International Civil Aviation Organization

The Twenty-Second Meeting of the APANPIRG ATM/AIS/SAR Sub-Group (ATM/AIS/SAR/SG/22)

Bangkok, Thailand, 25 – 29 June 2012

Agenda Item 4: Review outcome of relevant meetings

RUSSIAN FAR EAST/CROSS POLAR INTER-REGIONAL ATM COORDINATION

(Presented by the Secretariat)

SUMMARY

This paper presents information from the Sixteenth Meeting of the Route Development Group – Eastern Part of the ICAO EUR Region (RDGE/16), which was held in ICAO the European and North Atlantic (EUR/NAT) Office, Paris, France, from 26 to 30 March 2012, the Cross Polar Trans-East ATM Providers' Workgroup (CPWG), and matters related to trans-regional ATM coordination with the Russian Federation and East Asia.

This paper relates to –

Strategic Objectives:

A: ***Safety*** *– Enhance global civil aviation safety*

C: ***Environmental Protection and Sustainable Development of Air Transport*** *– Foster harmonized and economically viable development of international civil aviation that does not unduly harm the environment*

Global Plan Initiatives:

GPI-3 Harmonization of level systems
GPI-4 Alignment of upper airspace classifications
GPI-5 RNAV and RNP (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-11 RNP and RNAV SIDs and STARs
GPI-12 Functional integration of ground systems with airborne systems
GPI-17 Data link applications
GPI-18 Aeronautical information
GPI-19 Meteorological Systems
GPI-20 WGS-84
GPI-21 Navigation systems
GPI-22 Communication infrastructure

1. INTRODUCTION

1.1 The Sixteenth Meeting of the Route Development Group – Eastern Part of the ICAO EUR Region (RDGE/16) was supported by the ICAO EUR/NAT Office in Paris, France, from 26 to 30 March 2012. At total of 66 participants from 21 States and two international organizations attended the meeting, including Afghanistan and Mongolia from the Asia/Pacific Region.

2. DISCUSSION

Route Development Group – Eastern Part of the ICAO EUR Region (RDGE/16)

2.1 The RDGE/16 meeting noted that the existing Far East Project Group had been divided into two subgroups:

a) SG FAR EAST CP acting as the CPWG; and

b) SG FAR EAST acting as the ICAO RDGE/FE Subgroup.

2.2 Mr Yury Zharikov from the Russian Federation was the Rapporteur of the RDGE/FE Subgroup Subgroup, assisted by Mr Sven Halle from ICAO EUR/NAT Office. The Subgroup reviewed a large number of ATS route development proposals, including several that affected the Asia/Pacific Region, and submitted these to the RDGE/16 meeting.

2.3 On 11 May 2012, the EUR/NAT Office wrote to the Asia/Pacific (APAC) Office, advising that a number of ATS route proposals had been presented by States and International Air Transport Association (IATA) for coordination with the States in the interface area between the ICAO EUR and APAC Regions. Furthermore, the EUR/NAT Office requested assistance to coordinate the ATS route proposals with China, the Democratic People's Republic of Korea, Japan and the Republic of Korea. Included in the proposals (**Attachment A)** were ten trans-regional ATS routes affecting the Democratic People's Republic of Korea, Japan and the Republic of Korea, as well as three that were completely contained within the Asia/Pacific, affecting Japan and China.

2.4 The Russian Federation was planning to consolidate from 76 ATC Centres (seven main and 69 regional ACC) to 15 Regional ACCs by 2015, (**Figure 1** and the enlarged chart indicating affected route systems in **Appendix 1** refer), including those adjoining Asia/Pacific States:

- **Irkutsk** (China, Mongolia);
- **Khabarovsk** (China, DPRK, Japan);
- **Krasnoyarsk** (Mongolia);
- **Magadan** (Japan); and
- **Novosibirsk** (Mongolia).

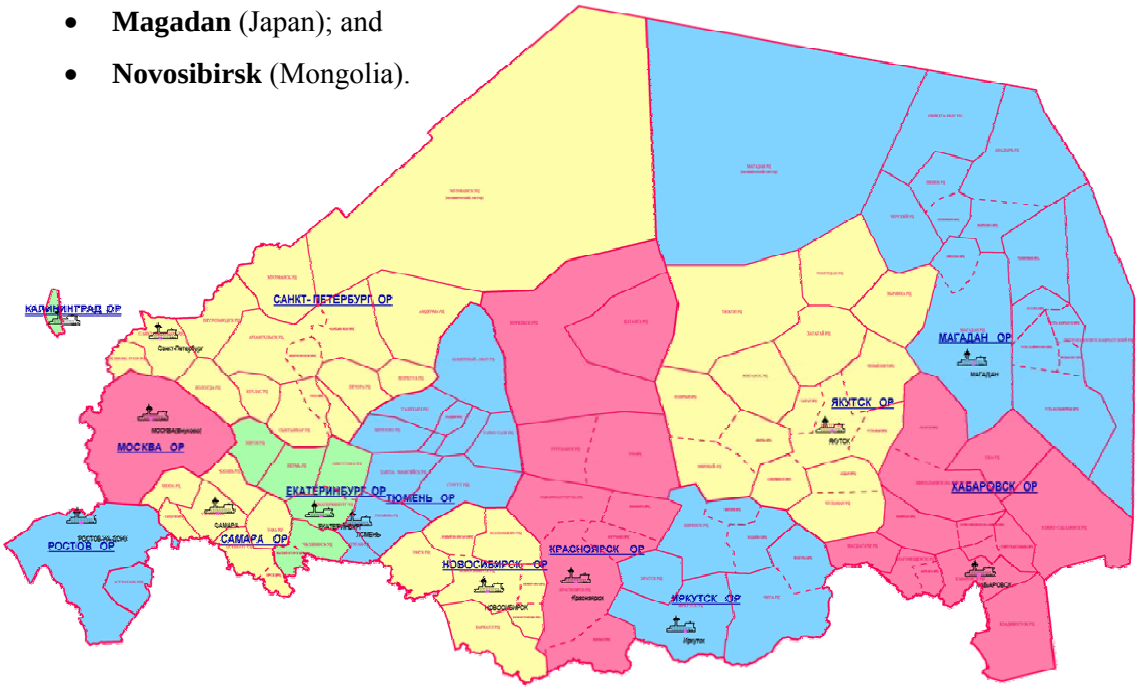


Figure 1: Planned Configuration of Russian Federation FIRs.

Cross Polar Workgroup (CPWG)

2.5 The CPWG provides a forum to improve air traffic services (ATS) for aircraft transiting polar and Russian Far East (RFE) airspace. The Cross Polar WG consists of Air Navigation Service Provider (ANSP) representatives from Russia, Canada, Iceland and the United States and international organizations representing airspace operator groups, such as IATA and International Business Aviation Council (IBAC). Other ANSPs, including Asia/Pacific States such as China, Mongolia, and Japan may also be invited to participate in CPWG activities. Further information about the CPWG is at the following site:

http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/enroute/oceanic/cross_polar/

2.6 The Twelfth meeting of the CPWG was hosted by IATA in Beijing, China, 6-9 December 2011. The ANSPs from Canada, China, Japan, Kazakhstan, Norway, Russia, Mongolia, and the United States attended the meeting, which was facilitated by the Federal Aviation Administration (FAA). CPWG/12 considered 11 working papers and 13 information papers.

2.7 The ANSPs exchanged information on current communication and surveillance coverage in their respective areas, including the availability and implementation of Controller Pilot Data Link Communication (CPDLC) and Automatic Dependent Surveillance – Contract (ADS-C). NavCanada discussed the current communication coverage, Iridium as a solution, and potential longitudinal separation reductions to be derived from required navigation performance (RNP).

2.8 It was proposed that the CPWG Planning Chart be modified to include status of the initiatives for the relevant Chinese and Japanese Flight Information Regions (FIRs).

2.9 Russia advised that the following States had implemented Reduced Vertical Separation Minimum (RVSM) on 17 Nov 2011: Afghanistan, Kazakhstan, Kyrgyzstan, Mongolia, Russian Federation, Tajikistan, Turkmenistan and Uzbekistan. Implementation had been managed through the coordination and cooperation of the Europe and Asia (EURASIA) RVSM project. There were a few implementation issues, some with initial filing of metric flight levels and not feet. The meeting noted that most transition areas were now gone, with the exception of areas adjoining China, the Democratic Republic of Korea, and Mongolia[1].

2.10 The FAA and the Japan Civil Aviation Bureau (JCAB) implemented a trial of 30NM lateral and 30NM longitudinal separation within the Oakland Oceanic and Fukuoka FIRs on 23 May 2011. Following successful implementation of 30NM/30NM separation in the Anchorage Oceanic FIR, the FAA requested a cross boundary 30NM/30NM separation trial between Anchorage Oceanic and Fukuoka FIRs.

