

**Summary of Discussions of the  
Twenty-Sixth Meeting of the  
Cross Polar Trans East Air Traffic Management Providers Working Group  
(CPWG/26)  
30 October – 1 November 2018 – Vancouver, British Columbia**

**1. Background**

- 1.1 NavCanada hosted the Twenty-Sixth Meeting of the Cross Polar Trans East Air Traffic Management (ATM) Providers Working Group (CPWG/26) 30 October – 1 November 2018 in Vancouver, British Columbia. The schedule included meetings of the Air Navigation Service Providers (ANSPs) and the CPWG/26 plenary meeting.
- 1.2 The CPWG was established to provide a forum for ANSPs and airspace users to meet and explore solutions for improving air traffic services (ATS) to aircraft that operate between North America and Asia via Cross Polar (CP) and Russian Trans East (RTE) routes.
- 1.3 Ms. Leah Moebius, FAA Air Traffic Organization and Mr. Blair Cowles, Regional Director, International Air Transport Association (IATA) co-facilitated the meeting. Attendees included representatives of the ANSPs from Canada, Finland, Iceland, Mongolia, Norway, the Russian Federation and the United States; IATA, international airlines and operators; and industry. The complete list of participants is provided in **Attachment A**.

**2. Opening of the Meeting**

- 2.1 Ms. Moebius opened the meeting at 1300 local time and welcomed everyone to the 26<sup>th</sup> CPWG meeting. Ms. Moebius thanked NavCanada for hosting the meeting, including the lovely welcome reception, and introduced Ms. Christina Schmidt of NavCanada to explain logistics for the planned tours of both the Vancouver Harbor Tower and the Vancouver ACC this week. Ms. Moebius then described the agenda, the plan for the day and asked the meeting participants to introduce themselves.

**3. Agenda Item 1: Review and approve Agenda**

- 3.1 The following agenda was approved:

Agenda Item 1: Review and approve Agenda

- WP/01: CPWG/26

Agenda Item 2: Administrative Matters (CPWG/25 Report)

- WP/02: CPWG/25 Summary of Discussions (SoD)
- IP/01: CPWG/26 List of Papers

Agenda Item 3: Summary of Pertinent Issues from the ANSPs Meeting and other relevant meetings

- PACOTS Generation – FAA

Agenda Item 4: Presentations

- ANSP Updates/Presentations
  - NavCanada Update
  - FAA Anchorage Update
  - State ATM Corporation Update
  - State ATM Corporation Traffic Count Update
  - Isavia ANSP Update
  - Avinor Flysikring ANS Update
  - ANS Finland Update
  - Mongolia Civil Aviation Authority Update
- Airline Updates/Presentations
  - Hong Kong Airlines
  - American Airlines
  - IATA Overview
  - Recommended Practices During Diversion and Passenger Recovery in Russia - Global Aviation Consulting
- Jeppesen Regulatory Update of ICAO Docs Defining the Aeronautical Data Supply Chain

Agenda Item 5: ATS Route Catalogue Update

- WP/05: State ATM ATS Route Catalogue

Agenda Item 6: Status on CPWG/25 Action Item List

Agenda Item 7: 2018-2019 Cross Polar Work Program

- Respective ANSPs' efforts for improving communications in the area
- Development of a single separation standard in region
- Improve/Increase efficiencies and predictability on Polar Routes
  
- WP/04: CPWG Work Program Update
- WP/09: Seamless Airspace Chart

Agenda Item 8: Other Business

Agenda Item 9: Next Meeting

#### **4.0 Agenda Item 2: Administrative Matters**

4.1 Ms. Moebius brought attention to the Draft Summary of Discussions (SoD) from CPWG/25 and asked if there were any further corrections. Receiving no comments, concerns or corrections, the CPWG/25 report was accepted as the final version and approved unanimously by the CPWG.

4.2 The following Working Papers (WPs), Information Papers (IPs) and presentations were provided to the CPWG/26 meeting:

Paper Number	Agenda Item	Action Number	Title	Presented by
<b>WORKING PAPERS</b>				
WP/01	1		Proposed Agenda and Timetable	FAA
WP/01REV			Detailed Agenda	FAA
WP/02	2		Summary of Discussions from CPWG/25	FAA
WP/03	2		CPWG/25 Action Item List	FAA
<b>WP/04(ANSPs Only)</b>	7	<b>ANSP MEETING</b>	Proposed CPWG Work Program	
WP/05	5		State ATM ATS Route Catalogue	State ATM
WP/06	6	CP15-06 CP18-02	Volcanic Ash CPDLC Messages	FAA
WP/07	6	CP17-10	State ATM Departure Message Update	State ATM
WP/08	6	CP17-10	DEP Messages to China from North America	United Airlines
<b>INFORMATION PAPERS</b>				
IP/01			List of Documentation	
IP/02	6	CP23-01	Introduction to VOLCEX18	Isavia
IP/03	6	CP14-02	AIDC between ZAN ARTCC and Magadan ACC	State ATM
IP/04	6	CP15-06 CP18-02	VOLKAM Update	State ATM
IP/05	6	CP12-04 CP14-11	ATM Efficiency Trials in the Anchorage Arctic FIR	FAA-ZAN
IP/06	6	CP17-10	Departure Message	FAA
IP/07	6	CP20-01	Andoya Rocket Launch	Isavia
IP/08	6	CP20-01	Airspace Closures for Ballistic Launches Update	IATA

Paper Number	Agenda Item	Action Number	Title	Presented by
IP/09	6	CP20-01	Impact of Commercial Space Operations on Civil Aviation	IATA
<b>PRESENTATIONS</b>				
PPT	3		PACOTS Generation	FAA
PPT	4		ANSP Update: ANS Finland	ANS Finland
PPT	4		ANSP Update: Isavia	Isavia
PPT	4		How is SATVOICE Used Today?	Isavia
PPT	4		Regulatory Update of ICAO Docs	Jeppesen
PPT	4		Hong Kong Airlines Update	Hong Kong
PPT	4		ANSP Update: Avinor	Avinor
PPT	4		ANSP Update: Mongolia	Mongolia CAA
PPT	4		NCA Tracks Update	NavCanada
PPT	4		ANSP Update: Anchorage ARTCC	FAA
PPT	4		American Airlines Update	American Airlines
PPT	4		State ATM ACC Consolidation Update	State ATM
PPT	4		Recommended Practices During Diversion and Passenger Recovery in Russia	Global Aviation Consulting
PPT	4		IATA Overview	IATA
PPT	6	04-31	Update on Provideniya Radar	State ATM
PPT	6	14-02	Update on AIDC Between Magadan ACC and Anchorage ARTCC	State ATM
PPT	6	CP15-06	State ATM development plan for MET information provision of flight crews within Magadan ACC	State ATM
PPT	6	CP14-02	DARP-like procedure	State ATM

Paper Number	Agenda Item	Action Number	Title	Presented by
PPT	6	CP14-12	Proposals on Separation Intervals in Magadan ACC Oceanic Sector – Utilization of SLOP, ADS-C CDP	State ATM
PPT	6	CP20-01	Grand Challenge Information	Avinor

4.3 Copies of all WPs and IPs, as well as additional information presented during the meeting was made available on the CPWG web site at:

[https://www.faa.gov/about/office\\_org/headquarters\\_offices/ato/service\\_units/systemops/ato\\_intl/cross\\_polar/](https://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/systemops/ato_intl/cross_polar/)

### **5.0 Agenda Item 3: Summary of Pertinent Issues from the ANSPs Meeting and other relevant meetings**

5.1 FAA PACOTS Generation – Harrie Copeland from the FAA provided a presentation on DOTS+ Track Generation. As a result of a request from IATA to address deficiencies in DOTS+, the FAA has been investigating ways to mitigate the concerns raised by IATA and has been working with JCAB to explore additional possibilities to address this issue. Mr. Copeland explained the process for generating westbound tracks via DOTS+ and noted that 19 of 22 PACOTS Tracks now have alternate User Preferred Routes (UPR) procedures. In most cases, operators have the option of flight planning a UPR instead of the published PACOTS track. The FAA agreed to provide updates at the next CPWG meeting.

### **6.0 Agenda Item 4: ANSP Updates/Presentations**

#### **6.1 NAV CANADA Update**

6.1.1 NavCanada Space-Based ADS-B – Mr. Bob Fiege of NavCanada provided presentation on the Iridium NEXT Constellation and its role in the provision of surveillance in NavCanada’s domestic airspace. Sixty satellites are currently in orbit and one more launch will complete the constellation scheduled for December 30, 2018. Mr. Fiege stated that no certification has been received from Transport Canada yet to utilize surveillance capabilities and indicated that the Aireon satellite constellation would not receive full certification until an expected date of February 2019. Mr. Fiege stated that NavCanada is experiencing much better satellite coverage than originally anticipated. 2022-23 implementation planned for terminal airspace. Arctic airspace is experiencing a record year for air traffic. Many new carriers and overflights and asked the operators to help with traffic planning forecasts. Full implementation by April 2019 in Edmonton. Long term goal is to offline some of the terrestrial ADS-B to recover some costs and decommissioning some SSR radars with the ADS-B mandate. SB ADS-B will be used as the primary surveillance source. SATVOICE testing is ongoing and implementation is planned for November 2018. Gander should upgrade after the new year. Transport Canada has authorized the use of SB ADS-B utilizing DCPC in domestic airspace and intends to use 5 nm separation.

Isavia pointed out that the last of the Inmarsat I3 satellites have been retired and replaced by I4’s and noted that it will be an ongoing challenge to deliver communication in the Arctic airspace.

Ms. Moebius thanked Mr. Fiege and asked that NavCanada provide an update at the next CPWG.

6.1.2 Northern Track update presented by Brian Carlson of NavCanada. Effective July 19, 2018, many tracks were deleted including “M,” NCA “Lettered” Tracks, NCA Lateral Tracks as well as SCA Tracks. Rules to file every 10 degrees of longitude or every 5 degrees of latitude still apply. Most remaining NCA routes to be eliminated late ~2019 and further coordination and consultation with ZAN and customers is required.

## **6.2 FAA Anchorage Update**

6.2.1 Mr. Dave Chilson presented an update on FAA Anchorage ARTCC. Mr. Chilson provided the website address that operators can access for up to date information concerning ZAN and provided an overview of the three FIRs controlled by ZAN. ZAN’s airspace consists of nearly 2.5 million square miles of controlled airspace. Mr. Chilson presented information on commercial space launches affecting airspace in the Region. Additional launches are planned for December 2018 and in 2019, but specific dates (and impacted airspace) have not yet been coordinated. Red Flag military exercises are planned for June and August 2019 and Mr. Chilson explained different traffic management initiatives to help mitigate the airspace impact. Traffic has been steadily climbing over the past five years at a rate of 5-7% increase per year. Significant increases in traffic has been experienced in the Cross Polar and RFE routes.

## **6.3 State ATM Corporation ANSP Update**

6.3.1 Mr. Alexey Buevich presented on behalf of State ATM on the 2018 ACC Consolidation. In 2000, there were over 100 small ACCs. The ACCs are in the process of being consolidated into three ACCs with the final ACC planned for commission in 2019.

6.3.2 State ATM presented a briefing on Joint ATM System Centers. There are 31 Joint ATM System Centers. The total number of ATS routes in Russian airspace is 1056. There are 161 RNAV routes with the opening of 26 new routes on October 11, 2018. Cross Polar traffic has been consistently growing since 2000 reaching approximately 20,000 operations for 2018.

6.3.3 Mr. Alexey Buevich, on behalf of State ATM, delivered a presentation on the Development Plan for the Meteorological Information Provision of the Flight Crews within Magadan ACC. Utilizing CPDLC, Magadan ACC will provide meteorological information for aircraft in flight within Magadan FIR. Some technical solutions will have to be developed and State ATM is asking operators for their feedback. State ATM will provide this technology at no cost to the operators. IATA stated that they will coordinate a response and provide it to State ATM.

## **6.4 ISAVIA Update**

6.4.1 Ms. Thordis Sigurdardottir provided the ANSP update on behalf of Isavia. Ms. Sigurdardottir gave an overview of the Reykjavik ACC and the Reykjavik Control Area that encompasses nearly 5.4 million square KM. In March 2018, Reykjavik ACC completed a sector reorganization to manage traffic and controller workload more equitably between sectors. Five radar sites are located in Iceland with another on Faeroe Island and Sumburg. Eight single ADS-B sites are located in Iceland with two dual sites located on Faeroe Island and five dual sites located in Greenland. An example of the NAT OTS was presented in relation to how and when the tracks are generated and when upper winds require the tracks to impact Reykjavik’s airspace. Traffic continues to increase in BIRD CTA at an expected rate of 5% in 2018. Cross Polar traffic numbers remain steady. PBCS approvals have reached ~50% in Reykjavik’s airspace. Ms. Sigurdardottir presented information on controller training and estimated training completion dates.

## **6.5 Avinor Flysikring ANS Update**

6.5.1 Mr. Morten Tjonndal presented information on the Norway ACC – Bodo. Avinor has one ACC, which encompasses three facilities. Traffic overall in Norway remains steady – 40,000-50,000 operations per month, and Oceanic Overflights continue to increase and normally average 2000 flights per month. Mr. Tjonndal further explained control areas, helicopter traffic to offshore oil installations and smaller airfields. Furthermore, Norway ACC Bodo has 13 working positions available and utilizes flexible staffing according to sector configuration and traffic demand.

## **6.6 ANS Finland**

6.6.1 Mr. Osmo Liimatainen delivered the presentation for ANS Finland. In the first nine months of this year, IFR flights have been steadily increasing in Finland. The average growth rate is 8.2 percent and ANS Finland has been doing a lot of marketing to increase air traffic in their airspace. On October 11, 2018, State ATM implemented two new airways. These new routes will give new route opportunities for flights between North American and the Middle East and India. Also on October 11, 2018, RAD restrictions (EFR2043 & 2044) were removed which will help airlines to utilize the usage of GATRI & AGAMO fixes as they are now 24/7 entry/exit fixes to/from Free Route Airspace. FPLs will remain subject to FUA restrictions allocated in AUP. EFIN FIR will begin CPDLC operational trials in December 2018. ANS Finland will be reducing their en route unit rate by 9.2% beginning in 2019.

