

**Summary of Discussions of the
Nineteenth Meeting of the
Cross Polar Trans East Air Traffic Management Providers Working Group
(CPWG/19)
11-15 May 2015 – Tokyo, Japan**

1. Background

1.1 The Nineteenth Meeting of the Cross Polar Trans East Air Traffic Management (ATM) Providers Working Group (CPWG/19) was hosted by Civil Aviation Bureau, Japan (JCAB) at the Central Government Building No. 2, 2-1-2 Kasumigaseki, Chiyoda ku, Tokyo, Japan, 11-15 May 2015. The schedule included meetings of the Air Navigation Service Providers (ANSPs), the Pacific Project Team (PPT) and the CPWG/19 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 which operate between North America and Asia via Cross Polar (CP) and Russian Trans East (RTE) routes.

1.3 Ms. Leah Moebius, ICAO Global Lead, Federal Aviation Administration (FAA) facilitated the meeting. Attendees included representatives of the ANSPs from Canada, Iceland, Japan, Norway, Russia, and the United States (US); the International Air Transport Association (IATA); international airlines and operators, and industry. The list of participants is at **Appendix A**.

2. Opening of the Meeting

2.1 Ms. Moebius welcomed the attendees to Tokyo and to the 19th CPWG meeting and invited self-introductions.

3. Agenda Item 1: Review and approve Agenda

3.1 The following agenda was approved by the meeting

Agenda Item 1: Review and approve Agenda (WP/01REV2)
Review List of Meeting Documentation (IP/01REV)

Agenda Item 2: Administrative Matters (CPWG/18 Summary of Discussions – WP/02)

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

- ANSPs Meeting to be reported on during regular agenda items
- Report on upcoming Twenty-Second ICAO RDGE meeting.
- Update regarding METDIV Meeting relating to Space Weather and Volcanic Ash – IP03

Agenda Item 4: Report from the Pacific Project Team Meeting

Agenda Item 5: Provide Status on CPWG/18 Actions

- CPWG/19 Action Item List (WP/03REV)
- Improvements to Airspace Structure of the Russian Federation (WP/07)

- Harmonized process for coordination of route changes to In-Flight Aircraft and issues with use of CHG messages (WP/08)
- Shorten & Simplify Form “R” (IP/02)
- Update on VOLKAM15 Exercise (IP/05)
- Airspace Structure of the Russian Federation (IP/06)
- Airspace Structure of the Russian Federation(IP/07)
- Coordination with Defense and Commercial Space Operators and Mitigating Impact on Other Airspace Operators (IP/08REV)
- Development of Route Setting between Russia and Fukuoka FIRs in the Future

- Agenda Item 6: ATS Route Catalogue Update
- Air Traffic Services Route Catalogue (WP/06)
 - Route variations within Russia in Support of Cross Polar Operations (WP10)
 - UAL Magadan UPR study for Russian Federation (WP11)

- Agenda Item 7: 2014-2016 Cross Polar Work Program
- Proposed CPWG Work Program (WP/04REV)

- Agenda Item 8: Communications, Navigation, Surveillance (CNS) and Air Traffic Management (ATM) issues

- ANSP Updates/Presentations
 - NAV CANADA Update
 - Edmonton ACC Update
 - FAA Anchorage Update
 - FAA Command Center Overview
 - State ATM Planned Activities and Update
 - ISAVIA Update
 - Avinor Update
 - JCAB Update
- Airline Updates/Presentations
 - IATA
- Others
 - Astra - Space Weather and Polar Aviation
 - Inmarsat - Briefing

Agenda Item 9: Other Business

Agenda Item 10: Next Meeting

4. **Agenda Item 2: Administrative Matters**

4.1. Eleven working papers (WPs) and nine information papers (IPs) were presented for discussion during the meeting:

Paper Number	Agenda Item	Action Number	Title of Paper	Presented by

Paper Number	Agenda Item	Action Number	Title of Paper	Presented by
WP/01	1		Proposed Agenda and Timetable	FAA
WP/01REV	1		Detailed Agenda	FAA
WP/02	2		Summary of Discussions of the Seventeenth Meeting (CPWG/18)	FAA
WP/03REV	2		CPWG/18 Action Item List	FAA
WP/04	7		Proposed CPWG Work Program	FAA
WP/05	5		Changes to Reykjavik Flight Data Processing System	Isavia
WP/06	6		State ATM ATS Route Catalogue	FAA
WP/07	5		Improvements to Airspace Structure of the Russian Federation	State ATM
WP/08	5	CP18-02	Harmonized process for coordination of route changes to In-Flight Aircraft and issues with use of CHG messages	FAA
WP/09REV	5	ANSP Meeting Only		
WP/10	6		Route variations within Russia in Support of Cross Polar Operations	United Airlines
WP/11	6		UAL Magadan UPR study for Russian Federation	United Airlines
IP/01	1		List of Documentation	FAA
IP/02	5	CP04-35	Shorten & Simplify Form "R"	State ATM
IP/03	3		Update re: METDIV Meeting relating to Space Weather and Volcanic Ash	FAA
IP/04		CP14-13	Update On Developments In Bodø Oceanic Flight Information Region	Avinor
IP/05	5	CP16-05 CP18-01	Update on VOLKAM15 Exercise	State ATM
IP/06	5	CP16-05 CP18-01	Airspace Structure of the Russian Federation	State ATM
IP/07	5	CP01-08 CP04-31 CP07-02 CP10-08 CP10-13 CP10-14 CP12-06 CP14-02 CP15-04 CP15-06 CP15-09	Airspace Structure of the Russian Federation	State ATM

Paper Number	Agenda Item	Action Number	Title of Paper	Presented by
IP/08REV	5	CP15-09	Coordination with Defense and Commercial Space Operators and Mitigating Impact on Other Airspace Operators	FAA
IP/09	8		FPL filing in Bodø Oceanic FIR	Avinor
PRESENTATIONS				
Presentation	8		Iridium Presentation	Iridium
Presentation	8		Space Weather: Severe Geomagnetic Storm Recap	Astra
Presentation	8		NAV CANADA Update	NAV Canada
Presentation	8		State ATM Planned Activities	State ATM
Presentation	8		Edmonton ACC Update	NAV Canada
Presentation	8		FAA Command Center Overview	FAA
Presentation	5	CP16-05 and CP18-01	Development of Route Setting bet Russia and Fukuoka Firs in the future	JCAB
Presentation	8		Isavia Update	Isavia
Presentation	8		JCAB Update	JCAB
Presentation	8		ZAN Update	FAA
Pacific Project				
WP01			PPT9 Meeting Agenda	IATA/FAA
WP02			PPT8 Summary of Discussions	IATA/FAA
WP03			PPT8 Action Item List	IATA/FAA
WP04		PP08-03	Development of Roadmap for Implementation of UPRs in Magadan Oceanic Sector	State ATM
WP/05 w/.pptx		PP08-03	FAA Response to UPR Expansion	FAA
WP06REV		PP08-03	What's Needed to Support UPRs	FAA
PPT9REV			Isavia Flight Plan Issues	Isavia
PPT9			NavCanada Pacific Project	NavCanada
PPT9			Edmonton ACC Update	NavCanada
PPT09			State ATM Flight Planning Requirements	State ATM

4.2. Copies of all WPs and IPs, as well as additional information presented during the meeting were made available on the CPWG web site at http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/air_traffic_services/oceanic/ross_polar/

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

ANSPs Meeting, 11 May 2015

5.1. Ms. Moebius informed the meeting that the ANSP Meeting had included discussions on issues to be covered during the plenary meeting. Details would be provided during discussions on specific action items. The ANSPs reviewed and updated the CPWG Work Program, which was made available to all participants. Details of the review are reflected in Agenda Item 3 and Appendix E.

5.2. The meeting agreed to make the following changes to CPWG Work Program Item 2 – (Improve/Increase Efficiencies for Cross Polar and Russian Far East Air Traffic):

- Delete the reference to develop RVSM transition procedures as those procedures have been
- Implemented within the CPWG area of concern.
- Delete the reference to Polar Minimum Time Tracks
- Add a reference to Establish ATS Transit Routes

Upcoming Twenty-Second Meeting of the ICAO Route Development Group (RDGE) meeting.

5.3. Ms. Moebius informed the meeting that the Twenty-Second ICAO RDGE meeting will held May 18 - 22, 2015. The United States will present two (2) papers on behalf of the CPWG including the CPWG ATS Route Catalog and the CPWG19 update.

Meeting of the ICAO UNOOSA Symposium, March 18-20 2015

5.4. Ms. Moebius informed the meeting that the ICAO United Nations Office of Outer Space Affairs (UNOOSA) Symposium was held in Montreal, Canada, March 18-20, 2015. It was noted that the symposium was more informational in nature; however, representatives from the FAA stressed the importance of outreach by commercial space operators to ANSPs and the need to work collaboratively. The general feeling of the Group was that the symposium was a good first step but that more work needed to be done between ICAO, commercial space providers, and ANSPs.

Agenda Item 4: Report from the Pacific Project Team (PPT) Meeting

6.1. Mr. Steve Pinkerton, FAA – ATO and Mr. Blair Cowles, IATA, co-chaired the PPT meeting held on 12 May 2015. The meeting consisted of a ½ day flight planning workshop in which all CPWG ANSPs participated and the Pac Project Team Meeting. The CPWG plenary was advised of three new action items resulting from the PPT meeting. A report of the meeting and updated action items is provided at **Appendix B**.

6. Agenda Item 5: Provide Status on CPWG/18 Actions

CP01-08C: ATFM collaboration between FAA/ATO and State ATM

7.1. State ATM advised the meeting that the Air Traffic Flow Management (ATFM) Agreement between Russia and FAA is currently under review by State ATM. An update to be provided at CPWG/20.

CP04-31: Implement use of radar procedures between Magadan Area Control Centre (ACC) and Anchorage Air Route Traffic Control Centre (ARTCC)

7.2. State ATM reported they have made progress on the electrical power supply to the Providenia

radar site and continue work to install equipment. However, due to the remote location and weather-related issues that impact the window in which they can conduct work at the site, it's expected the site will be operational 2017-2018. Radar procedures between Magadan ACC and Anchorage ARTCC will follow the commissioning.

