Reference : MTG/MTS/TRASAS-08-0151.SLG   7 April 2008

Subject : **Report of the Second Meeting of the Trans-Regional Airspace and Supporting ATM Systems Steering Group (TRASAS/2) (Bangkok, Thailand, 18-19 March 2008)**

Sir/Madam,

1.   I have the honour to send to you the Summary of Discussions of the Second Meeting of the Trans-Regional Airspace and Supporting ATM Systems Steering Group (TRASAS/2) which took place at the ICAO Asia and Pacific (APAC) Office, Bangkok, Thailand, from 18 to 19 March 2008. The Summary in question and ALL meeting documentation are available for download from ICAO EUR/NAT web-page at http://www.paris.icao.int/documents_trasas/index.php (Username "trasasid", password "wotoff").

        Please accept the assurances of my highest consideration.

                                        Karsten Theil
                                        ICAO Regional Director
                                        Europe and North Atlantic

Enclosure: TRASAS/2 Summary of Discussions

Distribution: Canada, China, Democratic People's Rep. of Korea, Denmark, Finland, Iceland, Japan, Kazakhstan, Mongolia, Norway, Republic of Korea, Russian Federation, United States, Uzbekistan, IACA, IATA, IBAC, IFALPA and
Chairmen of APANPIRG, EANPG and NAT SPG

SUMMARY OF DISCUSSIONS OF

THE TRANS-REGIONAL AIRSPACE
AND SUPPORTING ATM SYSTEMS STEERING GROUP

SECOND MEETING

(Bangkok, Thailand, 18-19 March 2008)

1.   Introduction

1.1   The second meeting of the Trans-Regional Airspace and Supporting ATM Systems Steering Group (TRASAS/2) was held in the ICAO Asia and Pacific (APAC) Office, Bangkok, Thailand, from 18 to 19 March 2008.

1.2   Mr Karsten Theil, Regional Director, ICAO European and North Atlantic (EUR/NAT) Office, Mr Mokhtar A. Awan, Regional Director, ICAO Asia and Pacific (APAC) Office and Ms Loretta Martin, Regional Director, ICAO North American, Central American and Caribbean (NACC) Office, co-chaired the meeting. Mr George Firican, Deputy Regional Director, EUR/NAT Office, served as Secretary. He was assisted by Mrs Patricia Cuff also from the EUR/NAT Office, by Mr Rod Graff, Deputy Regional Director, Mr Andrew Tiede, Mr Kyotaro Harano and Mr Li Peng from the APAC Office and by Mr Victor Hernandez, Deputy Regional Director, NACC Office.

1.3   The meeting was conducted in English.

1.4   42 participants attended the meeting from 8 States and 3 international organizations. The Chairmen of the ASIA/PAC Air Navigation Planning and Implementation Regional Group (APANPIRG) and North Atlantic Systems Planning Group (NAT SPG) also attended the meeting. Apologies were received from Canada and the Chairman of the European Air Navigation Planning Group (EANPG).

1.5   A list of participants is at **Appendix A**.

2.   Adoption of the Agenda

2.1   The following Agenda was adopted:

Agenda Item 1:   Report on significant international aviation developments

      i)   outcome of and follow-up on the 36th Session of the Assembly of ICAO;

      ii)   outcome of APANPIRG/18; EANPG/49; NAT SPG/43; GREPECAS/14; and NAT SPG SPECIAL 2007.

      iii)   progress on global implementation of Performance Based Navigation (PBN); and

      iv)   preparations for Beijing Olympics.

Agenda Item 2:   Implementation of RVSM, including interface issues

Agenda Item 3:   Work currently underway to enhance the ATS route network

Agenda Item 4:   Short term, medium term and long term goals of TRASAS

Agenda Item 5:   Arrangements for future TRASAS activities

Agenda Item 6:   Any other business

3.   Report on significant international aviation developments

Outcome of and follow-up on the 36th Session of the Assembly of ICAO

3.1   The Meeting noted the 36th ICAO Assembly outcome and especially the action required to accommodate the Assembly Resolution A36-14 provisions. In this respect, the Group agreed to the proposed changes to its Terms of Reference that would respond to Resolution A36-14 (paragraphs 1.1 and 6.2 of the Terms of Reference of TRASAS in **Appendix B** refer).

Outcome of APANPIRG/18, EANPG/49, NAT SPG/43, GREPECAS/14 and NAT SPG SPECIAL 2007

3.2   The Group reviewed the main outcomes of the Planning and Implementation Regional Groups (PIRGs) and the NAT SPG Special 2007 meetings and discussed the way forward on global Data Link Harmonisation. Further details of this discussion are recorded in paragraph 6.1.

Progress on global implementation of Performance Based Navigation (PBN)

3.3   The Meeting noted the work being done in the Regions on the implementation of PBN as a tool that would enable increased efficiency in the utilisation of airspace. Its attention was drawn to the deliberations of the 36th ICAO Assembly, wherein the States were urged to implement RNAV and RNP air traffic services (ATS) routes and approach procedures in accordance with the ICAO PBN concept laid down in the Performance Based Navigation Manual (Doc 9613).