## **6.7 Mongolia Update**

6.7.1 Mr. Odgerel Chagnaadorj presented the update for Mongolia. Mr. Chagnaadorj discussed the airspace structure and explained the upcoming change from km to Ft with regard to Flight Levels. Mongolia has been using ADS-B since 2015 for situational awareness and implemented operationally in 2018. Planning to use SB ADS-B in the future. Utilizing 30 km since 2015 as well as Russia. Overflight traffic has increased at almost 42% over the past 5 years. Total growth from 2014 is over 50%. Priority jobs to be implemented in the years 2018-2020 include ATFM Implementation, a new RATCC, New Ulaanbatar airport, and cross-border ATFM.

## **6.8 Hong Kong Airlines**

6.8.1 Mr. Jason Yu presented on behalf of Hong Kong Airlines. Hong Kong Airlines does not currently operate on the Cross Polar routes but intends to launch YYZ services in June 2019 with an A350-900. Hong Kong Airlines operates to nearly 40 destinations across the Asia Pacific region and North America. The NAVBLUE Flight Planning (NFP) system is used by Hong Kong Airlines. Regional flights are handled by dispatch stationed at the crew briefing office. Long-haul and trans-Pacific flights are handled by the dispatcher stationed at the Integrated Operation Control Centre (IOCC). Dispatchers undergo route optimization for every flight based on payload, flight time and cost (fuel & overflight fees.) Additionally, trans-Pacific flights are based on daily optimum tracks and fixed company routes. Mr. Yu discussed challenges for flight planning in the polar region; including ETOPS alternates within the Arctic Circle, airport runway physical conditions, ground support, weather, etc.

6.8.2 Mr. Cowles welcomed Hong Kong Airlines to the Cross Polar Working Group and hoped that the collective CPWG wisdom would be of assistance.

## **6.9 American Airlines**

6.9.1 Mike Collier presented on behalf of American Airlines. American Airlines began polar operations in March 2006. Current flights that operate in the polar region are from Chicago to Shanghai and Beijing (temporarily suspended as of 10/20/18) and out of Dallas to Hong Kong, Beijing, Shanghai, and Incheon. Aircraft that operate in the region include the 777-200, 777-300, 787-8 and 787-9. Mr. Collier explained that cold temperatures are the main threat when flying over the poles. Pockets of air around the poles can reach temperatures as low as -75 degrees Celsius. Flight deck crews must undergo specific training to fly in that region. Enroute temperatures and space weather must be considered when planning polar routes. Any flight planned in polar airspace (north of 78N) is required to have the results of the Fuel Freeze Analysis Program sent via ACARS. Another planning consideration is solar radiation and its impact on navigation, communication and human physiology. Dispatchers receive a daily solar activity forecast for radio, navigation and solar radiation effects. American Airlines have operated over 200 flights over the previous 12 months in airspace north of 78N. Challenges include finding airport information, ETOP alternates during the winter months, limited structure in the Cross-Polar region for planning, and tracking airway closures via NOTAM/Airway Manual-AIP information.

## **7.0 IATA Presentation**

7.1 Blair Cowles delivered a presentation on the International Air Transport Association – what it is and why it is relevant. IATA is the global trade association for the worlds' airlines including 287 passenger and cargo carriers in 120 countries; accounting for almost 84% of global air traffic. IATA has offices in 53 countries and employees 1500 employees. Founded in Havana, Cuba in April 1945, IATA's head office is in Montreal, Canada with its executive offices located in Geneva, Switzerland. Only about 3% of the IATA operating expenses comes from membership airlines. Their mission is to represent, lead and serve the airline industry. Mr. Cowles explained the various regions and focused specifically on the Asia Pacific, which contains 42 member airlines.

7.2 Every day in 2017, 114,500 flights carried 11.2 million passengers and \$16.6 billion worth of goods. Global industry profitability is still high and now stabilizing. However, the industry now faces late-cycle cost pressures due to the price of oil and labor. Regional profitability remains very uneven with the North American region remaining the most profitable. The Asia Pacific Region is hovering around the 3% post-tax profit margin. African and Latin America Regions are both trailing in profitability. Per passenger return profitability in the Asia Pacific Region is approximately \$5 USD, while North America hovers around \$15 USD and Africa operates at a loss of about -\$3 USD. In 2018, direct employment by airlines will exceed 2.9 million jobs. IATA forecasts the demand for air travel to double over the next 20 years to almost 7 billion people by 2037. The value of aviation in Asia-Pacific region economic impact is set to double by 2035. 20-year passenger growth outline (2017-2037) looks to increase by 4.4% to ~2,125 million passengers. Over the next ten years, 50% of pilots flying by 2027 have not yet started to train, which relates to 70 new pilots/day and 180,000 new captains. 255,000 pilots are required for growth and replacement. Mr. Cowles stated that he would continue to update the Group with information concerning the pilot shortage projection at the next CPWG meeting.

## **8.0 Global Aviation Consulting: Recommended Practices During Diversion and Passenger Recovery in Russia**

8.1 Mr. Edgar Vaynshteyn delivered a presentation on the services of his company, Global Aviation Consulting, which assists airlines with alternate airports diversion planning. FAA regulatory guidance for polar operations requires en route alternate airports and an approved recovery plan for unplanned diversion. GAC provides on the ground support for aircraft deviations in the Polar and Transeast Routes.



GAC assists with diversion planning, alternate airports evaluation access to comprehensive airport database, alternate airports availability monitoring and reporting, one phone call diversion handling, on the ground airport support, and 24/7 coverage, coordination and support. GAC also helps with dispatch and offers operation support. Mr. Vaynshteyn presented examples of the GAC website information available to operators. This database supplies information on items such as: applicable NOTAMS, hospital/hotel information, contact information, airport amenities/services, etc. GAC has been supporting airline diversion and technical needs since 2000.

## **9.0 Jeppesen Regulatory Update of ICAO Docs Defining the Aeronautical Data Supply Chain**

9.1 Mr. Volker Meyer, Manager, International Relations at Jeppesen delivered a presentation describing the regulatory update of ICAO documents that define the aeronautical data supply chain. Mr. Meyer stated that everyone can expect major changes to the AIP.

9.2 The new provisions contained in ICAO Annex 15 state that all states shall provide an aeronautical information service (AIS) and shall ensure that the provision of aeronautical data and aeronautical information covers its own territory and those areas over the high seas for which it is responsible for the provision of air traffic services. Additionally, each State shall ensure that the aeronautical data and aeronautical information provided are complete, timely and of required quality. Annex 15, the new, ICAO Doc 10066, PANS-Aeronautical Information Management (AIM), and Doc8126, Aeronautical Information Services are applicable 8 November 2018.

9.3 ICAO has also introduced the Aeronautical Data Catalogue to provide a general description of the AIM data scope and consolidate all aeronautical data and information collected and maintained by an AIS organization. The data catalogue provides a means for States to facilitate the identification of the organizations and authorities responsible for the origination of the aeronautical data and information. It facilitates the formal arrangements between data originators and the AIS and includes data quality requirements applicable from origination through publication.

9.4 Mr. Meyer stated that ICAO intends to move to an electronic publication format in the future, which will affect the data supply chain. This should make the information useable in a more timely manner.

## **10.0 Agenda Item 5: ATS Route Catalogue Update**

10.1 On behalf of State ATM Corporation of Russia, Mr. Alexey Buevich presented WP05, the update on the status of the Air Traffic Services Route Catalogue.

10.2 Two new route segments were opened based on the proposal from Qatar Airways to optimize ATS between North American and the Middle East via Russia/Finland FIR boundary.

10.3 IATA also requested a new transit, transpolar RNAV route that was implemented with Arkhangelsk and Murmansk FIRs.

10.4 Mr. Buevich asked that if there are other changes that the Group is interested in pursuing, that they be presented as WPs in future meetings or please contact him directly.

## **11.0 Agenda Item 6: Status on CPWG/25Actions**

*CP01-08C: ATFM Collaboration Between FAA and State ATM*

11.1 An update will be provided after the FAA/State ATM Bi-lateral discussion

*CP04-31: PPT Update on Provideniya Radar*

11.2 Alexey Buevich provided an update on the Provideniya Radar - The number of overflights continue to increase to approximately 60,000 flights in 2018 in the Magadan ACC. Provideniya Radar is critical, as it will provide surveillance for several entry points between Magadan and Anchorage ARTCC. Weather, lack of electricity and remoteness make this radar site particularly challenging to build and commission. Recently, harsh winds damaged the radome and a new target date for implementation is Spring 2019.

*CP10-08: Update on JCAB/FATA LOA*

11.4 Mr. Buevich stated that the LOA work is on hold and as JCAB was not able to make the meeting, asked that it be kept open and will be updated at the next meeting.

*CP12-04: FAA Update on Track Advisory Users Guide*

11.5 Ms. Leah Moebius presented IP05 that addressed both Action Items CP12-04 and 14-11. The paper briefed further expansion on both “zero minute” track loading and relaxed westbound routing restrictions. Effective July 2018, based on the success of the ongoing zero-minute trial and on ZAN controllers’ greater operational experience with the Advanced Technologies Oceanic Procedures (ATOP) automation platform in Arctic airspace, ZAN reduced the track load parameter to zero minutes for all remaining Cross Polar entry points.

The success of this trial has and will continue to be, predicted on operator fidelity and compliance with the track slot allocation program including the need for self-monitoring and updating of the Gateway Reservation List (GRL) vis a vis real-time aircraft operations.

The Track Advisory Users’ Guide (TAUG), July 18, 2018 version, has been updated to reflect the zero-minute trial expansion. The TAUG is available on FAA’s Anchorage and Oakland ARTCC webpages, or can be requested by contacting the Anchorage ARTCC Traffic Management Unit at [AALZANATTMU@faa.gov](mailto:AALZANATTMU@faa.gov).

The representative from United Airlines asked Anchorage ARTCC to follow up on issue of 141 W crossings to ORVIT. ZAN to provide update at next CPWG.

*CP12-06: IP/13: Russia-China Bilateral Discussions Update*

11.6 Alexey stated that next week a bi-lat meeting is scheduled between State ATM and ATMB. Once the information is received, State ATM will share with the interested parties.

*CP14-02: PPT on AIDC Update – State ATM/JCAB/ZAN*

11.7 **IP03 – AIDC Between ZAN ARTCC and Magadan ACC** – ZAN presented IP 03 which gave a status update for the AIDC testing between ZAN and Magadan. Testing has been about 97% successful and ZAN would like to continue the testing past February 2019.

Alexey Buevich delivered a presentation regarding this issue. In order to begin AIDC testing, the hardware facilities for AIDC messaging were delivered, installed, adjusted and started up. The automated Alpha system software required updating; the software and equipment bed tests were run locally; and, the local tests of the automated ATC system “Alpha” was carried out at ATC workstations. Anchorage to Magadan – 97.2% successful. Magadan – Anchorage – 97.84% successful. State ATM is waiting for confirmation from ZAN to begin operational exchange of messages via AIDC.

*CP14-12: ADS-C Update*

11.9 JCAB action to provide update. Item will remain open for an update next meeting.

*CP15-06: VOLKAM Exercise LOA*

11.10 **IP04 – VOLKAM Update and WP06 – Volcanic Ash CPDLC Messages** Mr. Alexey Buevich provided a summary update of the Volcanic Ash Exercises in the Far Eastern part of the European region. The purpose of these exercises is to improve the response to volcanic eruptions and volcanic ash contamination by the relevant national supervisory authorities, service providers and airspace users as ways to improve the common volcanic ash contingency plan. All objectives of the exercise were met; including the successful demonstration of tactical re-routes utilizing Dynamic Airborne Reroute Procedures (DARP). The next VOLKAM exercise is April 18-19, 2019. Mr. Buevich asked IATA to invite more airlines to participate in the exercises, particularly airlines from China and Hong Kong. As well as Air Canada.

Mr. Cameron from United Airlines thanked Mr. Buevich and his team for coordinating and managing the successful exercises. The result of these exercises have been tremendous and Mr. Cameron encouraged all airlines and air traffic service providers to continue to participate.

Mr. Buevich delivered a presentation on the **DARP-like Procedures** that were tested for the first time during the VOLKAM18 exercise using CPDLC with Magadan ACC. For the VOLKAM19 exercise, State ATM would like for ZAN to send the re-route request to Magadan ACC via AIDC (CPL) to allow coordination between Magadan and the main ATM center, then Magadan will send the reroute back to ZAN via AIDC. If this is successful, State ATM plans to modify the automated Alpha system software in 2019 to automate DARP-like procedures using CPDLC. This would allow DARP-like procedures to be utilized outside of the exercise constraints.

State ATM would like for the CPWG to authorize the changes to the GOLD and Doc 4444. Mr. Buevich to talk to Chris Keohan. at ICAO Paris during the May 19-20 2019 VOLKAM Debrief meeting to determine best path forward and provide an update to the CPWG ANSP meeting May 22-24, 2019. IATA to gauge feedback from a broader selection of aircraft during the next couple of weeks.

*CP17-10: Departure Messages*

11.11 **WP07 – Update on Departure Messages – State ATM** – Mr. Alexey Buevich presented on behalf of State ATM. The paper presented the latest information on departure messages received by the State ATM Corporation for flights departing from US airports in September 2018.

11.12 **WP08 – Departure Messages to China from North America – United Airlines** – Mr. Gene Cameron of United Airlines presented this working paper to address operator specific concerns with missing DEP messages. In an effort to ensure that aircraft destined to China or through Chinese airspace from North

America (especially EWR departures) have DEP messages sent to the appropriate AFTN addresses, United Airlines has been sending DEP messages to the Chinese FPPC from the Hong Kong Operations office. As it is not the obligation of the Operator to transmit DEP messages and the United Airline's staffing at the Hong Kong Operations office is not 24 hours per day, the working paper presented by United Airlines asked:

- IATA to contact the Chinese FPPC to request a list of missing DEP messages and origins of flights associated with them, and
- FAA review their procedures to ensure that DEP messages are consistently sent in a timely manner for all international departures.

11.13 **IP06 – FAA Update on Departure Messages – FAA** – Mr. Harrie Copeland presented this Information Paper on behalf of the FAA. In June, 2018, the FAA was notified by ICAO of their non-compliance with ICAO Doc 4444, PANS-ATM, Paragraph 11.4.2.2 (DEP Messages). The FAA is currently developing a Corrective Action Plan (CAP) that will bring FAA facilities into compliance with both the ICAO Doc 4444 and FAA Order JO 7110.10. This CAP will identify the root causes for the non-compliance and develop an action plan for mitigation.

