided to ATS.

IFALPA considers that a 20 per cent reduction of the minimum obstacle clearance is too large to apply temperature corrections and strongly recommends that the temperature correction is to be applied as soon as the value of correction is larger than 10 per cent of the associated minimum obstacle clearance.

Data Unit (ESDU) Item 78012, Height relationships for non-standard atmospheres. This allows for non-standard temperature lapse rates and lapse rates defined in terms of either geo-potential height or pressure height.

Although PANS-OPS provides a very accurate formula for corrections that can be applied outside the range given by the assumptions for method ii, considering that the value resulting from the application of the formula would be rounded up to a value that can be used operationally, it is considered sufficient to apply method ii for the calculation of corrections to minimum vectoring altitudes[7] (minimum vectoring altitudes or surveillance minimum altitudes) provided to ATS.

To facilitate the use of method ii above by the ATS, an electronic table is made available, the use of which is described in Annex A.

2.2.2 Responsibilities for the application of Cold Temperature Correction

The responsibilities for the application of corrections for cold temperature effect are strongly interlinked with the responsibilities for terrain/obstacle clearance.

The objectives of the air traffic control service as prescribed in ICAO Annex 11 do not include prevention of collision with terrain; however, when providing an ATS surveillance service to an IFR flight, in cases documented in PANS-ATM 8.6.5.2[8], the controller shall issue clearances such that the prescribed obstacle clearance will exist at all times.

Since the altimetry correction for the cold temperature effect is necessary to ensure the required clearance above terrain and obstacles, the responsibility for such correction goes together with the responsibility for terrain/obstacle clearance.

2.2.2.1 ATS authorities

ICAO Annex 11, paragraph 2.22 stipulates that: "*Minimum flight altitudes shall be determined and promulgated by each Contracting State for each ATS route and control area over its territory. The minimum flight altitudes determined shall provide a minimum clearance above the controlling obstacle located within the areas concerned".*

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[7] In cases where minimum vectoring altitudes are not established by the airspace designers and the controllers use (according to local procedures) a specific set of minimum flight altitudes (AMA, minimum flight level en route) or surveillance minimum altitudes when vectoring aircraft, the ATS authority should provide the corrected values for such set of minimum altitudes.

[8] ICAO Doc 4444, PANS-ATM, § 8.6.5.2:

"When vectoring an IFR flight and when giving an IFR flight a direct routing which takes the aircraft off an ATS route, the controller shall issue clearances such that the prescribed obstacle clearance will exist at all times until the aircraft reaches the point where the pilot will resume own navigation. When necessary, the relevant minimum vectoring altitude shall include a correction for low temperature effect.

Note 1.— When an IFR flight is being vectored, the pilot may be unable to determine the aircraft's exact position in respect to obstacles in this area and consequently the altitude which provides the required obstacle clearance. Detailed obstacle clearance criteria are contained in PANS-OPS (Doc 8168), Volumes I and II. See also 8.6.8.2.

Note 2.— It is the responsibility of the ATS authority to provide the controller with minimum altitudes corrected for temperature effect."

ATM Procedures Development Sub-Group of EUROCONTROL Network Operation Team considers that "the controller shall issue clearances such that the prescribed obstacle clearance will exist at all times until the aircraft reaches the point where the pilot will re-join the flight planned route, or a published ATS route or instrument procedure".

In addition, the ATS authority[9] is responsible for determining the minimum flight altitudes corrected for temperature effect. In practice, the ATS authority (for EU context see footnote 4) will provide either the values or the methodology to be used by the ATS provider to determine the above mentioned values. The ATS provider must put in place specific arrangements to ensure that the determined values are available to the controller.

2.2.2.2 Operator/Flight Crew

The flight crew is responsible for any necessary cold temperature corrections to all published minimum altitudes/heights including the altitudes/heights for the initial and intermediate segment(s); the DA/H; and subsequent missed approach altitudes/heights, except for APV/BARO-VNAV approach procedures. In accordance with ICAO Doc 8168, PANS-OPS, Volume I, Part II, Section 4, Chapter 1, § 1.4.1, the final approach path vertical path angle (VPA) is safeguarded against the effects of low temperature by the design of the procedure.

Furthermore, for IFR flights outside controlled airspace, including flights operating below the lower limit of controlled airspace, the determination of the lowest usable flight level is the responsibility of the pilot-in-command. Current or forecast QNH and temperature values should be taken into account (ICAO 8168, PANS-OPS, Part III, Section 1, Chapter 4).

In this context it should be noted that Part III, Section 1, Chapter 4 deals with altimeter corrections for pressure, temperature and, where appropriate, wind and terrain effects. The pilot is responsible for these corrections, except for the temperature correction when being vectored by ATC or issued a direct routing as documented in ICAO Doc 4444, PANS-ATM, § 8.6.5.2 (*see footnote 8*).

The ATC rules and procedures described in this document do not suggest relieving pilots of their responsibility to ensure that any clearances issued by air traffic control units are safe in respect of terrain clearance.

2.2.2.3 Air Traffic Controller

In cases documented in ICAO Doc 4444, § 2.2.2,8.6.5.2 (*see footnote 8*) a controller must issue level clearances at or above the minimum vectoring altitudes (*see footnote 7*) corrected for cold temperature effect. The minimum vectoring altitudes and correction method will be determined by the ATS Authority. In case the ATS Authority provides only the methodology to determine the corrected values, the ATS provider must put in place a specific arrangement so as to ensure that the determined values will be provided to the controller.

[9] ICAO Annexes define Appropriate ATS Authority as "the relevant authority designated by the State responsible for providing air traffic services." This Authority might be the State or suitable Agency. With the entry into force of the EU legislation on the single European sky, the EASA competence extension to ATM/ANS and the related principle of separation of service provision from supervision, the term "authority" is used thereto to *define national authorities in EU Member States which do not provide ATS*. For these cases, in these Guidelines the term "ATS authority" is meant to denote a part of a State's civil aviation administration, which could be either the National Supervisory Authority as defined by the SES legislation, national competent authority as referred by the EASA Basic Regulation (Regulation (EC) 216/2008) or any other competent national aviation authority as relevant.

3. Application of Cold Temperature Corrections

3.1 *ATS Authority*

In accordance with Annex 15, Appendix 1 (Contents of Aeronautical Information Publication), States should publish in Section GEN 3.3.5, "*The criteria used to determine minimum flight altitudes*". If nothing is published, it should be assumed that no corrections have been applied by the State[10].
Considering that, in ECAC airspace, most of the States are experiencing temperatures that require correction for minimum flight altitudes, it is recommended that such information is not omitted, and in case of no cold temperature correction applied, a clear statement to that effect is made in AIP GEN 3.3.5.

3.1.1 Determination of minimum flight altitudes

In accordance with ICAO Annex 11, 2.22, "*Minimum flight altitudes shall be determined and promulgated by each Contracting State for each ATS route and control area over its territory. The minimum flight altitudes determined shall provide a minimum clearance above the controlling obstacle located within the areas concerned*." These minimum flight altitudes can be of different types such as Area Minimum Altitude (AMA), Minimum Obstacle Clearance Altitude (MOCA), and Minimum Sector Altitude (MSA). In addition, Terminal Arrival Altitudes should be established for any RNAV procedures.
Furthermore, in accordance with ICAO Annex 15 – *Aeronautical Information Services*, the criteria used in the determination of minimum flight altitudes shall be published in the AIP, GEN 3.3.5. So shall e.g. a minimum obstacle clearance altitude (MOCA) be determined and published for each segment of the route. In mountainous areas, the MOC shall be increased and identified by the State and promulgated in the AIP

3.1.2 Determination of Temperature Corrections

When designing the structure of airspace where air traffic control is provided, an ATS authority will have to consider annual and seasonal variation of temperature when establishing the minimum flight altitudes.

The analysis of recorded meteorological data will be the basis for considering how the effect of cold temperatures should be mitigated in operations. Such an activity will indicate the magnitude of the correction required to operate within a given temperature range.

According to the airspace requirements and the surrounding environment, an airspace designer may consider a lower temperature as a reference for establishing the minimum flight altitudes.

The combination of concept of operations, airspace requirements and temperature range will indicate which of the following approaches would be appropriate for a given environment:

i. Annual

In areas where the temperatures recorded are not too low, and the seasonal variation is minor, it would be possible to calculate the cold temperature correction in accordance with historical meteorological data and publish the resulting minimum levels accordingly in the AIP. All

[10] ICAO Annex 6 recommends that the State of the operator should approve the method by which the operator is determining minimum flight altitudes (see paragraph 3.2 below). In so doing, the State should only approve such method after careful consideration of the probable effect of a number of factors including, *inter alia*, the inaccuracies in the indications of the altimeter used (ICAO Annex 6, Part 1, 4.2.7.4).

minimum altitudes should then include the cold temperature correction which would be known to pilots.
It could be that some isolated higher obstacles will be subject to special arrangements (providing a protection around the obstacle rather than raising overall the minimum flight altitudes).
This approach has the benefit of having one set of values for minimum vectoring altitudes (*see footnote 7*) applicable for the entire year.

ii. Seasonal

The low temperatures are normally recorded within a defined period of the year. When the low temperatures experienced are significantly low during this season, the buffer necessary to accommodate an annual application of cold temperature correction may lead to a less efficient use of the airspace. In such cases the appropriate ATS authorities may consider a dual set of minimum flight altitudes: one applicable during "warm season" and one during the "cold season". The activation of one or the other set of values can be indicated in the State's AIP such as: "from 1 December to 31 March the cold temperature values for minimum flight altitudes are applied".
The set of values for minimum vectoring altitudes (*see footnote 7*) a controller must use in cases documented in ICAO Doc 4444, PANS-ATM, § 8.6.5.2 (*see footnote 8*) would be provided/activated accordingly.

iii. Daily

The cold temperature corrections can also be updated on a daily basis using the coldest temperature forecast for the day as the baseline. The supervisor will use the table/methodology as provided by the appropriate ATS authority to ascertain the set of minimum vectoring altitudes (*see footnote 7*) a controller will use that day.
The State will publish in AIP that correction for low temperature effect are applied, when necessary, by ATC.

iv. Tactical

When full integration of the methodology for cold temperature correction in the ATS system is performed, the controller will be provided with the appropriate information on the CWP.
The State will publish in AIP that correction for low temperature effect are applied, when necessary, by ATC.

A common aspect for the first two solutions is that they will not cover temperatures lower than those in the selected range. Therefore, they should be supplemented with specific procedures for temperatures lower than those in the selected range.

3.1.3 Publication of Temperature Corrections in AIPs

For controlled airspace, the State has to publish in Section GEN 3.3.5, *"The criteria used to determine minimum flight altitudes"*. This could include information about method(s) used for the correction of low temperature effect and how it is published (e.g. *"published MSA/MVA contain a temperature correction down to -xx degrees C"*, or *"correction for low temperature effect is always taken into account in ATC clearances in cases documented in ICAO Doc 4444, PANS-ATM, § 8.6.5.2*").
If nothing is published in GEN 3.3.5, it should be assumed that temperature correction is not applied (ICAO Annex 15). In such cases, the pilot-in-command is not relieved of his/her responsibility to ensure that adequate terrain clearance exists.

3.2 ***Air Traffic Controller***

In cases documented in ICAO Doc 4444, PANS-ATM, § 8.6.5.2, "the controller shall issue clearances such that the prescribed obstacle clearance will exist at all times. When necessary, the relevant minimum vectoring altitude shall include a correction for low temperature effect."
However, the individual air traffic controller should not be the entity deciding how and when to apply temperature correction.
The controller should be provided with the following, as determined by ATS Authority:

- corrected values of the minimum vectoring altitudes (*see footnote 7*) to be applied
- indication and/or instruction when corrected altitudes are to be applied.[11]

Note. - When a pilot-in-command is unable to comply with level clearance issued by the controller, the pilot must inform the controller and ask for a revised clearance.

It is recommended not to oblige a controller to transmit via voice communication the information about low temperature correction application, as integral part of level clearances or instructions. Such information should rather be properly published in State's AIP and indicated on the charts concerned.
When the correction to the minimum vectoring altitudes (*see footnote 7*) is intended to cover a range of cold temperatures, it is very likely that the correction applied by ATS is greater than that required or the correction calculated by the flight crew (also considering that the pilot could use the exact temperature deviation from ISA when available on board).
This over correction occurs whenever the actual temperature is higher than the lowest temperature within the cold temperature range applied. The amount of over correction increases proportionately as the actual temperature rises above the coldest temperature within the cold temperature range and is amplified as the height of the column of air under consideration increases.
This phenomenon has the potential, in some circumstances, of generating unstable approaches when aircraft are vectored to intercept the published glide path in a manner that provides pilots with insufficient time to adjust from the ATS temperature corrected minimum vectoring altitude (*see footnote 7*) to the pilot determined temperature corrected procedure altitude.
As ATS is required to complete a safety risk assessment on how a chosen temperature correction method interacts with published instrument procedure altitudes, as described in paragraph 3.1.2, the following should be considered when vectoring an aircraft to establish an instrument approach on final approach regardless of the type of instrument approach the pilot wishes to fly:

a) If the temperature corrected minimum vectoring altitude is equal to or lower than the published instrument procedure altitude at the Final Approach Fix (FAF), over correction will not occur;
b) If the temperature corrected minimum vectoring altitude is higher than the published instrument approach procedure altitude at the FAF, over correction will occur. In order to accommodate this over correction ATC must vector the aircraft to establish it on the instrument approach procedure with sufficient distance for the pilot to adjust for the over correction prior to crossing the FAF. Once established on the instrument approach procedure, and provided a clearance for approach was issued by the controller, the pilot can initiate the appropriate adjustment for over correction. If terrain or other factors prevent vectoring of aircraft in this manner, ATC should consider one or more of the following:
    1) select a more tactical temperature correction method;
    2) review and if possible, amend the minimum vectoring altitudes in the vicinity of the final approach;
    3) review and if possible, relocate the FAF to position more distant from the threshold which in turn facilitates a higher instrument procedure altitude at the FAF; and
    4) vector aircraft to commence the instrument approach procedure at the Initial Approach Fix, or if appropriate, the Intermediate Approach Fix, as the procedure altitude at these fixes will be higher than that at the FAF.