First Meeting of the Asia/Pacific Performance Based Navigation Task Force (PBN/TF/1)

3.4   The Group was informed on the outcome of the First Meeting of the Asia/Pacific Performance Based Navigation Task Force (PBN/TF/1) that was held in Bangkok, Thailand, from 9 to 11 January 2008 at the ICAO Asia/Pacific Office.

3.5   The Task Force identified several issues required to advance the implementation of PBN, emphasising *inter alia*: the requirement for training and continued education, the required assistance and direction from ICAO and the need to further develop guidance on separation standards and approach procedures. The Task Force highlighted the shortage of qualified procedure designers in the Region and the need for ICAO to effectively and efficiently take up framing of design standards. It was also noted that States in the Region needed to review their legislation, regulations, and develop guidance material so as to ensure that their legal framework would adequately reflect the PBN requirements/documents necessary to move forward with implementation.

3.6   The Group noted that the Second Meeting of the PBN Task Force was scheduled from 1 to 3 April 2008 in Bangkok and the Third Meeting of the PBN Task Force from 16 to 18 July 2008, also in Bangkok.

Performance Based Navigation applications in the ICAO EUR and NAT Regions

3.7   The Group noted that two RNAV applications had been introduced in the ICAO EUR airspace. "Basic Area Navigation" (B-RNAV) was already mandatory as the primary means of navigation in the en-route airspace of member States of the European Civil Aviation Conference (ECAC). B-RNAV was the forerunner of the RNAV programme and it had been introduced to increase airspace capacity through optimisation of the en-route airspace and ATS route network structure. The B-RNAV standard was basically identical to the RNAV 5 specification in the ICAO PBN concept and required aircraft conformance to a track-keeping accuracy of ± 5NM for at least 95% of flight time.

3.8   The second application implemented in the ICAO EUR Region was "Precision Area Navigation" (P-RNAV), applied whenever RNAV terminal area procedures, excluding the final and missed approach segments, were used. The carriage of P-RNAV equipment on board aircraft had not yet been mandated. P-RNAV required a track-keeping accuracy of ±1 NM for at least 95% of the flight time. The P-RNAV application was not identical to the ICAO RNAV 1 specification, however it was viewed by Eurocontrol as a European application of the RNAV 1 specification. The main difference between P-RNAV and RNAV 1 consisted in the allowable ground navigation aids. The ICAO PBN manual also identified several additional requirements for an operator already having an approval in accordance with the JAA P-RNAV Temporary Guidance Leaflet 10 (TGL10 rev 1) requirements.

3.9   With respect to the ICAO NAT Region, RNAV 10 (RNP 10) would be introduced in parts of the ICAO NAT region in June 2008. Other types of RNP specifications, like RNP 4, were being considered to support air navigation system improvements through reduced separation minimum. However, the RNP 4 specification was not seen by NAT provider States as sufficient to sustain the required operational improvements.

Performance Based Navigation applications in the ICAO CAR and SAM Regions

3.10   The Group noted that the 14th Caribbean/South American Regional Planning and Implementation Group (GREPECAS/14) Meeting reviewed the CAR/SAM PBN Roadmap and underlined that the implementation of PBN should be regionally harmonized, considering the fleets operating in the CAR and SAM Regions. The GREPECAS/14 Meeting proposed that the PBN Roadmap be used by the Civil Aviation Authorities in their PBN implementation programmes.

Preparations for Beijing 2008 Olympic Games

Airspace and ATS Route Network Improvements

3.11   The Group noted that the General Administration of Civil Aviation of China (CAAC) and the civil Air Traffic Management Bureau (ATMB) developed an overall plan to prepare the air traffic management system for the expected increase in air traffic during the Olympic and Paralympic Games. Three advanced ATM Centres in Beijing, Shanghai and Guangzhou had been commissioned to provide a more effective Air Traffic Service. CAT IIIB equipment had been commissioned for the third runway of Beijing Capital Airport. RVSM has been successfully implemented and has been operational in China since 22 November 2007.

3.12   The "29th 2008 Beijing Olympics Air Traffic Management implementing plan" covered, *inter alia*, leadership and organization, operations command centre, airspace improvements, flight applications and management for temporary flights, including extra, charter and business flights, flight slots and parking arrangements, different response level mechanism for estimated peak daily flight movements at Beijing Capital Airport, supporting infrastructure upgrades, personnel training, information collection and distribution system, international coordination, AIC and briefing for international operators. The time span for the Olympics air traffic management operations would extend from 1 July to 30 September 2008.