*CP18-05P: UPR Expansion*

11.14 State ATM Update on IATA Request UPRs westbound from ZAN to waypoints along ATS Routes within Russia oceanic airspace

11.15 Alexey Buevich stated that State ATM is investigating moving to RNP-4 in Magadan FIR and determine steps to move toward UPRs; including challenges associated with airspace classification. UPRs will require airspace reclassification from Class G to Class A, software modifications, changes to LOAs, etc.

IATA stated that they recognize the benefit of a staged implementation beginning with DARP and re-classification of airspace in Magadan to support RNP-4 and fully support the proposed changes.

*CP20-01: ANSP Updates on Launch Activities*

11.16 **IP07 – Andoya Rocket Launch – Isavia** Ms. Thordis Sigurdardottir presented information on intended launch activities around Andoya and Svalbard in Norway and the expected impact on BIRD CTA airspace. The Andoya Space Center (ASC) project includes twelve rocket campaigns over the next few years, beginning in December 2018 with the launch of four rockets. Once launch approval has been granted by the Icelandic Transport Authorities, NOTAMs will be issued for the affected areas. The NOTAMs will be deactivated as soon as the operation for the specific danger area has ended. A draft Letter of Agreement has been signed between ASC and Isavia stating the procedures for coordination between the two parties. Seven days before expected launch, ASC shall inform all air traffic information services involved with the intention to launch. Information shall contain applicable danger areas, rocket trajectories and any other relevant information.

11.17 **PPT – Grand Challenge Information – Avinor** - Mr. Morten Tjonndal delivered information concerning the Grand Challenge Initiative that includes nine missions containing twelve rockets in the time period December 2018 through December 2019. The Grand Challenge Initiative – CUSP is an international collaboration to explore the polar cusp – where Earth's magnetic field lines bend down to meet the poles and particles from space can enter our atmosphere. Known as 'sounding rockets' these rockets reach a region between 30 and 800 miles above the Earth's surface. The lower end of this region is otherwise inaccessible, as it's above the maximum altitude for scientific balloons and below the minimum for satellites. The flight is a simple parabolic trajectory and flight time is less than 20 minutes – providing just 5 to 10 solid minutes of scientific observations from space. Each stage of the rocket

launches will necessitate their own danger area and each launch is reliant on specific weather/wind conditions. Avinor is working closely with the Andoya Space Center to ensure timely notification to ANSPs and operators for awareness and flight planning purposes.

11.18 **Airspace Closures for Ballistic Launches presented by IATA** – Mr. Blair Cowles briefed the group on issues associated with ballistic launch-entry events and proposed regional guidance to improve the management of such events, particularly those involving multiple FIRs. Particular concerns involved launches that occur within a half hour of NOTAM time, but no subsequent NOTAM cancellation; FIRs not taking timely NOTAM cancellation processes; or the launch not taking place and the airspace remaining closed.

11.19 **Impact of Commercial Space Operations on Civil Aviation** – Mr. Blair Cowles briefed the group on a paper IATA presented to the 13th ICAO Air Navigation Conference on the issues related to the impact on civil aviation created by the emergence of commercial space. The paper identifies the need for ICAO to begin developing guidance material related to the safe and orderly operation of spacecraft transiting civil airspace. The paper acknowledges that any changes to airspace designs should not alter the delegation of airspace given to a State, nor determine what level of services are provided.

*CP22-02: Space-Based ADS-B CONOPS – NavCanada provided update during ANSP briefing. NavCanada will continue to update group and item will stay open.*

*CP23-01: ANSP Updates on Volcanic Ash Activities – All*

11.20 **IP02 Introduction to VOLCEX/18 – Isavia** Ms. Thordis Sigurdardottir delivered IP02 that presented information on the VOLCEX18 volcanic exercise. The volcanic ash exercise in the EUR/NAT Regions in 2018 (VOLCEX18) will be conducted on 28 November 2018, and will simulate an eruption of the volcano Orafajokull in Iceland on the third day of the event. Given the extent of the ash cloud and predefined assumptions of Airline Operators reaction, this would result in approximately 10,000 flight cancellations of the 26,000 flights scheduled on the day of the exercise. Ms. Sigurdardottir promised to update the group at the next CPWG meeting.

*CP24-01: Extend invitation to Inmarsat to brief at CPWG – Action item will stay open.*

11.21 FAA will extend invitation to Inmarsat for the full plenary CPWG/28 meeting.

*CP24-02: ANSP Updates on NOTAMS re: Rocket Launches – All*

Item discussed during ANSP meeting and will be addressed in Agenda Item #8.

*CP25-02: Update on Discussions on 50NM longitudinal separation in Magadan – State ATM/FAA*

11.22 State ATM delivered a presentation regarding the implementation of RNAV routes in Magadan oceanic sectors and the provision of longitudinal separation minimum of 100 km (using ADS-C and CPDLC). According to the LOA with ZAN, the longitudinal separation minima is ten minutes. The LOA will need amendment.

- Strategic Lateral Offset Procedure (SLOP) application – SLOP is approved along the marked RNAV routes within the Magadan ACC boundaries.

- ADS-C CDP – Magadan does not currently use this procedure but is considering it. If airlines believe it would be beneficial, State ATM is prepared to discuss with their regulator for implementation.

*CP25-03 China ATMB ICAO-RVSM Transition Plans*

11.23 Request information on general traffic data and ATMB’s plans related to ICAO RVSM transition. This item will remain open and ATMB will be asked to provide an update at the next meeting.

**12.0 Agenda Item 7: 2018-2019 Cross Polar Work Program**

Respective ANSPs’ efforts for improving communications in the area  
 Development of a single separation standard in region  
 Improve/Increase efficiencies and predictability on Polar Routes

12.1 **WP09 – Seamless Airspace Chart – FAA** – Mr. Harrie Copeland presented information on the Pacific Seamless Airspace Chart. First created by the Informal South Pacific ATC Coordinating Group (ISPACG) member states, the seamless airspace chart provides a quick reference document for ANSP airspace capabilities. This working paper asked if the CPWG would be interested in adopting this chart to provide increased regional harmonization. There was support from the CPWG ANSPs and operators. This will be incorporated into the CPWG Work Program and be available for the next meeting.

**13. Agenda Item 8: Other Business**

13.1 Ms. Moebius provided an update on discussions held during the ANSP meeting including the concept of going to a meeting structure that contained only one full plenary session per annum, as opposed to the current model of two. The ANSPs would continue to meet bi-annually with the first meeting of the year being a providers only meeting. This recommendation was supported by IATA and the airlines present as it’s becoming increasingly more difficult for the airlines to attend twice yearly. IATA also committed to providing better traffic growth projections to help ANSPs with planning. SWIM, FF-ICE are also items that IATA would like to add to the CPWG work program.

13.2 **SATVOICE – Isavia** – Ms. Thordis Sigurdardottir delivered a presentation on behalf of Isavia concerning the use of SATVOICE within the BIRD FIR. Aircraft may call Iceland Radio with operational calls and Reykjavik Control directly in the case of an emergency. SATCOM is not a replacement for VHF, ADS-C, CPDLC or HF but a means of reducing the risk of communication failure, improving the safety of operations and alleviating HF congestion. It is critical that standard phraseology is used. New initiatives in Reykjavik Control include Voice over IP – to decrease call setup time and is more user friendly. This does not constitute Direct Controller Pilot Communication (DCPC).

**14. Agenda Item 9: Next Meeting**

14.1 CPWG/27 Meeting: 22-24 May 2019 ICAO EURNAT Office. Generously hosted again by the Paris ICAO EURNAT Office. This will be the first ‘Providers’ only CPWG meeting.

14.2 CPWG/28 Meeting: The next full plenary meeting will be hosted by IATA in either SE or North Asia. Possible locations include: IATA Singapore, ICAO Bangkok, or Hong Kong CAD, with Hong Kong as the preferred destination. Last week of October, 2019 is the preferred target date.

14.3 CPWG/29 Meeting: State ATM has offered to host the CPWG/29 Meeting at Magadan ACC in Spring 2020 time-frame.

**STATE ATM CORPORATION  
(RUSSIA)**

Mr. Alexey Buevich  
Head Strategic Planning Division  
State ATM Corporation  
37/7, Leningradsky prosp  
125993, Moscow, Russia  
Tel: +7-495-601-0643  
Fax: +7 495-601-0764  
email: matcc@aviacom.ru

Yury Samoylov  
Director, Northeast Air Navigation Branch  
State ATM Corporation  
Marchekanskoe Highway, 37  
Magadan  
Tel: +7 4132 60 5424  
Email: samoilov@sv.gkovd.ru

**NAV CANADA (CANADA)**

John Reid  
General Manager, Vancouver FIR  
NavCanada  
7321-135<sup>th</sup> Street  
Surrey BC V3W0M8  
Canada  
Tel: 609-598-4802  
Email: [JR@navcanada.ca](mailto:JR@navcanada.ca)

Robert Fiege  
Manager, ACC Operations Edmonton FIR  
4396-34 Street, East  
Edmonton International Airport  
NAV CANADA  
Tel: 780-910-6967  
Email: [Fieger@navcanada.ca](mailto:Fieger@navcanada.ca)

Bryon Carlson  
Team Supervisor  
NAV CANADA  
4396-34 Street East  
Edmonton International Airport  
Tel: 780-890-4712  
Email: [carlsob@navcanada.ca](mailto:carlsob@navcanada.ca)

Matt Strolz  
Shift Manager, Vancouver ACC  
NAV CANAD  
7421 135 Stree  
Surrey, BC V3W 0M8  
Tel: 604-345-1584  
Email: [Matt.Strolz@navcanada.ca](mailto:Matt.Strolz@navcanada.ca)

**ISAVIA (ICELAND)**

Thordis Sigurdardottir  
Manager, Reykavik ACC  
Isavia  
Reykjavik Airport  
Reykjavik Iceland  
Tel: +3546998504  
Email: [thordis.sigurdardottir@isavia.is](mailto:thordis.sigurdardottir@isavia.is)

**AVINOR Flysikring ANS**

Morten Tjonndal  
Team leader, Supervisor Norway ACC  
Avinor Flysikring ANS  
Bodo Luthavn  
Bodo 8041 Norway  
Tel: +47 91105587  
Email: [morten.tjonndal@avinor.no](mailto:morten.tjonndal@avinor.no)

**ANS FINLAND**

Osmo Liimatainen  
Key Account Manager  
ANS Finland  
P.O. Box 50  
Vantaa 01531 Finland  
Tel: +358 50 514 4707  
Email: [osmo.liimatainen@ansfinland.fi](mailto:osmo.liimatainen@ansfinland.fi)

**MONGOLIA**

Mr. Odgerel Chagnaadorj  
Director, Air Traffic Flow Management  
Division  
Mongolia CAA  
Khan-Uul District  
Ulaanbaatar, Mongolia 17120  
Tel: 976-11-282016, 976-99059805  
Email: Odgerel.ch@mcaa.gov.mn

**FEDERAL AVIATION  
ADMINISTRATION (USA)**

David Chilson  
Support Manager  
Anchorage Air Route Traffic Control Center  
700 North Boniface Parkway  
Anchorage, AK 99506-1697 USA  
Tel: +1 907 269-2730  
Fax: +1 907 269-2580  
e-mail: David.Chilson@faa.gov

Coleen Hawrysko  
Federal Aviation Administration  
Manager, Oceanic/Offshore Air Traffic  
Standards & Procedures  
600 Independence Avenue, SW  
Washington, D.C. 20591  
Tel: 202-267-8807  
Email: coleen.hawrysko@faa.gov

Harrie Copeland  
Federal Aviation Administration  
Oceanic/Offshore Air Traffic Standards &  
Procedures  
600 Independence Avenue, SW  
Washington, D.C. 20591  
Tel: 202-267-0781  
Email: [Harrie.Copeland@faa.gov](mailto:Harrie.Copeland@faa.gov)

Leah Moebius  
FAA  
ATO International  
600 Independence Avenue, SW, 6th Floor  
Washington, DC 20591 USA  
Tel: +1 202-267-0269  
e-mail: Leah.Moebius@faa.gov

**INTERNATIONAL AIR TRANSPORT  
ASSOCIATION**

Blair Cowles  
Regional Director  
Safety and Flight Operations, Asia Pacific  
IATA  
111 Somerset Road  
#14-05, Triple One Somerset, Singapore  
Tel: +65 9179 2295  
e-mail: cowlesb@iata.org

**INDUSTRY**

Volker Meyer  
Manager, International Relations  
Jeppesen  
Frankfurter Str. 233  
63263 Germany  
Tel: +49 6102 50 7240  
Fax: +49 6102 50 7239  
Email: Volker.meyer@jeppesen.com

Michael Tiongco  
Operation Manager  
Rockwell Collins  
6011 Industrial Way  
Livermore, CA 94551  
Tel: 925-294-8400  
Email:  
[Michael.tiongco@rockwellcollins.com](mailto:Michael.tiongco@rockwellcollins.com)

**INTERNATIONAL  
AIRLINES/OPERATORS**

Gene Cameron  
Manager, International Air Traffic Services  
Pacific  
United Airlines  
P.O. Box 576  
Applegate, CA 95703 USA  
Tel: +1 530-878-8791  
Email: gene.cameron@united.com

Alec Pook  
Manager, Flight Dispatch Standards &  
Quality and Support  
Air Canada  
99 Ironbridge Road  
Brampton, Ontario L6Y 0S7  
Tel: 905 861 7571  
Email: [alec.pook@aircanada.ca](mailto:alec.pook@aircanada.ca)

Edgar Vaynshteyn  
Regional Manager  
Flight Operations/United Airlines  
233 S. Wacker Dr.  
Chicago, IL 60606  
Tel: 847-995-1643  
Email: [Edgar.Vaynshteyn@united.com](mailto:Edgar.Vaynshteyn@united.com)



Eric Chiu  
Supervisor, Flight Dispatch  
Hong Kong Airlines  
9/F One City gate  
20 Tat Tung Road  
Tung Chung, Lantau  
Hong Kong, China  
Tel: +852-2296-8199  
Email: [ericf.chiu@hkairlines.com](mailto:ericf.chiu@hkairlines.com)