2.11 The FAA informed the meeting that US oceanic ATC facilities uses ATS Interfacility Data Communications (AIDC) for flight data exchange for both Pacific and North Atlantic oceanic airspace, and would not be able to develop software to provide an interface between the Online Data Interface (OLDI) and AIDC. Russia stated that this was unfortunate but they were committed to implement OLDI at Magadan Area Control Center (ACC).

2.12 China reported on joint efforts with Russia to implement a new entry/exit point MAGIT and a new westbound route R213 on 20 October 2011. ATS route R213 and the existing G212 via ARGUK were providing unidirectional ATS for westbound and eastbound flights respectively. The changes aimed to enhance the regional efficiency and safety and provide the airlines more flexibility on Polar flight operations.

[1] Mongolia was planning to transition to RVSM (ft) in due course.

2.13 In order to alleviate the problems with merging traffic and RVSM transition areas, Russia proposed to establish a new entry/exit point between Russia and China for eastbound traffic east of SIMLI at N493236, E1281936. China responded that the traffic volume did not warrant this, but that further discussions could be held bilaterally with Russia. The airlines noted that this might not be the most efficient route.

2.14 During the RDGE/15 meeting held at the ICAO EUR/NAT Office 26-30 September 2011, the CPWG route proposals that had been entered into the Far East section database were discussed. There were some concerns raised by the airlines, indicating that the RDGE was not the appropriate forum for these discussions. After discussions with ICAO EUR/NAT Office, the *RDGE ATS Route Catalogue – Part 4 – Far East Area and Its Interface* was removed from the agenda and the route proposals were not addressed in the meeting.

2.15 Considering the steady growth of traffic volume to Beijing, Shanghai, Tokyo, Incheon, Hong Kong and Singapore, the A380 operations between North America and Asia were also expected to increase considerably in the near future. Currently, not enough diversion airports were capable of handling the A380 flying over the Cross-Polar routes. With the increase in traffic volume over Polar routes, the chance of enroute diversion was also getting higher, so Korean Airlines suggested that it was a good time for States to consider how to better support the new large aircraft that might need an enroute diversion.

2.16 The Second Meeting of the CPWG Pacific Project Team to promote User Preferred Routes (UPR) was held on 6 December 2011 in conjunction with CPWG/12.

2.17 CPWG/12 discussed the 2012-2013 Work Program, which included the following items:

a. Improving communications in the Arctic area;

- Expanding use of CPDLC/data link

b. Progressing a single separation standard for the Arctic airspace; and

- Implementation of 30NM lateral/30NM longitudinal separation

c. Improving/Increasing efficiencies and predictability on Cross-Polar and Far East routes.

- Removing restrictions as feasible
- Using flex tracks

2.18 The Thirteenth meeting of the CPWG was due to be held in Reykjavik, Iceland, from 19-22 June, 2012.

Special China Mongolia Russia IATA (CMRI) ATS Meeting

2.19 The Fifth Special ATS Co-ordination Meeting – China, Mongolia, the Russian Federation and IATA (CMRI/5) was held in Bangkok on 20 – 21 June 2007. CMRI/4 had been held four years prior to this in Shenzhen, China, on 4 – 6 March 2003.

2.20 The CMRI/5 meeting discussed the following areas:

- ATS route development;
- China/Russia entry/exit points;
- flight plan format and data issues;
- ATC separation standards;
- RVSM;
- ATS surveillance; and
- ADS-C and CPDLC data-link systems.

2.21 It was agreed that the date for the CMRI/6 meeting (tentatively, Ulaan Baatar, Mongolia) was dependent on progress of work to be accomplished and the outcomes from the next Trans-Regional Airspace and Supporting ATM Systems Steering Group (TRASAS) meeting, which was scheduled in March 2008. However, since then no CMRI meeting had been conducted.

2.22 It was clear that there were a number of bodies that had dealt with East Asia/trans-regional ATS route proposals, but there was no formal body reporting to APANPIRG, and the Asia/Pacific Office was not normally involved in RDGE or CPWG meetings. In addition, the other ATM coordination issues such as those dealt with earlier by the CMRI meeting were outside the scope of the RDGE meeting, although there was some cross-over with the non-ICAO CPWG in recent years with this body inviting China and Mongolia, as well as Japan to its meetings when necessary. The meeting is invited to discuss the following Draft Conclusion (Draft Terms of Reference are provided in Attachment B):

ATM/AIS/SAR/SG Draft Conclusion 22/XX Establishment of REAACG

That, a Russia – East Asia ATM Coordination Group (REAACG) be established, reporting to APANPIRG, in accordance with the Terms of Reference as shown in Appendix **XX** to the Report on Agenda Item **X**.

2.23 It should be noted that the Asia/Pacific Seamless ATM Planning Group (APSAPG) recognized the importance of ATM Coordination Groups in order to facilitate the Seamless ATM recommendations that come from this Group.

3. ACTION BY THE MEETING

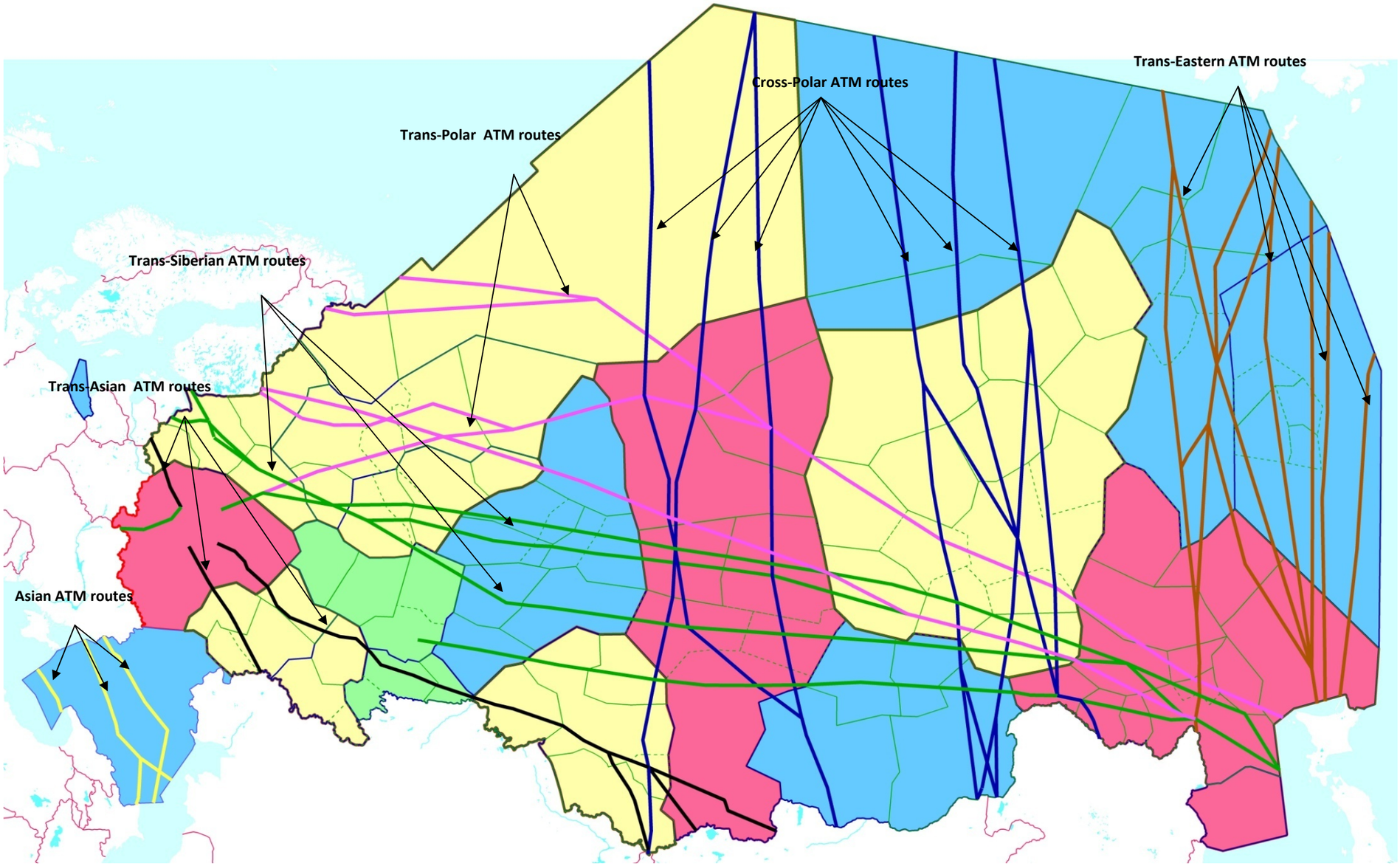
3.1 The meeting is invited to:

a) note the information contained in this paper;