CP07-02: Add additional entry/exit fixes on the FIR boundaries

7.3. State ATM presented a working paper (*CPWG19 WP07 State ATM Proposals for New Cross polar Routes*) proposing new routes along the Russian/US FIR boundaries. State ATM and FAA discussed new fixes along the Russian/U.S. boundary with routes developed from these fixes within Russian airspace. United Airlines applauded the work done and requested an elimination of the 141W filing requirement in an effort to gradually remove specific point-to-point filing restrictions. State ATM and FAA agreed that a complete elimination of the 141W filing requirement was unlikely in the near term. It was noted having the additional entry fixes into Russian airspace would be helpful.

CP10-08: Add additional entry/exit fixes on the FIR boundaries

7.4. State ATM advised the meeting that the addition of entry/exit fixes between Russia and JCAB are still under consideration. An update to be provided at CPWG/20.

CP10-13: Expand CPDLC/ADS-C capability for Magadan FIR and install CPDLC/ADS-C at Murmansk

7.5. State ATM reported that CPDLC/ADS-C capabilities are deployed at the Magadan ACC. The capabilities are planned for the Murmansk ACC in 2018. State ATM will update the status of this capability at CPWG20.

CP10-14: Provide information on minimum level of service maintained outside operational hours for emergency diversions

7.6. State ATM advised the meeting that a circular containing information regarding emergency airport availability has been drafted and is being coordinated with Federal Air Transport Authority (FATA) and the Ministry of Transport for publication in the June 2015 Aeronautical Information Publication (AIP). State ATM will update the status of the publication at CPWG20. The airlines thanked IATA and State ATM for action on this item.

CP12-06: Coordination between State ATM and ATMB

7.7. State ATM advised the meeting that coordination with China's Air Traffic Management Bureau (ATMB) on a number of issues, including work to open a new entry/exit point east of SIMLI and communication modernization efforts have not progressed. CPWG participants noted some frustration with the lack of progress and participation by ATMB at not only CPWG but several other forums. IATA noted that its representatives have been working to engage ATMB and encourage their participation. IATA felt encouraged by the progress they have been making with ATMB and felt that that future engagement by ATMB and participation at CPWG was possible in the near term. State ATM will update the status of this Action Item at CPWG20.

CP14-02: Establish flight data exchange between facilities

7.8. State ATM reported that planned implementation of AIDC between Khabarovsk ACC and Sapporo ACC was expected in the 2017-2018 timeframe. Following successful implementation with Sapporo ACC, State ATM expects to implement AIDC between Magadan and Anchorage ARTCC in 2018. Nav Canada reported that testing between Vancouver ACC and Oakland ARTCC for the North American (NAM) Interface Control Document (ICD) had been successful and that they expected operational implementation

in late May 2015. ANSPs will update the status of this Action Item at CPWG20.

CP15-06: Consider utilizing the ATM VACP Template in the development of Volcanic Ash Contingency Plan for NOPAC and RTE.

7.9. State ATM advised the meeting that the EUR/NAT VATF/1 Meeting decision was made to develop a single Volcanic Ash Contingency Plan for ICAO EUR/NAT Region including RFE. Thus, the Plan developed by EUR (EAST) VOLCEX/SG has been suspended. It is proposed that this plan will be incorporated into a single plan. State ATM stated that no decision has been made by ICAO Paris regarding State ATM continuing their work on this plan. State ATM will update this Action Item at CPWG20.

CP06-02: ZAN Update on ATOP; CP08-02 Status of Restrictions within the Anchorage Flight Information Region

7.10. FAA reported that progress was continuing towards expected implementation in September 2015 of the Advanced Technologies and Oceanic Procedures (ATOP) platform in the Anchorage Arctic FIR. Anchorage provided an overview of planned sectorization and noted some of the challenges associated with this project, including staffing and training. It was noted that the current flight plan filing restrictions for aircraft crossing 141W in the Arctic FIR would be re-evaluated following ATOP implementation. Anchorage also provided an update on potential expansion of ATOP into other portions of the Anchorage Oceanic FIR. Anchorage will provide updates to these actions at CPWG/20.

CP12-04 Updates to Track Advisory Users Guide for Dispatchers (TAUG)

7.11. FAA reported to the meeting that the TAUG has been updated with BARIP and SALET. Publication of two (2) new Russian fixes is expected. FAA will provide an update at CPWG20.

CP14-08 Improve flexibility of military airspace

7.12. NAV CANADA described to the meeting coordination between NAV CANADA and the Canadian Department of National Defense (DND) to work together for access to the Cold Lake military airspace. Discussions included tactical coordination for release of airspace based on traffic requirements, procedures for flight planning around restricted airspace, and charting of 5 NM buffer zones. NAV CANADA stated that coordination with flight planning agencies will continue. NAVCANADA reports that FL290 will be made available on an ad-hoc basis. United Airlines questioned NAVCANADA to identify the most efficient method to determine Cold Lake availability. NAVCANADA responded they prefer airlines to call ATC facility and not to flight plan flight through Cold Lake airspace. NAVCANADA will continue to meet and discuss issue and provide an update will be provided at CPWG/20 meeting.

CP14-12 Consider expanding trial for ADS-C Climb/Descend Procedures (CDP) to ZAN Airspace

7.13. The FAA briefed the meeting on the status of the on ADS-C CDP and ADS-B ITP (In Trail Procedure) automation development. The automation is expected to be delivered to all three FAA Oceanic facilities in early 2016 and it is expected to be available to controllers for operational use late 2nd Quarter/early 3rd Quarter of CY2016. The ADS-B ITP is already published in Doc. 4444. Work at the ICAO level to make ADS-C CDP a global procedure and publish in the Doc. 4444 is ongoing and on track for publication in the Doc. 4444 in November 2016. FAA will update the meeting at CPWG20.

CP14-13 Update on developments in Bodø oceanic flight information region

Avinor reported that the new Bodo Oceanic ATM System (BOAS) system was successfully implemented on March 5, 2015. It will provide the data link services of ADS, CPDLC, and OCL. It also provides OLDI/AIDC communications between Bodø and domestic Areas of Responsibility (AOR) as well as with Reykjavik OACC. Avinor also reports that it has been decided to install ADS-B receivers on the islands of Bjørnøya and Spitzbergen. These receivers will allow for increased safety, reduced separation minima, and enable aircraft operators to use route without having to install FANS 1/A equipment.

CP15-03: Provide information on RTE and Arctic FIR traffic count data

7.14. IATA has requested from FAA traffic count data for aircraft transiting Anchorage Arctic Airspace. FAA has agreed to provide the requested data, but requires more information from IATA to identify the data requested. Mr. Steve Kessler, FAA, and Mr. Blair Cowles, IATA, agreed to determine the detail and breakdown of the requested traffic count information. It was agreed to keep this Action Item open and FAA will update the meeting at CPWG20.

CP18-01 Update on VOLKAM/15 exercise

7.15. State ATM presented information (IP/05) on the results of the recent VOLKAM/15 Exercise. The Exercise was held at the Main ATM Center of Russia. Mr. Alexey Buevich, Head of Strategic Planning, Main ATM Center of Russia, acted as VOLKAM/15 Exercise Leader. State ATM reported that the exercise had large participation and successfully met the following objectives:

- demonstrate coordination procedures between all participating parties (ANSPs, ATM Centers, AIS, VO, VAACs, MWO, users);
- demonstrate tactical re-routes in both Russian Federation and Japan;
- demonstrate VAAC Tokyo and VAAC Anchorage handover;
- demonstrate transmission of air-reports on volcanic ash in accordance to Annex 3 (aircraft->ACC->MWO->VAAC); and
- demonstrate information sharing via teleconferences and website (website to be confirmed)

CP16-05 Airspace Structure of the Russian Federation

7.16. State ATM presented information (IP/06) regarding proposed routes to be used in the event of volcanic ash eruption. Four (4) options were posed between State ATM and JCAB and one route was agreed upon to be used with prior coordination in the event of a volcanic ash eruption. JCAB stated that in order to use to agreed route, it first had to be certified for communication and navigation.

7.17. JCAB presented *CPWG19 JCAB Development of Route Setting Between Russia and Fukuoka FIRs in the Future*, outlining work done between JCAB and State ATM to develop routes for use in the event of a volcanic eruption. JCAB advised the meeting that there were still outstanding issue to be resolved including communications between facilities and seamless route structures. JCAB also noted that the loading of additional traffic onto a route already heavily traveled may exceed the capacities of the facilities involved and needed to be evaluated, as does the impact of limited access to altitudes on the contingency aircraft.

CP15-06 Update on utilizing the ATM Volcanic Ash Contingency Plan for NOPAC and Russian Trans East Volcanic Ash Contingency Plan

7.18. State ATM reported on the most recent EUR/NAT VATF/1 meeting held in Paris, France. The VATF/1 meeting decided to develop a single Volcanic Ash Contingency Plan for ICAO EUR/NAT Region including RFE. Thus, the Plan developed by EUR (EAST) VOLCEX/SG has been suspended. It

is supposed that this plan will be included in a single plan.

CP15-08 Update on ATMG NAT Volcanic Ash Contingency Plan Isavia Exercise

7.19. Isavia reported that they have held monthly, small scale exercises. Isavia stated that the information in the CPWG Action Item List remains valid and work on this issue should continue. Isavia will coordinate ongoing activities to develop a Volcanic Ash Avoidance Contingency Plan. Isavia will update the meeting at CPWG20 regarding this Action Item.

CP15-09 Streamline the Process for Establishing Danger Areas Through NOTAM Process

7.20. FAA presented information (IP/08) on how the FAA works collaboratively with the United States Department of Defense (DoD) and commercial space operators during the launch of rocket or missile systems to ensure that they may accomplish their respective missions with minimal impact to other users of international airspace. The FAA provided an example of recent coordination and collaboration between Oakland ARTCC and the DoD that significantly reduced the size of the Danger Areas that the DoD was requesting and minimized the impact to the operators. The FAA emphasized the need to establish strong, collaborative working relationships with its partners and to compile and share data that reflects potential impact to operators. The Group noted that these types of activities are only going to continue to grow and it would be helpful to have guidance from ICAO.