Jason Yu  
Officer, Navigation Services  
Hong Kong Airlines  
9/F One City gate  
20 Tat Tung Road  
Tung Chung, Lantau  
Hong Kong, China  
Tel: +852-2296-8199  
Email: [Jason.yu@hkairlines.com](mailto:Jason.yu@hkairlines.com)

Gen Schnee  
Chief Dispatcher  
United Airlines  
233 South Wacker Drive  
Chicago, IL 60606  
Tel: 872-825-7293  
Email: [gen.schnee@united.com](mailto:gen.schnee@united.com)

Junichiro Asano  
Manager, ATM & Industry Affairs  
Delta Airlines  
Narita International Airport  
Narita, Chiba 2820011  
Japan  
Tel: 814-76327319  
Email: [Junichiro.asano@delta.com](mailto:Junichiro.asano@delta.com)

Cheng-Lan Wang  
Senior Dispatcher  
EVA Airway  
2F No. 376, ec 1  
Hsin-Nan Road  
Luchu Taoyuan Taiwan  
Tel: +886-3-351-6396  
Email: [lanwang@evaair.com](mailto:lanwang@evaair.com)

Mei Qiang  
Flight Dispatch  
Air China  
Wuwei Road  
Capital International Airport  
Beijing 100621  
Chaoyang, Beijing  
Tel: +86 10 64537267  
Email: [lionmei@airchina.com](mailto:lionmei@airchina.com)

Nobumichi Akagi  
Staff Director, Flight Operations Standard  
Japan Airlines  
3-3-2 Haneda Airport  
Ota-ku  
Tokyo 144-0041 Japan  
Tel: +81-3-5756-3133  
Email: [nobumichi.akagi@jal.com](mailto:nobumichi.akagi@jal.com)

Riku Kohvakka  
Senior Flight Support Specialist  
Finnair Plc, Operations Control Center  
OWG/59, 0105  
Finnair, Finland  
Tel: +358 50 5255070  
Email: [riku.kohvakka@finnair.com](mailto:riku.kohvakka@finnair.com)

Vic Ermolaev  
Pilot  
Delta Airlines  
1030 Delta Boulevard  
Atlanta, GA 30354  
Tel: 435-764-4962  
Email: [victor.v.ermolaev@delta.com](mailto:victor.v.ermolaev@delta.com)

Atsushi Shichi  
Route Planning Flight Operations Standards  
Operations Support Control  
All Nippon Airways  
3-3-2 Haneda Airport, Ota-ku  
Tokyo 144-8515 Japan  
Tel: +81-80-797-2665  
Email: [a.shichi@ana.co.jp](mailto:a.shichi@ana.co.jp)

George Chan  
Assistant Manager, International Operations  
Cathay Pacific Airways  
9/F Central Tower, Cathay City  
8 Scenic Road, Lantau, Hong Kong  
Tel: 852-2747-8822  
Email: [George\\_g\\_chan@cathaypacific.com](mailto:George_g_chan@cathaypacific.com)

Michael Collier  
Flight Dispatch Training  
American Airlines  
1221 Trumpet Drive  
Ft. Worth, TX 76131  
Tel: 412-720-0416  
Email: Michael.p.collier@aa.com

Shoko Kikui  
Route Planning Flight Operations Standards  
Operations Support Center  
All Nippon Airways  
3-3-2 Haneda Airport, Ota-ku  
Tokyo 144-8515 Japan  
Tel: +81-80-4057-6209  
Email: s.kikui@ana.co.jp

Markivus Antwin Nious  
Program Manager Flight Planning Support  
Automation and Quality Assurance  
American Airlines  
13800 Airport Freeway – MD 695 IOC  
Ft. Worth, TX76155  
Tel: 832-3982385  
Email: Markivus.Nious@aa.com

Chen DongLing  
Dispatcher  
China Southern Airlines  
Baiyun International Airport  
Guangzhou, China  
510470  
Email: [chendl@csair.com](mailto:chendl@csair.com)

Yu Zhong Fan  
Dispatcher  
China Southern Airlines  
Baiyun International Airport  
Guangzhou, China  
510470  
Email:

**CPWG/26 Action List and PPT Actions**

Action Number	Capacity Enhancement Goal	Supporting Goal Initiatives	Information/Status	Responsible Organization	Action Pending	Action Due	Status
CP01-08C	Administration	ATFM collaboration between FAA/ATO and State ATM		FAA/State ATM	Part of bilateral discussions. Any updates to be provided at CPWG/27	Fall 2019	Open
CP04-31	Improve Efficiencies	Implement use of radar procedures between Magadan ACC and Anchorage ARTCC	Radar expected to be commissioned in mid-2017. State ATM reported that the target date for implementation of radar procedures is late 2018.	State ATM	Update to be provided at CPWG/27	Fall 2019	Open
CP10-08	Contingency Response	Improved contingency collaboration between State ATM and JCAB	JCAB and State ATM agreed on LOA for ATFM. Will continue to work on a bilateral basis. Proposed LOA sent to FATA. Currently under review  Continuing dialogue with JCAB and State ATM to update LOAs.	JCAB /State ATM/FATA	Proposed LOA under review by FATA with anticipated signature by 2019. Bilateral meeting to be scheduled in Spring 2019 and any updates provided at CPWG/27.	Fall 2019	Open
CP12-04	Improve Efficiencies	Monitor changes to Track Advisory Users Guide	New information on fixes added is available on either ZAN or ZOA websites.	FAA	Any updates to the TAUG will be presented at CPWG/27.	Fall 2019	Open

Action Number	Capacity Enhancement Goal	Supporting Goal Initiatives	Information/Status	Responsible Organization	Action Pending	Action Due	Status
CP12-06	Improve Efficiencies	Coordination between State ATM and ATMB	State ATM presented WP/08 with three suggested routes- HRB-493236N/1281936E-AMERA-VZ; SIMLI-HRB; RITEK-425025N/1182854E-HLD ATMB noted that parallel route structure would enhance safety at SIMLI. However, the proposal is in conflict with the ongoing work of Chinese airspace restructure, which will require further evaluation from both sides. State ATM and ATMB held bilateral discussions July 2017 and discussed entry/exit point near SIMLI and will continue discussions on readiness the end of 1 <sup>st</sup> quarter 2018.	State ATM/ATMB	Bilateral discussions held and both State ATM Corporation and China ATMB to follow up on discussions and provide update at the CPWG/27.	Fall 2019	Open
CP14-02	Improve communications	Establish flight data exchange between facilities	State ATM implemented AIDC in Magadan in 2017 and is conducting tests with Anchorage. AIDC with Sapporo in 2020.	State ATM/ FAA/JCAB	State ATM/FAA to continue testing through February 2019. An update to be provided at CPWG/27.  For VOLKAM/19, Edmonton and Anchorage, Magadan to accomplish DARP test through AIDC.  State ATM/JCAB implementation between Sapporo and Khabarovsk tentatively scheduled 2020 time-frame. An update to be provided at CPWG/27.	Fall 2019	Open

Action Number	Capacity Enhancement Goal	Supporting Goal Initiatives	Information/Status	Responsible Organization	Action Pending	Action Due	Status
CP14-11	Improve Efficiencies	Eliminate restrictions where possible	<p>Eliminate requirement to flight plan over named or lat/long fixes at 141W</p> <p>Further evaluation and consideration following implementation of ZAN Sector 64.</p> <p>FAA and NavCanada conducted zero track trial in December 2016 for CP entry fixes DEVID and NALIM. Data from April 30 shows 85 aircraft on DEVID; 8 aircraft on NALIM. Agreed to continue zero track trial indefinitely. Discussions with Edmonton for other fixes for expanded trial to CP fixes AMATI, BEKAR, and BARIP.</p>	FAA/NavCanada	<p>Update provided updates on 2 zero track trials. both “zero minute” track loading and relaxed westbound routing restrictions. Effective July 2018, ZAN reduced the track load parameter to zero minutes for all remaining Cross Polar entry points</p> <p>ZAN to follow up with United Airlines and NavCanada regarding re-routing discrepancies and provide an update at CPWG/27.</p> <p>FAA has asked for IATA and Operators to provide feedback to FAA on current trials and potential new ones.</p>	Fall 2019	Open
CP14-12	Improve Efficiencies	<p>Consider expanding trial for ADS-C CDP to ZAN airspace.</p> <p>FAA has released its T24 ATOP software update to all three oceanic facilities. The ADS-C CDP was approved by the ICAO Air Navigation Council as a global standard and will be published in the Doc. 4444 November 2016</p>	<p>ICAO has issued the State Letter announcing the ADS-C CDP procedure will be included in the November 10, 2016 Change 7 amendment to the PANS-ATM, Doc 4444. The FAA has begun an ADS-C CDP trial. The FAA ADS-C CDP trial use of the procedure will continue until November 10, 2016 when change 7 to the PANS ATM becomes effective.</p> <p>Oakland, Anchorage and New York implemented CDP.</p>	JCAB	<p>ANSPs to provide information on intent to implement CDP. At this time, JCAB has decided to implement CDP in Fukuoka FIR by FY2019.</p> <p>An update from JCAB will be provided at CPWG/27</p>	Fall 2019	Open

Action Number	Capacity Enhancement Goal	Supporting Goal Initiatives	Information/Status	Responsible Organization	Action Pending	Action Due	Status
CP15-06 & CP18-02	LOA Agreement between Fukuoka and Magadan	<p>Consider utilizing the ATM VACP Template in the development of Volcanic Ash Contingency Plan for NOPAC and RTE.</p> <p>Harmonized process for coordination of route changes to In-Flight Aircraft and issues with use of CHG messages.</p>	JCAB and State ATM expect progress on agreement between Fukuoka and Magadan FIR in in 2018.	State ATM JCAB FAA/ZAN NAV CANADA	<ol style="list-style-type: none"> <li>1. State ATM and JCAB continue to work on LOA between Magadan and Fukuoka with possibility of a permanent LOA. An update to be provided at CPWG/27</li> <li>2. State ATM has requested that the FAA coordinate with the ATCSCC on future participation in VOLKAM exercises. An update to be provided at CPWG/27.</li> <li>3. Small Discussion Group under VOLKAM to discuss FAA proposed guidance/best practices in order to streamline CHG process. Airlines noted that recommended procedures may still be problematic and further work should be undertaken, including requesting guidance from ICAO on which messages should be used by operators. There is currently no clear guidance within ICAO Docs., Supps., etc</li> <li>4. State ATM to provide updates on VOLKAM 2019 Exercise at CPWG/27.</li> </ol>	Fall 2019	Open

Action Number	Capacity Enhancement Goal	Supporting Goal Initiatives	Information/Status	Responsible Organization	Action Pending	Action Due	Status
CP17-10			State ATM requests FAA to look at lack of departure messages being provided to Russian and JCAB	FAA	FAA has action to develop plan and resolution for upcoming meeting. FAA is continuing to address issues on departure message issues including looking at automation or meetings with specific centers. An update to be provided at CPWG/27.  JCAB and State ATM to continue and provide updates of departure messages not received for discussion during CPWG27.	Fall 2019	Open
CP18-05P (was PP08-04)	UPR Expansion		IATA request that Russia consider an extension of the UPR expansion proposal in PP08-03 by allowing UPRs westbound from the Anchorage FIR boundary (LAT/LONs) to named waypoints along ATS routes within Russia Oceanic airspace.  Consider implementation of flexible tracks between approved entry and exit points within the RTE region on a daily basis.	IATA/State ATM	Ongoing discussions with FATA related to legislative changes - State ATM is investigating moving to RNP-4 in Magadan FIR and determine steps to move toward UPRs.  State ATM to provide an update at CPWG/27.	Fall 2019	Open

Action Number	Capacity Enhancement Goal	Supporting Goal Initiatives	Information/Status	Responsible Organization	Action Pending	Action Due	Status
CP20-01			Isavia noted Antoya Space Center planned launch activity over a three week period over a large portion of airspace. Through collaborative efforts, Isavia and the space center were able to develop a LOA that assisted in mitigating the impact on ATC and operators.	All ANSPs	<ol style="list-style-type: none"> <li>1. ANSPs to provide updates on recent launch activities since last CPWG meeting.</li> <li>2. ANSPs to discuss rocket launches and develop strategy as part of CPWG work program for discussion at CPWG/27</li> </ol>	Fall 2019	OPEN
CP22-02				NavCanada Isavia	An update to be provided at CPWG/27 on Space based ADS-B	Fall 2019	OPEN
CP23-01	Volcanic Ash Activities		ANSPs to provide updates on recent volcanic ash exercises	All ANSPs		Fall 2019	OPEN
CP24-01	Communication		Invite Inmarsat to brief at CPWG27 on issue of coverage with new IV tier satellite above 70N	FAA	FAA to invite Inmarsat and Iridium to CPWG/276 for discussions on communication in Polar Region.	Fall 2019	OPEN
CP24-02				All ANSPs	ANSPs to provide updates on number of NOTAMs for rocket launches	Fall 2019	OPEN



Action Number	Capacity Enhancement Goal	Supporting Goal Initiatives	Information/Status	Responsible Organization	Action Pending	Action Due	Status
CP25-02	Improve Capacity		Implement 100 km (50NM) longitudinal separation within Magadan Oceanic	State ATM/FAA	State ATM discussed the implementation of RNAV routes in Magadan oceanic sectors and the provision of longitudinal separation minim of 100 km (using ADS-C and CPDLC). According to the LOA with ZAN, the longitudinal separation minima is ten minutes. State ATM and ZAN will work to amend LOA.	Fall 2019	OPEN
CP25-03			Request information on general traffic data and ATMB's plans related to ICAO RVSM transition	China ATMB	1. The ATMB to provide general traffic data in its area of responsibility. 2. The ATMB to provide information on on plans related to ICAO RVSM transition.	Fall 2019	OPEN