[11] MSAW/APM alerting should be consistent with those values and applicability. In general, this should be the case for any other use of QNH corrected Mode C as well.

3.3 *Operator*

In accordance with ICAO Annex 6 Part I, 4.2.7.1, an operator shall be permitted to establish minimum flight altitudes for those routes flown for which minimum flight altitudes have been established by the State flown over or the responsible State, provided that they shall not be less than those established by that State.
Furthermore, in paragraph 4.2.7.2 of the same document above it is specified that: "*An operator shall specify the method by which it is intended to determine minimum flight altitudes for operations conducted over routes for which minimum flight altitudes have not been established by the State flown over or the responsible State, and shall include this method in the operations manual. The minimum flight altitudes determined in accordance with the above method shall not be lower than specified in Annex 2."*

3.4 *Flight Crew*

Temperature values on which to decide the magnitude of the correction needed are those at the altimeter setting source (normally the aerodrome). En route, the setting source nearest to the position of the aircraft should be used, or, when available in the aircraft, the pilot could use the temperature deviation from ISA at the actual level.
When providing ATS based on surveillance to IFR flights, in cases documented in ICAO Doc 4444, PANS-ATM, § 8.6.5.2 (*see footnote 8)*, the controller is responsible for issuing clearances such that the prescribed obstacle clearance, and implicitly the application of the necessary temperature correction, will exist at all times. However, if the pilot-in-command finds the altitude unacceptable due to low temperature, then the pilot-in-command should request a higher altitude."
In the absence of such a request, the controller will consider that the clearance has been accepted and will be complied with.
In cases of conducting non-precisions approaches where the pilot-in-command considers that the level clearance received would not allow appropriate positioning for the geometric altitude to initiate the non-precision approach, he/she should inform ATC accordingly.
When cleared and established on the instrument approach procedure, or part thereof, the pilot-in-command is responsible for applying the appropriate correction for the cold temperature effect.

ANNEX A – Instructions to use the Cold Temperature Correction Tool

A.1 General

The electronic tool (Excel Workbook) provided together with these guidelines is intended to assist airspace designers and ATS authorities, in general, to assess how temperature correction can be most effectively accommodated in the airspace design, to identify which temperature ranges would provide the most efficient utilization of a given volume of airspace.
The tool provides a number of spreadsheets where the user may calculate the value of the correction required for a given set of parameters, the possibility to calculate the effect of the cold temperature on the minimum vectoring altitude and the possibility to assess a the correction for temperature banding.

A.1.1 Table 1 – Specific Corrections

Specific Correction									
Aerodrome Elevation:		700							
Aerodrome Temperature:		-40	Specific Correction (Modified formula):				2471	ft	
MSA/SMA/MVA:		11000							
NB:									
1- The above uses a modified formula to that provided in DOC 8168 at Part III, Section 1, Chapter 4, Paragraph 4.3.3									
2- Enter values into green coloured cells									
3- The result is provided in the yellow coloured cell and is rounds up to the nearest foot.									

A.1.2 Table 2 – Specific Corrections

Accurate

CTC Required after: 100 feet

Aerodrome Elevation: 200 feet

	MSA/SMA/MVA																																		
Temperature	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	9000	9500	10000	10500	11000	11500	12000	12500	13000	13500	14000	14500	15000	15500	16000	16500	17000	17500	18000
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	2	3	4	5	6	7	8	9	10	11	12	14	15	16	17	18	19	20	21	22	24	25	26	27	28	29	30	32	33	34	35	36	38	39	40
13	4	7	10	13	16	19	22	24	27	30	33	36	39	42	45	48	51	54	57	60	63	66	69	72	75	78	81	84	87	91	94	97	100	103	106
12	7	12	17	21	26	30	35	40	45	49	54	59	64	68	73	78	83	88	93	98	102	107	112	117	122	127	132	137	142	148	153	158	163	168	173
11	10	17	23	29	36	42	49	55	62	68	75	82	88	95	102	108	115	122	129	135	142	149	156	163	170	177	184	191	198	205	212	219	226	233	241
10	13	21	29	38	46	54	63	71	79	88	96	105	113	122	130	139	148	156	165	174	182	191	200	209	218	227	236	245	254	263	272	281	290	299	309
9	16	26	36	46	56	66	76	87	97	107	118	128	138	149	159	170	180	191	202	212	223	234	244	255	266	277	288	299	310	321	332	343	355	366	377
8	19	31	43	54	66	78	90	103	115	127	139	151	164	176	188	201	213	226	238	251	264	276	289	302	315	328	341	354	367	380	393	406	419	433	446
7	22	35	49	63	77	91	105	118	133	147	161	175	189	203	218	232	246	261	275	290	305	319	334	349	364	379	394	409	424	439	454	469	485	500	515
6	25	40	56	71	87	103	119	135	150	166	182	199	215	231	247	264	280	296	313	329	346	363	380	396	413	430	447	464	481	499	516	533	551	568	585
5	28	45	63	80	98	115	133	151	169	186	204	222	241	259	277	295	314	332	351	369	388	406	425	444	463	482	501	520	539	559	578	597	617	636	656
4	31	50	69	89	108	128	147	167	187	207	227	247	267	287	307	327	348	368	388	409	430	450	471	492	513	534	555	576	598	619	641	662	684	705	727
3	34	55	76	97	119	140	162	183	205	227	249	271	293	315	337	359	382	404	427	449	472	495	518	541	564	587	610	633	657	680	704	727	751	775	799
2	37	60	83	106	130	153	176	200	224	247	271	295	319	343	368	392	416	441	465	490	515	539	564	589	615	640	665	690	716	742	767	793	819	845	871
1	40	65	90	115	140	166	191	217	242	268	294	320	346	372	398	425	451	477	504	531	558	584	611	639	666	693	721	748	776	803	831	859	887	916	944
0	43	70	97	124	151	179	206	233	261	289	317	345	373	401	429	457	486	514	543	572	601	630	659	688	718	747	777	806	836	866	896	926	956	987	1017
-1	46	75	104	133	162	191	221	250	280	310	340	370	400	430	460	491	521	552	583	613	644	676	707	738	770	801	833	865	897	929	961	993	1026	1058	1091
-2	49	80	111	142	173	205	236	267	299	331	363	395	427	459	492	524	557	589	622	655	688	722	755	788	822	856	890	924	958	992	1027	1061	1096	1131	1166
-3	52	85	118	151	184	218	251	285	318	352	386	420	454	489	523	558	592	627	662	697	733	768	804	839	875	911	947	983	1020	1056	1093	1129	1166	1203	1241
-4	55	90	125	160	196	231	266	302	338	374	410	446	482	518	555	592	628	665	703	740	777	815	852	890	928	966	1005	1043	1082	1120	1159	1198	1237	1277	1316
-5	59	95	132	170	207	244	282	319	357	395	433	471	510	548	587	626	665	704	743	783	822	862	902	942	982	1022	1063	1104	1144	1185	1226	1268	1309	1351	1393
-6	62	101	140	179	218	258	297	337	377	417	457	497	538	579	619	660	701	743	784	826	868	909	952	994	1036	1079	1121	1164	1207	1251	1294	1338	1381	1425	1469
-7	65	106	147	188	230	271	313	355	397	439	481	524	566	609	652	695	738	782	825	869	913	957	1002	1046	1091	1136	1181	1226	1271	1317	1362	1408	1454	1501	1547
-8	68	111	154	198	241	285	329	372	417	461	505	550	595	640	685	730	776	821	867	913	959	1006	1052	1099	1146	1193	1240	1288	1335	1383	1431	1479	1528	1576	1625
-9	72	117	162	207	253	299	344	390	437	483	530	576	623	671	718	765	813	861	909	957	1006	1054	1103	1152	1201	1251	1300	1350	1400	1450	1500	1551	1602	1653	1704
-10	75	122	169	217	265	312	360	409	457	506	554	603	652	702	751	801	851	901	951	1002	1052	1103	1154	1206	1257	1309	1361	1413	1465	1518	1570	1623	1676	1730	1783
-11	78	128	177	227	276	326	376	427	477	528	579	630	682	733	785	837	889	941	994	1047	1099	1153	1206	1260	1313	1367	1422	1476	1531	1586	1641	1696	1752	1807	1863
-12	82	133	185	236	288	340	393	445	498	551	604	657	711	765	819	873	927	982	1037	1092	1147	1202	1258	1314	1370	1427	1483	1540	1597	1654	1712	1770	1828	1886	1944
-13	85	139	192	246	300	355	409	464	519	574	629	685	741	797	853	909	966	1023	1080	1137	1195	1253	1311	1369	1427	1486	1545	1604	1664	1723	1783	1844	1904	1965	2026
-14	89	144	200	256	312	369	426	482	540	597	655	712	770	829	887	946	1005	1064	1124	1183	1243	1303	1364	1424	1485	1546	1608	1669	1731	1793	1856	1918	1981	2044	2108
-15	92	150	208	266	325	383	442	501	561	620	680	740	801	861	922	983	1044	1106	1168	1230	1292	1354	1417	1480	1543	1607	1671	1735	1799	1864	1928	1993	2059	2124	2190
-16	95	155	216	276	337	398	459	520	582	644	706	768	831	894	957	1020	1084	1148	1212	1276	1341	1406	1471	1536	1602	1668	1734	1801	1867	1934	2002	2069	2137	2205	2274

A.1.3 Table 3 – Temperature Banding

Temperature banding

Aerodrome Elevation:	200	feet
Start temperature:	20	degrees
Temperature banding interval:	15	degrees
CTC Required after:	100	feet
Unacceptable Max dif:	200	feet
Max diff applied below:	3000	feet
Lowest temperature:	-50	degrees

MSA 1 – MSA/SMA/MVA: 1600 ft; MSA 2 – MSA/SMA/MVA: 2000 ft

Temperature bands High		Low	MSA 1 Low temp Correction	MSA 1 High - Low Temp Diff.	MSA 1 Correction Rounded up	MSA 1 New MSA	MSA 1 Max Diff	MSA 2 Low temp Correction	MSA 2 High - Low Temp Diff.	MSA 2 Correction Rounded up	MSA 2 New MSA	MSA 2 Max Diff
20	to	5	49	74	100	1700	126	63	96	100	2100	133
4	to	-11	137	84	200	1800	146	177	108	200	2200	131
-12	to	-27	238	95	300	1900	157	306	122	400	2400	215
-28	to	-43	352	108	400	2000	155	454	139	500	2500	185

MSA 3 – MSA/SMA/MVA: 2300 ft; MSA 4 – MSA/SMA/MVA: 3000 ft

Temperature bands High		Low	MSA 3 Low temp Correction	MSA 3 High - Low Temp Diff.	MSA 3 Correction Rounded up	MSA 3 New MSA	MSA 3 Max Diff	MSA 4 Low temp Correction	MSA 4 High - Low Temp Diff.	MSA 4 Correction Rounded up	MSA 4 New MSA	MSA 4 Max Diff
20	to	5	73	112	100	2400	139	98	150	100	3100	152
4	to	-11	207	126	300	2600	219	276	168	300	3300	192
-12	to	-27	358	142	400	2700	184	479	190	500	3500	212
-28	to	-43	530	162	600	2900	232	709	217	800	3800	308

MSA 5 – MSA/SMA/MVA: 4000 ft; MSA 6 – MSA/SMA/MVA: 4800 ft

Temperature bands High		Low	MSA 5 Low temp Correction		MSA 5 Correction Rounded up	MSA 5 New MSA		MSA 6 Low temp Correction		MSA 6 Correction Rounded up	MSA 6 New MSA	
20	to	5	133		200	4200		161		200	5000	
4	to	-11	376		400	4400		457		500	5300	
-12	to	-27	652		700	4700		792		800	5600	
-28	to	-43	967		1000	5000		1174		1200	6000	

Appendix M – Draft EUR + NAT Volcanic Ash Contingency Plan

(paragraph 4.5.4 refers)

Document provided separately

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Appendix N – ICAO Crisis Management Framework

(paragraph 4.6.7 refers)

ICAO Crisis Management Framework

CHAPTER 1 - INTRODUCTION

1.1 Background

ICAO 12th Air Navigation Conference (AN-Conf/12) in Montréal in 2012 issued recommendation 4/8 "Crisis Coordination Arrangements and Contingency Plans" stating that ICAO should consider how crisis coordination arrangements for potentially disruptive events, similar to that used for volcanic eruptions, could be established on a regional basis; and also the regional offices continue to support the development, promulgation, maintenance of contingency plans, including the holding of practical exercises, in preparedness for potentially disruptive events, including those events that may adversely impact aviation safety.