CP17-10: Update on Departure Messages Provided to State ATM and JCAB

7.21. The FAA provided an update on efforts to improve delivery of departure messages for aircraft departing US aerodromes. The FAA noted that, based on detailed information provided by State ATM, most facilities are in compliance with sending departure messages. It was also noted that a few facilities were still not sending departure messages; however, these facilities are aware and are making changes to their processes to become compliant. The FAA thanked State ATM for the detailed information provided. JCAB stated that they were still compiling data and would provide it to the FAA in the near future. State ATM thanked Steve Pinkerton from the FAA for his efforts and commitment to resolving the issue. FAA will update the status of this Action Item at CPWG20.

CP18-02: Discussion on ANSP Change Message Processes

7.22. The FAA presented a working paper (WP/08) seeking a harmonized approach and best practices for handling significant reroutes of numerous aircraft. This issue was raised during CPWG/16 following difficulties encountered with the reroute of an American Airlines flight en route to Tokyo from Dallas and highlighted problems with the use of change (CHG) messages to relay new route information to ATC. At CPWG/18, the FAA took an action to create a CHG message matrix that described how each ANSP processes CHG messages pre and post-departure, how flight plans are forwarded to downstream facilities, and what type of advanced approval is required to route through an ANSP's airspace. The seamless airspace chart was completed by all ANSPs in attendance and the results were reviewed by the Group. Most ANSPs expressed that post-departure CHG messages were unacceptable. State ATM suggested that the FAA revise the chart to reflect the message sets that are acceptable for aircraft operators to use to pass route change information from an airline operations center (AOC) to ATC. The consensus of the Group was that, regardless of AOC action, the request for a reroute must come directly from the pilot to ATC. The FAA noted that the issue of significant airborne reroutes is a major concern for cross-polar flights, given the amount of volcanic activity and based upon data from numerous VOLKAM exercises. While this is an important issue for CPWG participants, it was also noted that the use of CHG messages may require a global solution with potential referral to ICAO. The FAA agreed to revise the CHG message matrix as suggested by State ATM and distribute to ANSPs for completion prior to CPWG/20. Updates and further discussion to be provided at CPWG/20.

Agenda Item 6: ATS Route Catalogue Update

8.1. The meeting reviewed the updated ATS Route Catalogue (WP/06) which was presented by State ATM

8.2. IATA presented a working paper (WP/10) suggesting creation of the following four (4) additional routing options between Yakutsk VOR (UTS) to NINON routing for State ATM consideration:

1. Great circle routing (611nm).
2. UTS DCT OGTIN (N58 11.3 E130.03.6) and NINON (616nm).
3. UTS DCT OGTIN DCT ARELI ((N55 15.0 E129 52.1) DCT NINON (623nm).
4. UTS DCT N60 E130 DCT N55E129 DCT NINON (616nm).

8.3. United Airlines (UAL) presented a working paper (WP/11) detailing the results of a study it conducted comparing current polar routes against proposed WIND ROUTES or UPRs. UAL stated that the routes depicted in the paper are the routes Russia could expect UAL to file/fly if permitted UPRs. State ATM will review the paper and provide update at next meeting.

Agenda Item 7: 2014-2015 Cross Polar Work Program

9.1. During the ANSPs meeting, the Work Program and CPWG Planning Chart were reviewed and updated. Based on the discussions during the meeting, the following items were considered as completed and moved to the list of Completed Activities:

1. **Reduce and Harmonize Separation Standards in International Airspace**
 - *Nil.*
2. **Improve/Increase Efficiencies for Cross Polar and Russian Far East Air Traffic**
 - *ANSPs to work together to develop RVSM transition procedures between each FIR.*
 - *Improved Air Traffic Flow Management (ATFM) tools and exchange of information between ANSPs and operators*
 - *through use of the Dynamic Ocean Tracking System Plus (DOTS+) Gateway Reservation List (GRL) and DOTS+ Online (DPO)*
 - *Polar Minimum Time Tracks.*
3. **Improve communications in arctic/polar region**
 - *Nil.*
4. **Improve Awareness of Space Weather Issues in Arctic/Polar Region**
 - *Nil.*

5. Improve Safety

o Nil.

9.2. The updated CPWG Work Program and Planning Chart are at Appendix E

Agenda Item 8: CNS and ATM Issues

ANSP Updates

Isavia

10.1. Isavia presented a paper (WP/05) advising the meeting of changes to the Reykjavik Flight Data Processing System (FDPS) to address the use of data link north of 82 North and a new version of the document *Reykjavik Data Link Oceanic Clearance Delivery (OCD) Crew Procedures*. The OCD has also been updated to Version 4 to inform flight crews about the data link coverage limitation north of 82 North. The new version of the OCD is available as NAT OPS Bulletin 2015_002 on the EUR/NAT Documents web site. The Iceland AIP will be updated on 29 May 2015 to reflect the changes described in this Information paper. Isavia also presented (*CPWG19 Isavia Update*) traffic count information for the years 2013 through 04/2015 along with traffic count data to/from Murmansk highlighting an increase in traffic after two years of decline. Isavia informed the meeting of twelve (12) ADS-B stations in operation throughout Iceland and the Faroe Islands as well as ten (10) ADS-B stations in Greenland expected to be operational in May, 2015. Isavia also informed the meeting of implementation of VHF frequency 124.400 MHz at five (5) locations in Greenland. These stations provide direct pilot/controller communications to flights operating within a large portion of Greenland airspace.

State ATM

10.2. State ATM presented information (*CPWG19 State ATM Modernization Update*) detailing its planned activities for 2015. State ATM advised the meeting that in 2015, the implementation of the Federal Target Programme “Modernization of the Joint ATM System (2009-2020)” will be continued with the aim to enhance safety and increase efficiency of airspace usage through the modernization of the Joint ATM System, its facilities and related systems by the establishment and development of the Russian Air Navigation System based on advanced technical aids and equipment compliant with ICAO Standards and Recommended Practices. The presentation included information regarding:

- Establishment of consolidated ACCs;
 - o Irkutsk Consolidated ACC has become operational.
 - o Moscow Consolidated ACC to be completed in 2015.
- ANS improvement in the terminal area and en-route;
Modernization of aeronautical telecommunications network and data link;
- Installation of secondary radars on radar sites;
- Implementation of the Joint airspace planning and utilization System;
- Transition to advanced ATM technologies based on CNS/ATM aids and systems;
- Implementation of integrated civil-military automated ATC systems.

State ATM also advised the meeting that Reykjavik (Iceland) ATS Centre is to host a working meeting of ATM and communication experts from Murmansk (Russia) and Reykjavik (Iceland) oceanic ATS sectors on communication equipment specifications, approval of coordination procedures as well as terms and conditions of system testing commencement. Activities will be completed in 2016. State ATM advised the meeting of the 3rd ATM Coordination Meeting between representatives of the State ATM and JCAB coordinated actions on AIDC implementation (ATS data operational exchange) between Khabarovsk and Sapporo ACCs. State ATM advised the meeting that a new communication facility will be capable of

ADS-C Datalink north of 82N.

NAV Canada

10.3. NAV Canada provided an update (*CPWG19 NAV CANADA Update*) to the meeting on activities since CPWG/18.

- Polar traffic count volume shows double digit increase during 1st Qtr. 2015.
- ADS-C conformance reporting will be established in Edmonton ACC (CYEG) during the winter of 2015 and in Vancouver ACC no earlier than 2016.
- Electronic Flight Strips are being used by all High specialties in CYEG ACC. All controllers will have completed training on Electronic Flight Strips by May 15, 2015.
- SATVOICE DCPC (Direct Controller Pilot Communications) is in the test phase. The system uses current avionics suite and will be used in CYEG Polar Sector where VHR coverage does not exist.
- On-going discussions to release Cold Lake Range airspace to long haul routes.
- Remove NCA, Mike and Lima tracks but leave named fixes as fixes in space
- Continue support of PBN, T and Q routes and review ground based NAVAIDs.

NAV Canada also presented a briefing (*CPWG19 Edmonton ACC FIR Flight Plan*) on Flight Planning from an Edmonton ACC perspective. In addition to several topics already discussed were:

- Flight Planning Rules for Polar and PAC flights.
- Polar Operations with a focus on solar radiation.

Avinor

10.4. Avinor presented a paper (*IP09*) providing information on FPL filing procedures in Bodø Oceanic FIR, and highlights filing requirement between domestic and Oceanic sectors after implementation of the new Oceanic ATM system (BOAS). Avinor reminded the meeting that a key part of ensuring the overall safety in the NAT Region, pilots are reminded of the importance of strict adherence to the Oceanic Clearance. The NAT Oceanic Clearance provides separation from all known aircraft from the Oceanic Entry Point to the Oceanic Exit Point. Avinor indicated to the group that with the implementation of BOAS on March 5, 2015, automatic coordination between BOAS and the domestic ATM system is now being handled through OLDI. To eliminate the risk of missing coordination between domestic and oceanic sectors, filing a published significant point at the boundary between Domestic and Oceanic OCA/FIR is mandatory.

JCAB

10.5. JCAB introduced a presentation (*CPWG19 JAPAN UPDATE*) demonstrating its current ATC system and future plans to improve its system to handle the increase in traffic demand through the year 2025. JCAB informed the meeting that international and overflight traffic count has increased in each of the last four (4) years. JCAB announced that from 2018 through 2025 the following changes will occur:

- Airspace around Tokyo and Narita will be changed in preparation for the 2020 Tokyo Olympics and Paralympics.
- New enroute radar data processing systems will be installed in the four (4) ACCs.
- A redesign of western enroute airspace.
- A redesign of eastern enroute airspace.