# Seamless Airspace

## Cross Polar, Russian Trans-East FIR Seamless Airspace Chart

ANSP	FIR	RVSM	Surveillance			Comm			RNAV/RNP 10			RNP 4				RNP2		ADS-C CDP	ADS-B ITP	Lat Offsets for Climb or Descent	UPR	DARP		AIDC										Network Optimisation										
			Radar	ADS-C	ADS-B	CPDLC	FMC WPR	SCV	50 NM LAT	50 NM LONG	10 MIN LONG NMIC	30 NM LAT	23 NM LAT	20 NM Long	30 NM LONG	15-20 lateral	Accept					Initiate	CP/E/EST	CDN	Weather Deviation	Offset	Block Level	Mach Speed	FAN/FCN	ADS forwarding	TRU Msg	Enhanced CDN	Enhanced ABI	CDM	Enroute CFM	ODP/Tailored Arrival	Optimised Climb							
Avinor																																												
ANS Finland																																												
Air Traffic Management Bureau																																												
Isavia																																												
JCAB	Fukuoka	X	X	X		X			X	X	X	X	X	X								X	X	X															X	X				
Mongolia																																												
NavCanada																																												
	Vancouver ACC	X	X			X				X	X	X																																
	Edmonton ACC																																											
Naviair																																												
State ATM Corporation																																												
FAA	Anchorage Oceanic	X	X	X	X	X			X	X	X	X	X						X	X	X	X	X	X																				
	Anchorage Domestic FIR	X	X	X	X	X			X			X							X	X	X																							
	Anchorage Arctic FIR	X		X		X			X			X																																
	Oakland Oceanic	X		X		X			X	X	X	X	X							X	X	X	X	X	X																X			O

Notes : X on chart indicates implemented

O on chart indicates proposed

## CPWG Planning Chart

### Near Term Goals (2018-2020)

	PLANNING GOAL	ACTION WITH	TARGET DATE	STATUS OF ACTION
<b>1</b>	<b>REDUCE AND HARMONIZE SEPARATION STANDARDS IN INTERNATIONAL AIRSPACE</b>			
<b>1a</b>	<b>Harmonize RVSM Transition Procedures</b>			
	• Ulaanbaatar	Mongolia	TBD	
<b>1b</b>	<b>Implement reduced longitudinal separation</b>			
	• Edmonton FIR (5 min or 50NM)	NAV CANADA	On Hold	
	• Bodo FIR (10 min)	Avinor	TBD	
	• Bodo FIR (50nm/30nm long and 30nm lateral)	Avinor	TBD	*
	• Anchorage Arctic FIR	FAA	TBD	Use 10 min currently. FIRs surrounding ZAN will determine differences, limited comm, ADS-C limitation
	• Murmansk	State ATM	TBD	
	• Magadan	State ATM	TBD	
	• Edmonton	NavCanada	On Hold	
<b>1b</b>	<b>Implement Further Reduced longitudinal separation</b>			
	• Anchorage Arctic FIR (30 NM)	FAA	TBD	

	PLANNING GOAL	ACTION WITH	TARGET DATE	STATUS OF ACTION
	• Murmansk	State ATM	TBD	
	• Magadan	State ATM	TBD	
	• Edmonton	NavCanada	On Hold	
	• Reykjavik FIR (10 min)	Isavia	Completed	March 29 2018
	• Reykjavik FIR (5 min)	Isavia	Completed	March 29 2018
	•			
<b>1c</b>	<b>Implement further reductions to lateral separation</b>			
	• Edmonton FIR RNP-4	NavCanada	On Hold	
	• Lat/Long of RNP-4	NavCanada	On Hold	
	• Reykjavik FIR (23 NM)	Isavia	Completed	March 29 2018
	• Bodo	Avinor	TBD	
	• Fukuoka FIR (23 NM)	JCAB	2020	
	• Anchorage Oceanic FIR (23NM)	FAA	2020	
<b>2</b>	<b>IMPROVE/INCREASE EFFICIENCIES FOR CROSS POLAR AND RUSSIAN FAR EAST AIR TRAFFIC</b>			
<b>2a</b>	<b>Create seamless and homogeneous airspace for the traffic from North America to Asia with the expansion of User Preferred Routes (Pacific Project)</b>			

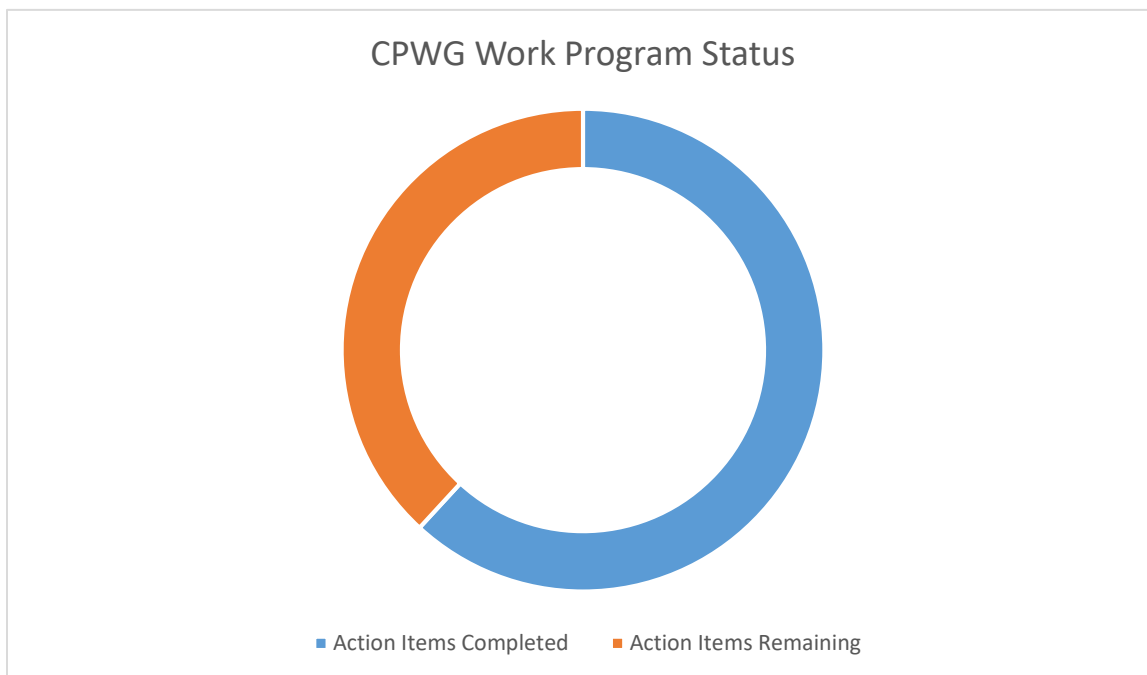
	PLANNING GOAL	ACTION WITH	TARGET DATE	STATUS OF ACTION
	<ul style="list-style-type: none"> <li>Seamless/homogeneous airspace for traffic from North America to Asia with the expansion of User Preferred Routes (Pacific Project)</li> </ul>	ANSPs/Operators	TBD	ANSPs continue to work toward UPRs as appropriate.
<b>2b</b>	<b>Improve Efficiency on Cross Polar Routes</b>			
	<ul style="list-style-type: none"> <li>Eliminate restrictions to file entry fixes on the Anchorage/Edmonton FIR boundary</li> </ul>	FAA/NAV CANADA	Spring 2018	Eliminated some restrictions during trials. Discussions with Operators on next steps
<b>2c</b>	<b>Improve Air Traffic Flow Management</b>			
	<ul style="list-style-type: none"> <li>Reduce track loading to 0 minutes for Cross Polar Fixes</li> </ul>	FAA	TBD	Trial for 2 fixes
<b>2d</b>	<b>Implement use of Radar Procedures between Magadan ACC and Anchorage ARTCC without Radar Data Sharing</b>			
	<ul style="list-style-type: none"> <li>Anchorage Arctic FIR</li> </ul>	FAA	Early 2019	
	<ul style="list-style-type: none"> <li>Magadan FIR</li> </ul>	FATA	Early 2019	
<b>2e</b>	<b>Make Tactical Re-Routes /DARPs Available for Daily Operations</b>			
	<ul style="list-style-type: none"> <li>State ATM</li> </ul>	State ATM	TBD	DARP testing during VOLKAM Exercises. Need to continue discussions with Operators

	PLANNING GOAL	ACTION WITH	TARGET DATE	STATUS OF ACTION
	<ul style="list-style-type: none"> <li>Implementation of DARP when we implement CPDLC</li> </ul>	NavCanada	2018	
	<ul style="list-style-type: none"> <li>ZAN can provide DARP based on ability of adjoining FIR</li> </ul>	FAA	TBC	
	<ul style="list-style-type: none"> <li></li> </ul>			
<b>3</b>	<b>IMPROVE COMMUNICATIONS IN ARCTIC/POLAR REGION</b>			
<b>3a</b>	<b>ADS-C Conformance Reporting</b>			
	<ul style="list-style-type: none"> <li>NavCanada</li> </ul>			Completed
	<ul style="list-style-type: none"> <li>Reykjavik</li> </ul>			Completed
	<ul style="list-style-type: none"> <li>Avinor</li> </ul>			Completed
<b>3b</b>	<b>Implement AIDC/OLDI for Data Exchange</b>			
	<ul style="list-style-type: none"> <li>Magadan and Anchorage FIRs</li> </ul>	FAA State ATM	2018	Testing resumes May 30, 2018
	<ul style="list-style-type: none"> <li>St. Petersburg and Anchorage FIRs</li> </ul>	FAA/State ATM	TBD	
	<ul style="list-style-type: none"> <li>Khabarovsk ACC and Sapporo ACC</li> </ul>	State ATM/JCAB	2020	
	<ul style="list-style-type: none"> <li>St. Petersburg and Reykjavik FIRs (AIDC)</li> </ul>	State ATM/Isavia	TBD	
	<ul style="list-style-type: none"> <li>Bodo and St. Petersburg FIRs</li> </ul>	Avinor/State ATM	TBD	
	<ul style="list-style-type: none"> <li>Ulaanbaatar/Krasnoyarsk</li> </ul>	Mongolia/State ATM	Late 2018	

	PLANNING GOAL	ACTION WITH	TARGET DATE	STATUS OF ACTION
	<ul style="list-style-type: none"> <li>Anchorage Arctic, Oceanic and Continental FIRs</li> </ul>	FAA	TBD	
<b>3c</b>	<b>Implement CPDLC for All Polar Routes</b>			
	<ul style="list-style-type: none"> <li>ANS Finland FIR</li> </ul>		Nov 2018	
<b>3d</b>	<b>ADS-B/WAM/Mode-S/Space Based ADS-B</b>			
	<ul style="list-style-type: none"> <li>ADS-B</li> </ul>	Avinor	Completed for Oceanic Airspace  Ongoing for domestic implementation	
		ANS Finland	2019	
	<ul style="list-style-type: none"> <li>ADS-B</li> </ul>	Mongolia	2018	
	<ul style="list-style-type: none"> <li>WAM Domestic Airspace</li> </ul>	Avinor	2020	Ongoing work with phased WAM implementation
	<b>Space Based ADS-B</b>			
	<ul style="list-style-type: none"> <li>Gander FIR</li> </ul>	NavCanada	2018	
	<ul style="list-style-type: none"> <li>Edmonton FIR</li> </ul>	NavCanada	2018	
	<ul style="list-style-type: none"> <li>Reykjavik CTA</li> </ul>	Isavia	TBD	
	<ul style="list-style-type: none"> <li>Ulaanbaatar FIR</li> </ul>	Mongolia	2019	
<b>3e</b>	<b>Monitor Communications and Data Link Performance</b>			

	<b>PLANNING GOAL</b>	<b>ACTION WITH</b>	<b>TARGET DATE</b>	<b>STATUS OF ACTION</b>
	<ul style="list-style-type: none"><li>• Provide information on any issues relating to communications/data link performance at CPWG meetings</li></ul>	All ANSPs and Operators	Ongoing	Action: Identify items from papers and presentations and include in Section 3e for next meeting.





## Completed Work Program Items (2010-2018)

Completed Goals	
<b>1</b>	<b>REDUCE AND HARMONIZE SEPARATION STANDARDS IN INTERNATIONAL AIRSPACE</b>
<b>1a</b>	<b>Implement RVSM FL290-410</b>
<b>1b</b>	<b>Harmonize RVSM Transition Procedures</b>
	<ul style="list-style-type: none"> <li>• Anchorage Arctic FIR</li> </ul>
	<ul style="list-style-type: none"> <li>• Anchorage Oceanic FIR</li> </ul>
	<ul style="list-style-type: none"> <li>• Russian FIRs</li> </ul>
	<ul style="list-style-type: none"> <li>• Fukuoka FIR</li> </ul>
	<ul style="list-style-type: none"> <li>• NavCanada National RVSM Implementation prior to CPWG @2004</li> </ul>
<b>1c</b>	<b>Implement 10 Minute Longitudinal Separation for ATS Route B932</b>
<b>1d</b>	<b>Improve Efficiency on Russian Trans-East Routes</b>
	<ul style="list-style-type: none"> <li>• Eliminate 10 minute track loading for Russian Trans-East Routes over Anchorage/Russian boundary</li> </ul>
<b>1e</b>	<b>Implement reduced longitudinal separation (aircraft equipage requirements)</b>
	<ul style="list-style-type: none"> <li>• Anchorage Oceanic FIR (30 NM)</li> </ul>
	<ul style="list-style-type: none"> <li>• Fukuoka (30 NM)</li> </ul>
	<ul style="list-style-type: none"> <li>• Vancouver (30 NM) in Feb 2017</li> </ul>
<b>1f</b>	<b>Implement further reductions to lateral separation (aircraft equipage requirements)</b>
	<ul style="list-style-type: none"> <li>• Anchorage Oceanic FIR (30 NM)</li> </ul>
	<ul style="list-style-type: none"> <li>• Reykjavik FIR (50NM) in 2012</li> </ul>
	<ul style="list-style-type: none"> <li>• Ulaanbaatar FIR (30km) in 2015</li> </ul>