3.13   The airspace improvements included a review/redesign of the airspace and the ATS route network. The Beijing terminal airspace was redesigned to allow for simultaneous operation of the three runways and efficient operations of other airports within the Beijing TMA. The ATS route network around Beijing and nearby areas was redesigned to increase the capacity of transition routes and separate the heavy traffic from the congested area. The airspace of five other game host cities was also optimised. In addition, new ATS routes had been established with adjacent countries to improve the capacity of trunk routes along the main traffic flows.

3.14   At the same time, some new ATS routes would be opened and delay/holding air spaces would be set temporarily as a precaution to accommodate peak traffic flows and the potential for seasonal climate during the period of the Olympics. These arrangements would be used for separating air traffic flows and preparing for contingency situations. Additional alternate routes from Beijing to Guangzhou and Beijing

to Shanghai would be established and provided for local carriers' use. Six (6) new ATS routes, such as Jinan-Qingdao etc. would be opened for international use.

3.15   With respect to the ATS routes to be established with neighbouring States, the Russian Federation drew the attention of the Group to the insufficient number of entry/exit points between the Russian Federation and China especially in view of the forthcoming Beijing Olympics in August 2008. It was noted that Kazakhstan and the Russian Federation had sent several proposals to China for the opening of additional entry/exit points at the border between their States and China. It was stated that during the period 2007 to 2008, the Russian Federation sent several proposals to the General Administration of Civil Aviation of China (CAAC) for the opening of additional entry/exit points at the border between the two States. The latest proposal was sent by the Russian Federation to China in January 2008. Unfortunately, at the time of the meeting, there was no positive response to any of these proposals. In response, China advised the meeting that the CAAC had replied to Russia and provided a contact point for further discussion at the technical level. Unfortunately, there was no response received from Russia. China indicated that although Russia proposed entry/exit points on several occasions, they did not provide details of proposed new routes until January 2008.

3.16   Given the limited time available before the Beijing 2008 Olympics, the Meeting invited the ICAO Bangkok Office to include the issue of new entry/exit points between Kazakhstan and China and between the Russian Federation and China on the agenda of the next Special ATS Coordination Meeting – China, Mongolia, Russian Federation and IATA (CMRI/6) meeting and proposed that Kazakhstan be invited to participate in that meeting.

Management of Foreign Aircraft Non-scheduled Flights

3.17   The Meeting noted that the CAAC regulated and issued several procedures and guidelines regarding the application and approval for foreign aircraft non-scheduled flight operations during the Olympic and Paralympic Games. The issued guidelines clarified that non-scheduled operations flight plans, including extra flights, charter flights, business flights, etc., to the six (6) cities (with seven (7) airports) hosting various Olympic events required a prior coordination with CAAC to obtain a slot reservation for the destination airport, during the period from 1 July to 30 September 2008. In most cases, takeoff and landing schedules of general commercial and business flights would be accommodated within the time period from 23:00 to 07:00 hours (Beijing time). Flight operators would also be required to have ground handling agent agreements at the destination airports and the airports intended for technical stops.

3.18   The Meeting was informed that the CAAC had published a "Guide to Flight Plan Application and its Approval for Foreign Aircraft Non-scheduled Flight Operations during Olympic/Paralympics Games" for the use of interested flight operators. Slot allocation measures were envisaged to be in force at Beijing airport and at six other airports serving cities hosting various Olympic games. Other measures concerned air traffic management coordination, flexible use of air traffic routes, increased usable air space, limitations of military training flights and other civil flights and, if necessary, procedures for cancellation of flights.

3.19   The meeting recognised the importance of providing timely and widely available information to all affected parties and endorsed China's initiative in establishing a dedicated web site for international operators at www.atmb.net.cn/olympic. Noting that China was preparing a comprehensive AIC about the ATM arrangements, the meeting was of the view that the AIC should be available as soon as possible and urged China to promulgate this documentation before the end of April to enable airspace users the best opportunity to study and correctly comply with the Olympics procedures.

3.20   The Group noted the concerns raised by the Russian Federation on coordination of non-scheduled flights during the Beijing Olympics for overflight applications. In this respect, the Meeting invited China and the Russian Federation to conduct bilateral meetings to coordinate the issue of overflight permissions and airport slots, as necessary, in order to ensure efficiency during the Beijing Olympics and consider finalising agreement not later than June 2008. The proposed meeting should aim to develop an action plan in the case of any contingency situations and to agree on a back-up interaction scheme between the bodies responsible for issuing overflight permissions.

3.21   The Russian Federation suggested that the proposed coordination meeting should take place before late April 2008. China agreed that they would consider the proposal by the Russian Federation and give feedback through the contact point with the Russian Federation.

ATM Preparations for 2008 Beijing Olympics

3.22   Considering the expected major traffic flow increase during the Olympic event, China requested the support of the ICAO Regional Offices to encourage the States concerned to cooperate and coordinate with CAAC/ATMB and to undertake appropriate actions within their own areas of responsibility in order to ensure their preparedness for the Olympic Games. In this respect, the Group invited the ICAO Bangkok Office to liaise with China on the ATM requirements needed from their adjacent States to be ready for the Beijing Olympics and to coordinate with other Regional Offices concerned on the content of an ICAO State letter to be sent to the States concerned.