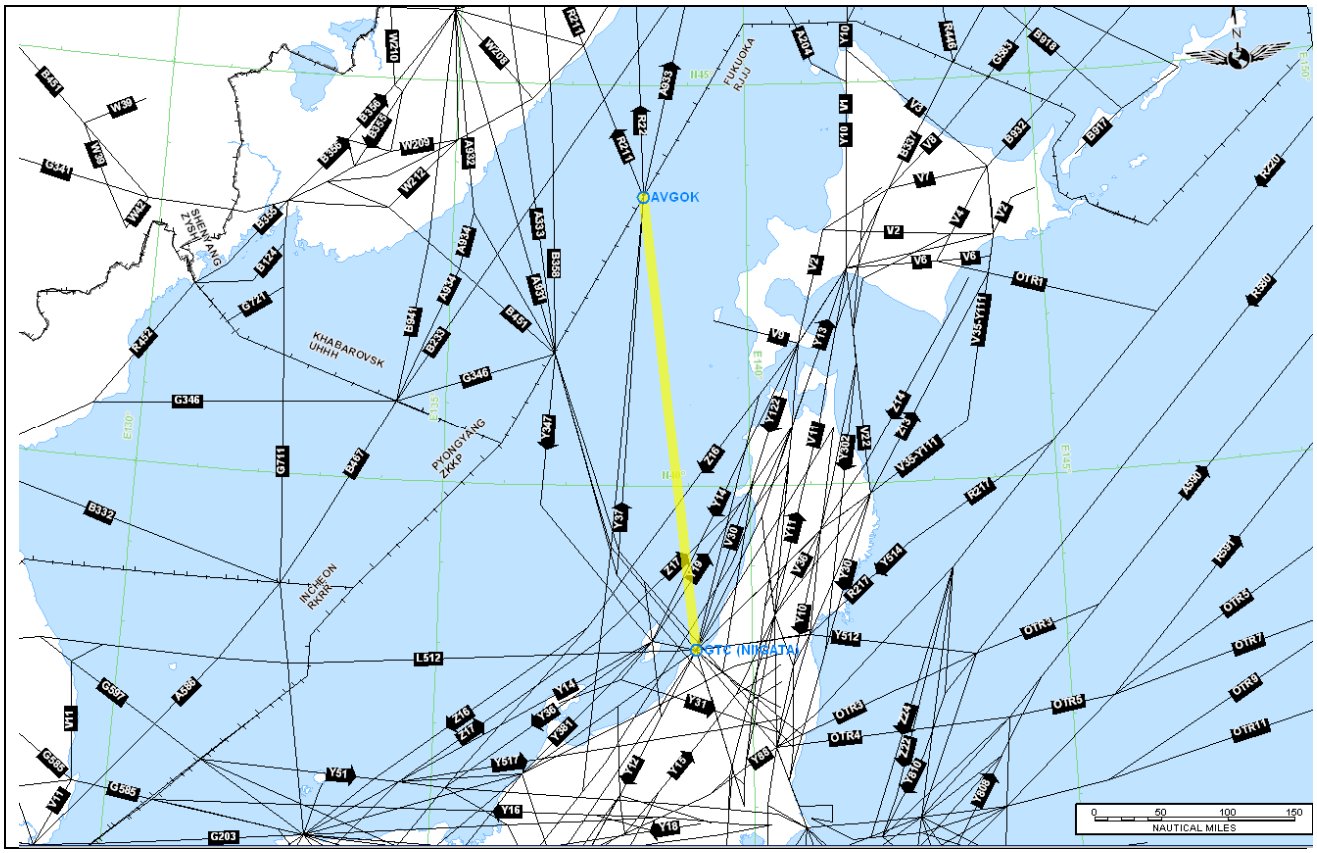
b) discuss whether it would be advantageous to create a East Asian ATM Coordination Group to formally manage and enhance ATM Coordination between the Russian Federation and China, DPRK, Japan, Mongolia, the ROK;

c) discuss any relevant matters as appropriate.

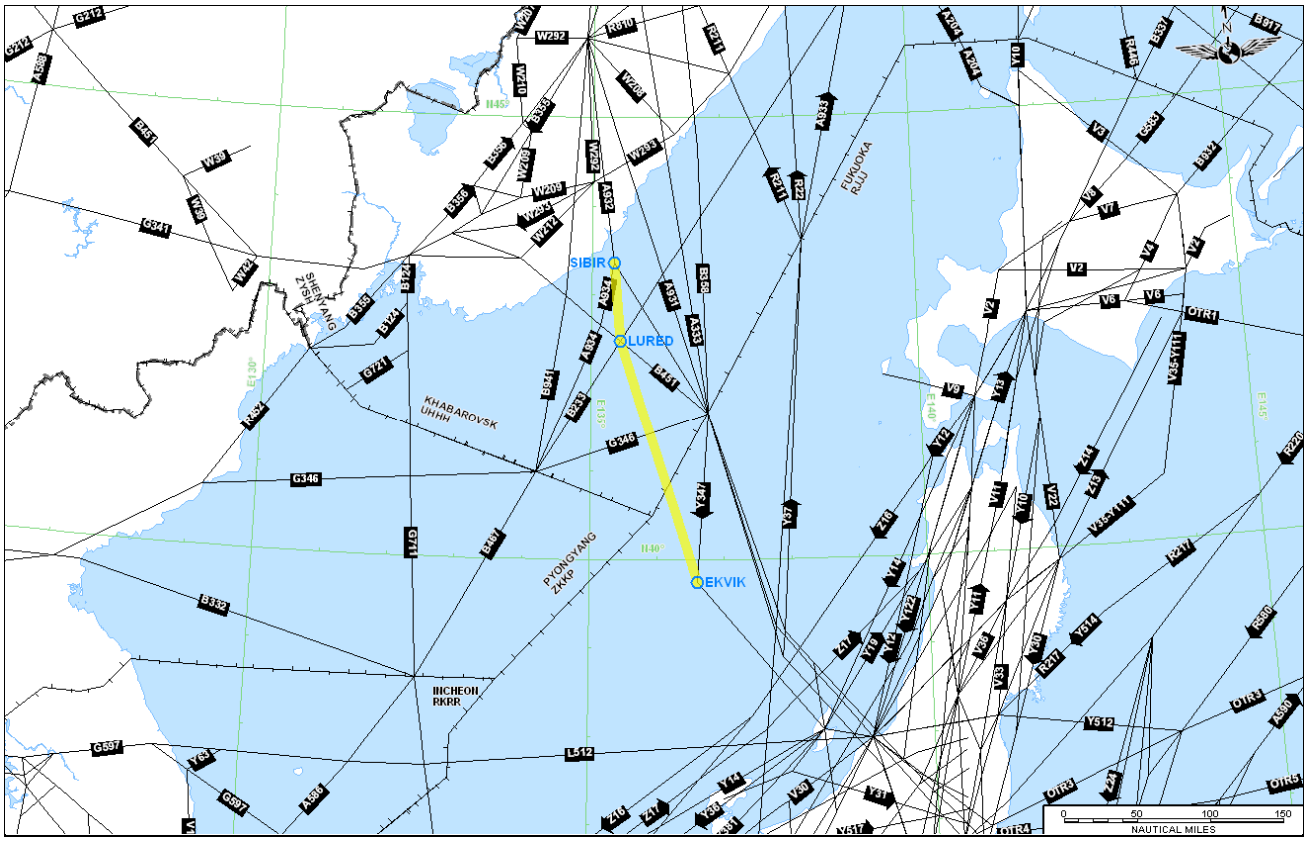
…….


Trans-Eastern ATM routes
Cross-Polar ATM routes
Trans-Polar ATM routes
Trans-Siberian ATM routes
Trans-Asian ATM routes
Asian ATM routes