FAA - Anchorage

10.6. FAA provided the meeting an overview of ZAN operations as follows:

- ZAN website which provides pertinent information to operators flight planning into ZAN airspace.
- Facility personnel demographics.
- Airspace description of the three FIRs under the control of ZAN.
- A description of the fifty-one (51) active volcanoes within the State of Alaska.
- Expected outcome of implementing ATOP in the Arctic.
- A brief overview of Space Launch, unmanned aircraft systems, and military exercises.
- A copy of NOTAMs published to avoid airspace used during military exercises.
- Traffic count data showing total facility volume increase 6.8% YTD, Oceanic traffic count increases 16.2% YTD, and NOPAC traffic count increased 24.8% YTD.

FAA – ATCSCC

10.7. FAA – ATCSCC provided the meeting a video presentation encapsulating the Command Center facility and operations. FAA – ATCSCC also provided a presentation (*CPWG19_ATCSCC_Overview*) explaining to the meeting the collaborative efforts of the Command Center in an effort to imposed the lease restrictive Traffic Management Initiatives possible.

Iridium

10.8. Mr. Mike Hooper of Iridium presented a briefing (*CPWG19 Iridium Update*) informing the meeting of Iridium’s unique global satellite network. Currently six (6) ANSPs support their service. Iridium expects to have seventy-two (72) satellites launched by 2017 and be able to provide fully global voice and data communication.

ASTRA

10.9. Mr. Joe Kunches, Director, Space Weather Services, Atmospheric & Space Technology Research Associates, (ASTRA) provided a presentation and briefing (*CPWG19 ASTRA Space Weather Severe Geomagnetic Storm Recap*) regarding space weather and the impacts to polar aviation. The briefing presented information specific to the geomagnetic storm of March 17, 2015 and its effect on aviation communications and navigation.

Agenda Item 10: Next Meeting

11.1 FAA and offered to host the CPWG/20 meeting in Anchorage, Alaska, USA. The Meeting is scheduled for October 26 -30, 2015. Further details and information on travel requirements will be made available closer to that date.

12. Closing of the Meeting

12.1 Ms. Moebius thanked all participants for their support and participation in the meeting.

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The Ninth Meeting of the Pacific Project Team (PPT/9) Meeting Report
12 May 2015
JCAB Headquarters
Tokyo, Japan

The Pacific Project Team returned to a full day meeting schedule for the first time since the fourth Pacific Project Meeting in December 2012. The first half of the meeting was dedicated to a flight planning workshop and the second half was dedicated to PPT Action Items and a presentation by FAA. Participants included the Russian Federation, Canada, Japan, the United States, Iceland, IATA, and numerous international air carriers. The PPT participants were welcomed by FAA co-chair Steve Pinkerton and IATA co-chair Blair Cowles. Following introductions, IATA led the flight planning workshop.

Based on activity at CPWG/18, IATA requested that each ANSP provide a briefing on flight planning requirements and restrictions through their respective airspace. Anchorage Center provided a detailed briefing on flight planning requirements, user preferred route (UPR) restrictions, and provided links to several resources that flight operators could access. Anchorage noted further expansion of UPRs to the west along R220 and R580 and noted success with an operational trial of UPRs to the boundary with Fukuoka for aircraft at or above FL400.

During the second half of the meeting, the FAA presented “Developing a Roadmap to Success: What’s Needed to Support UPRs”. The presentation reviewed the PPT Terms of Reference (TORs), requirements and inhibitors to support UPRs with analysis of the seamless airspace chart, and asked operators to provide their desired improvements in relation to existing or future capabilities. In examining requirements/inhibitors to supporting UPRs, there were three general area that participating ANSPs saw as necessary- technology, rules, and predictability/structure.

The information developed from the seamless airspace chart was used to examine the technology and rules requirements of UPRs. The overall data showed that most ANSPs either could currently or would be able to accommodate in UPRs within the next one to three years. The discussion on predictability/structure revolved around issues of sector complexity and balancing traffic flow. Two central questions were as to whether increased UPRs would lead to constraints that either limited altitude or required reroutes off of UPRs. As discussion turned to areas where operators desired improvement, some operators requested that the FAA and JCAB consider disestablishing the current ATS route structure in favor of a flex-track system. The FAA noted that the suggestion seemed to run contrary to the concept of UPRs and to the ongoing work between Anchorage and Fukuoka to expand UPRs.

It was expressed that if the FAA and JCAB changed course, that it may further delay the desired end-state of expanded UPRs. The FAA noted that each ANSP has been working to allow or expand UPRs and progress is being made; however, each State has its own safety mechanisms

and analysis that must be conducted prior to trials or implementation. Additional discussions resulted in two new action items for the FAA-

1. PP09-01- Gradual removal of restrictions along 141W and the requirement to file over specific fix pairs. This action is dependent on Anchorage's implementation of ATOP in the Arctic airspace.
2. PP09-02- Creation of bi-directional routes between Petropavlovsk-Kamchatsky and Anchorage over LUMES, KUNAD, and KOKES.

A final action for IATA to coordinate with operators and provide specifics for each geographical region with desired end-state and short, mid, and long-term goals was also created.

Both Co-Chairs thanked the meeting participants for a productive meeting and look forward to more in-depth discussions PPT/10.

Next PPT Meeting

The next PPT meeting is scheduled for 26 October 2015 in Anchorage, Alaska.

Pacific Project Team/9 Action Item List

Action Number	Goal	Information/Status	Responsible Organization	Action Pending	Action Due	Status
PP02-04	Consider implementation of flexible tracks between approved entry and exit points within the RTE region on a daily basis	State ATM provided information on the regulatory and legislative requirements for operating off-routes and publishing routes. Some flexibility could be provided over the high seas under certain situations. UAL presented information on a paper trial conducted. Results indicated the potential for some time and fuel savings, however they were inconclusive.	IATA	State ATM is developing an implementation plan for UPRs, including timelines. This is a large exercise however State ATM will endeavor to provide an update at PPT/9. State ATM provided information on roadmap to UPRs in their FIRs, with expected trials in 2018 based upon items in roadmap.	Fall 2015	Open
PP06-03	Zero track load times	State ATM would like ZAN to continue to work toward zeroing track load times for all routes.	FAA	ZAN to continue assessing opportunities.	Fall 2015	Open
PP07-01	UPR Expansion in the RTE		State ATM/IATA	State ATM to provide IATA with definition of sample user routes and IATA will provide sample plans and benefits to quantify case/need for UPRs. (ie. savings data for each UPR compared to traditional routes). State ATM provided information on roadmap to UPRs in their FIRs, with expected trials in 2018 based upon items in roadmap.	Fall 2015	Open

Action Number	Goal	Information/Status	Responsible Organization	Action Pending	Action Due	Status
PP08-01	Develop PPT work plan	Determine current and future planned capabilities of ANSPs to assist with gap analysis and development of a clear roadmap for the work of the Pacific Project Team.	All ANSPs	<p>FAA to send a Seamless Airspace Template to all ANSPs to complete.</p> <p>FAA developed and sent a Seamless Airspace Chart out to all ANSPs to reflect current and planned capabilities. Based on the information from the chart, FAA provided a presentation on items needed for ANSPs to support UPRs and what current and future capabilities are planned with timelines.</p> <p>FAA will update and send Seamless Airspace Chart out to ANSPs for revisions and updates.</p> <p>IATA to consider information provided in FAA presentation in determining where operators desire UPR expansion (Action PP09-03 opened)</p>	Fall 2015	Open
PP08-02	Collect traffic count data for Arctic, Anchorage/RTE, and NOPAC	IATA has requested more detailed traffic count information for the NOPAC, Anchorage/RTE, Arctic fixes. Specifically, a breakdown of traffic by hour and days of the week is requested.	IATA/ANSPs	<p>Both JCAB and ZAN have data available, however, both have requested more details about what is specifically requested and how/what that data will be used for. IATA to provide more details prior to PPT/09.</p> <p>IATA to coordinate with Anchorage during CPWG.</p>	Fall 2015	Open

Action Number	Goal	Information/Status	Responsible Organization	Action Pending	Action Due	Status
PP08-03	UPR Expansion	IATA request that the FAA consider allowing UPRs westbound to Russian FIR boundary fixes Magadan and Petropavlovsk boundaries. The relevant fixes are ERNIK, RUSOR, BESAT, BAMOK, KOKES, LUMES, and KUNAD. If possible the UPRs would not require using any ATS routes within ZAN airspace.	IATA/FAA	IATA to refine the request and provide ZAN with additional details for their consideration. Keep action open to periodically review and realize efficiencies. Anchorage provided an update on expansion of UPRs into the NOPAC and other regions. Anchorage will re-evaluate restrictions and UPR status on a regular basis through a collaborative work group with operational personnel at the facility approximately every six months.	Fall 2015	Open
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.	IATA/State ATM	State ATM to consider.	Fall 2015	Open

Action Number	Goal	Information/Status	Responsible Organization	Action Pending	Action Due	Status
PP08-05	Improve Efficiencies	Provide information on the Oakland FIR trial to merge PACOTS tracks C/E	FAA	FAA reported that the trial to merge PACOTS tracks C and E has been temporarily suspended but is expected to resume in February 2015. Main issues revolves around appropriate direction for altitude of flight and what can be accepted by downstream facilities. Of note, most aircraft that would normally file along Track E are using UPRs north of Track E and merging with Track C. UPR trial in conjunction with Track F has been successful and without issue.	Fall 2015	Open
PP08-06	Improve Efficiencies	Provide information on the Oakland FIR UPR trial with PACOTS Track F	FAA	UPR trial in conjunction with Track F has been successful and without issue.	Fall 2015	Open
PP09-01	UPR Expansion	Remove restrictions along 141W	FAA	Arctic Region- Operators have requested removal of flight planning restrictions on 141W in the Arctic. With implementation of ATOP in the Anchorage Arctic FIR, it may be possible to accommodate. Anchorage will look at gradual removal of restrictions beginning at 74N.	Fall 2015	Open
PP09-02	Improve Efficiencies	Request bidirectional routes over KUNAD, LUMES, and KOKES	FAA/State ATM	Traffic may only transit these fixes westbound from Anchorage Center. Operators are requesting State ATM and Anchorage to consider allowing aircraft to transit eastbound from P-K into Anchorage airspace. FAA to discuss with State ATM and evaluate request.	Fall 2015	Open