4.   Implementation of RVSM, including interface issues

4.1   The Group noted the outcome of the 32nd Meeting of the ICAO RVSM Implementation Task Force regarding the implementation of RVSM in the Chinese airspace and agreed to the request by the Russian Federation to be invited to the 33rd Meeting of the Task Force (China, 9 to 11 April 2008).

4.2   The Meeting recalled that RVSM was implemented throughout the airspaces of China with effect from 21 November 2007. This implementation was using a RVSM flight level system expressed in meters, which differed from the ICAO system as currently published in the ICAO Annex 2, Appendix 3 - Tables of Cruising Levels. It was also recalled that ICAO had circulated a State Letter (ref: AN 13/1.8-07/70, dated 7 December 2007), detailing an amendment to the ICAO Annex 2, Appendix 3 - Tables of Cruising Levels based on the RVSM flight level system implemented in China. States were expected to provide comments to the ICAO Secretariat by 21 March 2008.

4.3   The Group also noted the status of RVSM implementation in the Asia/Pacific Region and the work being carried out in the Russian Federation concerning the future RVSM implementation in their airspace and the readiness of Turkmenistan and Kazakhstan to implement RVSM.

4.4   At the request of IATA, the ICAO Secretariat confirmed to the Meeting the full applicability and without exception of the ICAO Annex 2 provisions, including the RVSM operation aspects, within the airspace over the High Seas.

4.5   The Group also noted advanced information from IATA on a proposal meant to improve the transition to/from RVSM airspace over the Arctic Ocean area.

5.   Work currently underway to enhance the ATS route network

5.1   Under this agenda item the Group noted the ATM Outcome from the GREPECAS/14 Meeting and the outcomes of the 5th Special ATS Coordination Meeting – China, Mongolia, Russian Federation and IATA (CMRI/5). It also noted the latest version of the Asia and Pacific ATS Route Catalogue and the Summary of the 4th Meeting of the Cross-Polar Working Group (CPWG/4).

5.2   The Group expressed its appreciation for all the work that had been accomplished so far by the CPWG and encouraged more cooperation between all parties concerned.

5.3   The meeting was informed of the implementation during July 2007 of long range international ATFM procedures across the Bay of Bengal using an internet based automated flow management tool (BOBCAT – Bay of Bengal Cooperative ATFM System) for regulating the flow of traffic. Many benefits had resulted from orderly traffic sequences resulting in much greater predictability for operators, reduced delays, costs and environmental impact and significantly reduced ATC workload. The

meeting recognised that the software parameters of the internet based BOBCAT and the associated ATFM procedures are readily and quickly configurable to enable adaptation to varying en-route long range ATS route and traffic arrangements.

5.4   Appreciation was also expressed by the Russian Federation to the United States for the removal of buffer times on 29 February 2008 which had enabled an increased efficiency in operations. The Russian Federation also expressed their hope that the United States would remove buffer times for Trans-Eastern routes as well.

5.5   The Group noted the significant improvements that took place in the airspace of the Russian Federation that increased the attractiveness of their airspace to the operators and recognised that the establishment of the new ATS routes would streamline considerably the transit flows, enhance flight safety and air traffic management and offer larger options for user-preferred routes.

5.6   The Group noted with appreciation the trial currently underway by the CPWG of Air Traffic Flow Management Procedures for the Polar fixes DEVID, RAMEL NIKIN and ORVIT and extended an invitation to the air traffic service providers and operators in other ICAO Regions to take advantage of the procedures, lessons learned and operational benefits of this trial.

5.7   The Group received with gratitude an update on the progress of regional partnerships for increasing efficiency and reduction of greenhouse gas emissions in aviation (such as the Atlantic Interoperability Initiative to Reduce Emissions (AIRE) and the Asia and South Pacific Initiative to Reduce Emissions (ASPIRE)) and recognised the importance of these initiatives.

6.   Short term, medium term and long term goals of TRASAS

Data Link Harmonisation Strategy

6.1   The Group noted the progress on Data Link Harmonisation activities in EUR and NAT Regions and agreed to invite APANPIRG to consider as follows:

TRASAS Conclusion 2/1 –   Data Link Harmonisation Strategy

> **That the APANPIRG be invited to consider amending the Strategy for Implementation of the Air-Ground Data Link in the Asia/Pacific Region to include the Data Link Harmonisation Strategy endorsed by EANPG and NATSPG.**

RNP Implementation Plans for Cross-Polar and Trans-East Operations

6.2   The Meeting noted a paper presented by IATA regarding the need to develop and agree on an implementation plan to introduce en-route RNP 10 for Cross-Polar and Trans-East Operations with a long-term goal of RNP 4. The Group was reminded of the ICAO plan for Performance Based Navigation recommending that oceanic operations to be based on RNP 10 and RNP 4. In this regard, IATA informed the meeting that currently, most, if not all, aircraft flying in the Cross-Polar and Trans-East areas were already RNP 10 capable and therefore the current ATC separation standards should benefit from RNP 10 implementation as soon as possible, with a view of the significant potential environmental and operational benefits to be gained from RNP based track separation.