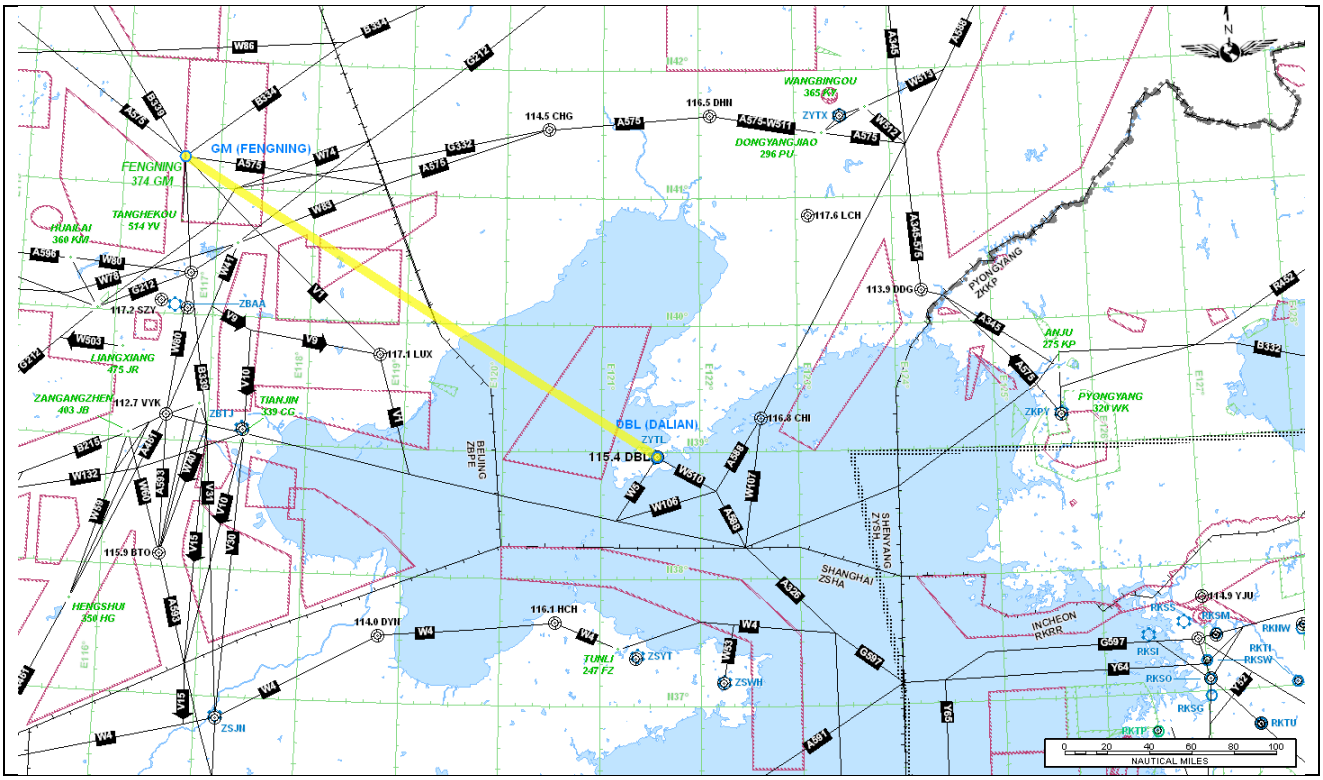
Project Group: SG FAR EAST	**Proposal : 13.028**	**State(s) & Org.**	**Comments:**
To implement ATS route segment **AVGOK - GTC**. **Objective:** To reduce route distance of 13 NM as compared to current routing AVGOK-KADBO-RJSN.		JAPAN RUSSIAN FEDERATION **Originator(s):** IATA	*Russian Federation: Further discussion with Japan required through the ICAO APAC Office.*



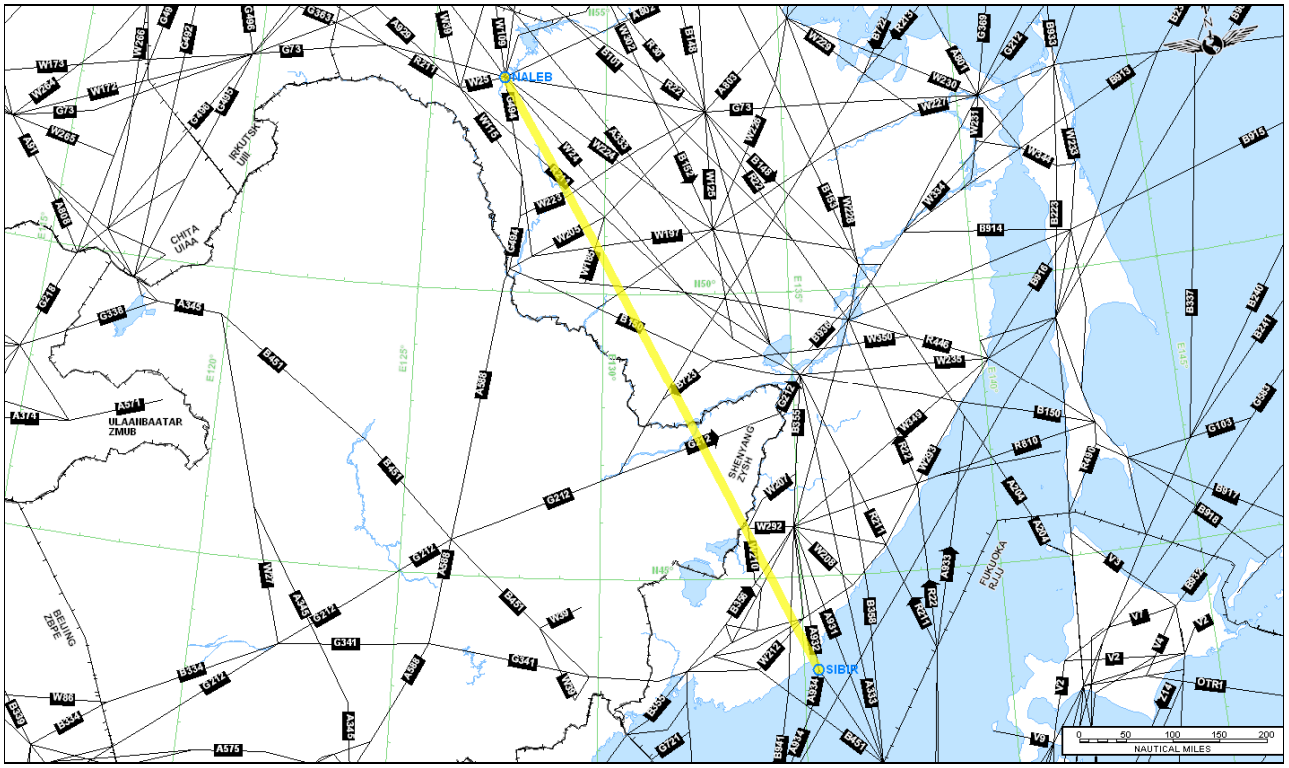
Project Group: SG FAR EAST	**Proposal : 15.033**	**State(s) & Org.**	**Comments:**
To implement bidirectional ATS route **SIBIR – LURED – EKVIK**. **Objective:** To improve north-south traffic flows between Khabarovsk FIR and Fukuoka FIR.		JAPAN RUSSIAN FEDERATION **Originator(s):** RUS	*Russian Federation: New waypoint needed 404751N1361021E (FIR Boundary), coordination with Japan (Fukuoka FIR) required.* *Alternative bi-directional route to EN15.* *Implementation planned for 2Q 2013.*



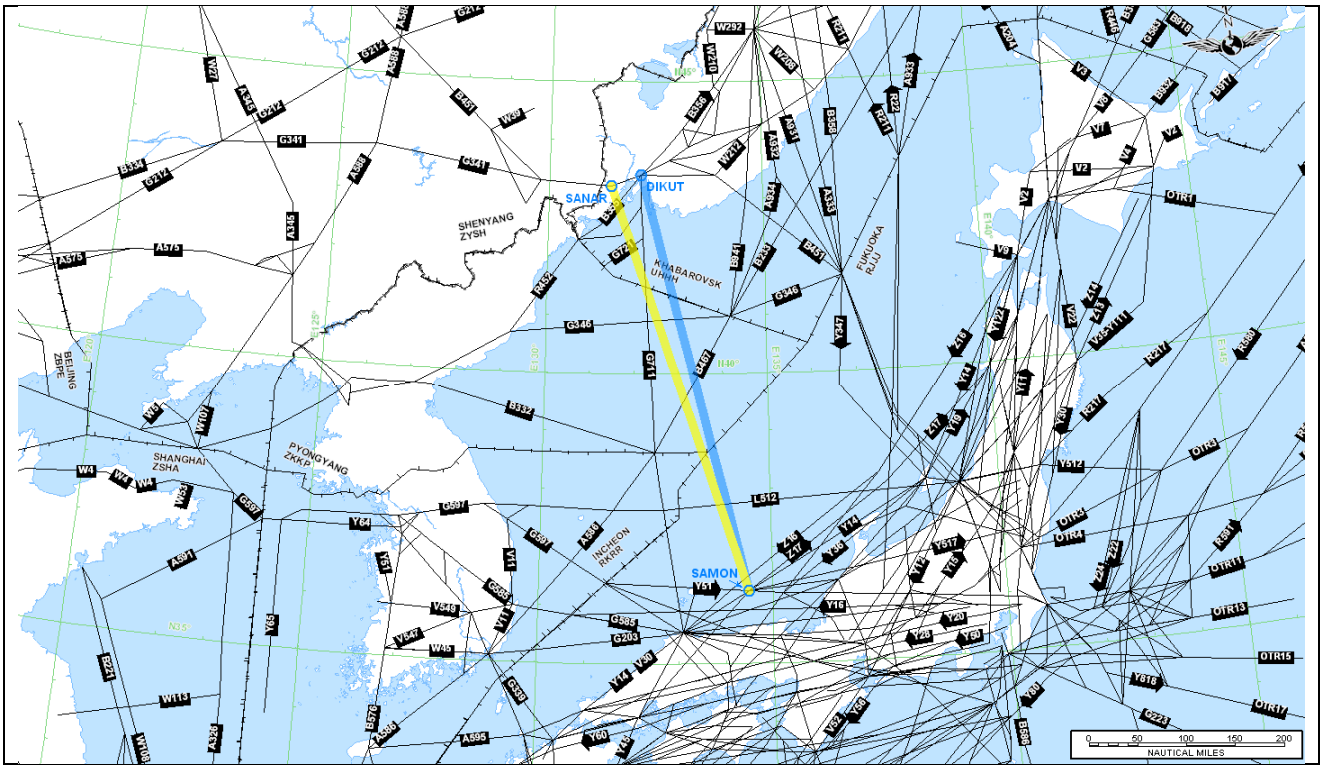
Project Group: SG FAR EAST	**Proposal : 13.037**	**State(s) & Org.**	**Comments:**
To implement ATS route segment **GM - DBL**. **Objective:** To reduce route distance of 67 NM as compared to current routing GM-LADIX-MAKNO.		CHINA **Originator(s):** IATA	*Part of IATA EUR-North Asia package - #EN13.* *China: Further discussions required via ICAO APAC Office.*