Consequently, the EANPG took an initiative to establish a standardised crisis management framework based on a common concept for the management of crisis situations affecting aviation within the EUR Region, regardless of the type. This concept will include crisis coordination arrangements and crisis management principles, a non-exhaustive list of possible threat types, the four different phases of escalation of crisis and the requirement for pan/intra-regional coordination. It will take account of crisis management arrangements that exist in a number of States at national and regional level and without prejudice to the existing States' and EU arrangements. The concept could also be considered by other ICAO Regions, especially in areas where the ICAO Planning and Implementation Regional Groups (PIRGs) established Regional Contingency Plans.

A comprehensive framework for crisis management has been established in a part of the EUR region in the context of the EU Single European Sky policy through the European Aviation Crisis Coordination Cell (EACCC) supported by the Network Manager, based on EC Regulation 677/2011.

At the global level ICAO has established an internal Emergency and Incident Response (EIR) Process to coordinate the flow of information between ICAO headquarters and other interested parties within the aviation industry and, where appropriate, United Nations (UN) headquarters. The EIR process is of a strategic nature and was not established to assume control over the operational management of incidents.

1.2 Scope and objectives

This crisis management framework covers the ICAO EUR region. It supports crisis management arrangements at the national (e.g. State), sub-regional (e.g. EACCC scope), and regional level (e.g. EUR Region).

The framework:
- is built on EACCC arrangements and experience,
- aims to be in line with global ICAO provisions and be used as a basis for pan/intra-regional cooperation,
- is built on existing national and international crisis management arrangements in the EUR Region,
- aims to propose guidance for States - to help States in enhancing the level of preparedness to threat scenarios,
- aims to harmonise crisis management approach across the whole European Region.

1.3 Principles

The following principles apply:

- Arrangements intend to address crisis management in an all-hazard-approach and including all relevant stakeholders.
- Without prejudice to a State's sovereignty and for those States subject to the EU framework for crisis management, a coordination mechanism should be established to improve communication flows and facilitate harmonised decision making across the network in order to manage the impact effectively.
- The response to the crisis should be proportionate to the type of threat, its extent, and circumstances; for instance, it would be worth exploring where else the safety risk assessment methodology (SRA) could be applied more widely.
- Data/information sets and sources to support crisis management arrangements should be identified.
- Communication policy should be established to ensure that sharing of consistent information is coordinated.
- Procedure should be established for crisis escalation, recovery, and return to normal.
- Post-crisis evaluation procedures should be established.
- Arrangements should address principles related to decision making in crisis events (e.g. Safety Risk Assessment (SRA) approach in volcanic ash events).
- Arrangements should include the civil/military coordination and cooperation aspects.
- Arrangements should also cover scenarios where more than one United Nations Agency is involved in the crisis management.

1.4 Document maintenance

This document has been developed by the CRISIS Management Framework Working Group under the auspices of EANPG COG and has been adopted by EANPG following a

recommendation by the COG. The document is published as an ICAO EUR Document on the ICAO EUR/NAT Office website.

The core document will be kept under regular review by the EANPG COG and will be updated as required. The Secretariat of the ICAO EUR/NAT Regional Office will maintain Annexes.

CHAPTER 2 - ATM CRISIS MANAGEMENT PROCESS

2.1 Crisis Management Phases

This chapter covers phases in ATM Crisis Management that may be applied on a national, sub regional, or regional level, in case of a disruptive event.

2.1.1 Pre-alert

Information is received on an event, which may lead to a possible major disruption to ATM, requiring activation of the crisis management arrangements.

2.1.2 Disruption

Major ATM disruption that impacts the ATM operations and which may escalate to a crisis.

2.1.3 Crisis

State of inability to provide air navigation service at required level resulting in a major loss of capacity, or a major imbalance between capacity and demand, or a major failure in the information flow following an unusual and unforeseen situation.

2.1.4 Recovery

In the recovery phase, the operation will go back to normal, and an evaluation of the impact will be finalised.

2.2 Preparation

2.2.1 Building Procedures

The following steps should be considered:

- Establishing contacts covering:
  - Crisis Management Staff
  - Information Sources
- Defining operational instructions covering:
  - Roles
  - Responsibilities
  - Initiation of procedures
  - Actions

- Making available tools in support of crisis management:
  - Tele/video-conferencing
  - Contingency plans
  - Information resources
    - Library of information on crisis topics
    - Web portal – sites

2.2.2 Allocating Resources

The following resources should be allocated:

- Budget
- People
  - Crisis Management staff
  - Support Staff
- Facilities
  - Crisis rooms
  - Equipment (PCs, TV, cabinets, tables, chairs, etc.)
  - Communication Facilities (telephones, etc.)

2.2.3 Building Partnerships

Building partnerships with relevant stakeholders at national, regional and beyond national and regional boundaries is an essential step in the preparation for an effective crisis management.

2.2.3.1 National Network

At the national level consideration should be given to establishing partnerships should be established with:

a) Relevant stakeholders (non-exhaustive list)
   - Aircraft operators (both commercial and non-commercial) including operators of State aircraft
   - Air Navigation Service Providers at aerodromes, in the Terminal Areas and in the Area Control Centres,
   - Airport operators,
   - Military,
   - Appropriate Ministries,
   - Civil Aviation Authority and/or appropriate National (Supervisory) Authorities
   - etc.

b) Knowledge centres/Agencies

   Knowledge centres/Agencies should be supporting national aviation crisis management with expertise in their specific field.

2.2.3.2 Regional Network

In addition to partnerships established at the national level, consideration should be given to building partnerships at the regional level involving:

a) Relevant stakeholders (non-exhaustive list)

- Air Navigation Service Providers at aerodromes, in the Terminal Areas and in the Area Control Centres,
- Aircraft operators,
- Airport operators,
- Civil Aviation Authorities and/or National Supervisory Authorities
- EACCC,
- EASA,
- EU Council of Ministers,
- European Commission,
- ICAO EUR/NAT Regional Office,
- International organisations, e.g. IATA, ACI, CANSO, etc.
- Main ATM Centre (MATMC),
- Military,
- Network Manager (NM),
- etc.

b) Knowledge centres/Agencies

Knowledge centres/Agencies should be supporting aviation crisis management with expertise in their specific field, for example (non-exhaustive list):

- EC Emergency Response Coordination Centre (ERCC) managed by DG ECHO with its expertise in management of events requirement humanitarian aid or involving civil protection activities,
- Manufacturing industry
- Volcanic Ash Advisory Centres (VAAC) in London and Toulouse in the event of volcanic ash episodes,
- Other United Nations Agencies (e.g. World Health Organisation, International Atomic Energy Agency, etc.) which have a responsibility to deal with crisis management,
- etc.

c) Crisis Focal Points

A network of Aviation Crisis State Focal Points has been established in the framework of EACCC.

States in the EUR region outside the EACCC context should consider establishing the appropriate liaison at the national level to serve as the focal point in aviation crisis management.

c1. EACCC model

Role of EACCC Crisis Focal Points includes the following:
In broad terms, the State Focal Point is the individual(s) who will act as the conduit between the NM/EACCC and his/her State. Patently that individual needs to be suitably senior to command authority, and suitably experienced (in aviation preferably, but in Crisis Management if not) to engage at short notice – and likely without time to have received comprehensive briefing on the issue – with the EACCC.

It is undeniable that such an individual will not have all the answers to hand, but should have developed a national sub-structure of appropriate initial points of contact able to provide timely and accurate information into the EACCC decision-making process.

There is no definitive qualification for individuals in this position, but as a starting point, they should consider that in the times of crisis they should:

- Ensure that the NM/EACCC is notified of major disruptions and crises in his/her own State, or region;
- Share known and forecast information with the NM/EACCC;
- Understand his/her national position (e.g. in respect of safety risk assessment in volcanic ash events);
- Ensure that conclusions of the assessment of the network impact of actions generated at the national level are shared with the NM/EACCC;
- Provide a link with internal structure at the national level and, where appropriate coordinate response and mitigating actions at the national level in accordance with national procedures;
- Participate to the teleconferences of the EACCC;
- Be available for contact by NM/EACCC;
- Liaise with other, non-aviation, modes of transport at the national level in accordance with national procedures;
- Provide a link to enable consistent messaging in media lines at the national level.

Furthermore, as the work of the NM and the EACCC moves along in times of 'non-crisis', the State Focal Point should:

- Provide feedback to the NM in its follow up of actions/lessons learned from previous crises and exercises;
- Be aware of measures to be taken at the national level in the event of a crisis;
- Contribute to, and when required participate in, NM/EACCC organised exercises;
- Contribute to, and when required participate in, NM/EACCC organised workshops on procedures, tools and communication;
- Establish and maintain relations with relevant expert organisations at the national level (e.g. nuclear experts), that could provide information sources/portals;
- Establish and maintain relations with military at the national level;

- Ensure the EACCC has up-to-date contact details;
- Develop an informal national network for consultation on potential next major disruption/crisis.

c2. Others

This paragraph will be amended with input provided by States outside the NM/EACCC area and be updated in later editions.

2.2.3.3 Inter-Regional Network

As crisis often spills over the boundaries of States or Regions, in addition to partnerships established at the national and regional level, it is essential to establish close cooperation with key stakeholders beyond the boundaries of the Region, in this particular case beyond ICAO EUR Region.

a) Relevant stakeholders

Relevant aviation stakeholders outside ICAO EUR Region include, for example (non-exhaustive list):

- FAA and NAV Canada in North America,
- ISAVIA in Iceland,
- adjacent ICAO Regional Offices (mainly ASIA/PAC, MID and AFI), ASECNA in Africa, etc.

b) Knowledge centres/Agencies

Knowledge centres/Agencies outside ICAO EUR Region include, for example (non-exhaustive list):

- in USA: NOAA, NASA, etc.
- Other United Nations Agencies (e.g. World Health Organisation, etc.)
- etc.

2.2.4 Exercises/Training

Exercises should be seen as part of the continuous enhancement process, in order to identify gaps and address areas for improvement of the crisis management process. All involved stakeholders should be up to date with the crisis management procedures and their responsibilities.

Training and exercise programme in support of crisis management should be established covering, i.a.:

- Procedures
- Communication, internal and external
- Tools

2.3 Response Process

2.3.1 Information Gathering

The availability of accurate, timely and consistent data is critical to effective crisis management. To this effect procedures shall be established in order to allow for the appropriate flow of information relating to the crisis from all possible sources to sustain the crisis management activities.

Information may be gathered from, i.a.:

- Industry/ATM stakeholders
- Knowledge Centres
- Subject matter experts

2.3.2 Communication

Communication in support of crisis management should be established at:

- Crisis management operational level
- General public level.

Harmonised information dissemination needs to be ensured.

2.3.3 Decision Making

2.3.3.1 National perspective

National crisis management arrangements should ensure that proper coordination of (mitigating) measures can be carried out among the relevant stakeholders. Therefore, appropriate mechanisms should be established at a national level in support of decision making involving the State Focal Point. This is relevant in establishing an appropriate response, such as impact assessments, relevant legal framework information, operational data gathering, activation of contingency plans, etc.

2.3.3.2 Coordination on international level (harmonisation)

In times of crisis, when impact of the network involves several states, an appropriate coordination mechanism should be established to facilitate information exchange involving the relevant State Focal Points. This will assist states in the crisis response measures, and provide them with relevant information to ensure harmonised decision making.

2.4 Evaluation

2.4.1 Lessons Learned

Lessons learned evaluation should be carried out for any crisis event.

2.4.2 Action Plan

Outputs of the evaluation should be incorporated into an action plan with appropriate monitoring and follow up.

CHAPTER 3 - SCENARIO ANALYSIS

This chapter includes a number of scenarios that may lead to an aviation crisis. Each scenario contains a generic description, impact analysis, and decision making principles.

'Impact analysis' describes possible impact in terms of safety, capacity, cost and environment on:

- aircraft
- airspace
- aerodrome
- flight operations
- ANSP
- persons
- cargo

'Decision making principles' provide guidance on aviation or non-aviation stakeholders' response in managing the crisis.