6.3   Therefore, the Meeting invited the PIRGs concerned to consider actions to harmonise the application of separation standards and means to achieve the various RNP provisions implementation in the short-term (1-2 years), medium-term (2-5 years) and long-term (5-10 years) plans. To support the planning and implementation activities, TRASAS/2 agreed on the following Conclusion:

TRASAS Conclusion 2/2 –   RNP for Cross-Polar and Trans-East Operations

> **That all PIRGs concerned be invited to consider actions that will harmonise the application of separation standards and a means to achieve:**
>
> a)   **implementation of the RNP 10 provisions in the airspaces covering the Cross-Polar and Trans-East routes/operations as a short-term/medium-term action;**
>
> b)   **implementation of the RNP 4 provisions in the same airspaces as described above, as a medium-term/long-term improvement; and**
>
> c)   **amend, as appropriate, the provisions of Regional Supplementary Procedures and the Regional Air Navigation Plans.**

Review of the TRASAS Action List

6.4   The Group reviewed and agreed on changes to the TRASAS Action List, which is presented at **Appendix C**. The TRASAS/2 Follow-up Task List presented at **Appendix D** was compiled in order to help the implementation of agreed actions and conclusions.

6.5   In order to support the progress of TRASAS Action 1/6 - *Ensure improved surveillance and communications in the Northern Airspace*, TRASAS agreed on the following Conclusion:

TRASAS Conclusion 2/3 –   Improved Surveillance and Communications in the Northern Airspace

> **That the NAT SPG be invited to:**
>
> a)   **establish a Task Force consisting of concerned stakeholders from the States (Canada, Iceland, Norway, Russian Federation and United States) providing services north of latitude of 80ºN, to assess the existing communication infrastructure and propose a way forward;**
>
> b)   **ensure that the Russian Federation be invited formally to participate in this work; and**
>
> c)   **report progress to TRASAS/3.**

6.6   With reference to TRASAS Action 1/9 - *Ensure improved access to China and Russian Federation airspace,* the Group noted that the Russian Federation recently simplified the compilation process of the "Form R" required for the operators' seasonal schedules. The simplified process was considered by the operators as a significant improvement, reducing the preparation time and the resource-applied effort by more than 60%. Given the success of this initiative by the Russian Federation, IATA presented several suggestions meant to further streamline the process.

6.7   The Group noted the suggestions advanced by IATA and the willingness of the Russian Federation to assess and consider the IATA proposals. All further related activities on this subject would be directly coordinated between the Russian Federation and IATA.

6.8   It was agreed that by early 2009, the TRASAS members would provide the ICAO Secretariat with a report on the progress on all issues listed in the TRASAS Action List.

7.   Arrangements for future TRASAS activities

7.1   The Group supported the current arrangements of the TRASAS work format and meetings.

7.2   TRASAS/2 agreed to plan, tentatively, the third meeting of the Trans-Regional Airspace and Supporting ATM Systems Steering Group (TRASAS/3) from 17 to 18 March 2009, to take place in Mexico

City, at the kind invitation of the North American Central American and Caribbean Regional Office of ICAO. The Group will receive confirmation of the meeting dates mid-December 2008 (after EANPG/50).

8.   Any other business

8.1   IATA brought the attention of the Group to a portion of airspace of unassigned responsibility, extending from the North Pole over the High Seas between Bodo Oceanic FIR, Sondrestrom FIR and Murmansk Oceanic FIR (**Appendix E** refers). Considering the increased interest of establishing new ATS routes through that airspace, the Group agreed on the following Conclusion:

TRASAS Conclusion 2/4 –   Airspace of Unassigned Responsibility over the Arctic Ocean

> **That the ICAO Secretariat be invited to take the necessary actions to resolve the pending issues regarding the portions of airspace of unassigned responsibility extending over the High Seas between Bodo Oceanic FIR, Sondrestrom FIR and Murmansk Oceanic FIR.**

APPENDIX A - LIST OF PARTICIPANTS

(Paragraph 1.5 refers)

CHINA

  XIAO Jing

  LIU Song

  WANG Xu

  ZHAO Youjiang

FINLAND

  Mika SAALASTI

ICELAND (also representing DENMARK and NATSPG)