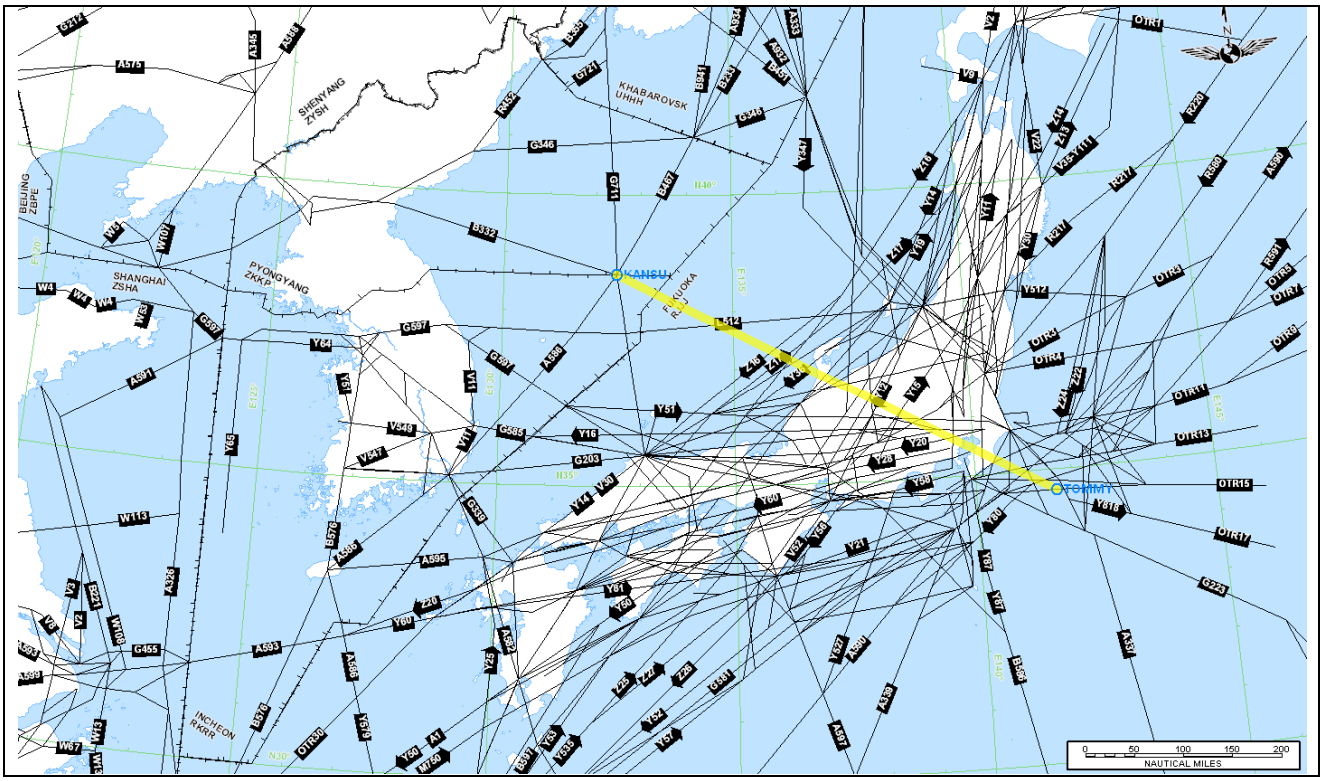
Project Group: SG FAR EAST	**Proposal :13.030**	**State(s) & Org.**	**Comments:**
To implement ATS route segment **NALEB - SIBIR**. **Objective:** To reduce route distance of 63 NM as compared to current routing LALIR-SOVIK-HAB-TD-SIBIR.		CHINA RUSSIAN FEDERATION **Originator(s):** IATA	*Part of IATA EUR-North Asia package - #EN6*.



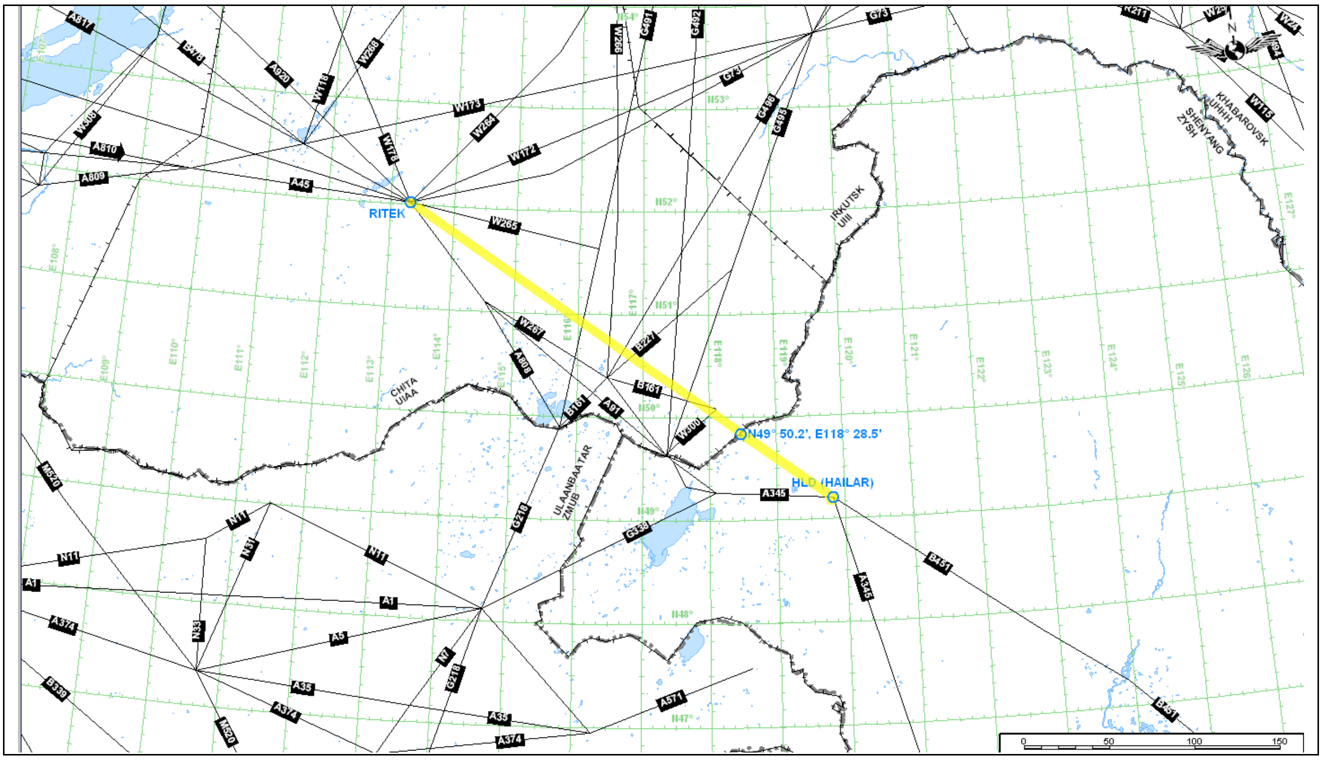
Project Group: SG FAR EAST	**Proposal : 13.033**	**State(s) & Org.**	**Comments:**
To implement ATS route segment **DIKUT** or **SANAR - SAMON**. **Objective:** To reduce route distance of 160 NM as compared to current routing DIKUT-KANSU-JEC.		JAPAN RUSSIAN FEDERATION DEM. PEOPLE'S REP. OF KOREA **Originator(s):** IATA	*Part of IATA EUR-North Asia package - #EN9*. *Russian Federation: Further discussion/studies required. Difficult to implement.*