<b>Completed Goals</b>	
<b>2</b>	<b>IMPROVE/INCREASE EFFICIENCIES FOR CROSS POLAR AND RUSSIAN FAR EAST AIR TRAFFIC</b>
<b>2a</b>	<b>Harmonize Procedures for ATS Route B932 (reopened 15 to 10 minutes)</b>
<b>2b</b>	<b>Improve Efficiency on Cross Polar Routes</b>
	<ul style="list-style-type: none"> <li>• Add entry/exit fixes on the Anchorage/Russian FIR boundary in order to provide additional parallel routes</li> </ul>
	<ul style="list-style-type: none"> <li>• Add entry/exit fixes on Reykjavik/Russian FIR boundary</li> </ul>
	<ul style="list-style-type: none"> <li>• Open new Kamchatka routes from PILUN and LISKI</li> </ul>
	<ul style="list-style-type: none"> <li>• Open new routes south of ABERI</li> </ul>
	<ul style="list-style-type: none"> <li>• Add entry/exit fixes on Bodo /Russian FIR Boundary</li> </ul>
<b>2c</b>	<b>Improve Efficiency on Russian Trans-East Routes</b>
<b>2d</b>	<b>Improve Air Traffic Flow Management</b>
	<ul style="list-style-type: none"> <li>• Implement DOTS Plus Online Track Advisory</li> </ul>
	<ul style="list-style-type: none"> <li>• Establish CTA in Anchorage Arctic FIR</li> </ul>
	<ul style="list-style-type: none"> <li>• Reduce track loading to 10 min for Cross Polar Fixes</li> </ul>
	<ul style="list-style-type: none"> <li>• Remove requirement for flight to file NOR OTS Routes over Canada, Dec 2012</li> </ul>
<b>2e</b>	<b>Improve ATFM Collaboration (ongoing activity)</b>
	<ul style="list-style-type: none"> <li>• FAA/NavCanada – signing LOA re: ATFM (MATMC/NOC)</li> </ul>
	<ul style="list-style-type: none"> <li>• FAA/State ATM signing LOA re: ATFM (MATMC/ATSCC)</li> </ul>
	<ul style="list-style-type: none"> <li>• NavCanada/State ATM signing LOA re: ATFM **</li> </ul>
<b>3</b>	<b>IMPROVE COMMUNICATIONS IN ARCTIC/POLAR REGION</b>
<b>3a</b>	<b>Improve Communications Procedures</b>

<b>Completed Goals</b>	
<b>3</b>	<b>IMPROVE COMMUNICATIONS IN ARCTIC/POLAR REGION</b>
<b>3a</b>	<b>Improve Communication Procedures</b>
	<ul style="list-style-type: none"> <li>• Change procedures to retain connection with Iridium and HF DL north of 82N in Reykjavik CTA</li> </ul>
	<ul style="list-style-type: none"> <li>• Implement ADS-C periodic contract and lateral and vertical conformance monitoring</li> </ul>
<b>3b</b>	<b>Implement AIDC/OLDI for Data Exchange</b>
	<ul style="list-style-type: none"> <li>• Edmonton FIR (AIDC)</li> </ul>
	<ul style="list-style-type: none"> <li>• Reykjavik and Edmonton FIRs</li> </ul>
	<ul style="list-style-type: none"> <li>• Ulaanbaatar FIR /Irkutsk June 2017</li> </ul>
<b>3c</b>	<b>Implement CPDLC for All Polar Routes</b>
	<ul style="list-style-type: none"> <li>• Anchorage Arctic FIR (limited to ability of provider)</li> </ul>
	<ul style="list-style-type: none"> <li>• Bodo FIR</li> </ul>
	<ul style="list-style-type: none"> <li>• Reykjavik FIR</li> </ul>
	<ul style="list-style-type: none"> <li>• Magadan FIR</li> </ul>
	<ul style="list-style-type: none"> <li>• Vancouver Oceanic in 2016</li> </ul>
<b>3d</b>	<b>Implement ADS-C</b>
	<ul style="list-style-type: none"> <li>• Anchorage Arctic FIR (limited by provider)</li> </ul>
	<ul style="list-style-type: none"> <li>• Edmonton FIR</li> </ul>
	<ul style="list-style-type: none"> <li>• Bodo FIR</li> </ul>
	<ul style="list-style-type: none"> <li>• Magadan FIR</li> </ul>
	<ul style="list-style-type: none"> <li>• Reykjavik CTA</li> </ul>

	<b>Completed Goals</b>
<b>3e</b>	<b>Implement ADS-C for All Polar Routes</b>
	<ul style="list-style-type: none"> <li>• Edmonton FIR</li> </ul>
	<ul style="list-style-type: none"> <li>• Reykjavik CTA</li> </ul>
	<ul style="list-style-type: none"> <li>• Magadan FIR</li> </ul>
	<ul style="list-style-type: none"> <li>• Anchorage FIR March 2017</li> </ul>
<b>4</b>	<b>IMPROVE AWARENESS OF SPACE WEATHER ISSUES IN ARCTIC/POLAR REGION</b>
<b>4a</b>	<b>Develop Space Weather User Needs</b>
<b>5</b>	<b>IMPROVE SAFETY</b>
<b>5a</b>	<b>Develop Arctic ATM Operational Contingency Plan</b>
	<ul style="list-style-type: none"> <li>• Publish Document v1 on website</li> </ul>
<b>5b</b>	<b>Develop CPWG Volcanic Ash Contingency Guidance</b>
	<ul style="list-style-type: none"> <li>• ICAO EURNAT TF developed joint Volcanic Ash Contingency Plan in January 2016. Volcanic Ash Guidance document that provides guidance to 3 regions (Far-Eastern part of the ICAO European/North Atlantic region) is included as a subset of this document.</li> </ul>
<b>5c</b>	<b>Implement Single AFTN Address</b>
	<ul style="list-style-type: none"> <li>• Iceland</li> </ul>
	<ul style="list-style-type: none"> <li>• Norway</li> </ul>
<b>5d</b>	<b>Implement ICAO Flight Plan 2012</b>
	<b>All ANSPs completed implementation of flight plan 2012</b>

**ATS ROUTE CATALOGUE**

**Section 1. Proposed Cross Polar Route Segments (CPRS)**

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5	6	7	8
1	CPRS/55	Harbin - XXXXXX (505618N 1270606E) - XXXXXX (514224N 1271043E) - UDRIL (522607N 1270803E) — NALEB (534132N 1270522E)	State ATM Corporation ATMB			RUS CHN	
2	CPRS/56	SIMLI (504724N 1272206E) – PARIS (512001N1300004E)- Ekimchan NDB (FA)	State ATM Corporation			RUS CHN	
3	CPRS/57	XXXXXX (514224N 1271043E) – RUNET (505413N 1273328E) – VOR/DME Blagoveshchensk – SIMLI (504724N 1272206E)	State ATM Corporation			RUS CHN	
4	CPRS/58	SALAK to GABAL	United Air Lines 18.12.17	Optimize ATS routes	Reduce mileage by 44 nm (7 minutes)	RUS	DONIT N723916 E1125440 - SALAK N715803 E1140703 - SUPAN N691421 E1142251 - OGIRI N681500 E1143729 - BEKIB N674304 E1144451 - LANIM N673112 E1144730 - GAGRU N663253 E1145954 - NILRI N655914 E1150637 - SULOP N654050 E1151010 - KEDUK N645433 E1151845 - ABMAG N640612 E1152647 - OTRIT N633210 E1153210 - GUGLI N614309 E1154802 - GIMAR N602138 E1155844 - MASOM N601110 E1160014 - RATPI N591720 E1160744 - ARGUT N584033 E1161243 - DIREK N572826 E1162159 - NAPED N552507 E1163630 - LASOP N533023 E1164842 -

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5	6	7	8
							GABAL N531314 E1165026 - DISEG N510908 E1170937 - TELOK N493736 E1172242 (T656). Implemented on Oct 11, 2018

### Section 2. Proposed Trans-East Route Segments (TVRS)

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5		6	7
7	<b>TVRS/42</b>	FA – WZ - SIMLI (Proposed alternative is FA – PARUS – SIMLI)	Pacific United Airlines	route realignment		RUS	unacceptable at the moment
1.	<b>TVRS/43</b>	SIBIR – LURED – EKVIK (decommission B451 LURED – IGROD)	IATA	To improve north-south traffic flows between Khabarovsk FIR and Fukuoka FIR	Reduce mileage	RUS JPN	under review
2.	<b>TVRS/47</b>	NETRI – 430312N 1463915E - NODAN	RUS 09.08.13	To be used by coordination with ATC to avoid volcanic ash		RUS	Approved in Russia, no approval from Japan.
3.	<b>TVRS/49</b>	KOKES – DIPNA – NK (Nikolskoe) – UK (Ust-Kamchatsk) – 5150N 15301E – 453933E 1505937E	JCAB Feb 2015	Detour route in case of volcanic ash	Improve airspace efficiency	RUS JCAB	Accepted for implementation. A new entry/exit point at the FIR boundary between PK and Fukuoka shall be coordinated. Assign an international status to domestic routes. Target date - 2016



**Abberviations:**

- Proposed cross polar Route Segments (CPRS);
- Proposed Trans-East Route Segments (TVRS);
- Trans-Asian Route Segments (TARS);
- Asian Route Segments (ARS);
- Trans-polar Route Segments ( TPRS);
- Trans-Siberian Route Segments (TSRS);
- Other Route Segments ( DRS)

**Brief catalogue description:**

**Item 1.** Shows an ordinal number of a route proposal.

**Item 2.** Shows reference number of a route proposal.

**Item 3.** Route description consists only of IDENTs for NAVAIDS and 5LNC without coordinates. (where several NAVAIDS have same IDENT include name of NAVAID).

b) when available. route designators to be included.

c) unidirectional use of the route to be indicated in text (i.e. Westbound. Eastbound. etc.).

d) several routes being studied within a single airspace planning package will be entered as one proposal.

**Item 4.** Shows Flight Information Regions (FIR) concerned.

**Item 5.** Shows objectives/comments.

**Item 6.** Proposed by.

**Item 7.** Target dates.

Route proposals that can not be implemented should be marked with grey

Implemented proposals should be marked by green

---

<i><b>FIR</b></i>	<i><b>CODE</b></i>
Afghanistan	AFG
Albania	ALB
Algeria	DZA
Armenia	ARM
Austria	AUT
Belarus	BLR
Belgium	BEL
Bosnia and Herzegovina	BIH
Bulgaria	BGR
China	CHN
Croatia	HRV
Cyprus	CYP
Czech Republic	CZE
Democratic People's Republic of Korea	PRK
Denmark	DNK
Egypt	EGY
Estonia	EST
Finland	FIN
France	FRA
Georgia	GEO
Germany	DEU
Greece	GRC
Hungary	HUN
Iceland	ISL
India	IND
Iran. Islamic Republic of	IRN
Iraq	IRQ
Ireland	IRL
Israel	ISR
Italy	ITA
Japan	JPN
Jordan	JOR
Kazakhstan	KAZ
Kuwait	KWT
Kyrgyzstan	KGZ
Latvia	LVA
Lebanon	LBN
Libyan Arab Jamahiriya	LBY
Lithuania	LTU
Luxembourg	LUX
Malta	MLT
Mongolia	MNG
Montenegro	MNE
Morocco	MAR
Netherlands	NLD
Norway	NOR
Pakistan	PAK
Poland	POL
Portugal	PRT
Republic of Azerbaijan	AZE
Republic of Moldova	MDA
Republic of Serbia	SRB
Romania	ROU
Russian Federation	RUS
Saudi Arabia	SAU
Slovak Republic	SVK
Slovenia	SVN

Spain	ESP
Sweden	SWE
Switzerland	CHE
Syrian Arab Republic	SYR
Tajikistan	TJK
The former Yugoslav Republic of Macedonia	MKD
Tunisia	TUN
Turkey	TUR
Turkmenistan	TKM
Ukraine	UKR
United Arab Emirates	ARE
United Kingdom	GBR
United States of America	USA
Uzbekistan	UZB

Легенда каталога маршрутов  
Legend catalog routes

	Предложения, которые не могут быть реализованы в данный момент	
AMATI (780000N 1685824W) - GILOD (755416N 1720106E)	Реализованные предложения	
AMATI (780000N 1685824W) - GILOD (755416N 1720106E)	Предложения, реализуемые в ближайшее время	
AMATI (780000N 1685824W) - GILOD (755416N 1720106E)	Предложения, находящиеся на рассмотрении	
Implementation is deemed unreasonable	Реализация считается необоснованным	
Published as ...	Опубликовано как ...	
Implemented on ...	Реализован с ...	
segment is unavailable before ...	Сегмент недоступен до ...	
under review ...	на рассмотрении	
expected date of commissioning	Планируемый срок ввода ...	
unacceptable at the moment	Неприемлем в данный момент	
Consider after commissioning Ust-Khairuzovo SSR	Рассмотреть после ввода в строй в ВРЦ Усть-Хайрюзово ВРЛ	

**ARCHIVE**

**Section 1. Proposed Cross Polar Route Segments (CPRS)**

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5	6	7	8
1	<b>CPRS/2</b>	RAMEL (8430.0N 16858.4W) - 8456.2N 16653.4E - 8331.IN 12736.3E - BESON (7921.0N 10431E) (bidirectional use)	State ATM Corporation. 2008	a) Implementation will be possible only after elaboration of procedures between oceanic sectors of Magadan. Murmansk ACCs and Anchorage ARTCC; b) Implementation is unreasonable. No stable communications. Safety concerns.		RUS USA	Implementation is deemed unreasonable.
2	<b>CPRS/3</b>	NALIM (8620.4N 16858.4W) - KUBON (8000.0N 12452.9E) - IRMAK (7601.4N 11830.0E) - ROMUL (7355.5N 11557.3E) – SALAK (7158.0N 11407.0E) – LALEN (6930.0N 11252.9E) – OLEMU (UERO 6831.0N 11228.0E) – RULAT (UERP 6624.0N 11202.0E) – IRBIS (6455.4N 11056.7E) - GIBRI (6318.6N 10953.4E) - DORIP (6054.2N 10831.5E) – PEKUN (6002.0N 10805.0E) - CI (Ust-Kut NDB) - URAMO (5542.9N 10526.0E) - MX (ZHIGALOVO) – then along the existing airways (bidirectional use)	State ATM Corporation. 2008	a) Open a new cross polar route; b) 8620.4N 16858.4W - 7600.4N 11839.6E segment is approved and ready for implementation; c) SALAK – LALEN – OLEMI – RULAT segment is under review and international coordination; d) IATA Top Priority		RUS USA	Published as G112 on Nov 1, 2010 ( NALIM (8620.4N 16858.4W) – KUBON (8000.0N 12452.9E) segment is unavailable before Dec 16, .2010
3	<b>CPRS/12</b>	MAGUN (8500N 03200E) - BESED (8133.0N 05535.1E) - ANODI (7730.0N 06600.0E) – PINOG (7340.1N 06911.4E) - REFRI (6728.6N 07128.0E) - GIMIR (6528.9N 07242.0E) - R348 (H=8600 -16100) – GISUR (6120.6N 07324.2E) -5855.4N 07345.9E – ML (Chapayev NDB 5615.0N 07357.0E) - A302 - G487 – DAKIN (5409.5N 07224.3E) (bidirectional use)	State ATM Corporation. 2009	a) Establish a new route for flying from India. Pakistan and UAE to North America East Coast; b) Approved. ready for implementation after resolution of comm. Issues between Murmansk and Mys Kamennyi; c) Will be assigned R706 designator		RUS ISL	Published as G706 (NOTAM A3432/10) on Jul 1, 2010
4	<b>CPRS/13</b>	RIMAG (6828.0N 07335.8E) - OLDEM (6721.0N 07310.2E) – (6638.0N 07255.0E) - GONOK (6620.1N 07250.4E) - GIMIR (6528.9N 07242.0E) – LEBUL (6450.7N 07148.6E) - RILIS (6321.6N 06954.7E) -	Emirates Airlines	a) Open a new route; Approved and ready for implementation		RUS	Published as A947 on Nov 1, 2010