  Asgeir PALSSON

JAPAN

  Hiroshi INOGUCHI

NORWAY

  Per Harald PEDERSEN

RUSSIAN FEDERATION

  Dmitriy SAVITSKIY

  Mikhail PARNEV

  Yury TOKAREV

  Sergey VASILIEV

  Vasily TOPCHIEV

  Sergey POGREBNOV

  Alexey BUEVICH

UNITED STATES

  Luis RAMIREZ

  Dan HANLON

  Leah MOEBIUS

APANPIRG

  WONG Woon Liong

  LOKE Chee Yong

  Edmund HENG

IATA

  Geoff HOUNSELL

  Gene CAMERON

  Owen DELL

  Patrick GARRETT

  Wiedo MULDER

  Aric OH

  Matthew REESE

  Curtis TAYLOR

  Edgar VAYNSHTEYN

  Victor YEOH

IFALPA

  Greg WOLFSHEIMER

ICAO BANGKOK

  Mokhtar A. AWAN **(RD)**

  Rod GRAFF

  Andrew TIEDE

  Kyotaro HARANO

  LI Peng

ICAO MEXICO

  Loretta MARTIN **(RD)**

  Victor Hernandez

ICAO PARIS

  Karsten THEIL **(RD)**

  George FIRICAN

  Patricia CUFF

APPENDIX B - TERMS OF REFERENCE OF THE TRANS-REGIONAL AIRSPACE AND SUPPORTING ATM SYSTEMS STEERING GROUP (TRASAS)

As approved by TRASAS/2, March 2008

(Paragraph 3.1 refers)

1.   Introduction

1.1   In order to continue work already done concerning the traffic in the Northern area and to respond to the new requirements for increased efficiency and further developments, co-ordinated efforts of the international civil aviation community is required. It would involve States and Organisations from five of the ICAO Regions: EUR, ASIA, NAM, NAT and PAC. *A Trans-Regional Airspace and Supporting ATM Systems Steering (TRASAS) Group shall, under the guidance from the Council of ICAO as appropriate, respond to these requirements under the following Terms of Reference.*

2.   Purpose and objectives

2.1   The ICAO Trans-Regional Airspace and Supporting ATM Systems Steering (TRASAS) Group shall co-ordinate the requirements of international civil aviation for a coherent and economically viable and operationally optimal structure of ATS routes, linking city-pairs in Europe and Asia, Europe and North America and Asia and North America. The route network shall have sufficient flexibility to plan different flight paths, day-by-day, to take advantage of prevailing upper winds.

2.2   The Group shall work in close co-operation with aircraft operators' international organisations in order to ensure that known and expected requirements for international and domestic routings and cost-effective implementation are taken into account. The Group will also take account of the requirements for adequate feeder and connection routings to enable optimal access to the route network from points of departure and points of destination, upstream, downstream and from within its vicinity. The scope of the work will respond to the global objectives of the ICAO operational concept and support the new ICAO Global Air Navigation Plan Initiatives: GPI-1 (flexible use of airspace), GPI-2 (reduced vertical separation minima), GPI-3 (harmonised level system), GPI-5 (performance-based navigation), GPI-6 (air traffic flow management), GPI-7 (dynamic and flexible ATS route management), GPI-8 (collaborative airspace design and management), GPI-17 (implementation of data-link applications), GPI-20 (WGS-84 implementation), GPI-21 (navigation systems) and GPI-22 (communication network infrastructure).

3.   Scope of work

3.1   The TRASAS Group shall make proposals and promote improvements for the safety and efficiency of the Northern area route structure and the supporting ATM systems within the States affected by such proposals. It shall base its work on aircraft operators' requirements, which may be expanded and complemented, as necessary.

3.2   The Group shall take into account modern space based technology (GPS/GLONASS/GNSS and ADS) in accordance with the ICAO CNS/ATM system concept and plan for an orderly transition period. This transition period should enable a seamless migration of current aircraft fleets to full CNS/ATM compliance on such routes in the future. TRASAS shall consider an equitable cost recovery scheme for the established route system in accordance with ICAO provisions in line with Article 15 of the Chicago Convention.

3.3   The Group shall not substitute itself for other existing bodies which are active under the auspices of ICAO (e.g. European Air Navigation Planning Group (EANPG), North Atlantic Systems

Planning Group (NAT SPG), ASIA/PAC Air Navigation Planning and Implementation Regional Group (APANPIRG), etc.) or bodies operating as bilateral/multilateral State initiatives. It may provide guidance as well as a co-ordinating function for these Groups working on the various technical and operational aspects related to the intended transit route network and to combine the results into one coherent overall plan. This will lead to the amendment, if and when required, of the ICAO Regional Air Navigation Plan (ANP) in accordance with procedures established by the ICAO Council.

3.4   In addition to its technical work on the newly established route system, the TRASAS Group shall explore proposals for financing and cost recovery for this system.