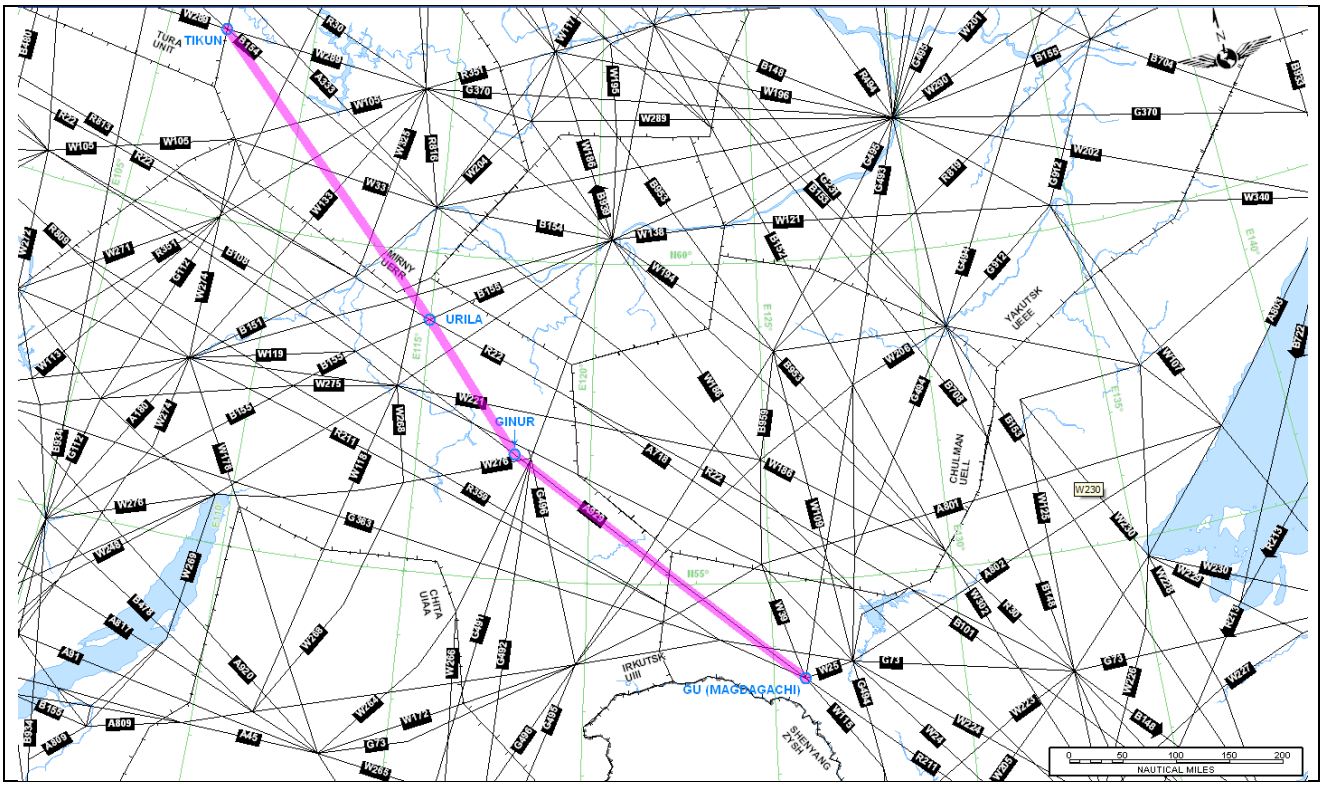
Project Group: SG FAR EAST	**Proposal : 13.038**	**State(s) & Org.**	**Comments:**
To implement ATS route segment **KANSU - TOMMY**. **Objective:** To reduce route distance of 64 NM as compared to current routing KANSU-IGRAS-TOMMY.		KOREA JAPAN **Originator(s):** IATA	*Part of IATA EUR-North Asia package - #EN14.* *China: Further discussion between China and Korea also required via ICAO APAC Office.*



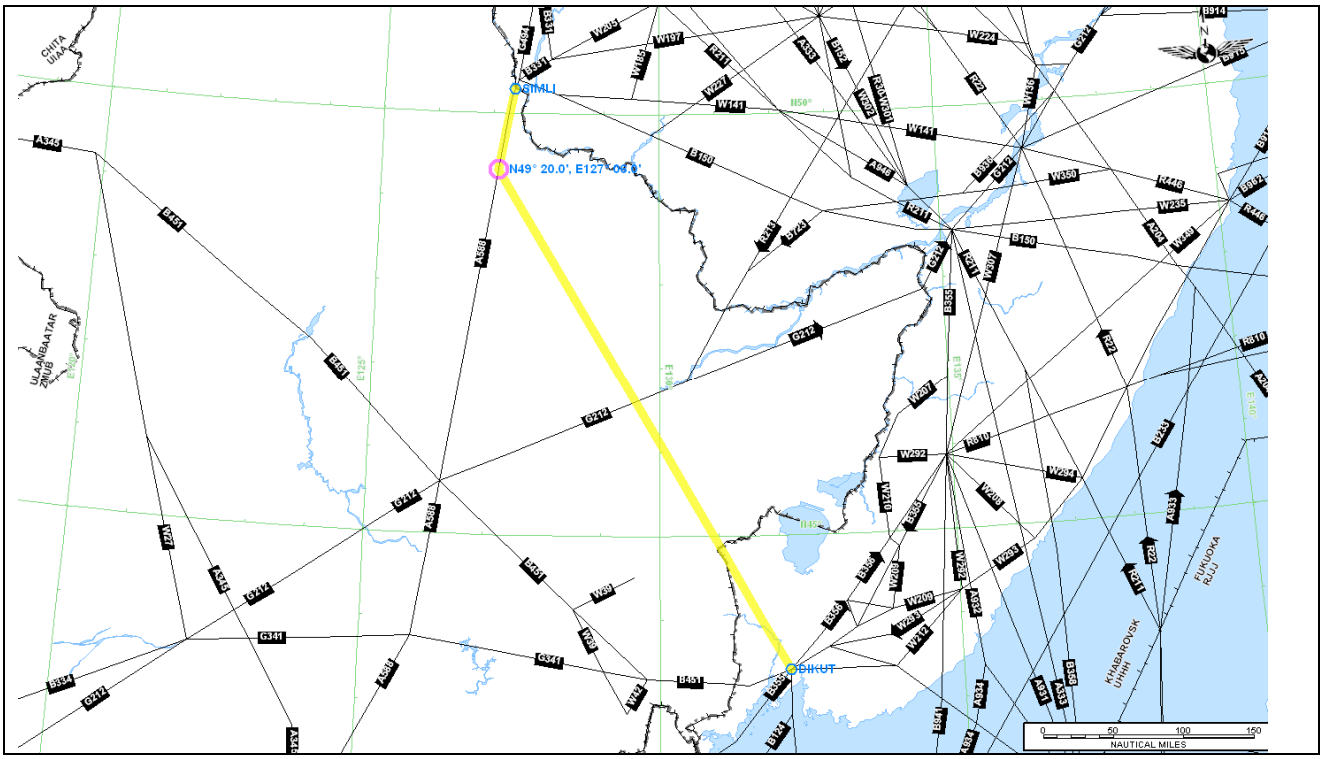
Project Group: SG FAR EAST	**Proposal : 16.027**	**State(s) & Org.**	**Comments:**
To implement ATS route **RITEK- new waypoint 495025N 1182854E - HLD**. **Objective:** To reduce route distance of 159 NM as comparred to current routing PTG-RITEK-HLD-DIKUT-KANSU.		CHINA RUSSIAN FEDERATION **Originator(s):** RUS IATA	*Further studies/coordination required. Updates will be given when available.* *Alternative uni-directional eastbound route proposal for EN11, proposal 13.035 (deleted from catalogue).*