Action Number	Goal	Information/Status	Responsible Organization	Action Pending	Action Due	Status
PP09-03	UPR Expansion	Consider operator desired areas for UPR expansion/implementation	IATA	FAA presented information on current ANSP capabilities and availability of UPRs in the Arctic, Anchorage-RTE, and NOPAC airspace. IATA to coordinate with operators and provide specifics for each geographical region with desired end-state and short, mid, and long-term goals.	Fall 2015	Open

CPWG/19 Action List

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	State ATM and FAA reported on the status of the ATFM Annex and LOA. Will be discussed bilaterally.	FAA/State ATM	Work is in progress to update the agreement and coordinate with FAA AGC for signing in Spring 2015. An update at CPWG/20.	Oct 2015	Open
CP04-31	Improve Efficiencies	Implement use of radar procedures between Magadan ACC and Anchorage ARTCC	State ATM reported that the target date for implementation of radar procedures is 2018. Power supply issues addressed and work ongoing. Dependent on weather but estimated implementation is on target for 2018	State ATM	Update to be provided to CPWG/20	Oct 2015	Open

Action Number	Capacity Enhancement Goal	Supporting Goal Initiatives	Information/Status	Responsible Organization	Action Pending	Action Due	Status
CP04-35	Improve Efficiencies	Shorten and simplify Form "R" and filing process.	United Airlines proposed that the Russian Federation consider a change that would list the requested "unpaired" entry and exit fixes for a particular flight to reduce the complexity of the R Form process. State ATM responded that a trial had been offered to the airlines by FATA; however, there was a requirement that airlines be equipped with SITA software supporting transmission of attachment files.	Airlines/IATA	<p>IATA sent letter to Airlines but did not receive any feedback on software capabilities. UAL would like to participate in trial. IATA will work on conducting trial with UAL and share results with Airlines.</p> <p>Airlines ask if Form R can be simplified and list all entries/all exits unpaired. State ATM requested that an official letter be sent to FATA to change the form.</p> <p>State ATM amended the Form R process.</p>	Oct 2015	CLOSED

Action Number	Capacity Enhancement Goal	Supporting Goal Initiatives	Information/Status	Responsible Organization	Action Pending	Action Due	Status
CP06-02	Improve Efficiencies	Implement Ocean 21 in the Arctic FIR	Anchorage ATOP "Sector 64" planned for implementation 2 nd quarter of 2015 with additional testing.	FAA	The FAA will provide an update to CPWG/20.	Oct 2015	Open
CP07-02	Improve Efficiencies	Add additional entry/exit fixes on the FIR boundaries	State ATM opened two additional entry/exit points on ZAN/Magadan boundary (BARIP, SALET) effective from November 13, 2014. The coordination with the interested airlines is underway to consider the possibility of establishing two more entry/exit fixes (between PINAG and NIKIN and between BARIP and AMATI)	State ATM/FAA	Update to be provided to CPWG/20	Oct 2015	Open
							CLOSE
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.	JCAB /State ATM/FATA	Update to be provided to CPWG/20 Proposed LOA under review by FATA and will update at the next meeting.	Oct 2015	Open.
CP10-13	Improve Communications	Expand CPDLC/ADS-C capability for Magadan FIR and install CPDLC/ADS-C at Murmansk.	ADS-C/CPDLC services were expanded for all Magadan sectors in 2014 A CPDLC/ADS-C Workstation will also be added at Murmansk ACC in 2018.	State ATM	Magadan has ADS-C/CPDLC in all sectors. AIP amendment in process but is operational. Currently used as backup comm/surveillance method. Murmansk in scheduled for 2018. State ATM to provide an update on Murmansk work station at CPWG/20	Oct 2015	Open

Action Number	Capacity Enhancement Goal	Supporting Goal Initiatives	Information/Status	Responsible Organization	Action Pending	Action Due	Status
CP10-14	Improve Efficiency	Provide information on minimum level of service maintained outside operational hours for emergency diversions	<p>State ATM provided updates on Russian enroute alternate airports of interest.</p> <p>Issue with some airfields being moved to Book 2 of AIPs. Airfields can still be used for emergency situations.</p> <p>United Airlines requested information on 24 hour contact information.</p>	State ATM IATA	<p>IATA was requested to send an official letter to FATA to clarify the procedure for using the airports included in Book II of the Russian AIP for emergency landings.</p> <p>Proposed circular prepared after last meeting and submitted to FATA. FATA deferred to higher authority (transport ministry) and is currently awaiting additional guidance. Other airfields may be available and procedures outlined in AIP. IATA advised that they met with FATA prior to this meeting are optimistic that FATA will approve the AIC.</p> <p>Updates to be provided to CPWG/20</p>	Oct. 2015	Ongoing
CP12-04	Improve Efficiencies	Monitor changes to Track Advisory Users Guide	ZAN reported that there had been no changes to the TAUG since the last meeting. Once State ATM provides the 2 new fixes, changes will be made to the TAUG.	FAA	FAA will provide updates on the TAUG at CPWG/20.	Oct 2015	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	During CPWG/12, it was agreed to pursue proposal for a new entry/exit point east of SIMLI. United Airlines suggested that W223 westbound, which is now a domestic route, be made an international route.	State ATM/ATMB IATA	This is a bilateral issue to be discussed outside of CPWG. State ATM has not been able to meet with ATMB. No progress but hopeful to resume talks with ATMB soon. Update at next meeting. IATA will send Beijing Rep to meetings to endeavor to increase ATMB participation. Thanked JCAB for their work to secure visa letters. Looking at other venues to engage and encourage ATMB participation at CPWG.	Oct. 2015	Open
CP14-02	Improve communications	Establish flight data exchange between facilities	State ATM will work with Sapporo to implement AIDC in 2018. Magadan / Anchorage AIDC will be implemented after Sapporo in 2018 Vancouver/Oakland: Successful test conducted early May with expected operational readiness on 28 May 2015.	State ATM/ FAA/NAV CANADA	Updates to be provided to CPWG/19 AIDC between Khabarovsk and Sapporo in 2018. Anchorage and Magadan will sometime after 2018.	Oct 2015	Open
CP14-08	Improve Efficiencies	Improve flexibility of military airspace	NAV CANADA presented information on the efforts underway to cooperatively share the Cold Lake military airspace. .	NAV CANADA	NAV CANADA to provide update to CPWG/19 Work ongoing with Cold Lake. CY204 is being released periodically and ATC is tactically providing reroutes	Oct 2015	OPEN
CP14-11	Improve Efficiencies	Eliminate restrictions where possible	Eliminate requirement to flight plan over named or lat/long fixes at 141W	FAA	Update to be provided to CPWG/20	Oct 2015	Open

Action Number	Capacity Enhancement Goal	Supporting Goal Initiatives	Information/Status	Responsible Organization	Action Pending	Action Due	Status
CP14-12	Improve Efficiencies	Consider expanding trial for ADS-C CDP to ZAN airspace	<p>FAA provided update on the status of the ADS-C CDP trial.</p> <p>IATA requested that FAA expand the ADS-C CDP trial in ZOA airspace to ZAN airspace. Trial ended in February 2013. ADS-C CDP currently being automated with implementation in 2016.</p> <p>Software scheduled for release in January-February 2016. ICAO process to integrate as a standard on track for publication in 2016. Expected that procedure will be available /implemented in all three FAA Oceanic FIRs in mid-2016.</p> <p>NAVCANADA will not be implementing ADS-C CDP</p> <p>JCAB is studying ADS-C CDP</p> <p>State ATM noted that it was not in their implementation plans</p> <p>On track for FAA.</p> <p>IATA requested information from JCAB on status of plans to consider ADS-C CDP.</p> <p>JCAB noted that they are beginning study now but no timeline to implement.</p> <p>United noted that Canada mentioned they may be willing to consider during discussions at another meeting. United asked Canada to consider further</p>	FAA	Update at CPWG/20	Oct 2015	Open

C-6

Action Number	Capacity Enhancement Goal	Supporting Goal Initiatives	Information/Status	Responsible Organization	Action Pending	Action Due	Status
CP14-13	Improve Efficiencies	Replacement of Bodo oceanic automation system	Avinor provided an update on the planned replacement for the automation system at Bodo ACC in May 2014. Testing is underway and scheduled for AIRAC cycle March 5, 2015.	Avinor	Update to be provided to CPWG/19 BOAS successfully implemented in March 2015. ADS-B corridor and surveillance also being considered.	May 2015	CLOSED
CP15-03	Improve Efficiencies	Provide information on RTE and Arctic FIR traffic count data	FAA presented traffic count data over RTE and Arctic FIR fixes.	IATA	IATA requested additional data for traffic counts. The FAA is not able to provide this information until IATA provides specific details. ZAN and IATA to discuss bilaterally and provide update.	Oct 2015	Open
CP16-05	Develop CPWG Volcanic Ash Contingency Plan	Develop LOA between PK and Fukuoka at the bilateral meeting and also consider opportunities for reroute transitions. Develop routings from RFE to NOPAC.	JCAB provided information on the temporary LOA that had been developed for VOLKAM14. The LOA includes temporary bi-directional routes to be used for avoidance of volcanic ash. Operators were asked to comment on the routes. Based on additional study on the proposed routes, JCAB is not able to support those routes.	JCAB State ATM FAA IATA Based on discussions during meeting, JCAB and State ATM will work to develop new routings (Utilizing routes west of volcanoes and possible relaxation of flight level restriction in R220) for exercise.	Temporary LOA was successful between ZAN, PK, and Fukuoka. It was determined that a permanent LOA should be developed. This action to be closed and new action for VOLKAM16 will be opened.	Oct 2015	CLOSED