4.   Activities

a) To promote a modern, efficient and cost-effective international ATS route network linking city-pairs in Europe, Asia and North America, taking into account the recognized requirements of the airspace users, taking advantage of seasonal wind patterns, and making use of space-based technology in accordance with the ICAO CNS/ATM system concept.

b) To promote efficient air traffic management and associated systems to improve safety, increase capacity and enhance operational and economic efficiency.

c) To promote the provision of sufficient capacity so as to avoid the need for air traffic flow management (ATFM).

d) To develop a coherent transition plan enabling a seamless migration of current aircraft fleets to full CNS/ATM compliance on such routes in the future.

e) To promote the establishment of a minimum number of suitably equipped Area Control Centres (ACC) and an infrastructure adequate to provide the required air traffic services along the proposed ATS route structure.

f) To promote suitable financing and cost recovery mechanisms for the newly established route system in accordance with the applicable ICAO provisions and in line with Article 15 of the Convention on International Civil Aviation (Chicago, 1944).

g) To analyse the costs and benefits achieved by individual ATS routes of the newly established route system to determine their eligibility for inclusion into the ICAO Regional Air Navigation Plan.

4.1   TRASAS will closely cooperate with existing bodies working on relevant tasks and may also establish Contributory Working Bodies (CWB) that shall work on its behalf on specific expert issues (route network developments, RVSM implementation, communications, airport issues etc).

5.   Composition

5.1   The TRASAS Group shall be composed of representatives with operational and technical, expertise from Canada, China, Democratic People's Rep. of Korea, Denmark, Finland, Iceland, Japan, Kazakhstan, Mongolia, Norway, Republic of Korea, Russian Federation, United States, Uzbekistan and from international organisations representing aircraft operators' (e.g. IACA, IATA, IBAC) and pilot associations (IFALPA).

5.2   The TRASAS Group shall work under the auspices of ICAO. The EUR/NAT Office shall provide full secretarial support to the Group.

5.3   The Group may invite participation from other States which may be concerned during the progress of its work (e.g. States in Central Asia, in the South Caucasus area, and others) and international organizations which may provide useful input during its deliberations.

6.   **Reporting**

6.1   Reports of the TRASAS shall be prepared by the ICAO Secretariat in the usual standard fashion. As reports of an informal group, this documentation will be made available to participating States and international organization(s) and shall be distributed to the Regional Planning Groups [in particular, the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG), the European Air Navigation Planning Group (EANPG) and North Atlantic Systems Planning Group (NAT SPG)] for their information and to facilitate co-ordination which may be required within their respective work programmes.

6.2   *The Council of ICAO shall be informed about the progress of the work of TRASAS.*

7.   **Communication**

7.1   As far as possible, members and participants in the work of TRASAS shall correspond by electronic mail. Their communications should be as informal as possible to ensure rapid progress of the work programme.

8.   **Target dates and deliverables**

8.1   TRASAS shall establish a comprehensive work programme containing target dates and milestones to be achieved. It should strive to complete its tasks in the shortest possible time.

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APPENDIX C - ACTION LIST OF THE TRANS-REGIONAL AIRSPACE AND SUPPORTING ATM SYSTEMS STEERING GROUP (TRASAS)

(Paragraph 6.4 refers)

Task No.	Task Description	Action by	Target Date	Progress / Remarks
1/1	Opening of new routes and improved efficiency of the current routes	PIRGs, CPWG, CMRI, States, IOs	2007-2010 onwards	On-going
1/2	Improvement of the air navigation services coverage and hours of operations	States	2007-2010	RF report: Additional airspace and new routes became available 24/7. Several other FIRs to become 24/7 by September 2008. Further improvement expected through the FIR consolidation process.
1/3	ACC consolidation	States	RF – 2007-2015	RF – ACC consolidation on-going; expected to be finalised by 2015
1/4	Implementation of RVSM in China, Russian Federation (RF) and other States	RF, States, PIRGs, ICAO	RF (TBD)	RF – Target date to be confirmed by the end of 2008
1/5	Develop improved ATFM tools to be shared amongst States concerned until target capacity is met	PIRGs, States, ANSPs, CPWG, TRASAS	2007-2010	Stakeholders concerned to investigate the applicability of BOBCAT system and tools
1/6	Ensure improved surveillance and communications in the Northern Airspace	NATSPG, States, ANSPs, TRASAS	2007-2015	No significant progress noted – TRASAS invited NAT SPG to establish TF consisting of stakeholders concerned providing services over 80N [Iceland, Canada, USA, RF & Norway] to assess existing communication infrastructure and propose a way forward. RF to be invited formally to participate. *(TRASAS/2 Summary paragraph 6.5 and Conclusion 2/2 refer).*

Task No.	Task Description	Action by	Target Date	Progress / Remarks
1/7	Ensure airport availability for ETOPS aircraft/operations	States, IOs, Manufacturers, TRASAS	2007-2012	No significant developments reported - competition policies prevent IATA and operators from providing predictive information that would be useful to progress this issue. ICAO invited to provide clarification on emergency and alternate airports requirements.
~~1/8~~	~~Ensure suitable airport availability for new very large aircraft/operations~~	~~States, IOs, Manufacturers, TRASAS~~	~~2007-2012~~	
1/9	Ensure improved access to China and Russian Federation airspace	China, RF, TRASAS	2007-2010	On-going