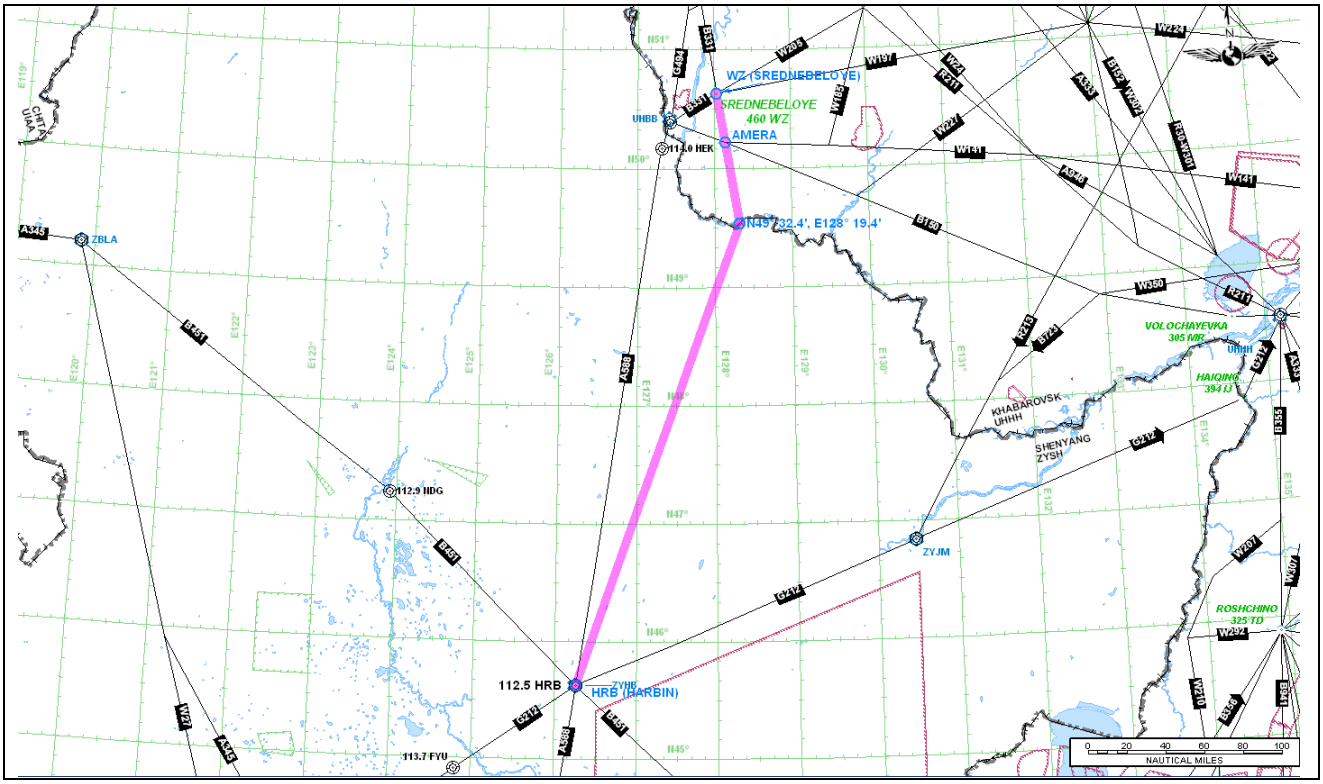
Project Group: SG FAR EAST	**Proposal : 13.034**	**State(s) & Org.**	**Comments:**
To implement ATS route segment **TIKUN - URILA - GINUR - GU.** **Objective:** To reduce route distance of 150 NM as compared to current routing TIKUN-IVADA-TD-DIKUT.		CHINA RUSSIAN FEDERATION **Originator(s):** IATA	*Part of IATA EUR-North Asia package - #EN10.* *China: Proposal can partly be withdrawn due to lack of CNS capabilities for the segment URILA-492000N1270600E. Alternative proposal made.* *Russian Federation: Further studies/discussion required.* **Related proposals:** • 16.005



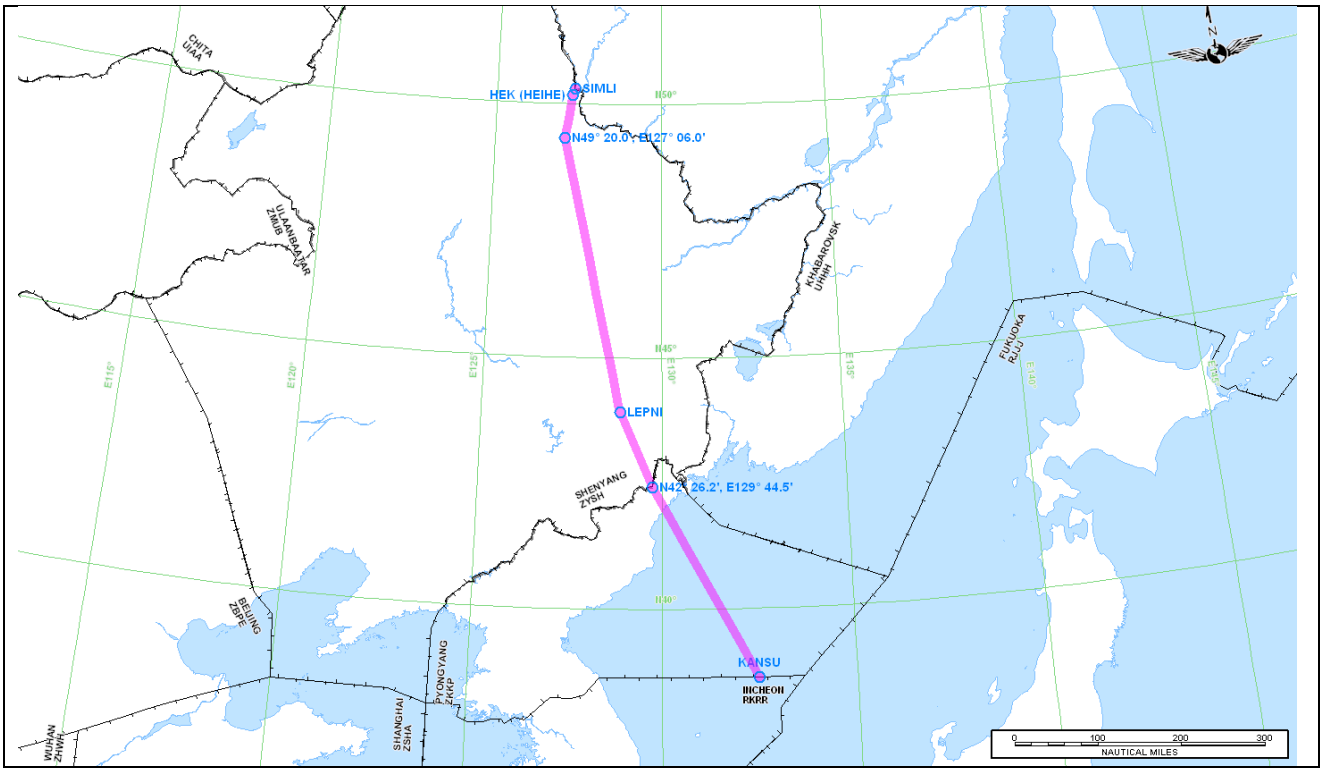
Project Group: SG FAR EAST	**Proposal : 16.005**	**State(s) & Org.**	**Comments:**
To implement eastbound ATS route **SIMLI - new waypoint 492000N 1270600E - DIKUT**. **Objective:** To reduce route distance of 150 NM as compared to current routing TIKUN-IVADA-TD-DIKUT.		CHINA RUSSIAN FEDERATION **Originator(s):** RUS IATA	*Further studies/coordination required. Updates will be given when available. Alternative uni-directional eastbound route proposal for EN10, proposal 13.034.* **Related proposals:** • 13.034



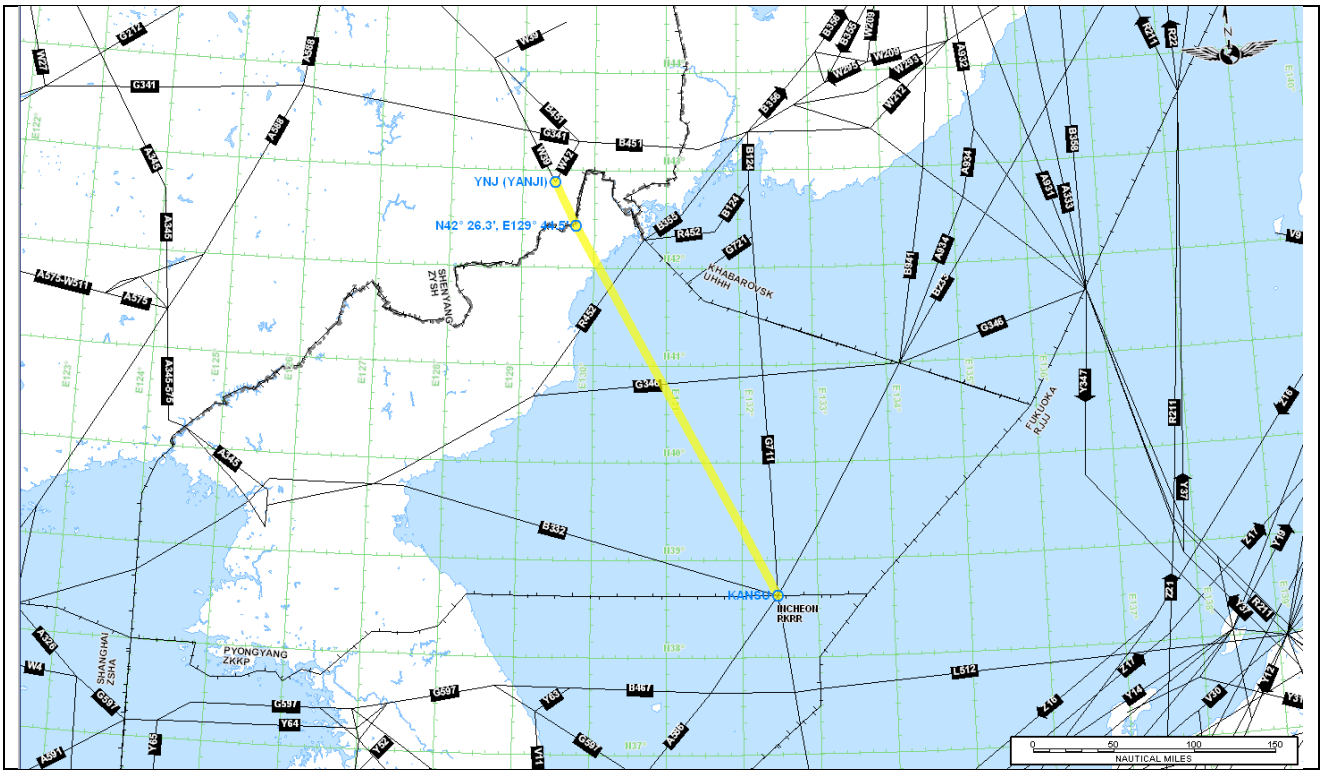
Project Group: SG FAR EAST	**Proposal : 15.035**	**State(s) & Org.**	**Comments:**
To implement unidirectional Westbound route **HRB - 493236N 1281936E - AMERA – WZ (Srednebeloye)**. **Objective:**		CHINA JAPAN DEM. PEOPLE'S REP. OF KOREA RUSSIAN FEDERATION **Originator(s):** IATA	*Package together with 15.034 and new proposal 16.028 (YNJ - new waypoint 422624.7N 1294454.7E - KANSU).* *Russian Federation: westbound ATS route is needed for unloading traffic from SIMLI* **Related proposals:** • 16.028 • 15.034