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5	6	7	8
		URMAN (6146.2N 06806.9E) – ATREM (6058.6N 06714.0E) – BAGEN (6638.0N 07255.0E) – LUGIK (5943.0N 06556.0E) (bidirectional use)					
5	CPRS/14	SORLI (6228.0N 06602.0E) - BELEG (6341.3N 06642.0E) - MASUL (6455.1N 06639.8E) - SH (Salekhard VORDME 6635.3N 06636.4E) - GOPUS (6726.1N 06639.2E) - ADERA (6851.9N 06644.3E) - TUMOK (7113.0N 06654.5E) – LUGOT (7202.3N 06649.5E) - ANODI (7730.0N 06600.0E) (unidirectional use to ANODI)	Emirates Airlines	a) Transition from a new Crosspolar route; b) Approved and ready for implementation; c) Will be assigned G359 designator		RUS	Published as G359 (NOTAM A3429/10) on Jul 1, 2010
6	CPRS/15	PIREL (8000.0N 03500.0E) – ANODI (7730.0N 06600.0E) – then on B483 (bidirectional use)	State ATM Corporation. 14.05.2009	a) Open a new routing from China to North America; b) approved and ready for implementation. c) Will be assigned R705 designator		RUS NOR	Published as R705 (NOTAM A3427/10) on Jul 1, 2010
7	CPRS/16	ANODI (7730.0N 06600.0E) - MELAM (07610.7E 7657.0N) - TINEM (7459.4N 07610.7E) – DOSON (7331.0N 08022.9E) (bidirectional use)	State ATM Corporation. 14.05.2009	a) A new transition from Crosspolar route; b) ANODI - MELAN approved and ready for implementation			Published as R705 on Nov 1, 2010
8	CPRS/17	MX (ZHIGALOVO NDB 5448.0N 10509.0E) – GUSIN (5106.0N 10614.0E) (bidirectional use)	State ATM Corporation. 14.05.2009	a) Shorten the route by 15 km b) Approved for implementation as a route by coordination with ATC; c) Will assigned B934 designator		RUS	Implemented on March 11, 2010 (NOTAM A0404/10)
9	CPRS/18	NIBUL (5913.1N 06239.8E) –5738.2N 06147.9E – EKB (Yekaterinburg/Koltsovo VORDME 5644.6N 06047.9E) (between 2100-7500 m unidirectional to NIBUL. between 8100-15100 m bidirectional)	State ATM Corporation. 14.05.2009	a) Shorten the route by 13 km; b) Under review		RUS	Published as G552 on May 05 2011
10	CPRS/19	RIVAS (7140.8N 08425.3E) - SIVDI (6951.1N 08736.9) – TESLA (6720.5N 09155.5E) – SAKAT (6526.6N 09432.4E) – OKASA (6225.8N 09728.3E) – KOSUM (5756.3N 10044.6E) - BRT (Bratsk VORDME) (bidirectional use)	Continental Airlines April 2008	a) Open up a route for flying from South-East Asia to North America; b) Under review		RUS	Published as R705 on Nov 1, 2010
11	CPRS/20	DAKIN (5409.5N 07224.3E) - ML (Chapayev NDB 5615.0N 07357.0E) - NJC (Nizhnevar-	Emirates Airlines	a) Open up a route for flying from Middle East to North America;		RUS	Published as G715 on

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5	6	7	8
		tovsK VORDME 6056.6N 07628.1E) (bidirectional use)	2009	b) Under review			Nov 17, 2011
12	<b>CPRS/21</b>	BEBIR (6355.2N 06501.8E) - GUDIR (6734.5N 07001.6E) - NIDRA (7127.5N 07708.7E) (bidirectional use)	Emirates Airlines 2009	a) Shorten the existing route b) Under review		RUS	Published as G497 on Nov 17, 2011
13	<b>CPRS/22</b>	8530.0N 16858.6W	FAA December 4. 2009	a) Open up a new entry fix for Crosspolar routes b) Under review		RUS USA	4 <sup>th</sup> quarter 2010 NPRS/27
14	<b>CPRS/23</b>	8330.0N 16858.6W	FAA December 4. 2009	c) Open up a new entry fix for Crosspolar routes a) Under review		RUS USA	4 <sup>th</sup> quarter 2010 <b>NPRS/28</b>
15	<b>CPRS/24</b>	7800.0N 16858.6W	FAA December 4. 2009	d) Open up a new entry fix for Crosspolar routes a) Under review		RUS USA	4 <sup>th</sup> quarter 2010 <b>NPRS/29</b>
16	<b>CPRS/25</b>	7300.0N 16858.6W	FAA December 4. 2009	e) Open up a new entry fix for Crosspolar routes a) Under review		RUS USA	4 <sup>th</sup> quarter 2010 <b>NPRS/30</b>
17	<b>CPRS/26</b>	NIKIN (8100.0N 16858.6W)	FAA December 4. 2009	a) Relocate NIKIN b) Under review c) Relocation of NIKIN is unreasonable		RUS USA	4 <sup>th</sup> quarter 2010 Realignment is unjustified
18	<b>CPRS/27</b>	LISKI (7000.0N 16858.6W)	FAA December 4. 2009	d) Relocate LISKI e) Under review a) Relocation of LISKI is unreasonable		RUS USA	4 <sup>th</sup> quarter 2010 relocation of the entry fix is unnecessary
19	<b>CPRS/28</b>	833000N1685823W - 740039N 1360232E - ... a) NA (Nizhneyansk NDB 7125.0N 13608.0E) – G226; b) GIKSI (7141.7N 12854.0E) – G491 (B489. G493) (bidirectional use)	State ATM Corporation. 09.02.2010	a) Open a new cross polar route; a) Under review		RUS USA	Published as G493 and G812 on Nov17, 2011
20	<b>CPRS/29</b>	AMATI (780000N 1685824W) - GILOD (755416N 1720106E) - LUNOG (720705N 1565953E) - NOGDA (711205N 1544019E) – OTNIR (690000N 1500037E) - SIPVI (652256N 1441620E) - NERPA (643256N 1430619E) (двухсторонняя)	State ATM Corporation. 09.02.2010	b) Open a new cross polar route; a) Under review		RUS USA	Published as B806 on Okt 18, 2012
21	<b>CPRS/30</b>	7300.0N16858.4W – LURET (7037.5N	State ATM	a) Open a new cross polar route;		RUS	unacceptable at the moment

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5	6	7	8
		14753.8E) – R351 (B933 . G7. G494 . G495. G806) (bidirectional use)	Corporation. 09.02.2010	b) Under review c) unacceptable at the moment		USA	
22	<b>CPRS/31</b>	ORVIT – 7500.0N 17000.0E -6500.0N 15300.0E – BANOT - .. B223 - LUMIN	Continental Airlines April 2010	a) New York – Tokio traffic; b) distance saving- 35.8 м.м. c) accepted for review d) unacceptable at the moment		RUS	unacceptable at the moment
23	<b>CPRS/32</b>	ORVIT - 7700.0N 18000.0E - 7000.0N 16100.0E - 6500.0N 15500.0E - 6000.0N 15100.0E – ROMEM .. B337 - ANIMO	Continental Airlines April 2010	a) New York – Tokio traffic; b) distance saving - 40.2 м.м. c) accepted for review		RUS	unacceptable at the moment
24	<b>CPRS/33</b>	DEVID (B480) - GIKSI .. G491 or G493 or B489	United Airlines April 2010	a) Transition routes for flying between Mid West US/US East Cost and Asia b) Accepted for review		RUS	unacceptable at the moment
25	<b>CPRS/34</b>	a) RAMEL (G491) - TAKUN (G226); b) PETUL - RUTIN (G226); c) UNELI (G491) - BALOM (G226)	United Airlines April 2010	a) Transition routes for flying between Mid West US/US East Cost and Asia b) Accepted for review		RUS	unacceptable at the moment
26	<b>CPRS/35</b>	a) NIKIN (G226) - UNELI; b) TAKUN (G226) - TIGLA (G491); c) BALOM (G226) - TEMGA (G491)	United Airlines April 2010	a) Transition routes for flying between Mid West US/US East Cost and Asia b) Accepted for review		RUS	unacceptable at the moment
27	<b>CPRS/36</b>	a) ORVIT (G494) - TAKUN (G226); b) DILSA - RUTIN (G226)	United Airlines April 2010	c) Transition routes for flying between Mid West US/US East Cost and Asia d) Accepted for review		RUS	unacceptable at the moment
28	<b>CPRS/38</b>	a) NELTI-A299-DONUS-TINRI далее G359 or b) NELTI- TINRI .. G359	Emirates Airlines 19.05. 2010	a) Accepted for review.		RUS	under review
29	<b>CPRS/37</b>	ANODI-ABERI	Emirates Airlines 19.05. 2010	a) Accepted for review b) Reviewed. Implementation is possible.		RUS	Published as G359 on Sep 22, 2011
30	<b>CPRS/39</b>	a) W104 TARSA-NOR b) W98 DOSON-KUTET	Continental Airlines April 2010	a) assign an international status b) streamline DAKIN – DEVID route for Delhi/Mumbai – Newark daily flights c) transition from DEVID		RUS	Published as a) R200 as b) G498 on Nov17, 2011
31	<b>CPRS/40</b>	B358 LANEP – IKADA	British	Remove flight level restrictions		RUS	Маршрут исключен

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5	6	7	8
			Airways 17.01.11	between FL350-530			
32	<b>CPRS/41</b>	LURUN (852500N 1685824W) - TUSAT (833607N 1543003E) - UNTEK (791121N 1340410E) - NIGES (750546N 1265137E) - RANEN (735405c 1252913E) - NESPA (715403N 1233405E) - MOPUL (693331N 1232755E) - GANPA (664703N 1232204E) - ARLAG (651308N 1254435E) - SUBOS (635738N 1272559E) - TAGIL (631602N 1282035E) - Yakutsk VOR/DME (UTS) (620533N 1294705E) (двухсторонняя)	State ATM Corporation. 09.02.2010	a) Open a new cross polar route; b) Under review		RUS USA	Implemented as R494 on Oct 18, 2012
33	<b>CPRS/42</b>	GIMON – NIRUT (76N035E)	2012	Purpose: for flights from India to existing routes to GIMON continue in the North America		RUS NOR	Published as A840 on March 07, 2013
34	<b>CPRS/43</b>	GIMON – AGATA (78N035E)	2012	Purpose: for flights from India to existing routes to GIMON continue in the North America		RUS NOR	Published as A841 on March 07, 2013
35	<b>CPRS/44</b>	ANODI – KOMEL (7730N035E)	2012	Use as a new Crosspolar route for flying from North America to Southeast Asia		RUS NOR	Published as A839 on March 07, 2013
36	<b>CPRS/45</b>	SIMLI-G494-B331-W205-WZ	2013	Reduce mileage		RUS	Will be published as G494, A803 on September 19, 2013
37	<b>CPRS/46</b>	NERPA (643256N 1430619E) –FA (Yekimchan) (530807N 1324953E) – MAGIT (474131N 1310900E) Unidirectional traffic from FA to MAGIT	2013	Extend the existing Crosspolar route		RUS	Will be published as B806 on September 19, 2013
38	<b>CPRS/47</b>	WZ (503808N 1280207E) – PARIS (512001N 1300004E) - FA (530807N 1324953E). Unidirectional traffic from WZ to FA	2013	Establish parallel routes		RUS	Will be published as A803 on September 19, 2013
39	<b>CPRS/50</b>	SALET (7957N 16858W) – RODOK then align G495	State ATM Corporation October 2013	Establish an additional entry/exit point		RUS FAA	To be published as G819 in 13.11.14



Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5	6	7	8
40	<b>CPRS/51</b>	BARIP (7457N 16858W) – LUTEM – OLMIN – ZR (Зырянка) - ASKIB	State ATM Corporation October 2013	Establish an additional entry/exit point		RUS FAA	To be published as B722 in 13.11.14
41	<b>CPRS/52</b>	Установить дополнительные ПОД на G819, G493, G226, R351	United Airlines August 2014	Establish additional NCRPs to simplify transitions between the existing airways	Increase Route Efficiency	RUS	The following NCRPs were established: BAKUK, BUNIT, OKLOS NOTAM: A3748/14, A3750/14, A3745/14, A3743/14
42	<b>CPRS/53</b>	Установление маршрута ОБД SOTIS PILAN-LURAM-	United Airlines August 2014	Establish a new ATS route.	Increase airspace efficiency, provide fuel savings and CO <sub>2</sub> reduction	RUS	The route proposal accepted. The new A303 airway implemented in April 2015 as follows LURAM (664606N 0375031E) - TOKRO (660730N 0391350E) – SOTIS (654100N 0400750E) Flight level band;: <u>FL100**</u> <u>FL140</u> <u>FL160*</u> <u>FL200</u> <u>FL080</u> <u>FL110</u> <u>FL150</u> <u>FL170</u> <u>FL250*</u> <u>FL390</u> <u>FL510*</u> <u>FL210</u> <u>FL260</u> <u>FL400</u>
43	<b>CPRS/54</b>	820939N 1685824W – 802806N 1642448E– 755700N 1431800E – IDIMA	State ATM Corporation December 2014	Establish a new ATS route segment.	Increase airspace efficiency, provide fuel savings	RUS	The new route B802 will be opened effective from November 12, 2015 as follows: LETUN (820939N 1685824W) OLMAT( 802806N 1642448E) LOMRI (760029N 1432814E) IDIMA (740045N 1360243E) <u>FL530</u> <u>FL270</u>
44	<b>CPRS/55</b>	755700N 1431800W –RUTIN	State ATM Corporation December 2014	Establish a new ATS route segment.	Increase airspace efficiency, provide fuel savings	RUS	The new route G813 will be opened effective from November 12, 2015 as follows: : LOMRI (760029N 1432814E) RUTIN (733414N 1403546E) BEKOP (721044N 1360641E) BANIK (714205N 1344553E) AKEBA (713047N 1341525E)