## APPENDIX D - TRASAS/2 FOLLOW UP TASK LIST

(Paragraph 6.4 refers)

X-REF	ACTION	WHO	WHEN/WHAT
3.16	a) Issue of new entry/exit points between the Russian Federation and China to be included on agenda of the next Special ATS Coordination Meeting – China, Mongolia, Russian Federation and IATA (CMRI/6) meeting and b) Kazakhstan to be invited to participate.	ICAO Bangkok	2008
3.19	Conduct bilateral meetings to coordinate the issue of overflight permissions and airport slots, as necessary, in order to ensure efficiency of the existing system during the Beijing Olympics and consider finalising agreement not later than June 2008.	China Russian Federation	April – June 2008
3.21	Send ICAO State letter to encourage States concerned to cooperate and coordinate with CAAC/ATMB and to undertake appropriate actions within their own areas of responsibility in order to ensure their preparedness for the Beijing Olympic Games.	ICAO Bangkok ICAO Paris	April 2008
6.1	Consider TRASAS Conclusion 2/1 – Data Link Harmonisation Strategy.	APANPIRG	Update to be provided at TRASAS/3
6.3	Consider actions to harmonise the application of separation standards and means to achieve the various RNP provisions implementation in the short-term (1-2 years), medium-term (2-5 years) and long-term (5-10 years) plans. (TRASAS Conclusion 2/2 – RNP for Cross-Polar and Trans-East Operations refers).	APANPIRG EANPG NAT SPG GREPECAS	Update to be provided at TRASAS/3
6.5	Establish Task Force to assess the existing communication infrastructure and propose a way forward on improved surveillance and communications in the Northern Airspace (TRASAS Conclusion 2/3 – Improved Surveillance and Communications in the Northern Airspace refers).	NAT SPG	Progress on TRASAS Action 1/6 to be provided at TRASAS/3

X-REF	ACTION	WHO	WHEN/WHAT
6.7	Conduct studies on proposals by IATA to improve the process of "Form R".	Russian Federation IATA	Progress on TRASAS Action 1/9 to be provided at TRASAS/3
7.2	Confirm dates TRASAS/3 (17 to 18 March 2009).	ICAO Paris	Mid-December 2008
8.1	Take the necessary actions to resolve pending issues regarding the portions of airspace of unassigned responsibility extending over the High Seas between Bodo Oceanic FIR, Sondrestrom FIR and Murmansk Oceanic FIR. (TRASAS Conclusion 2/4 – Unassigned Airspace of Unassigned Responsibility over the Arctic Ocean refers).	ICAO Paris	Update to be provided at TRASAS/3

APPENDIX E - AIRSPACE OF UNASSIGNED RESPONSIBILITY OVER THE ARCTIC OCEAN BETWEEN THE SONDRESTROM, BODO OCEANIC AND MURMANSK OCEANIC FIRS

(Paragraph 8.1 refers)

Note: The airspace concerned is outlined in red.
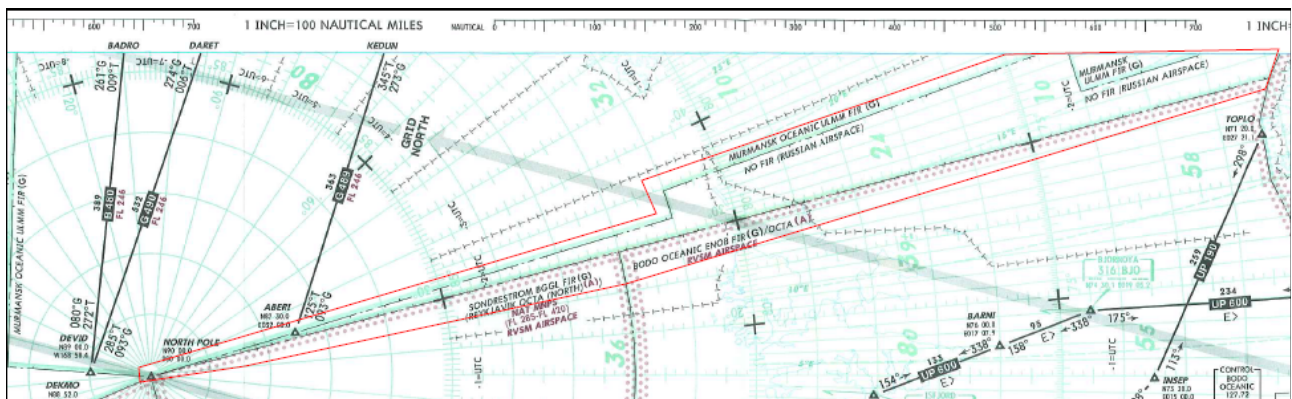
Source: Jeppesen Polar High Altitude Enroute Chart, Chart AT (HI) 5, 15 December 2006

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