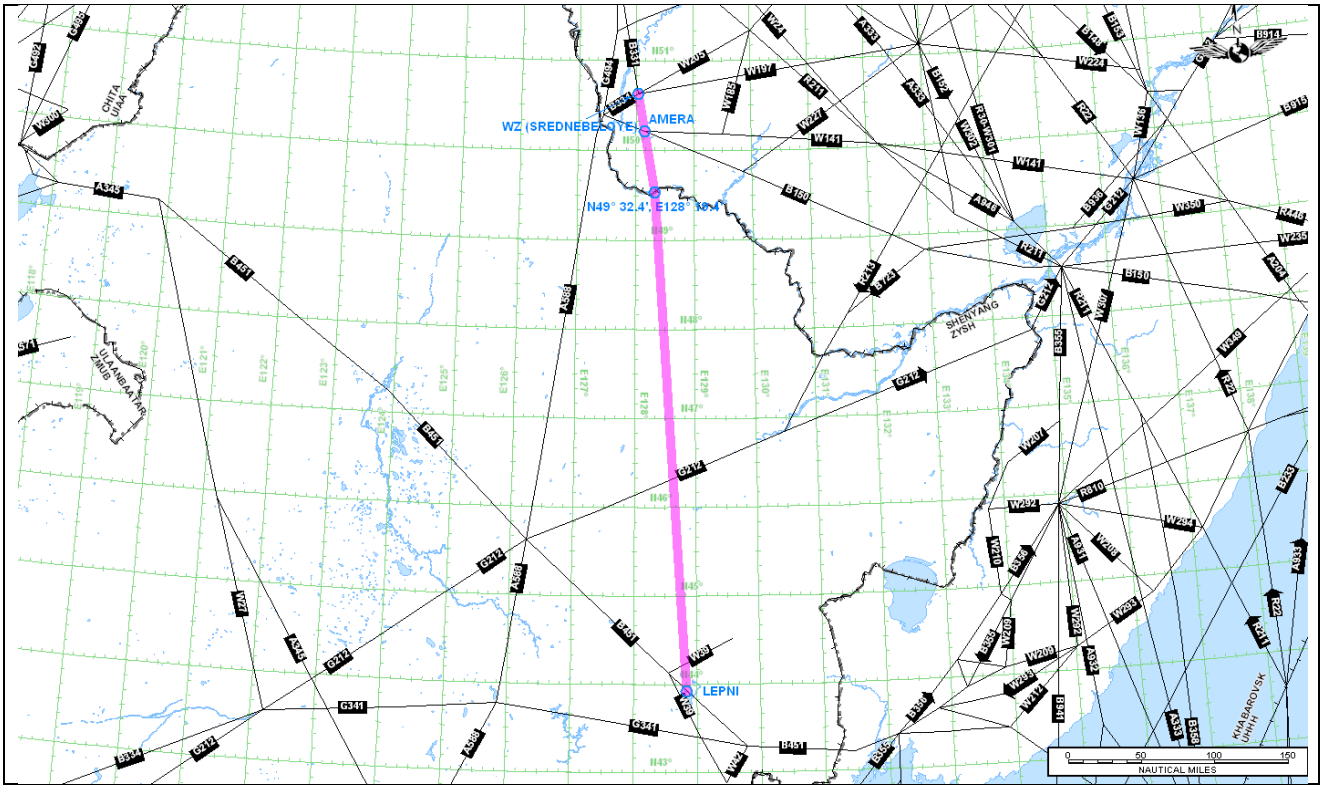
Project Group: SG FAR EAST	**Proposal : 15.034**	**State(s) & Org.**	**Comments:**
To implement unidirectional Eastbound route **SIMLI - HEK - 492000N 12706E - LEPNI - 422624.7N 1294454.7E - KANSU** **Objective:**		CHINA JAPAN DEM. PEOPLE'S REP. OF KOREA RUSSIAN FEDERATION **Originator(s):** IATA	*Package together with 15.035 and new proposal 16.028 (YNJ - 422624.7N 1294454.7E - KANSU).* *Russian Federation: eastbound ATS route is needed for unloading traffic from SIMLI.* *China: Confirmation of interest in this ATS route but further studies/coordination are needed, updates will be given when available.* **Related proposals:** • 15.035 • 16.028



Project Group: SG FAR EAST	**Proposal : 16.028**	**State(s) & Org.**	**Comments:**
To implement bidirectional ATS route **YNJ- new waypoint 422624.7N 1294454.7E - KANSU**. **Objective:** To reduce route distance of 159 NM as compared to current routing PTG-RITEK-HLD-DIKUT-KANSU.		CHINA DEM. PEOPLE'S REP. OF KOREA RUSSIAN FEDERATION **Originator(s):** RUS IATA	*Alternative bi-directional route proposal for EN11, proposal 13.035 and package together with 15.034 and 15.035.* **Related proposals:** • 15.035 • 15.034



Project Group: SG FAR EAST	**Proposal : 16.029**	**State(s) & Org.**	**Comments:**
To implement westbound ATS route **LEPNI 435542N 1285030E - new waypoint 493236N 1281936E – AMERA - WZ (Srednebeloye)**. **Objective:**		CHINA RUSSIAN FEDERATION **Originator(s):** RUS IATA	*Further studies/coordination required. Updates will be given when available.*



– END –

DRAFT Russia – East Asia ATM Coordination Group (REAACG) Terms of Reference

1) The scope and objective of the REAACG is to identify, plan and implement Air Traffic Management improvements within airspace serving the Asian Regional Major Traffic Flows:

   - AR-3 (Europe – East Asia);
   - AR-5 (East Asia – North America);
   - AR-6 (East Asia – North/Central America); and
   - Portions of AR-9 and AR-2 (East Asia-Southeast Asia and Australasia).

2) To meet this objective the Group shall:

   a. review and recommend improvements to relevant airspace and ATS route structures, in order to optimize the safety and efficiency of ATC operations;

   b. review and recommend improvements to ATS facilities such as communication and surveillance capability in support of flight operations;

   c. research and plan airspace and facility requirements based on future technologies, Performance Based Navigation and other capabilities that enhance flight operations;

   d. coordinate with other bodies to establish appropriate navigation specifications;

   e. identify ATM deficiencies with respect to ICAO Standards and Recommended Practices (SARPs), and make recommendations to achieve compliance;

   f. cooperate with other bodies as required, to facilitate Seamless ATM;

   g. create working groups as required to manage specific ATM-related projects; and

   h. research and recommend appropriate means of minimizing the environmental consequences of flight operations.

3) The REAACG reports to the ATM Sub-group of APANPIRG.

4) The membership of the REAACG is open to States that provide ATS within the scope of REAACG airspace (China, Democratic People's Republic of Korea, Japan, Mongolia, Republic of Korea, and Russian Far East Flight Information Regions), International Organizations and ICAO. The membership is also open to participants from outside the airspace or organizations that can contribute to REAACG by invitation from REAACG.

……..