1. Floods

a. Description

Flooding which may impact airport and/or ATC service infrastructure, directly as well as indirectly, i.e. access, power supplies, telecom, etc.

b. Impact analysis

Impact on aerodrome (s)

- aerodrome unavailable for flight ops
- reduced capacity
- infrastructure: building, equipment, access

Impact on flight operations

- flight cancellation
- flight re-routeing
- flight re-scheduling
- flight diversion
- flight delay

Impact on ANSP

- people: ATCOs workload
- infrastructure: building, equipment, access, communications

Impact on persons

- flight crew workload
- passenger handling
- ground personnel workload

Impact on cargo

- live stock
- goods (including dangerous goods)

c. Decision making
- State (non-aviation) authorities, airport authority and/or ANSP decide on the airport unavailability for flight operations or reduced capacity
- State (non-aviation) authority and/or ANSP decide on air navigation service provision limitation (airspace unavailability or reduced capacity for flight operations)
- Aircraft Operators will follow NOTAM and any additional instructions issued by responsible authorities

2. Earthquake

a. Description

Earthquakes which may impact airport or ATC service infrastructure, directly as well as indirectly, i.e. access, power supplies, telecom, etc.

b. Impact analysis

Impact on aircraft
- damage of aircraft on ground

Impact on aerodrome
- aerodrome unavailable for flight ops
- reduced capacity
- infrastructure: building, equipment, access

Impact on flight operations
- flight cancellation
- flight diversion
- flight re-scheduling
- flight delay

Impact on ANSP
- people: ATCOs workload
- infrastructure: building, equipment, access
- communications

Impact on persons
- flight crew workload
- passenger handling
- ground personnel health
- ground personnel workload

Impact on cargo
- live stock
- goods (including dangerous goods)

c. Decision making
- State (non-aviation) authorities, airport authority and/or ANSP decide on the airport unavailability for flight operations or reduced capacity

- State (non-aviation) authorities and/or ANSP decide on air navigation service provision limitation (airspace unavailability or reduced capacity for flight operations)
- Aircraft Operators will follow NOTAM and any additional instructions issued by responsible authorities

3. Volcanic Ash

a. Description

Volcanic ash dispersion contaminating parts of airspace and possibly covering airports.

b. Impact analysis

Impact on aircraft

- immediate safety of an aircraft:
  - "the malfunction or failure of one or more engines leading not only to reduction, or complete loss, of thrust but also to failures of electrical, pneumatic and hydraulic systems. Volcanic ash contains particles whose melting point is below modern turbine engine burner temperature; these then fuse in the turbine section reducing the throat area and efficiency leading to engine surge and possibly flame-out;"
  - the blockage of pitot and static sensors resulting in unreliable airspeed indications and erroneous warnings;
  - windscreens can be rendered partially or completely opaque; and
  - contamination of cabin air requiring Flight crew use of oxygen masks.

- the longer term safety and costs affecting the operation of aircraft:
  - the erosion of external aircraft components;
  - reduced electronic cooling efficiency and, since volcanic ash readily absorbs water, potential short circuits leading to a wide range of aircraft system failures and/or anomalous behaviour;
  - flight crew manoeuvring for volcanic cloud avoidance may potentially conflict with other aircraft in the vicinity;
  - deposits of volcanic ash on a runway resulting in a degradation of braking performance, especially if the volcanic ash is wet; in extreme cases, this can lead to runway closure; and
  - the aircraft ventilation and pressurization systems can become heavily contaminated. In particular, cleaning or replacement may be required in response to air cycle machine contamination and abrasion to rotating components, ozone converter contamination and air filter congestion.
  - contamination

Impact on airspace

- airspace unavailable for flight ops
- reduced capacity

Impact on aerodrome

(due to volcanic ash deposits on aerodrome surfaces: runway, taxiways, apron)

- aerodrome unavailable for flight ops
- reduced capacity

Impact on flight operations

- flight cancellation
- flight re routing
- flight diversion
- flight re-scheduling
- flight delay

Impact on ANSP

- ATCOs workload

Impact on persons

- flight crew health
- flight crew workload
- passenger health
- passenger handling
- ground personnel health
- ground personnel workload

Impact on cargo

- live stock
- goods (including dangerous goods)

c. Decision making

- Aircraft Operators will make flight operational decisions based on SRA/SMS approach in accordance with their SRA/SMS qualifications granted by their national authorities.
- State authorities may close airspace in the immediate vicinity of the volcano

4. Nuclear Event

a. Description

Nuclear accident resulting in nuclear emissions (e.g. nuclear powerplant) impacting flight operations in the EUR region.

b. Impact analysis

Impact on aircraft

- contamination

Impact on airspace

- airspace unavailable for flight ops
- reduced capacity

Impact on aerodrome

- aerodrome unavailable for flight ops
- reduced capacity (e.g. due to decontamination)
- infrastructure: access

Impact on flight operations

- flight cancellation
- flight re-routeing
- flight re-scheduling
- flight diversion
- flight delay

Impact on ANSP

- people: ATCOs workload
- infrastructure: access

Impact on persons

- flight crew workload
- flight crew health
- passenger health
- passenger handling
- ground personnel workload
- ground personnel health

Impact on cargo

- live stock health
- goods contamination

c. Support to decision making

- State (non-aviation) authorities (e.g. health authorities) may decide on the airport unavailability for flight operations
- State authorities, airport authority and/or ANSP decide on the airport's reduced capacity
- State (non-aviation) authorities (e.g. health authorities) may make a decision impacting air navigation service provision ability (resulting in airspace unavailability or reduced capacity for flight operations)
- Aircraft Operators will follow NOTAM and any additional instructions issued by responsible authorities

5. Armed Conflict

a. Description

Part of airspace is not available for civil traffic, special corridors may be established.

b. Impact analysis

Impact on aircraft

- immediate safety of an aircraft: an aircraft may be targeted
- damage: an aircraft may get damaged

Impact on airspace

- airspace unavailable for flight ops
- reduced capacity (due to military restrictions)

Impact on aerodrome

- aerodrome unavailable for flight ops
- reduced capacity (e.g. due to military ops)
- infrastructure: building, equipment, access

Impact on flight operations
- flight cancellation
- flight re-routeing
- flight re-scheduling
- flight diversion
- flight delay

Impact on ANSP
- people: ATCOs workload
- infrastructure: building, equipment, access
- communications

Impact on persons
- flight crew workload
- flight crew health
- passenger health
- passenger handling
- ground personnel workload
- ground personnel health

Impact on cargo
- live stock
- goods (including dangerous goods)

c. Decision making
- State authorities, airport authority and/or ANSP may decide on the airport's reduced capacity
- Appropriate (non-aviation) authorities may decide on the airport unavailability for flight operations
- State authorities and/or ANSP may decide on air navigation service provision limitation (airspace/ATS route unavailability or reduced capacity for flight operations)
- Appropriate (non-aviation) authorities may make a decision impacting air navigation service provision ability (resulting in airspace unavailability or reduced capacity for flight operations)
- Aircraft Operators will follow NOTAM and any additional instructions issued by responsible authorities

6. Hazardous Chemicals Event

a. Description

An accident/incident resulting in emissions of hazardous chemicals (e.g. chemical powerplant) impacting flight operations.

b. Impact analysis

Impact on aircraft

- immediate safety of an aircraft:
  - windscreens can be rendered partially or completely opaque
  - reduced visibility
  - contamination of cabin air requiring flight crew use of oxygen masks.
- the longer term safety and costs affecting the operation of aircraft:

- flight crew manoeuvring for area of severe smoke emission avoidance may potentially conflict with other aircraft in the vicinity;
- the aircraft ventilation and pressurization systems can become heavily contaminated.
- contamination by chemical spills.

Impact on airspace
- airspace unavailable for flight ops
- reduced capacity

Impact on aerodrome
- aerodrome unavailable for flight ops
- reduced capacity (e.g. due to inspections required)
- infrastructure: access

Impact on flight operations
- flight cancellation
- flight re-routeing
- flight re-scheduling
- flight diversion
- flight delay

Impact on ANSP
- people: ATCOs workload
- infrastructure: access

Impact on persons
- flight crew workload
- flight crew health
- passenger health
- passenger handling
- ground personnel workload
- ground personnel health

Impact on cargo
- live stock health
- goods contamination (including dangerous goods)

c. Decision making
- State (non-aviation) authorities (e.g. environmental & health authorities) may decide on the airport unavailability for flight operations
- State authorities, airport authority and/or ANSP decide on the airport's reduced capacity
- State (non-aviation) authorities (e.g. environmental & health authorities) may make a decision impacting air navigation service provision ability (resulting in airspace unavailability or reduced capacity for flight operations)
- Aircraft Operators will follow NOTAM and any additional instructions issued by responsible authorities

7. Fire

a. Description

Fire(s) with substantial smoke production impacting flight operations.

b. Impact analysis

Impact on aircraft

- immediate safety of an aircraft:
  - reduced visibility due to smoke
  - smoke contamination affecting cabin air requiring flight crew use of oxygen masks.

- the longer term safety and costs affecting the operation of aircraft:
  - the aircraft ventilation and pressurization systems can become heavily contaminated.

Impact on airspace

- airspace unavailable for flight ops
- reduced capacity

Impact on aerodrome

- aerodrome unavailable for flight ops
- reduced capacity
- infrastructure: access

Impact on flight operations

- flight cancellation
- flight re-routeing
- flight re-scheduling
- flight diversion
- flight delay

Impact on ANSP

- people: ATCOs workload
- infrastructure: access

Impact on persons

- flight crew workload
- flight crew health
- passenger health
- passenger handling
- ground personnel workload
- ground personnel health

Impact on cargo

- live stock health
- goods (including dangerous goods)

c. Support to decision making

- State (non-aviation) authorities, airport authorities and/or ANSP may decide on reduced capacity or on the airport unavailability for flight operations
- State (non-aviation) authorities (e.g. environmental & health authorities) and/or ANSP may decide on air navigation service

provision limitation (resulting in airspace unavailability or reduced capacity for flight operations)
- Aircraft Operators will follow NOTAM and any additional instructions issued by responsible authorities

8. Security Incident

a. Description

Major security incident, or threat of, resulting in airspace and/or airport(s) unavailability for civil traffic.

b. Impact analysis

Impact on aircraft
- immediate safety of an aircraft
- damage: an aircraft may get damaged

Impact on airspace
- airspace unavailable for flight ops
- reduced capacity

Impact on aerodrome
- aerodrome unavailable for flight ops
- reduced capacity
- infrastructure: building, equipment, access

Impact on flight operations
- flight cancellation
- flight re-routeing
- flight re-scheduling
- flight diversion
- flight delay

Impact on ANSP
- people: ATCOs workload
- infrastructure: building, equipment, access
- communications

Impact on persons
- flight crew workload
- flight crew health
- passenger health
- passenger handling
- ground personnel workload
- ground personnel health

Impact on cargo
- live stock
- goods (including dangerous goods)

c. Support to decision making
- State authorities, airport authority and/or ANSP may decide on the airport's reduced capacity

- Appropriate (non-aviation) authorities may decide on the airport unavailability for flight operations
- State authorities and/or ANSP may decide on air navigation service provision limitation (airspace/ATS route unavailability or reduced capacity for flight operations)
- Appropriate (non-aviation) authorities may make a decision impacting air navigation service provision ability (resulting in airspace unavailability or reduced capacity for flight operations)
- Aircraft Operators will follow NOTAM and any additional instructions issued by responsible authorities

9. Airborne spread of diseases / pandemic

a. Description

Cessation or reduction of civil air traffic from/to certain destinations, following an outbreak of communicable disease(s) in a specific region.

b. Impact analysis

Impact on aircraft

- contamination of an aircraft

Impact on aerodrome

- aerodrome unavailable for flight ops, entirely, or only for flights from certain destinations
- reduced capacity (e.g. due to quarantine)
- infrastructure: access

Impact on flight operations

- flight cancellation
- flight re-routeing
- flight re-scheduling
- flight diversion
- flight delay

Impact on ANSP

- people: ATCOs availability and/or workload
- infrastructure: access

Impact on persons

- flight crew workload
- flight crew health
- passenger health
- passenger handling
- ground personnel workload
- ground personnel health

Impact on cargo

- live stock
- goods (including dangerous goods)

c. Decision making

- State (non-aviation) authorities (e.g. health authorities) and/or ANSP may decide on the airport unavailability for flight operations
- State authorities, airport authorities and/or ANPS may decide on airport's reduced capacity
- Appropriate (non-aviation) authorities may make a decision impacting air navigation service provision ability (resulting in airspace unavailability or reduced capacity for flight operations)
- Aircraft Operators will follow NOTAM and any additional instructions issued by responsible authorities

10. Major Failure of Pan European Function

a. Description

Major failure of a pan European flow management function - for example, Network Manager Operations Centre (NMOC)

b. Impact analysis

Impact on airspace

- reduced capacity

Impact on aerodrome

- reduced capacity

Impact on flight operations

- flight cancellation
- flight re-routeing
- flight delay

Impact on ANSP

- people: ATCOs workload

Impact on persons

- passenger handling
- ground personnel workload

Impact on cargo

- live stock
- goods (including dangerous goods)

c. Support to decision making

- Airport authorities will adapt to contingency arrangements
- ANSPs will adapt to contingency arrangements
- Aircraft Operators will adapt to contingency arrangements

11. Industrial action

a. Description

Strike affecting ATM service provision and/or causing disruption to flight operations.