Action Number	Capacity Enhancement Goal	Supporting Goal Initiatives	Information/Status	Responsible Organization	Action Pending	Action Due	Status
CP15-06	Develop CPWG Volcanic Ash Contingency Plan	Consider utilizing the ATM VACP Template in the development of Volcanic Ash Contingency Plan for NOPAC and RTE.	State ATM proposes Volcanic Ash Contingency Plan for Trans-East, NOPAC, & PACOTS as template. JCAB and State ATM expect progress on agreement between Fukuoka and PK FIR in early 2016.	State ATM JCAB FAA/ZAN NAV CANADA	JCAB, State ATM & FAA are reviewing and providing comments to the proposed template. Draft Guide was also submitted to TRASAS/4 meeting and work effort endorsed. State ATM noted that ICAO wants to develop a single Volcanic Ash contingency plan for EURNAT. Since Russian airspace spans European and other regions, they are seeking clarity from ICAO about ongoing work they are doing reference VOLKAM contingency plan.	Oct. 2015	Open
CP15-08	Develop CPWG Volcanic Ash Contingency Plan	Provide an update from ATMG with respect to NAT Volcanic Ash Contingency Plan.	Isavia reported that the IVATF agreed to transfer responsibility for volcanic ash avoidance or decision to fly or not fly from ATM to Aircraft Operators. An amendment to PANS ATM was approved and is expected to take effect in November 2014	Isavia	Isavia provided information on exercise done and they had issued a NOTAM and the MET office issues SIGMETs based on volcanic ash concentrations. Some concerns regarding SIGMETs. Isavia to provide update on any additional exercises at CPWG/19. Conducted two large exercises since last CPWG but have smaller monthly exercises ongoing. Discussed ongoing work for ICAO EURNAT Volcanic Ash Task Force. Will provide update at CPWG/20/	Oct. 2015	Open

Action Number	Capacity Enhancement Goal	Supporting Goal Initiatives	Information/Status	Responsible Organization	Action Pending	Action Due	Status
CP15-09	Improve Safety	Streamline the process for establishing danger areas through NOTAM process	<p>Discussions underway to limit negative impact and pre-coordinate danger areas with ANSPs. Need to develop process. Some issues with recent Norwegian Space Agency launch in November 2014.</p> <p>Affected ANSPs will coordinate comments and feedback to space agency and develop harmonized process for the next campaign scheduled for November 2015. Look at process developed by ZOA to ensure harmonization. FAA to coordinate with Commercial Space Office to provide additional information/assistance.</p> <p>ICAO to provide any resulting guidance from the HLSC in February 2015 and Space Forum in March.</p>	<p>NAV CANADA FAA State ATM Norway Isavia ICAO EURNAT</p>	<p>FAA presented IP on collaborative process used to work with launch proponent to mitigate the impact of their operations on other airspace users. Illustrated process used by Oakland Center to analyze request and mitigate as much impact to aircraft operators as possible. IATA noted the increase and impact in other regions, such as Indian Ocean. Isavia noted that the paper really shows the need for collaboration/cooperation. The FAA noted that it would be useful to have clear guidance and support from ICAO.</p> <p>Avinor to provide an update at CPWG/20.</p>	Oct. 2015	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	<p>FAA worked with State ATM to determine if issue was automation or AFTN address. FAA Memo sent to Centers directing departure messages to go to State ATM and JCAB.</p> <p>State ATM provided update on status of received departure messages and noted improvements but some facilities fail to comply with the requirements. State ATM will provide further update at CPWG/20.</p> <p>JCAB is compiling their results and will provide at CPWG/20.</p> <p>FAA to provide follow up.</p>	Oct. 2015	Open

Action Number	Capacity Enhancement Goal	Supporting Goal Initiatives	Information/Status	Responsible Organization	Action Pending	Action Due	Status
CP18-01	Develop CPWG Volcanic Ash Contingency Plan	To conduct planning exercise for VOLKAM15	Provide update on the April 2015 VOLKAM15 exercise	State ATM JCAB FAA	<p>Provide update to CPWG/19 High participation. Used new template developed by JCAB. Found useful but still evaluating changes. Thanked AAL for their participation. Noted issue with CHG message use and referred to ongoing work and need to address.</p> <p>ZAN thanked Alexey and State ATM for their leadership at VOLKAM. Noted need to be prepared for an actual event.</p> <p>United noted their concerns and the importance of being prepared for real-time reroutes.</p> <p>IP/05- State ATM discussed use of detour routes. Noted that JCAB needed to do calibration flights for detour routes. ZAN asked for input from operators on detour routes- received an affirmative response. Jeppesen asked if detour routes would be published and, if so, would they come with a caveat. State ATM said that they would be in AIP with note that they would be available with ATC coordination.</p>		CLOSED

Action Number	Capacity Enhancement Goal	Supporting Goal Initiatives	Information/Status	Responsible Organization	Action Pending	Action Due	Status
CP18-02		Harmonized process for coordination of route changes to In-Flight Aircraft and issues with use of CHG messages	ANSPs to provide information on process or procedure used for accepting CHG Message and RTE CHG.	All ANSPs IATA	<p>Develop a chart that illustrates how each ANSP processes change messages in various flight states and how route changes are processed to subsequent facilities. This consolidated information will be used for discussion and determination of harmonized process at next CPWG/19 meeting.</p> <p>Based on input received by ANSPs, it was agreed that additional information was needed for full picture.</p> <p>A revised Chart will be developed to include:</p> <ul style="list-style-type: none"> - How are the airlines coordinating into other airspace - Current process used by Operators; - What resources are available for coordination (ATCSCC, MATMC) - What process ANSPs would like to see used. 	Oct 2015	Open
CP19-01		Harmonized Process	ANSPs to provide information on procedures on solar radiation and descents	FAA Russia	<p>Edmonton asked for feedback from ANSPs particularly FAA and State ATM on their experiences with handling events and process for flight profile changes.</p> <p>Follow up with newly established ICAO Meteorology Panel and provide update.</p>	Oct 2015	

Action Number	Capacity Enhancement Goal	Supporting Goal Initiatives	Information/Status	Responsible Organization	Action Pending	Action Due	Status
CP19-02	Improve Efficiencies			IATA	<p>Following simplification of Form R process, IATA followed up with additional requests:</p> <ol style="list-style-type: none"> 1. Consider electronic filing of R Forms via SITA or email. . State ATM request IATA Moscow Office submit letter to FATA for trial via SITA. UAL and Emirates to participate. 2. United also requested 40 day timeframe for approval be reduced to 20- days <p>Update to be provided at CPWG/20.</p>	Oct 2015	OPEN

Action Number	Capacity Enhancement Goal	Supporting Goal Initiatives	Information/Status	Responsible Organization	Action Pending	Action Due	Status
CP19-04	Develop CPWG Volcanic Ash Contingency Plan		J	FAA JCAB State ATM	<p>JCAB presented information on contingency routes. JCAB asked IATA to survey operators about proposed route. Some questions about whether route would be permanent or contingency- State ATM suggested that it be published as a route available for use with ATC coordination. Airlines asked about need to change altitudes- more work to be done update at CPWG/20</p> <p>Based on discussions during meeting, JCAB and State ATM will work to develop new routings (Utilizing routes west of volcanoes and possible relaxation of flight level restriction in R220) for exercise.</p> <p>Temporary LOA was successful between ZAN, PK, and Fukuoka. It was determined that a permanent LOA should be developed.</p>	Oct 2015	OPEN
CP19-05	Develop CPWG Volcanic Ash Contingency Plan		<p>Provide update on VOLKAM16 Planning Meeting scheduled for August 2015.</p> <p>VOLKAM16 tentatively planned for early 2016.</p>	State ATM JCAB FAA	Update at CPWG/20.	Oct. 2015	OPEN
CP19-06				NavCanada	NavCanada to provide update on satvoice	Oct. 2015	OPEN

Nineteenth Meeting of the Cross Polar Trans East Air Traffic Management Providers' Work Group (CPWG/19)

(Tokyo, Japan, May 11-15 2015)

Agenda Item 6: ATS Route Catalogue

AIR TRAFFIC SERVICES ROUTE CATALOGUE

(Presented by STATE ATM CORPORATION)

SUMMARY

This working paper presents status and information on route proposals since the Eleventh Meeting of the Cross Polar Trans East Air Traffic Management Providers' Work Group (CPWG/18) for the CPWG information and discussion.

1. Introduction

1.1 Since the Ninth meeting of the CPWG, the State ATM Corporation has provided an Air Traffic Services (ATS) Route Catalogue for the Polar Region for discussion and use during the meetings.

2. Discussion

2.1 **Attachment A** is the proposed ATS Route Catalogue for the CPWG's discussion and consideration.

3. Recommendation

3.1 The meeting is invited to:

- a. review the information contained in this Working Paper;
 - b. recommend changes or additions to the ATS Route Catalogue at **Attachment A**.
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Tokyo, Japan
May 11-15 2015

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/2	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	CPRS/3	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	CPRS/12	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 -	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;		RUS ISL	Published as G706 (NOTAM A3432/10) on Jul 1, 2010

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5	6	7	8
		G487 – DAKIN (5409.5N 07224.3E) (bidirectional use)		c) Will be assigned R706 designator			
4	CPRS/13	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) - URMAN (6146.2N 06806.9E) – ATREM (6058.6N 06714.0E) – BAGEN (6638.0N 07255.0E) – LUGIK (5943.0N 06556.0E) (bidirectional use)	Emirates Airlines	a) Open a new route; Approved and ready for implementation		RUS	Published as A947 on Nov 1, 2010
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	Continental	a) Open up a route for flying from		RUS	Published as R705 on

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5	6	7	8
		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)	Airlines April 2008	South-East Asia to North America; b) Under review			Nov 1, 2010
11	CPRS/20	DAKIN (5409.5N 07224.3E) - ML (Chapayev NDB 5615.0N 07357.0E) - NJC (Nizhnevartovsk VORDME 6056.6N 07628.1E) (bidirectional use)	Emirates Airlines 2009	a) Open up a route for flying from Middle East to North America; b) Under review		RUS	Published as G715 on Nov 17, 2011
12	CPRS/21	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	CPRS/22	8530.0N 16858.6W	FAA December 4. 2009	a) Open up a new entry fix for Crosspolar routes b) Under review		RUS USA	4 th quarter 2010 NPRS/27
14	CPRS/23	8330.0N 16858.6W	FAA December 4. 2009	c) Open up a new entry fix for Crosspolar routes a) Under review		RUS USA	4 th quarter 2010 NPRS/28
15	CPRS/24	7800.0N 16858.6W	FAA December 4. 2009	d) Open up a new entry fix for Crosspolar routes a) Under review		RUS USA	4 th quarter 2010 NPRS/29
16	CPRS/25	7300.0N 16858.6W	FAA December 4. 2009	e) Open up a new entry fix for Crosspolar routes a) Under review		RUS USA	4 th quarter 2010 NPRS/30
17	CPRS/26	NIKIN (8100.0N 16858.6W)	FAA December 4. 2009	a) Relocate NIKIN b) Under review c) Relocation of NIKIN is unreasonable		RUS USA	4 th quarter 2010 Realignment is unjustified
18	CPRS/27	LISKI (7000.0N 16858.6W)	FAA December 4. 2009	d) Relocate LISKI e) Under review a) Relocation of LISKI is unreasonable		RUS USA	4 th quarter 2010 relocation of the entry fix is unnecessary
19	CPRS/28	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