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5	6	7	8
							RILAK (691609N 1290106E) DISES (650957N 1231911E) Vilyuysk NDB (CZ) (634438N 1214704E) <u>FL530</u> <u>FL270</u>
45	<b>CPRS/56</b>	762814N 1685824W - 754700N 1791349E – LUNOG	State ATM Corporation December 2014	Establish a new ATS route segment.	Increase airspace efficiency, provide fuel savings	RUS	The new route R827 will be opened effective from November 12, 2015 as follows: BEKAR (762814N 1685824W) OMELI (754700N 1791349E) LUNOG (720705N 1565953E) <u>FL530</u> <u>FL270</u>
46	<b>CPRS/57</b>	762814N 1685824W – 722712N 1662946E – OLMIN	State ATM Corporation December 2014	Establish a new ATS route segment.	Increase airspace efficiency, provide fuel savings	RUS	The new route R830 will be opened effective from November 12, 2015 as follows: BEKAR (762814N 1685824W) TUSET (743842N 1761440E) GOPAN (722659N 1662322E) IPTER (713000N 1631457E) RUDBA (703041N 1602609E) LULIR (692254N 1573900E) KEMED (690349N 1565606E) OLMIN (672801N 1534310E) <u>FL530</u> <u>FL270</u>
5	<b>CPRS/48</b>	493236N 1281936E-AMERA- WZ (unidirectional traffic to WZ)	IATA	Establish parallel ATS routes (G494 is unidirectional to SIMLI)		RUS CHN	Under review and coordination. Negotiate with China, in different formats (IATA, ICAO, etc.)
6	<b>CPRS/49</b>	RITEK – 495025N 1182854E - HAILAR	IATA	Establish an additional entry/exit point	Reduce mileage	RUS CHN	Under review and coordination. Negotiate with China, in different formats (IATA, ICAO, etc.)
7	<b>CPRS/50</b>	1. B830 RITAK (8300N3200E) – KUKET – SALAK; 2. G64 KUKET – GIKSI; 3. B828 RITAK - ANODI	State ATM Corporation 2015	Открытие нового коридора		RUS ISL	c 02.02.2017

**Section 2. Proposed Trans-East Route Segments (TVRS)**

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5		6	7
1	<b>TVRS/8</b>	G907 - BANOT (5940.6N 14908.7E) - NILOT (5611.0N 14142.7E) -.6N 13726.1E –4809.5N 13131.6E –MAGIT (474131N 1310900E) – JMU (JIAMUSI) (unidirectional from 5340.6N 13726.1E to 474131N 1310900E)	State ATM Corporation. 10.07.2007	a) Open up a new Transeast route to join JMU (JIAMUSI); b) Approved and ready for implementation; c) There is no connection in China airspace from 4741.3N 13108.4E – JMU (JIAMUSI); d) ASBAT – BA (Balagannoye); e) After opening of the above route. G212 ARGUK - HAB (Khabarovsk VORDME 4832.7N 13512.6E) will be used only for eastbound flying.		RUS CHN	Published as R213 on Oct 20, 2011
2	<b>TVRS/13</b>	ASKIB (5924.1N 14303.1E) - 5340.6N 13726.1E (ASKIB (592407c 1430312B) - GIRUD (534038c 1372609B)	State ATM Corporation. 10.07.2007	a) Open up a new route; b) Approved and ready for implementation		RUS	Published as B722 on Oct 20, 2011
3	<b>CHUKO TKA-1</b>	LISKI (7024.3N 16858.3W) - PEVEK (UHMK) (6947.0N 17035.7E) - CHERSKY (UESS) (6844.6N 16120.2E) -Zyryanka (6543.8N 15046.2E) - INDIK (6316.0N 14312.0E) - Chagda (5845.0N 13039.0E) Flight Level Band 9600-11600 m (bidirectional use)	RACGAT/13	a) UESU – INDIK – Chagda segment is located to close to the existing FIR boundaries and is outside VHF and radar coverage. b) Developed and approved an alternative route G912		RUS USA	Implementation is deemed unreasonable
4	<b>TVRS/14</b>	BELEK (6817.1N 14247.1E) - RODOK (6633.7N 13710.1E) (bidirectional use)	Proposed by airlines August 1. 2009	a) Transition from G969 to G495; b) Approved and ready for implementation		RUS	Published as B969 (by NOTAM ) on Jul 1, 2010
5	<b>TVRS/21</b>	ABAGO (5617.5N 14414.2E) - 5517.2N 14005.3E (ABAGO (561731c 1441418B) - GITAK (551707c 1400520B)	State ATM Corporation. апрель July 10. 2007	a) Open up a new route; Approved and ready for implementation		RUS	Published as G902 on Oct 20, 2011

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5		6	7
6	<b>TVRS/22</b>	ARNAP (6440.0N 17025.0E) - ASMOK (6448.8N 16843.2E) – ILMUK (6456.1N 16714.7E) – LUVAK (6502.8N 16526.4E) – OSKON (6514.3N 16032.5E) – ABAPI (6502.5N 15718.3E) – RUBIS (6433.3N 15159.3E) – ELBIN (6340.5N 14532.7E) – INDIK (6316.0N 14312.0E) – KURAK (6247.0N 13651.0E) – LUKON (6230.9N 13338.4E) – UEEE (6205.5N 12947.0E)	State ATM Corporation. 30.03.2010	a) Open up a new route; b) North America and Alaska traffic to Afganistan, Kyrgystan (Manas), Beijing, Hong Kong, Mongolia and China; c) Approved and ready for implementation Assigned B155 designator		RUS	Published as B155 (by NOTAM A2204/10) on Jun 3, 2010
7	<b>TVRS/23</b>	NUZAN – 5141.2N 16239.1E – RIMLI (5142.3N 15806.8E) – B932	State ATM Corporation. April 2010	a) Transition between R220 and B932; b) Initial review completed		RUS USA	Published as G801 on Nov 17, 2011
8	<b>TVRS/24</b>	5005.0N 15900.0E – 4947.2N 15400.0E – B932	State ATM Corporation. April 2010	a) Transition between R220 and B932; b) Initial review completed		RUS USA	Published as G804 on Nov 17, 2011
9	<b>TVRS/25</b>	NYMPH - 5310.5N 166310.E – RIMLI (5142.3N 15806.8E) – B932	State ATM Corporation. April 2010	a) Transition between R220 and B932; b) Initial review completed		RUS USA	Published as G816 LUMES - RIMLI
10	<b>TVRS/26</b>	NYMPH - 5325.0N 167126.E– B932 (5321.6N 16218.4E) -UHPP	United Airlines April 2010	a) Transition between G469 and B932 then to B915; b) Accepted for review		RUS USA	Published as G73 on Nov17, 2011
11	<b>TVRS/27</b>	OLCOT – NUZAN – 5141.0N 16237.6E – RIMLI – SENOR – G73 (B115)	United Airlines April 2010	a) Transition between R580 (A342) and B932 then to G73 (B115); b) Accepted for review		RUS USA	unacceptable at the moment
12	<b>TVRS/28</b>	OGDEN – 4855.5N 15636.2E – NETRI – LATAK – G103	United Airlines April. 2010	a) Transition between R580 (R451) and B932 then to G103; b) Accepted for review		RUS USA	unacceptable at the moment
13	<b>TVRS/29</b>	NETRI – 4304.2N 14640.4E - NODAN	United Airlines April 2010	a) Transition between B932 and B915; b) Requires opening of a new entry/exit fix with Japan c) Accepted for review		RUS JPN	unacceptable at the moment
14	<b>TVRS/30</b>	OSKON-UHMI (UHMI – PEMID)	Air Canada 14.02.2011	a) remove flight level restrictions 13100-16100		RUS	Published as A218 FL 270-530
15	<b>TVRS/31</b>	a) KURAK (6247.0N 13651.0E) – ODANA	IATA	a) reduce mileage		RUS	unacceptable at the moment

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5		6	7
		6) KURAK – KUNIK	декабрь 2010	b) provide transition from R819 to G494			Published KURAK – KUNIK as R819
16	TVRS/32	Okhotsk - N5340.6 E13726.1	State ATM Corporation. 10.07.2007	open up a new route		RUS	Published as B722 on Oct 20, 2011
17	TVRS/33	ABAGO – GITAK (N.5517.2 E14005.3)	State ATM Corporation. 10.07.2007	open up a new route		RUS	Published as G902 on Oct 20, 2011
18	TVRS/34	BIRBO – ODEKA (N4809.5 E13131.6)	State ATM Corporation. 10.07.2007	open up a new route		RUS	Published as B723 on Oct 20, 2011
19	TVRS/35	ARNAP (N 644000 E 1702510) –ASBAT (N635331 E1644434)	Cathay Pacific 26.07.2011, RDGE/15 30.09.2011	extension R213		RUS	Published as R213 on May 31, 2012
20	TVRS/36	AMETO (N582137 E1532037)-NARIT (581534N 1525610E)- BAMUN (580808N 1522641E)-BENGA (575715N 1514437E)- BEBAT (573246N 1501419E)-GRUMA (N560501 E1453036)	Cathay Pacific 26.07.2011, RDGE/15 30.09.2011	extension B237		RUS	Published as B237 on May 31, 2012
21	TVRS/37	BUMAT (615007N 1603257E)-BUSUL (612501N 1555402E )-DERUD (604907N 1522350E)	Cathay Pacific 26.07.2011, RDGE/15 30.09.2011	extension A827		RUS	Published as A827 on May 31, 2012
22	TVRS/38	BUMAT (615007N 1603257E)-LUNEK (605645N 1552506E)- ODERI (603231N 1532656E)	Cathay Pacific 26.07.2011, RDGE/15 30.09.2011	route realignment		RUS	Published as A828 on May 31, 2012
23	TVRS/39	URABI (601201N 1544108E)-BANEB (601415N 1552423E)-SOPUR (601839N 1570605E)-RUNAB (602101N 1581731E)- BEBOR (602257N 1593711E)-DIREG (602413N 1610436E)-RAMKA (602426N	Cathay Pacific 26.07.2011, RDGE/15 30.09.2011	a) extension G370 b) Leaving the NOPAC		RUS	Published as G370 on May 31, 2012

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5		6	7
		1613257E)-Tilichiki NDB (TK) (602154N 1660045E)-NELTA (605736N 1725315E)-RUSOR (611400N 1775600W)					
24	<b>TVRS/40</b>	BALUB (564751N 1671435E)- MURTA (562209N 1634311E)- Ust-Kamchatsk NDB (UK) (561324N 1624114E)- OSMOR (551335N 1565706E)- TOSNO (550813N 1563047E)- BANIT (544949N 1550431E)- KORES (535524N 1500000E)- GIRAN (532549N 1474300E)	Cathay Pacific 26.07.2011, RDGE/15 30.09.2011	route realignment		RUS	Published as B804 on May 31, 2012
25	<b>TVRS/41</b>	IRKAN-KOKUN-BANIT	Cathay Pacific 26.07.2011, RDGE/15 30.09.2011	route realignment		RUS	Published as B327
26	<b>TVRS/44</b>	KUNAD - OTLER	RUS 09.08.13	NOPAC transition to Trans-East	Reduce mileage	RUS	To be published as G815 in 13.11.14
27	<b>TVRS/45</b>	LUMES - RIMLI	RUS 09.08.13	NOPAC transition to Trans-East	Reduce mileage	RUS	To be published as G816 in 13.11.14
28	<b>TVRS/46</b>	Ust-Kamchatsk NDB (UK) - MIVAN (552730N 1615931E) - KEGOR (544042N 1611855E) - SIPVA (530624N 1600201E) - Khalaktyrka (HY) (530001N 1584736E) - PETIN (531012N 1582713E) – to be used by coordination with ATC	RUS 09.08.13	To support general aviation flights from USA to China		RUS	Реализовано G101 с 12.11.15
29	<b>TVRS/48</b>	Troitskoye NDB (FI) - REPIK - ADITO – LANRI эшелоны FL120-FL300 используются по согласованию с органом ОВД, эшелоны FL310-FL530 используются без ограничений	JCAB Feb 2015	Avoid volcanic ash	Increase airspace efficiency	RUS JCAB	Accepted for implementation. A new entry/exit point at FIR boundary between PK and Fukuoka shall be agreed. Domestic routes in PK shall be assigned an international status. Target date - 2016
30	<b>TVRS/50</b>	IRKAN 552000N 1625631E - BANIT 544949N 1550431E	RUS 2015	Avoid volcanic ash	Increase airspace efficiency	RUS	The new route segment of B327 will be opened on November 12, 2015 as follows: IRKAN 552000N 1625631E KOKUN 551630N 1611642E GITRU 551259N 1600635E

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5		6	7
							LUPIR 550053N 1570825E NELEB 545837N 1564046E BANIT 544949N1550431E
31	<b>TVRS/51</b>	PETIN- RIMLI	RUS 2015	Выполнение полетов в верхнем и нижнем воздушном пространстве	Increase airspace efficiency	RUS	The new route segment of B244 will be opened on November 12, 2015 as follows: RIMLI (514218N 1580655E) RINOT (522205N 1585954E) PETIN (531012N 1582713E) <u>FL530</u> <u>FL130</u>
4.	<b>TVRS/52</b>	Open up a new entry/exit point between FRENK and LISKI and establish supporting routes as follows: a) 692427N 1685824W – OSKON; b) 682642N 1685824W – RAMKA; c) 682642N 1685824W – LORKI; d) 672752N 1685824W – OSKON;	United Airlines May 2015	Establish new ATS routes	Improve airspace and fuel efficiency,	RUS USA	c 02.02.2017: a) A800 BAKOL (692427N 1685824W) – OSKON; b) A953 TESMA (682642N 1685824W) – RAMKA; c) A951 TESMA (682642N 1685824W) – LORKI; d) G903 AGURA (672752N 1685824W) – OSKON