b. Impact analysis

Impact on airspace

- airspace unavailable for flight ops
- reduced capacity

Impact on aerodrome

- aerodrome unavailable for flight ops
- reduced capacity
- infrastructure: building, equipment, access

Impact on flight operations

- flight cancellation
- flight re-routeing
- flight re-scheduling
- flight diversion
- flight delay

Impact on ANSP

- people: ATCOs workload and/or unavailability
- infrastructure: building, equipment, access
- communications

Impact on persons

- flight crew workload
- passengers handling
- ground personnel workload

Impact on cargo

- live stock
- goods (including dangerous goods)

c. Decision making

- State authorities, airport authorities and/or ANSP may decide on the airport unavailability for flight operations or reduced capacity
- State authorities and/or ANSP may decide on air navigation service provision limitation (resulting in airspace unavailability or reduced capacity for flight operations)
- Aircraft Operators will follow NOTAM

12. Cyber attack

a. Description

A large scale cyber attack resulting in denial of air navigation service; attack on any infrastructure on aircraft, airport, ANSP and infrastructure, directly as well as indirectly, i.e. access, power supplies, telecom, etc.

b. Impact analysis

Impact on aircraft

- immediate safety of an aircraft: if aircraft equipment impacted

Impact on airspace

- airspace unavailable for flight ops
- reduced capacity

Impact on aerodrome

- aerodrome unavailable for flight ops

- reduced capacity
- infrastructure: building, equipment, access

Impact on flight operations

- flight cancellation
- flight re-routeing
- flight re-scheduling
- flight diversion
- flight delay

Impact on ANSP

- people: ATCOs workload
- infrastructure: building, equipment, access
- communications

Impact on persons

- flight crew workload
- flight crew health
- passenger health
- passenger handling
- ground personnel workload

Impact on cargo

- live stock
- goods (including dangerous goods)

c. Decision making

- Appropriate (non-aviation) authorities may decide on the airport unavailability for flight operations
- State authorities, airport authorities and ANSP may decide on the airport's reduced capacity
- State authority and/or ANSP may decide on air navigation service provision limitation (resulting in airspace unavailability or reduced capacity for flight operations)
- Appropriate (non-aviation) authorities may make a decision impacting air navigation service provision ability (resulting in airspace unavailability or reduced capacity for flight operations)
- Aircraft Operators will follow NOTAM and any additional instructions issued by responsible authorities

13. Heavy Meteorological Situation

a. Description

Heavy meteorological conditions, for example thunderstorms, snow, ice; may impact airspace, airport, aircraft operator or ATC services (infrastructure), directly as well as indirectly, i.e. access, power supplies, telecom, etc.

b. Impact analysis

Impact on aircraft

- immediate safety of an aircraft: if aircraft directly impacted
- damage: aircraft may get damaged

Impact on airspace

- airspace unavailable for flight ops
- reduced capacity

Impact on aerodrome (s)

- aerodrome unavailable for flight ops
- reduced capacity

Impact on flight operations

- flight cancellation
- flight re-routeing
- flight re-scheduling
- flight diversion
- flight delay

Impact on ANSP

- people: ATCOs workload and/or unavailability
- infrastructure: building, equipment, access
- communications

Impact on persons

- flight crew workload
- flight crew health
- passenger health
- passenger handling
- ground personnel workload
- ground personnel health

Impact on cargo

- live stock
- goods (including dangerous goods)

c. Decision making

- State authorities (non-aviation and aviation), airport authorities and/or ANSP may decide on the airport unavailability for flight operations or reduced capacity
- ANSP may decide on air navigation service provision limitation (resulting in airspace unavailability or reduced capacity for flight operations)
- Aircraft Operators will make flight ops decisions based on the available MET information

14. Threats from Space

14.1 Space Debris & Meteorites

a. Description

Space debris and meteorites may impact aircraft, airport, flight operations or ATC service(s) (infrastructure), directly as well as indirectly.

b. Impact analysis

Impact on aircraft

- immediate safety of an aircraft: accident of an aircraft hit by space debris or meteorite
- damage: aircraft may get damaged

Impact on airspace

- airspace impact assessment currently lacks timely predictability and accuracy

Impact on aerodrome(s)

- aerodrome unavailable for flight ops
- reduced capacity
- infrastructure: building, equipment, access

Impact on flight operations

- flight cancellation
- flight re-routeing (tactical)
- flight diversion
- flight delay

Impact on ANSP

- people: ATCOs workload
- infrastructure: building, equipment, access
- communications

Impact on persons

- flight crew workload
- flight crew health
- passenger health
- passenger handling
- ground personnel workload
- ground personnel health

Impact on cargo

- live stock
- goods (including dangerous goods)

c. Decision making

- State authorities (non-aviation and aviation), airport authorities and/or ANSP may decide on the airport unavailability for flight operations or reduced capacity
- Airspace impact assessment currently lacks timely predictability and accuracy
- Aircraft Operators will follow NOTAM

14.2 Space Weather

a. Description

Solar activity impacting satellite navigation, HF, ground infrastructure (e.g. power supply) and leading to increased radiation.

b. Impact analysis

Impact on aircraft

- immediate safety of an aircraft: if satellite navigation or HF impacted

Impact on airspace
- reduced capacity

Impact on aerodrome(s)
- reduced capacity if satellite navigation impacted
- infrastructure: equipment

Impact on flight operations
- flight re-routeing
- flight diversion
- flight delay

Impact on ANSP
- people: ATCOs workload
- infrastructure: equipment
- communications

Impact on persons
- flight crew workload
- flight crew health
- passenger health
- passenger handling

Impact on cargo
- live stock
- goods (including dangerous goods)

c. Decision making
- State authorities (non-aviation and aviation), airport authorities and/or ANSP may decide on the airport reduced capacity
- Aircraft Operators will make flight operations decisions based on the available space weather information

15. Shortage of Fuel

a. Description

Shortage of fuel supply.

b. Impact analysis

Impact on aerodrome(s)
- aerodrome unavailable for flight ops
- reduced capacity

Impact on flight operations
- flight cancellation
- flight re-scheduling
- flight diversion

Impact on persons
- flight crew workload
- passenger handling
- ground personnel workload

Impact on cargo
- live stock

- goods (including dangerous goods)

c. Decision making
   - State authorities (non-aviation and aviation), airport authorities and/or ANSP may decide on the airport unavailability for flight operations or reduced capacity
   - Aircraft Operators will make flight operations decisions based on the available fuel information

Annex 1 – Impact Overview

Crisis Scenario		Floods	Earthquake	Volcanic Ash	Nuclear Event	Armed conflict	Hazardous Chemicals Event	Fire	Security incident	Airborne spread of diseases /Pandemic	Major Failure of Pan European Function	Industrial Action	Cyber Attack	Heavy Met Situation	Threats from Space		Shortage of Fuel
Impact on	**Impact type**														Space Debris & Meteorites	Space Weather	
Aircraft	Immediate (Crash)																
	Longer term (Damage)																
Airspace	Unavailable														?		
	Reduced capacity																
Aerodrome	Unavailable																
	Reduced capacity																
	Infrastructure																
Flight Operations	Cancellation																
	Re-routing														tactical		
	Re-scheduling																
	Diversion																
	Delay																
ANSP	People																
	Infrastructure																
	Communications																
Persons	Flight crew workload																
	Flight crew health																
	Passenger health																
	Passenger handling																
	Ground personnel workload																
	Ground personnel health																
Cargo	Live stock																
	Goods																

Annex 2 – Acronyms

ACI	Airport Council International
AFI	ICAO African Region
AIREP's	Air Report
AN	Air Navigation
ANSP	Air Navigation Service Provider
ASECNA	The Agency for Aerial Navigation Safety in Africa and Madagascar
ASIA/PAC	ICAO Asia and Pacific Region
ATC	Air Traffic Control
ATCO	Air Traffic Controller
ATM	Air Traffic Management
CANSO	*Civil Air Navigation Services Organisation*
COG	EANPG Program Coordination Group
DG-ECHO	European Commission Humanitarian Aid & Civil Protection
EACCC	European Aviation Crisis Coordination Cell
EANPG	European Air Navigation Planning Group
EASA	European Aviation Safety Agency
EIR	Emergency and Incident Response
ERCC	*European Emergency Response Coordination Centre*
EU	European Union
EUR	ICAO European Region
EVITA	European Crisis Visualisation Interactive Tool for ATFCM
FAA	*Federal Aviation Administration*
IAEA	*International Atomic Energy Agency*
IATA	International Airline Transport Association
ICAO	International Civil Aviation Organization
MET	Meteorological
MID	ICAO Middle East Region
NASA	National Aeronautics and Space Administration
NAV Canada	Navigation CanadA
NM	Network Manager
NOAA	*National Oceanic and Atmospheric Administration*
NOP Portal	Network Operation Portal
NOTAM	Notice to Airmen
SRA	Safety Risk Methodology
UN	United Nations
USA	United States of America
VAAC	Volcanic Ash Advisory Centres
WHO	World Health Organization

Annex 3 – Bibliography

1. EACCC Rules of Procedure (available on request from EUROCONTROL/Network Manager)
2. EC Regulation 677/2011 (COMMISSION REGULATION (EU) No 677/2011 laying down detailed rules for the implementation of air traffic management (ATM) network functions - http://ec.europa.eu/transport/modes/air/single_european_sky/doc/2012_10_24_regeu677_2011_oj_l185.pdf)
3. ICAO Doc 7300 , Convention on International Civil Aviation
4. ICAO Annex 6, Aircraft Operations and related Guidance Material
5. ICAO Annex 11, Air Traffic Services and related Guidance Material
6. ICAO Annex 13, Aircraft Accident and Incident Investigations and Tools
7. ICAO Annex 15, Aeronautical information Services
8. ICAO Annex 17 Aviation Security and related Guidance Material, Tools and Processes
9. ICAO Annex 19 Safety Management and related Guidance Material, Tools and Processes
10. NATO AC/52 (EAPC)D(2013)0005, Annex 1, NATO Airborne Early Warning and Control (NAEW&C) considerations regarding the Air Traffic Management (ATM) system in conflict and crisis situations

Appendix O – Statement presented by the Russian Federation

(paragraph 4.6.8 refers)

In view of the information report presented by the Ukrainian delegation on 25 November 2014 the Russian Federation states that:

Guided by the principles of the Chicago Convention, during the previous meetings between the plenipotent representatives of the Russian Federation and Ukraine under ICAO aegis, the Russian party made a number of proposals aimed at finding solutions for safety provision and adequate air navigation services for international civil aviation operations in the Simferopol FIR.

However, the Ukrainian party refused to discuss the said initiatives, categorically insisting on the full closure of the Simferopol FIR airspace as well as the airports in the territory of the Crimean Peninsula. We believe that such an approach of the Ukrainian party does not comply with safety requirements for international civil aviation operations and interests of international users of this airspace.

The representatives of the Russian Federation on multiple occasions have stressed that the strategic goal is to begin a bilateral dialogue with Ukraine on reviewing the Simferopol FIR boundaries, and taking into account that this issue is within the ICAO competence it shall be settled by means of negotiations and in accordance with ICAO procedures. This shall allow airlines to resume international operations along the routes in the airspace of the Republic of Crimea and over the High seas within the Simferopol FIR which was previously withdrawn from the service process by the Ukrainian aviation authority after issuing a number of NOTAMs.

During the negotiations, the Russian party stressed that it has all the necessary technical equipment and capability, experienced certified staff members who previously worked and continue working in Simferopol ACC, in order to provide safe international air navigation in the Simferopol FIR.

The Russian party drew special attention to the fact, that the redistribution of the Simferopol FIR airspace between Odessa ACC and Dnepropetrovsk ACC, organized by the Ukrainian party, is a politically and economically motivated decision, and it does not reflect the real technical capabilities of the mentioned ACCs and negatively impacts flight safety in this region.

Furthermore, the Russian party believes that the decision made by the Ukrainian party is not compliant with the provisions of the Articles 25 and 27 of the Convention on International Civil Aviation (Doc 7300/9 - Chicago Convention, 1944) and Annex 11 to it as well as the Resolution A38-12 of the 38th ICAO Assembly Meeting which states that "*the limits of ATS airspace, where over States' territories or over the high seas, shall be established on the basis of technical and operational considerations with the aim of ensuring safety and optimizing efficiency and economy for both providers and users of the services*" (item 1, Appendix G, A38-12).

Earlier, during the negotiations, ICAO representatives having noted the significant role of the Russian Federation in international civil aviation activities, took notice of this information and agreed with the Russian Federation on the view that removing tension and restoring normal operations of international civil aviation in the Simferopol FIR corresponds to the interest of airspace users to receive continuous and safe air navigation services using airways which are optimal in terms of flying time, fuel efficiency and C02 emissions reduction.

It was pointed out that the inability to come to an agreement at a bilateral level as well as consequently bringing the issue to the ICAO Council level would be highly undesirable.

The Russian party urged the participants of the meetings to discuss only technical aspects of the issue without going into politics noting the increased expences of airspace users, caused by the strong recommendation of the Ukrainian party to circumnavigate Simferopol FIR using alternative routings.