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5	6	7	8
20	CPRS/29	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	CPRS/30	7300.0N16858.4W – LURET (7037.5N 14753.8E) – R351 (B933 . G7. G494 . G495. G806) (bidirectional use)	State ATM Corporation. 09.02.2010	a) Open a new cross polar route; b) Under review c) unacceptable at the moment		RUS USA	unacceptable at the moment
22	CPRS/31	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	CPRS/32	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	CPRS/33	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	CPRS/34	a) RAMEL (G491) - TAKUN (G226); b) PETUL - RUTIN (G226); c) UNELI (G491) - HA (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	CPRS/35	a) NIKIN (G226) - UNELI; b) TAKUN (G226) - TIGNA (G491); c) HA (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	CPRS/36	a) ORVIT (G494) - TAKUN (G226); b) DILSA - RUTIN (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
28	CPRS/37	ANODI-ABERI	Emirates Airlines 19.05. 2010	a) Accepted for review b) Reviewed. Implementation is possible.		RUS	Published as G359 on Sep 22, 2011
29	CPRS/38	a) NELTI-A299-DONUS-TINRI далее G359 or b) NELTI- TINRI .. G359	Emirates Airlines	a) Accepted for review.		RUS	under review

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5	6	7	8
			19.05. 2010				
30	CPRS/39	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	CPRS/40	B358 LANEP – IKADA	British Airways 17.01.11	Remove flight level restrictions between FL350-530		RUS	Маршрут исключен
32	CPRS/41	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	CPRS/42	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	CPRS/43	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	CPRS/44	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	CPRS/45	SIMLI-G494-B331-W205-WZ	2013	Reduce mileage		RUS	Will be published as G494, A803 on September 19, 2013
37	CPRS/46	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

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5	6	7	8
38	CPRS/47	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	CPRS/48	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.)
40	CPRS/49	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.)
41	CPRS/50	SALET (7957N 16858W) – RODOK then along G495	State ATM Corporation October 2013	Establish an additional entry/exit point		RUS FAA	To be published as G819 in 13.11.14
42	CPRS/51	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
43	CPRS/52	Establish CPRs at G819, G493, G226, R351	United Airlines August 2014	Establish additional CPRs to allow transitions from one route to another	Improve airspace efficiency	RUS	The following NCRPs established: BAKUK, BUNIT, OKLOS NOTAM: A3748/14, A3750/14, A3745/14, A3743/14
44	CPRS/53	Establish SOTIS PILAN-LURAM-ATS route	United Airlines August 2014	Establish a new ATS route	Improve airspace efficiency , provide fuel savings, reduce CO ₂ emissions.	RUS	The route proposal was duly reviewed. A303 airway was established. The implementation date – April 2015. 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>
45	CPRS/54	820939N 1685824W – 802806N 1642448E– 755700N 1431800E – IDIMA	State ATM Corporation December 2014	Establish a new ATS route.	Improve airspace efficiency , provide fuel savings, reduce	RUS	Target date – late 2015 – early 2016.

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5	6	7	8
					CO ₂ emissions.		
46	CPRS/55	755700N 1431800W –RUTIN	State ATM Corporation December 2014	Establish a new ATS route.	Improve airspace efficiency , provide fuel savings, reduce CO ₂ emissions.	RUS	Target date – late 2015 – early 2016.
47	CPRS/56	762814N 1685824W - 754700N 1791349E – LUNOG	State ATM Corporation December 2014	Establish a new ATS route.	Improve airspace efficiency , provide fuel savings, reduce CO ₂ emissions.	RUS	Target date – late 2015 – early 2016.
48	CPRS/57	762814N 1685824W – 722712N 1662946E – OLMIN	State ATM Corporation December 2014	Establish a new ATS route.	Improve airspace efficiency , provide fuel savings, reduce CO ₂ emissions.	RUS	Target date – late 2015 – early 2016.

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

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	States	Target Dates
1	2	3	4	5		6	7
1	TVRS/8	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 13726.1.E 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

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	States	Target Dates
1	2	3	4	5		6	7
2	TVRS/13	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	CHUKO TKA-1	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	TVRS/14	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	TVRS/21	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
6	TVRS/22	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	TVRS/23	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	TVRS/24	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	TVRS/25	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

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	States	Target Dates
1	2	3	4	5		6	7
10	TVRS/26	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	TVRS/27	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	TVRS/28	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	TVRS/29	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	TVRS/30	OSKON-UHMI (UHMI – PEMID)	Air Canada 14.02.2011	a) remove flight level restrictions 13100-16100		RUS	Published as A218 FL 270-530
15	TVRS/31	a) KURAK (6247.0N 13651.0E) – ODANA	IATA декабрь 2010	a) reduce mileage		RUS	unacceptable at the moment
		б) KURAK – KUNIK		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	extension R213		RUS	Published as R213 on May 31, 2012

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	States	Target Dates
1	2	3	4	5		6	7
			30.09.2011				
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 1613257E)-Tilichiki NDB (TK) (602154N 1660045E)- NELTA (605736N 1725315E)-RUSOR (611400N 1775600W)	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
24	TVRS/40	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	TVRS/41	IRKAN-KOKUN-BANIT	Cathay Pacific 26.07.2011, RDGE/15 30.09.2011	route realignment		RUS	Published as B327

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	States	Target Dates
1	2	3	4	5		6	7
26	TVRS/42	FA – WZ - SIMLI (Proposed alternative is FA – PARUS – SIMLI)	Pacific United Airlines	route realignment		RUS	unacceptable at the moment
27	TVRS/43	SIBIR – LURED – EKVİK (decommission B451 LURED – IGROD)	IATA	To improve north-south traffic flows between Khabarovsk FIR and Fukuoka FIR	Reduce mileage	RUS JPN	under review
28	TVRS/44	KUNAD - OTLER	RUS 09.08.13	NOPAC transition to Trans-East	Reduce mileage	RUS	To be published as G815 in 13.11.14
29	TVRS/45	LUMES - RIMLI	RUS 09.08.13	NOPAC transition to Trans-East	Reduce mileage	RUS	To be published as G816 in 13.11.14
30	TVRS/46	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	After implementation of a new automated ATC system at PK ACC. Target date December 2015 – 1 st quarter 2016.
31	TVRS/47	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.
32	TVRS/48	Troitskoye NDB (FI) - REPIK - ADITO – LANRI FL120-FL300 shall be used by coordination with ATC, FL310-FL530 are restriction free	RUS 05.06.14	Remove flight level restrictions.	Improve B915 efficiency	RUS	Implemented by NOTAM A3155/14 on Aug 28, 2014.
33	TVRS/49	KORES – DIPNA – NK (Nikilskoe) – UK (Ust-Kamchatsk) – 5150N 15301E – 453933E 1505937E	JCAB Feb 2015	Establish a volcanic ash detour route	Improve airspace efficiency	RUS JCAB	Accepted for implementation. PK and Fukuoka shall agree on an entry/exit point at the FIR boundary. Assign international status to domestic airways. Target date is late 2015 – early 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>FIR</i>	<i>CODE</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	

Cross Polar Trans East Air Traffic Management Providers' Work Group (CPWG)

Work Program

The Cross Polar Trans-East Air Traffic Management (ATM) Working Group (CPWG) is recognized by the International Civil Aviation Organization (ICAO) Trans-Regional Airspace and Supporting ATM Systems Steering Group (TRASAS) as a forum to improve the provision of air traffic services (ATS) to aircraft which operate between North America and Asia via Cross Polar and Russian Trans East routes. The CPWG is composed of representatives from the air navigation service providers (ANSPs) responsible for providing ATS in the Arctic and adjacent airspace, representatives from international organizations representing airspace operator groups, and international airlines that operate in the airspace.

Background

During the discussions at the sixth meeting of the CPWG (CPWG/6) held in Hong Kong China in November 2008, it was agreed a work program was needed that would focus on strategic objectives.

Further discussions during the seventh meeting of the CPWG (CPWG/7) held in Paris, France in June 2009 identified five objectives to provide the overall structure for the Work Program. They were:

- a. Reduce Separation Standards
- b. Improve Efficiencies for Traffic on Cross Polar and Russian Far East Routes (Routes, Procedures, and System Performance)
- c. Improve Communications
- d. Improve Weather Reporting
- e. Develop Contingency Plan/Safety

Based on these objectives, a Planning Chart was developed to document near- and mid-term activities, as well as to maintain a summary of accomplishments.

During a meeting of the air navigation service providers (ANSPs) held in Reykjavik, Iceland in June 2012 prior to the thirteenth meeting of the CPWG (CPWG/13), the group considered the value of the Planning Chart in the format that had been used. The meeting felt that the chart had expanded beyond the original intent, which was to serve as a list of near- and mid-term activities, as well as a summary of accomplishments.

It was agreed that the CPWG needed a written Work Program, which would describe and categorize the activities listed on the Planning Chart, and define near-term or mid-term planning goals. As goals are completed, they would be moved into a list of accomplishments that would be a part of the Work Program. The Planning Chart could become an appendix to the Work Program to track the status of the near-term items.

CPWG Objectives

This section describes the five current objectives of the CPWG.

1 *Reduce and Harmonize Separation Standards in International Airspace*

It was agreed that the international operators would benefit from a reduction, as well as harmonization of the vertical, lateral and longitudinal separation standards across the Arctic airspace. This would allow for more efficient altitude changes.