The Russian party remains open for broad cooperation on the issues related to the provision of air traffic within the Simferopol FIR and is prepared to reiterate its responsibilities taken during the previous meetings by making mutually acceptable decisions by all parties concerned.

Such decisions shall adhere to ICAO SARPs, be aimed at safety provision to international civil aviation operations and shall allow starting the procedure of amending the ICAO Regional Air Navigaion Plan.

Appendix P – Methodology for Reporting and Assessing the Progress related to the Transition from AIS to AIM

(paragraph 4.7.8 refers)

1. Introduction

Transition from Aeronautical Information Services (AIS) to Aeronautical Information Management (AIM) is a high-priority area for air navigation progress. This is a strategic positioning initiative to drive the delivery of improved aeronautical information in terms of quality, timeliness and the identification of new services and products to better serve aeronautical users (ICAO Global Air Navigation Report-2014). This methodology aims to develop a method and plan for the reporting by the States on the progress achieved for transition from AIS to AIM, based on the ICAO Roadmap for Transition from AIS to AIM.

2. Need for reporting and assessing the progress related to the transition from AIS to AIM

The ICAO air navigation planning and implementation performance framework requires that reporting, monitoring, analysis and review activities be conducted on a cyclical, annual basis (ICAO DOC 9750). Data gathered would have a number of uses, inter alia:

- **ICAO monitoring functions:** a purpose of this Methodology is to meet the ICAO monitoring requirements related to air navigation planning and implementation. Reporting and monitoring results will be analyzed by ICAO and aviation stakeholders and then utilized in developing the annual Global Air Navigation Report, as well (ICAO DOC 9750).

- **Global Air Navigation Report (GANR):** all or part(s) of data would be reflected in the Global Air Navigation Report (GANR). The report results will provide an opportunity for the world civil aviation community to compare progress across different ICAO Regions in the establishment of air navigation infrastructure and performance-based procedures (ICAO DOC 9750).

- **Regional Performance Dashboards:** all or part(s) of data would be reflected in the Regional Performance Dashboards.

3. Methodology approach

Main approach of this Methodology in data collection and reporting is quantitative, based on the SMART rule. All Elements and Metrics/Indicators used for reporting should be Specific, Measurable, Achievable, Relevant and Time-bounded. Moreover, the Methodology has to reflect 4Ws (Why, What, Who and When) related to each Element. Accordingly, some steps of the ICAO Roadmap for the transition from AIS to AIM (i.e. P-02 Data integrity monitoring, P-07 Unique identifiers, P-10 Communication networks, P-16 Training and P-19 Interoperability with meteorological products) are not considered for reporting purposes, whereas they are already part of other steps and/or measurement of which could not be carried out in a quantitative manner.

4. Data collection strategy

In order to avoid confusion using numerous reporting forms for data collection from States, the data collection intended by this Methodology would be carried out through current data collection tools (i.e. eANP Tables, etc.). Special excel sheets in support of the collection of data may be used, if needed

5. Structure of the Methodology Plan

The structure of the Methodology Plan consists of the following elements:

1- Element (Phase/Step/Step No.): refers to the Phase number (1-3), Step and Step number (1-21) of the ICAO Roadmap for transition from AIS to AIM. Some steps of the ICAO Roadmap for the transition from AIS to AIM (i.e. P-02, P-07, P-10, P-16 and P-19) are not considered for reporting purposes, whereas they are already part of other steps and/or measurement of which could not be carried out in a quantitative manner.

2- Metric/Indicator: refers to the status of compliance/implementation of step and could be e.g. Non-Compliance (NC), Partially Compliance (PC) or Fully Compliance (FC).

3- Source of data (How to collect data): the main tool for the collection of data would be eANP Tables. Special excel sheets in support of the collection of data may be used, if needed.

4- Who will collect data: data should be collected by ICAO HQ/ICAO Regional Office.

5- When to collect data: data for each report would be collected in December.

6- Year of publishing Report: the year, on which the Reports (Global Air Navigation Report & Regional Performance Dashboard) would be published.

7- Remarks: any additional information, e.g. in case of status of implementation is PC; list of sub-elements that have been implemented.

6. Methodology plan for annual reporting

Element (Phase/Step/Step No.)			Metric/ Indicator	Source of data (How to collect data)	Who will collect data*	When to collect data	Year of publishing Report	Remarks
1			2	3	4	5	6	7
Phase 1								
AIRAC adherence		P-03	FC/NC	eANP	ICAO HQ/RO	Dec, 2013	2014	Completed-2014
WGS-84 implementation		P-05	FC/PC/NC	eANP	ICAO HQ/RO	Dec, 2013	2014	Completed-2014
QMS		P-17	FC/NC	eANP	ICAO HQ/RO	Dec, 2013	2014	Completed-2014
Phase 2								
Data quality monitoring		P-01	FI/NI	TBD	TBD	TBD	TBD	
Data integrity monitoring		P-02	N/A	N/A	N/A	N/A	N/A	N/A (Merged in P-01)
Integrated aeronautical information database	AIXM-based AIS Database	P-06	FI/NI	eANP	ICAO HQ/RO	Dec, 2014	2015	*Structured Aeronautical Information Database with digital exchange capabilities (e.g. AIXM)* Ongoing
	Implementation of IAID		FI/PI/NI	TBD	TBD	TBD	TBD	*In case of PC, list name of AI Products of IAID*
Unique identifiers		P-07	N/A	N/A	N/A	N/A	N/A	Linked to P-06
Aeronautical information conceptual model		P-08	N/A	N/A	N/A	N/A	N/A	Linked to P-06
Electronic AIP		P-11	FI/NI	eANP	ICAO HQ/RO	Dec, 2014	2015	Ongoing-2015
Terrain	Area 1	P-13	FC/NC	eANP	ICAO HQ/RO	Dec, 2014	2015	Ongoing-2015
	Area 4	P-13	FC/PC/NC	eANP	ICAO HQ/RO	Dec, 2014	2015	*In case of PC, list name of ADs* Ongoing-2015
	Area 2a	P-13	FC/PC/NC	eANP	ICAO HQ/RO	Dec, 2015	2016	*In case of PC, list name of ADs*
	Take-off flight path area	P-13	FC/PC/NC	- eANP	ICAO HQ/RO	Dec, 2015	2016	*In case of PC, list name of ADs*

Element (Phase/Step/Step No.)			Metric/ Indicator	Source of data (How to collect data)	Who will collect data*	When to collect data	Year of publishing Report	Remarks
1			2	3	4	5	6	7
	An area bounded by the lateral extent of the aerodrome obstacle limitation surfaces	P-13	FC/PC/NC	- eANP	ICAO HQ/RO	Dec, 2015	2016	*In case of PC, list name of ADs*
Obstacles	Area 1	P-14	FC/NC	- eANP	ICAO HQ/RO	Dec, 2014	2015	Ongoing-2015
	Area 4	P-14	FC/PC/NC	- eANP	ICAO HQ/RO	Dec, 2014	2015	*In case of PC, list name of ADs* Ongoing-2015
	Area 2a	P-14	FC/PC/NC	- eANP	ICAO HQ/RO	Dec, 2015	2016	*In case of PC, list name of ADs*
	objects in the take-off flight path area which project above a plane surface having a 1.2 per cent slope and having a common origin with the take-off flight path area	P-14	FC/PC/NC	- eANP	ICAO HQ/RO	Dec, 2015	2016	*In case of PC, list name of ADs*
	penetrations of the aerodrome obstacle limitation surfaces	P-14	FC/PC/NC	- eANP	ICAO HQ/RO	Dec, 2015	2016	*In case of PC, list name of ADs*
Aerodrome mapping		P-15	FI/PI/NI	TBD	TBD	TBD	TBD	*In case of PC, list name of ADs*
Phase 3								
Aeronautical data exchange		P-09	FI/PI/NI	TBD	TBD	TBD	TBD	*In case of PC, list name of Units (Data Originators/Users)*
Communication networks		P-10	N/A	N/A	N/A	N/A	N/A	N/A
Aeronautical information briefing		P-12	FI/PI/NI	TBD	TBD	TBD	TBD	*In case of PC, list name of ADs*
Training		P-16	N/A	N/A	N/A	N/A	N/A	N/A

Element (Phase/Step/Step No.)		**Metric/ Indicator**	**Source of data (How to collect data)**	**Who will collect data***	**When to collect data**	**Year of publishing Report**	**Remarks**
1		**2**	**3**	**4**	**5**	**6**	**7**
Agreement with data originators	P-18	FI/PI/NI	- eANP	ICAO HQ/RO	Dec, 2015	2016	*In case of PC, list name of Data Originator(s)*
Interoperability with meteorological products	P-19	N/A	N/A	N/A	N/A	N/A	N/A
Electronic aeronautical charts	P-20	FI/NI	TBD	TBD	TBD	TBD	
Digital NOTAM	P-21	FI/NI	TBD	TBD	TBD	TBD	

FC: Fully Compliant; PC: Partially Compliant; NC: Not Implemented; FI: Fully Implemented; PI: Partially Implemented; NI: Not Compliant; N/A: Not Applicable

** Data collection will be carried out by ICAO Headquarters and Regional Offices.*

7. Data collection timeframe

Year of reporting	Element	Step No.	Remarks
2014	AIRAC adherence WGS-84 implementation QMS	P-03 P-05 P-17	Completed
2015	AIXM-based AIS Database Electronic AIP Terrain (Area 1 and Area 4) Obstacles (Area 1 and Area 4)	P-06 P-11 P-13 P-14	Ongoing
2016	Terrain (Area 2a) Obstacles (Area 1 and Area 4) Agreement with data originators	P-13 P-14 P-18	
2017 +	TBD	TBD	

8. Finalization/Compliance Criteria

The Criteria by which finalization and compliance with the Metric (Step) can be realized.

Element (Step)	Finalization criteria or Implementation/Compliance Criteria (for the 2015-2016 Metrics)
AIXM-based AIS Database	National aeronautical data and information is stored and maintained in AIXM-based AIS database.
Electronic AIP	National AIP GEN 3.1.3 ‘Aeronautical publications’ provides information about the availability of the National AIP in electronic format (eAIP)
Terrain Dataset Area 1	National AIP GEN 3.1.6 ‘Electronic terrain and obstacle’ provides information on how the dataset can be obtained
Terrain Dataset Area 4	National AIP GEN 3.1.6 ‘Electronic terrain and obstacle‘ provides information on how the dataset for specific CAT II/III RWY can be obtained. States should indicate in remarks the number of existing CAT II/III RWY. N/A for States with no CAT II/III RWY.

Terrain Dataset Area 2[12]	National AIP GEN 3.1.6 ‘Electronic terrain and obstacle‘ provides information on how the dataset can be obtained. States should indicate in remarks the number of AD eligible for provision of Area 2 data. This number should come from the Regional eANP Table AOP II-1 – for aerodromes with one of the following designation: — RS: international scheduled air transport, regular use — RNS: international non-scheduled air transport, regular use — RG: international general aviation, regular use.
Obstacle Dataset Area 1	National AIP GEN 3.1.6 ‘Electronic terrain and obstacle provides information on how the dataset can be obtained
Obstacle Dataset Area 4	National AIP GEN 3.1.6 ‘Electronic terrain and obstacle data’ provides information on how the dataset for specific CAT II/III RWY can be obtained. States should indicate in remarks the number of existing CAT II/III RWY. N/A for States with no CAT II/III RWY.
Obstacle Dataset Area 2[13]	National AIP GEN 3.1.6 ‘Electronic terrain and obstacle provides information on how the dataset can be obtained. States should indicate in remarks the number of AD eligible for provision of Area 2 data. This number should come from the Regional eANP Table AOP II-1 – for aerodromes with one of the following designation: — RS: international scheduled air transport, regular use — RNS: international non-scheduled air transport, regular use — RG: international general aviation, regular use.
Agreement with data originators	TBD

[12] Data set requirements in accordance with Annex 15 (10.1.5)
[13] Data set requirements in accordance with Annex 15 10.1.6

Appendix Q – Preliminary Guiding Material on Enforcement of Implementation of ICAO RVSM Requirements (RMA Eurasia)

(paragraph 5.4.2 refers)

Preliminary Guiding Material on Enforcement of Implementation of ICAO RVSM Requirements (RMA Eurasia)

List of Abbreviations

AAD	Assigned Altitude Deviation
ASE	Altimetry System Error
ATS	Air Traffic Service
COG EANPG	Coordinating Group of the European Air Navigation Planning Group
EANPG	European Air Navigation Planning Group
FIR	Flight Information Region
ICAO	International Civil Aviation Organization
MMR	Minimum Monitoring Requirements
RASG	Regional Aviation Safety Group
RMA	Regional Monitoring Agency
RVSM	Reduced Vertical Separation Minima
TVE	Total Vertical Error

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1. Introduction

1.1 Background

During the preparation for the RVSM implementation ICAO had organized a number of specialized research activities and working programs in order to prevent flight safety degradation after the vertical separation minima reduction. As a result of these activities a system of requirements had been established. If followed simultaneously, these requirements will provide for the accident risk corresponding to the stipulated RVSM flight safety target level. This system includes the following requirements:

- aircraft equipment requirements;
- altimetry system accuracy requirements;
- requirements to organization of aircraft operation;
- requirements to organization of the issuance by the state authorities of RVSM approvals to aircraft and operators;
- standardized flight operation regulations and procedures;
- standardized ATS procedures;
- requirements to participation of operators and aircraft in the height-keeping performance monitoring program as part of long-term monitoring;
- rules for the organization of the data collection for use of the flight safety assessment;
- rules for the flight safety assessment.

In order to monitor fulfillment of the stipulated requirements at the global level 13 Regional Monitoring Agencies (RMAs) have been established. At the present moment within the European region of ICAO, European Regional Monitoring Agency (EUR RMA) and Regional Monitoring Agency EURASIA (RMA EURASIA) are operating. Each year these RMAs present reports on the flight safety within the RVSM airspace of the European region of ICAO as well as analytical materials on the implementation of the stipulated requirements to the European Air Navigation Planning Group (EANPG).

The results of the flight operations audit, which is regularly conducted by two RMAs within the European region of ICAO, showed that there was a gradual increase of the number of flights performed by the aircraft, which were not holding the RVSM approval. Reason for that is weakening of the internal monitoring of compliance with the stipulated requirements within the airlines as well as the

shortcomings in the organization of issuance and extension of the RVSM approvals by certain state authorities.

Pending the use of RVSM a lot of information had been accumulated based on the altimetry system error monitoring for different types and specimen of aircraft. Based on the analysis of this data it was concluded that the assumption on the altimetry systems' stability is incorrect. Degradation of the accuracy performance of the altimetry systems is true not only for the aging models and specimen of aircraft but also for the aircraft designed and produced during the recent years. At the same time not all operators fully recognize the need to conduct a regular monitoring of the altimetry system error for their aircraft based on the minimum monitoring requirements. On the other hand certain state authorities did not establish appropriate monitoring of fulfillment of these requirements as well.

Experience in collection of data on large height deviations showed that many States could not fully deploy the required large height deviations monitoring. This has an impact on the level of creditability of the overall risk assessment for flights within the RVSM airspace. At the same time the results of the large height deviations monitoring provided by the objective control means, which had been organized in certain FIRs of the European region of ICAO, showed that such events occur regularly.

1.2 Possible Remedial Actions

Despite the fact that after the RVSM implementation the yearly RVSM flight safety assessment shows that the technical and overall risk values are still within the stipulated limits the Regional Air Navigation Planning Group noted the systematic nature of the shortcomings listed above, which can pose threats to flight safety. EANPG raised a concern due to the detected rising trend in number of aircraft as well as state authorities infringing the stipulated requirements. As part of the proactive measures development EANPG jointly with the Regional Aviation Safety Group (RASG) adopted the decision to conduct an international Symposium on the RVSM flight safety. The materials from the Symposium were considered at COG EANPG 60. As a result a list of possible remedial actions was developed to be used when systematic infringements of the stipulated requirements and rules are detected. These actions include the following:

- inclusion of the State into the list of States having shortcomings in air navigation field;
- publication of the list of aircraft infringing the stipulated requirements;
- RVSM airspace flight ban for certain aircraft;
- use of the ICAO Continuous Monitoring Program towards the States infringing the requirements;
- RVSM airspace flight ban for certain aircraft or operators;
- suspension of the RVSM use in a part of the airspace;
- suspension of the RVSM use in a region.

Based on that two RMAs were charged with the task to develop a system of notification of the parties concerned on the detected violations during organization or performance of flights within the RVSM airspace. Also two RMAs were charged with the task to prepare the recommendations on the possible actions against the parties infringing the stipulated requirements.

The objective of this Guiding Material is to establish a system of notification of all parties concerned on the detected violations during organization or performance of flights within the RVSM airspace, and development of a list of possible actions against the identified violators.

The use of this Guiding Material will provide for the elimination of the causes, which can lead to a negative impact on the achievement of the objectives of the Safety Policy within the European region of ICAO.

This Guiding Material was considered at the 56th Meeting of ICAO European Air Navigation Planning Group. It was presented by EUR RMA and RMA EURASIA. The Meeting recommended it for the use by all parties concerned of the European region of ICAO (as far as concerned).

2. Regional Monitoring Agencies' Bulletin on Aircraft Violating ICAO Requirements to the Flights within the RVSM Airspace

2.1 Purpose of the Bulletin

Regional Monitoring Agencies' Bulletin on RVSM non-compliant Aircraft (hereinafter referred to as the RMAs' Bulletin) is aimed at notifying all the participants of the organization and performance of RVSM flights within the

European region of ICAO on the identified violators of the ICAO RVSM requirements.

The RMAs' Bulletin exists only in online version and comprises the information on the aircraft of the operators registered in the States accredited in the European and North Atlantic Office of ICAO or aircraft registered within the Registries of these States.

Regional Monitoring Agencies are entitled to independently adopt decisions on inclusion/exclusion of aircraft in/from the RMAs' Bulletin. Only those aircraft can be included in the RMAs' Bulletin for which there is sufficient justification to consider that they do not comply with the RVSM requirements.

2.2 Users and Structure of the Presented Information

The users of the RMAs' Bulletin are as follows:

accredited representatives of the state authorities of the States accredited in ICAO EUR/NAT Office;

accredited representatives of the ATS providers of the States accredited in ICAO EUR/NAT Office;

accredited representatives of the operators registered in the States accredited in ICAO EUR/NAT Office as far as concerned;

accredited representatives of the international organizations (if approved by EANPG);

Regional Monitoring Agencies of other regions of the world.

Note: In order to establish cooperation with the RMA and to use the RMAs' Bulletin as far as concerned all accredited representatives shall send the F1 Form to the RMA (Doc 9937).

For the aircraft included in the RMAs' Bulletin at least the following information will be provided:

- date of inclusion of aircraft into the RMAs' Bulletin;
- ICAO code of the operator;
- name of the operator;
- ICAO code of the State of Operator;
- ICAO type of the aircraft;
- series;

- aircraft serial number;
- aircraft registration number;
- code of Mode S transponder;
- ICAO code of the State of Registration;
- RMA responsible for the decision on inclusion of the aircraft in the RMAs' Bulletin;
- justification of the inclusion of the aircraft in the RMAs' Bulletin.

Note: As justification the following reasons could be given:
- absence of the RVSM approval;
- non-compliance with the RVSM requirements;
- non-compliance with the MMR requirements.

2.3 Responsibility for Maintaining the RMAs' Bulletin

In accordance with the designated authority (Doc 9937) each RMA conducts collection and analysis of data on fulfillment of the stipulated RVSM requirements in its area of responsibility. Each RMA holds the responsibility for the justification of the adopted decision on inclusion (exclusion) of the aircraft in (from) the RMAs' Bulletin. Decision on inclusion of the aircraft in the Bulletin shall be adopted by one single RMA, which had been defined to be responsible for the adopted decision.

Each RMA can adopt an independent decision on inclusion/exclusion in/from the RMAs' Bulletin of those aircraft, which are registered in the States of the area of responsibility of that RMA, as well as whose operators are registered in its area of responsibility. In case of any issue arising from the Bulletin operators, state authorities and ATS providers shall interact with the RMA, in which their States are accredited (Doc 9937).

In case if the State of Operator and the State of Registry fall under the jurisdiction of different RMAs, the responsibility for inclusion/exclusion of the aircraft in/from the Bulletin remains with one RMA based on the agreed between two RMAs decision-making procedures. In this case when working by the Bulletin operators, state authorities and ATS providers shall interact with the RMA, which accepted the responsibility based on internal agreements.

In case if RMA detects in its area of responsibility an aircraft violating the stipulated requirements this RMA shall notify other RMAs subject to the

accreditation of the State of Registry and State of Operator, so these RMAs can adopt decision on inclusion of this aircraft or operator in the RMAs' Bulletin.

2.4 Inclusion of Aircraft in the RMAs' Bulletin

2.4.1 Inclusion of non-approved Aircraft in the RMAs' Bulletin

RMA is conducting the flight audit for the previous month based on analysis of the flight plans of the flights performed in its area of responsibility. During the audit the correctness of the Field 10 of flight plans is checked. RMA conducts the check of the performed flights based on the surveillance data received from the ATC centers. RMA adopts decision on inclusion of the aircraft in the RMAs' Bulletin as a non-RVSM-approved aircraft in case if:

1. by the results of:
    - monthly RVSM flight plan audit of this aircraft there were identified two filed flight plans with the identification "W" in the 10^{th} field, and at the same time there is no information on the availability of the RVSM approval in the database of RVSM-approved aircraft, or
    - air surveillance data analysis there was detected an aircraft flight, and at the same time there is no information on the availability of the RVSM approval in the database of RVSM-approved aircraft;
2. by the identified event RMA had requested the accredited representative responsible for approvals issuance to confirm the availability of the approval for this aircraft;
3. in 10 working days after sending request RMA did not receive from the accredited representative of the state authorities the F2 Form confirming the availability of the approval for this aircraft.

2.4.2 Inclusion of non-RVSM-compliant Aircraft in the RMAs' Bulletin

RMAs perform the altimetry system error monitoring with the help of EGMU units and ground monitoring systems, which include HMU, EAGM and AHMS. RMAs monitor the large height deviation values and their causes based on large height deviations reporting and surveillance data analysis. RMA adopts decision on inclusion of aircraft equipped for RVSM flights in the RMAs' Bulletin as a non-RVSM-compliant in case if:

- by monitoring results in any region of the world it was determined that the total vertical error (TVE) or the assigned altitude deviation (AAD) was equal to 90 meters (300 feet) and more or that the altimetry system error exceeds 75 meters (245 feet).

2.4.3 Inclusion of Aircraft non-compliant with Long-Term Monitoring Requirements in the RMAs' Bulletin

In accordance with the requirements of Annex 6 operators must undergo a periodic altimetry system error monitoring. In order to comply with the long-term monitoring requirements the operator shall have a Plan for the monitoring of its aircraft (coordinated with the RMA). RMAs shall organize and keep records of how the operator fulfills these requirements. RMA adopts decision on inclusion of the aircraft equipped for RVSM flights and performing flights within the RVSM airspace in the RMAs' Bulletin as non-compliant with long-term monitoring requirements in case if:

- aircraft flying within the RVSM airspace underwent the altimetry system error monitoring more than 2 years ago from the present date, and at the present date the operator of this aircraft does not comply with the quantitative requirements stipulated in the Minimum Monitoring Requirements (MMR) for the monitoring group of this aircraft.

2.5 Removal of Aircraft from the RMAs' Bulletin

2.5.1 Exclusion of non-approved Aircraft from the RMAs' Bulletin

RMA, which had adopted decision on inclusion of the aircraft in the RMAs' Bulletin as non-RVSM-approved, shall exclude this aircraft from the Bulletin in case if:

- RMA received from the accredited representative of the state authorities the F2 Form confirming the availability of the approval for this aircraft.

2.5.2 Exclusion of non-RVSM-compliant Aircraft from the RMAs' Bulletin

RMA, which had adopted decision on inclusion of the aircraft in the RMAs' Bulletin as non-RVSM-compliant, shall exclude this aircraft from the Bulletin in case if:

- operator submitted justifying documentation, which shows convincingly that the causes of the detected error have been eliminated; or
- RMA received from the accredited representative of the state authorities (responsible for issuance of approval) information on measures taken by the operator to eliminate the causes of the detected error; or
- by monitoring results in any region of the world it was determined that the error does not exceed the stipulated limits.

2.5.3 Exclusion of Aircraft non-compliant with Long-Term Monitoring Requirements from the RMAs' Bulletin

RMA, which had adopted decision on inclusion of the aircraft in the RMAs' Bulletin as non-compliant with long-term monitoring requirements, shall exclude this aircraft from the Bulletin in case if:

- aircraft underwent the altimetry system error monitoring in any region of the world, and the monitoring results showed its compliance with the stipulated requirements.

2.6 User access

RMAs' Bulletin users get access to the information contained in the Bulletin available at official websites of the Regional Monitoring Agencies. To access the information contained in the RMAs' Bulletin (as far as concerned) EUR RMA and RMA EURASIA provide the users of the RMAs' Bulletin with logins and passwords.

In order to access the RMAs' Bulletin available at the RMA EURASIA website the users are using the following URL address http://rma.rma-eurasia.ru/, where it is necessary to choose an appropriate user category.

In order to access the RMAs' Bulletin available at the Eurocontrol (EUR RMA) website the users are using the following URL address _____.

Accredited representatives of the state authorities of the States accredited in ICAO EUR/NAT Office are provided with the information given in item 2.2 on all

aircraft included in the RMAs' Bulletin. Beside this, they get the possibility to download this information.

Accredited representatives of the ATS providers of the States accredited in ICAO EUR/NAT Office are provided with the information given in item 2.2 on all aircraft included in the RMAs' Bulletin. Beside this, they get the possibility to download this information.