Separation reductions would need to take into account the equipage of aircraft operating in the Arctic and adjacent airspace, and provide for a mixed environment, recognizing the existing and planned aircraft capabilities while providing benefits to operators implementing Required Navigation Performance (RNP).

2 *Improve/Increase Efficiencies for Cross Polar and Russian Far East Air Traffic*

Efficiencies could be provided through the development and enhancement of ATS routes, ATM and operator procedures, and improved system performance.

Route efficiencies to be considered include, but are not limited to, the following:

- New routes taking into account the reduced lateral separation standards
- Bi-directional routes
- Procedures for tactical re-routes
- Airline route proposals
- Additional boundary entry/exit points into China
- Implementation of radar hand-offs and procedures between Magadan and Anchorage Flight Information Regions (FIRs)
- Flex Track System
- Simplifying Russian Form R Process
- Establishing connection routes various transit ATS route systems.
- Improved Air Traffic Flow Management (ATFM) tools and exchange of information between ANSPs and operators.

3 *Improve Communications in Arctic/Polar Region*

It is expected that improved communications in the Arctic airspace (*i.e.*, north of 80 degrees North) would provide enhanced operations.

Communication improvements to be considered include, but are not limited to, the following:

- Benefits from satellite technology (Iridium)
- High Frequency (HF) Air-Ground Data Link
- Current ANSP communication capabilities
- Implementation of Controller Pilot Data Link Communication (CPDLC) and Automatic Dependent Surveillance – Contract (ADS/C) capability for all polar routes
- Automated flight data exchange between facilities
- Monitor communications and data link performance

4 *Improve Awareness of Space Weather Issues in Arctic/Polar Region*

Although the CPWG does not have responsibility for weather reporting, some related issues to be considered include, but are not limited to, the following:

- Improve exchange of long range weather and Notices to Airmen (NOTAM) information
- Maintain an awareness of research on space weather and its impact on aviation
- Recognition of the impacts of space weather, including sun spots and HF black outs

5 Improve Safety

Activities enhancing safety to be considered include, but are not limited to, the following:

- Making contingency response information available, including volcanic activities Procedures for the exchange of all missile launch information\
- Formalizing procedures for publication of NOTAMs and coordination amongst ANSPs and space launch providers

Time Frames

It was agreed that Near-Term activities were defined as those planned to be completed within 1-3 years, and Mid-Term activities would be completed in 4-10 years.

Maintenance of the Work Program

The Work Program will be reviewed by the ANSPs prior to each CPWG meeting. As work commences on a particular goal, it will be moved from the Mid-Terms Goals (**Attachment A**) to the Near-Term Planning Chart (**Attachment B**). Similarly, as initiatives are completed, they would be moved to the list of accomplishments (**Attachment C**).

As new work programs are introduced, they will be added to the appropriate goal section.

Near Term Goals

REDUCE AND HARMONIZE SEPARATION STANDARDS IN INTERNATIONAL AIRSPACE

Implement further reductions to lateral separation (aircraft equipage requirements)

Edmonton FIR RNP-4 Spring 2015

ADS-C Conformance Reporting: Winter 2015

Lat/Long of RNP-4 Spring/Summer 2016

Reykjavik FIR 25 NM 2018

Implement reduced longitudinal separation (aircraft equipage requirements)

Anchorage Arctic FIR (50NM)

Murmansk –TBD

Magadan - TBD

Edmonton - TBD

Implement further reductions to longitudinal separation (aircraft equipage requirements)

Anchorage Arctic FIR (30NM)

Murmansk –TBD

Magadan - TBD

Edmonton - TBD

IMPROVE COMMUNICATIONS IN ARCTIC/POLAR REGION

Implement AIDC/OLDI for Data Exchange

CPWG/19- WP/04

11/05/2015

Bodo and Murmansk FIRs 2017

Magadan/ZAN TBD

Implement CPDLC

Murmansk FIR 2018

CPWG Planning Chart

Near Term Goals (2015-2017)

	Planning Goal	Action with	Status of Action and Target Date
1	REDUCE AND HARMONIZE SEPARATION STANDARDS IN INTERNATIONAL AIRSPACE		
	Harmonize RVSM Transition Procedures		
	Russian and Mongolian FIRs	State ATM/CAA Mongolia	2015
	Implement reduced longitudinal separation (aircraft equipage requirements)		
	Edmonton FIR (5 min or 50NM)	NAV CANADA	TBD
	Reykjavik FIR (10 min)	Isavia	2016
	Reykjavik FIR (5 min)	Isavia	2016
2	IMPROVE/INCREASE EFFICIENCIES FOR CROSS POLAR AND RUSSIAN FAR EAST AIR TRAFFIC		
	Create seamless and homogeneous airspace for the traffic from North America to Asia with the expansion of User Preferred Routes (Pacific Project)	ANSPs/Operators	TBD
	Improve Efficiency on Cross Polar Routes		

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	Planning Goal	Action with	Status of Action and Target Date
	Add entry/exit fixes on the Anchorage/Russian FIR boundary in order to provide additional parallel routes	FAA/State ATM	Ongoing (Polar 7, 8, & 9 have been added) 2 fixes added BARIP AND SALET 2 additional fixes added:
	Eliminate restrictions to file entry fixes on the Anchorage/Edmonton FIR boundary	FAA/NAV CANADA	Summer of 2016
	Implement use of Radar Procedures between Magadan ACC and Anchorage ARTCC without Radar Data Sharing		
	Anchorage Arctic FIR	FAA	2018
	Magadan FIR	FATA	2018
	Improve Air Traffic Flow Management (ATFM)		
	▲ Establish CTA in Anchorage Arctic FIR	FAA	TBD
	3. IMPROVE COMMUNICATIONS IN ARCTIC/POLAR REGION		
	Improve communications procedures		
	Implement AIDC/OLDI for Data Exchange		
	Russian and Anchorage FIRs	FAA State ATM	2018

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11/05/2015

	Planning Goal	Action with	Status of Action and Target Date
	Khabarovsk ACC and Sapporo ACC	State ATM/JCAB	2018
	Murmansk and Reykjavik FIRs (AIDC)	State ATM/Isavia	2016-2017
	Implement CPDLC for All Polar Routes		
	Murmansk FIR	State ATM	2018
	Implement ADS-C		
	Anchorage Arctic FIR	FAA	Fall 2015
	Edmonton FIR	NAV CANADA	Winter 2015
	Monitor Communications and Data Link Performance		
	Provide information on any issues relating to communications/data link performance at CPWG meetings	All ANSPs and Operators	Ongoing
	5. IMPROVE SAFETY		
	Develop CPWG Volcanic Ash Contingency Plan		
	Consider amending LOAs between adjacent ACCs to introduce provisions on contingency reroutes	All	TBD
	Formalize teleconference format and process taking into consideration collaborative decision making (CDM)	FAA, State ATM, JCAB	TBD

	Planning Goal	Action with	Status of Action and Target Date
	Streamline the process for issuing NOTAMs on volcanic ash	FAA, State ATM	2015
	Implement single AFTN address for each ANSP¹		
	State ATM	State ATM	TBD
	CAAC ATMB	CAAC ATMB	Unknown
	CAA Mongolia	CAA Mongolia	Unknown
	Kazakstan		TBD

¹ FAA and JCAB do not plan to implement a single AFTN address

Completed Activities

1 REDUCE AND HARMONIZE SEPARATION STANDARDS IN INTERNATIONAL AIRSPACE

Implement RVSM FL290-410

Harmonize RVSM Transition Procedures

Anchorage Arctic FIR

Anchorage Oceanic FIR

Russian FIRs

Fukuoka FIR

Implement 10 Minute Longitudinal Separation for ATS Route B932

Implement reductions to lateral separation based on aircraft equipage requirements

Anchorage Oceanic FIR (30NM)

Implement reductions to longitudinal separation based on aircraft equipage requirements

Anchorage Oceanic FIR (30NM)

2 IMPROVE/INCREASE EFFICIENCIES FOR CROSS POLAR AND RUSSIAN FAR EAST AIR TRAFFIC

Harmonize Procedures for ATS Route B932

Improve Efficiency on Cross Polar Routes

Add entry/exit fixes on the Reykjavik/ Russian FIR boundary

Open new Kamchatka routes from PILUN and LISKI

Open new routes south of ABERI

Improve Efficiency on Russian Trans East Routes

Eliminate 10 min track loading for RTE over Anchorage/Russian Boundary

Improve Air Traffic Flow Management (ATFM)

Implement DOTS Plus Online Track Advisory

Reduce track loading to 10 minutes for Cross Polar fixes

Remove requirement for flight to file NOR OTS routes over Canada

Improve ATFM Collaboration

FAA/NAV CANADA

FAA/State ATM

NAV CANADA/State ATM

Make Tactical Re-Routes Available for Daily Operations

3. IMPROVE COMMUNICATIONS IN ARCTIC/POLAR REGION

Improve communications procedures

- Implement ADS-C periodic contract and lateral and vertical conformance monitoring
- Change Procedures to retain connection with Iridium and HF DL North of 82N (Isavia)

Implement AIDC/OLDI for Data Exchange

- Reykjavik and Bodo FIRS (AIDC) (Isavia/Avinor)
- Anchorage Arctic, Oceanic and Continental FIRs (AIDC)
- Edmonton FIR (AIDC)
- Reykjavik and Edmonton FIRs

Implement CPDLC for All Polar Routes

- Anchorage Arctic FIR
- Reykjavik FIR
- Magadan FIR
- Magadan FIR (North Sector)
- Bodo (Avinor)

Implement ADS-C for All Polar Routes

- Edmonton FIR (waypoints only)
- Reykjavik FIR
- Magadan FIR
- Bodo (Avinor)**

4. IMPROVE AWARENESS OF SPACE WEATHER ISSUES IN ARCTIC/POLAR REGION

- Develop Space Weather User Needs

5. IMPROVE SAFETY

Develop Arctic ATM Operational Contingency Plan

Publish Document v2 on Web Site

Implement single AFTN address

Iceland

Norway

Implement ICAO Flight Plan 2012