Accredited representatives of the operators, which are registered in the States accredited in ICAO EUR/NAT Office, are provided with the information given in item 2.2 on the aircraft of their operators included in the RMAs' Bulletin.

Accredited representatives of the international organizations (approved by EANPG) are provided with the information given in item 2.2 on all aircraft included in the RMAs' Bulletin. Beside this, they get the possibility to download this information.

Regional Monitoring Agencies of other regions of the world are provided with the information given in item 2.2 on all aircraft included in the RMAs' Bulletin. Beside this, they get the possibility to download this information.

2.7 Coordination between RMAs for data sharing

Regional Monitoring Agencies of EUR/NAT region are working in close cooperation and share the available data on aircraft infringing the RVSM requirements.

Each RMA maintains its own (local) list of aircraft infringing the stipulated requirements. This list contains the aircraft from its area of responsibility or aircraft, by which a joint decision of RMAs was adopted to include it in the local list of this RMA.

After any changes are introduced into its local list RMA immediately distributes the whole local list in xlsx file of agreed format among other RMAs of EUR/NAT region via e-mail. After the updated list is received from the other RMA all RMAs within one day shall update the RMAs' Bulletin available at their website in order to introduce a new edition of the received local list.

Note: If there is a technical possibility RMAs can establish at their websites an online correction of the local lists.

d) 2.8 Organization of user notification on updates of the RMAs' Bulletin

In order to increase the efficiency of flight safety provision activities within the RVSM airspace and to decrease possible financial losses of operators in case of inclusion of an aircraft in the RMAs' Bulletin the Regional Monitoring Agency shall notify the accredited representative of the state authorities responsible for issuance of approval and the operator itself if they submitted the F1 Form to RMA before.

3. Recommended actions of operators

3.1 Operator's actions in case if its aircraft is included in the RMAs' Bulletin as non-approved

Availability of an RVSM approval means that:

1. Aircraft navigation performance corresponds with the stipulated criteria of MASPS RVSM.
2. Operator established a process of realization of continuing airworthiness procedures.
3. Operator completed the flight crew training on RVSM procedures.

When an aircraft of the operator is included in the RMAs' Bulletin as non-approved, the operator shall:

1. Suspend all RVSM flights of this aircraft, and stop indicating "W" in the 10th field of the flight plan for this aircraft.
2. Perform analysis of the violation and take measures to eliminate its causes. Ensure that the aircraft complies with all requirements necessary to get the approval.
3. If needed, submit to the state authorities of the State responsible for issuance of RVSM approvals justifying documentation in order to get the flight approval.
4. By results of the taken measures, initiate submitting by the accredited representative of the state authorities of the F2 Form containing the information on the availability of approval to RMA.

3.2 Operator's actions in case if its aircraft is included in the RMAs' Bulletin as non-RVSM-compliant

Annex 6 to the Chicago Convention on International Civil Aviation stipulates the requirements for the aircraft, which have to be complied if the operator intends to get the RVSM approval for this aircraft. In order to perform RVSM flights the aircraft has to demonstrate compliance of vertical navigation performance with the stipulated requirements. Aircraft is considered as non-RVSM-compliant if by monitoring results it was determined that the total vertical error (TVE) or the assigned altitude deviation (AAD) was equal to 90 meters (300 feet) and more, or that the altimetry system error exceeds 75 meters (245 feet).

When an aircraft of the operator is included in the RMAs' Bulletin as non-RVSM-compliant, the operator shall:

1. Suspend all RVSM flight of this aircraft, and stop indicating "W" in the 10th field of the flight plan for this aircraft.
2. Take measures to eliminate the causes of the detected error.
3. Submit to the state authorities the justifying documentation on measures taken by the operator to eliminate the causes of the detected error.
4. Submit to RMA, in which region the State responsible for issuance of approval is accredited, the justifying documentation on measures taken by the operator to eliminate the causes of the detected error.
5. Notify RMA of the date and place, where the repeated monitoring took place (in one of the regions of the world).

Note: List of actions recommended for implementation in case of detection of certain types of errors is published on RMA's website.

3.3 Operator's actions in case if its aircraft is included in the RMAs' Bulletin as non-compliant with long-term monitoring requirements

In accordance with Annex 6 operator shall regularly follow the stipulated airworthiness procedures and participate in the height-keeping performance monitoring program. States must set the requirements, which ensure the operators' participation in the height-keeping performance monitoring program. When an aircraft of the operator is included in the RMAs' Bulletin as non-compliant with long-term monitoring requirements, the operator shall:

1. Develop a Monitoring Plan and coordinate it with RMA where the State responsible for issuance of approval is accredited. Submit the coordinated

Monitoring Plan to the state authorities responsible for issuance of approval.

2. Coordinate with RMA monitoring of the aircraft included in the RMAs' Bulletin and conduct its monitoring.

4. Recommended actions of the state authorities, which issued the RVSM approval

In accordance with Annex 6 the State of Operator jointly with the State of Registry must take appropriate corrective measures towards the non-compliant aircraft.

4.1 Actions of the state authorities when including an aircraft in the RMAs' Bulletin as non-approved one

In accordance with Annex 6 it is necessary that all States, which issued RVSM approval to their operators, stipulate provisions and procedures ensuring realization of appropriate actions towards the aircraft and operators, which perform flights within RVSM airspace without valid RVSM approval. The state authorities, which issued RVSM approval, shall do the following concerning the aircraft included in RMAs' Bulletin as non-approved:

1. Check the information on the availability of RVSM approval in its Register:
    a. If there is no approval, request the operator to suspend flights of this aircraft within RVSM airspace and to provide the justifying documentation needed for obtaining RVSM approval. After issuing RVSM approval for this aircraft submit the F2 Form to RMA.
    b. If the operator has the appropriate approval, submit the F2 Form to the RMA.
2. If there are multiple cases when the aircraft are included in the RMAs' Bulletin, and these aircraft have one State responsible for issuance of approvals, it is necessary to conduct an audit of the approval issuance process, identify the reasons why these aircraft are repeatedly flying without the approval and take measures to correct the process in order to eliminate the causes of the repeated non-approved flights.

4.2 Actions of the state authorities when including an aircraft in the RMAs' Bulletin as non-RVSM-compliant

In accordance with Annex 6 immediate corrective action must be taken concerning the aircraft identified as non-compliant with the RVSM height-keeping performance requirements. The state authorities, which issued the RVSM approval, shall do the following concerning the aircraft included in the RMAs' Bulletin as non-RVSM-compliant:

1. Send directions to the operator requesting to suspend the flights of this aircraft within the RVSM airspace and take corrective actions in order to eliminate the identified error.
2. After the operator takes corrective actions, submits to the state authorities appropriate justifying documentation and after the sufficient justification gathered, which allows considering that the cause of the error had been eliminated, authorize recommencement of the RVSM flights and send an appropriate notification on restoration of the approval (F2 Form) to the RMA.
3. In case if within two years there is a second case when the aircraft height-keeping performance exceeds the stipulated requirements, withdraw its approval and notify the RMA by submitting the F3 Form. After that ensure that the operator takes measures to eliminate this error. When there is sufficient justification that the operator had eliminated the error, issue the approval and submit the F2 Form to the RMA. Ensure the coordination of the Monitoring Plan between the operator and RMA and its further implementation.
4. In case if there are multiple cases when the aircraft of one monitoring group of one operator show height-keeping performance errors exceeding the stipulated requirements, withdraw approval of all aircraft of this operator belonging to this monitoring group and notify the RMA by submitting the F3 Form. Ensure that the operator follows the stipulated continuing airworthiness procedures for this type of aircraft. When there is sufficient justification that the operator follows the stipulated continuing airworthiness procedures, issue approval to the aircraft belonging to this monitoring group and submit the F2 Form to the RMA. Ensure the

coordination of the Monitoring Plan between the operator and RMA and its further implementation.

4.3 Actions of the state authorities when including an aircraft in the RMAs' Bulletin as non-compliant one with long-term monitoring requirements

In accordance with Annex 6 requirements the aircraft must demonstrate the vertical navigation performance compliant with the stipulated requirements. At the same time State of Operator, which issued the RVSM approval, guarantees that operator performs periodic height-keeping performance monitoring. In this respect Doc 9937 prescribes that operator has to have a Monitoring Plan. The state authorities, which issued the RVSM approval, shall do the following concerning the aircraft included in the RMAs' Bulletin as non-compliant with long-term monitoring requirements:

1. Send directions to the operator requesting to develop the Monitoring Plan and to coordinate it with the RMA.
2. Provide the monitoring of this aircraft and ensure that the operator follows the Monitoring Plan.
3. In case of extension of approval for this operator's aircraft, demand the availability of the coordinated Monitoring Plan.
4. If the operator does not follow the coordinated Monitoring Plan, withdraw approvals of all aircraft included in the Plan and notify the RMA by submitting the F3 Form. After the operator implements the Monitoring Plan and there is sufficient justification to consider that the operator follows the prescribed continuing airworthiness procedures, issue the approval and notify the RMA by submitting the F2 Form.

5. Recommended actions of the States concerning the aircraft and operators, which are included in the RMAs' Bulletin

In accordance with Annex 6 all States responsible for the RVSM airspace must set provisions and procedures, which ensure that appropriate corrective actions have been taken concerning the aircraft and operators performing flights within the RVSM airspace without a valid RVSM approval. In particular, this requirement must concern the aircraft performing flights within the airspace of the above State.

The States are recommended to do the following concerning the aircraft included in the RMAs' Bulletin:

1. Consider the aircraft included in the RMAs' Bulletin as not providing the flight safety within the RVSM airspace. Limit the flights of these aircraft within the RVSM airspace of these States and within the airspace where these States are providing ATS by declining the filed flight plans for this aircraft till it is excluded from the RMAs' Bulletin.
2. In case the aircraft of one operator are repeatedly included in the RMAs' Bulletin, consider this operator as not providing the flight safety within the RVSM airspace. Limit the flights of the aircraft of this operator within the RVSM airspace of these States and within the airspace where these States are providing ATS by declining the filed flight plans for the aircraft of this operator till there is sufficient justification that the operator complies with all stipulated RVSM requirements.

Appendix R – Air Navigation Deficiencies in the EUR Region

(paragraph 6.1.12 refers)

Document provided separately

Appendix S – EANPG Handbook EUR DOC 001 Amendment 1

(paragraph 7.1.7 refers)

Document provided separately

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Appendix T – European Search and Rescue Task Force Terms of Reference

(paragraph 7.2.4 refers)

Establishment:20## - EANPG Decision ##/##

Terms of Reference

Objective

In collaboration with affected stakeholders and in close cooperation with the International Maritime Organization (IMO), the objective of the European Search and Rescue Workgroup is to promote the enhancement and improvement of SAR facilities and services within the EUR Region and adjacent regions, in accordance with:

a) Annex 12 to the Convention on International Civil Aviation; and
b) the International Aeronautical and Maritime SAR Manual (IAMSAR).

The EURSAR/TF will be expected to deliver a plan within two years of establishment for enhancement of SAR capability within the EUR Region, including enhancement of SAR services with neighboring States.

Tasks

To meet its objectives, the Task Force shall:

a) review the current status of SAR preparedness of EUR Region States;
b) review State SAR Arrangements for commonality with those of neighboring States to facilitate SAR coordination and cooperation across regional boundaries;
c) monitor outcomes from EANPG ATM/AIS/SAR activities, other ICAO Region SAR groups, ICAO/IMO Joint Working Group (JWG) and related forums for issues that may affect the EUR Region;
d) analyse contingency procedures in use in other ICAO Regions, and cooperate with other groups which are involved with similar work in adjacent airspaces, in order to achieve harmonized inter-regional solutions;
e) identify areas where SAR planning and preparedness requires improvement in terms of compliance with Annex 12, the IAMSAR Manual and accepted best practice;
f) make recommendations for improvement of SAR systems.

Reporting

The EURSAR/TF reports to the EANPG/COG. A line of communication will be provided to the IMO on EURSAR/WG outcomes.

Membership

The membership of the EURSAR/TF is open to the EUR States and administrations that have the responsibility for the provision of SAR services and facilities within the EUR Region, SAR related international organizations, IMO and ICAO. The membership is also open to participants from outside the EUR Region or organizations that can contribute to EURSAR/TF by invitation from EURSAR/TF (such as military organizations that can facilitate SAR operations).

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Appendix U – Questionnaire on the Use of the Global Air Navigation Plan

(paragraph 7.4.1 refers)

QUESTIONNAIRE ON THE USE OF
THE *GLOBAL AIR NAVIGATION PLAN* **(**Doc 9750, 4th ed.)

1. How was the GANP used by States and PIRGs for national/regional planning purposes?
2. Which additions to this document, if any, are recommended?
3. Which modifications to this document, if any, are recommended?
4. Is the process described on page 33 of the current 4th edition of the GANP applicable?
5. What is your regional office's view of this global planning strategy and mechanism?
6. Are intra- and interregional issues regarding the tiered approach to air navigation planning, as described on page 17 of the current 4th edition of the GANP, being addressed?

7. Are the performance metrics and dashboards satisfactorily linked to the GANP?
8. Any other comments

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