

**Summary of Discussions of the
Sixteenth Meeting of the
Cross Polar Trans East Air Traffic Management Providers Working Group
(CPWG/16)
3-6 December 2013 – Ottawa, Canada**

1. Background

1.1 The Sixteenth Meeting of the Cross Polar Trans East Air Traffic Management (ATM) Providers Working Group (CPWG/16) was hosted by NAV CANADA at the NAV CANADA Head Office and the Ottawa Convention Centre from 3-6 December 2013. The meeting provided time for meetings of the Air Navigation Service Providers (ANSPs), the Pacific Project Team (PPT) and the CPWG/16 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 Leslie McCormick CSSI, Inc. facilitated the meeting in the absence of Leah Moebius due to a death in the family. Thirty-nine participants attended, representing the ANSPs from Canada, Iceland, Japan, Mongolia, 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. Jeff Dawson, NAV CANADA, opened the meeting and welcomed participants. Leslie also welcomed participants 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

Agenda Item 2: Administrative Matters (CPWG/15 Report)

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

Agenda Item 4: Report from the Pacific Project Team Meeting

Agenda Item 5: Provide Status on CPWG/15 Actions

Agenda Item 6: ATS Route Catalogue Update

Agenda Item 7: 2014-2015 Cross Polar Work Program

- Respective ANSPs' efforts for improving communications in the area

- Development of a single separation standard in region
- Improve/Increase efficiencies and predictability on Polar Routes

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

- ANSP Updates/Presentations
 - NAV CANADA Update
 - FAA Anchorage Update
 - State ATM Corporation Update
 - ISAVIA Update
 - Avinor Update
 - JCAB Update
 - Mongolia Update
 - ATMB Update
- Airline Updates/Presentations
 - IATA
 - Other Airlines
- Others

Agenda Item 9: Other Business

Agenda Item 10: Next Meeting

4. Agenda Item 2: Administrative Matters

4.1. Seven working papers (WPs) and 20 information papers (IPs) were presented for discussion during the meeting:

Paper Number	Agenda Item	Action Number	Title	Presented by
WP/01	1		Proposed Agenda and Timetable	FAA
WP/02	7		Proposed CPWG Work Program	FAA
WP/03	5	CP04-35	Proposal to Modify the Russia Form R	IATA – United Airlines
WP/04	8		Case Study of Recent Volcanic Activity caused Re-Routes	American Airlines
WP/05	6		Proposals for Additional Crosspolar Routes	State ATM Corporation
WP/06	6		Air Traffic Services Route Catalogue	State ATM Corporation
WP/07	8		New Route Request	IATA - United Airlines
IP/01 REV4	1		List of Papers	FAA
IP/02	2		CPWG/15 Action Item List	FAA

Paper Number	Agenda Item	Action Number	Title	Presented by
IP/03	8		Space-Based ADS-B Update	NAV CANADA
IP/04	5	CP10-14	Cold Bay Alaska B763ER DL208/30 October 2013 Diversion and Recovery	Delta Airlines
IP/05	8		Update on Lost Communications Discussions Within ICAO	NAV CANADA, ISAVIA and FAA
IP/06	5	CP07-02	Boundary Points on the Reykjavik/Edmonton Boundary	ISAVIA
IP/07	5	CP14-10	Status of Oakland Flight Information Region (FIR) Trial to Merge PACOTS Tracks C and E	FAA
IP/08	5	CP14-12	Status Update for Development And Implementation of ADS-C Climb Descent Procedure	FAA
IP/09	8		North European Functional Airspace Block (NEFAB) and NORTH EUROPEAN FREE ROUTE AIRSPACE PROGRAMME (NEFRA)	Avinor
IP/10	5	CP15-01	Conclusion of VALDA Zero Minute Track Load Trial	FAA
IP/11	5	CP06-02	Incorporation of the Anchorage Arctic Flight Information Region (FIR) within the Advanced Technologies and Oceanic Procedures (ATOP) “Ocean21” Automation System	FAA
IP/12	3		Report of the Europe – Asia Trans-Regional Special Coordination Meeting	United Airlines
IP/13	3		Notification of the Fourth Meeting of the Trans-Regional Airspace and Supporting ATM Systems Steering Group (TRASAS/4)	FAA
IP/14	8		Russian Airspace Improvements	State ATM Corporation
IP/15	5	CP15-02	Update on Requested Enhancements to the Dynamic Ocean Track System- Plus (DOTS+) and User Trajectory Planning	FAA
IP/16	5	CP14-10	Operational Trial of User Preferred Routes (UPRs) in Conjunction with Pacific Organized Track System (PACOTS) Track F	FAA
IP/17	5	CP15-04	Draft Route between Petropavrovsk Kamchatsky FIR and Fukuoka FIR in VOLKAM14	JCAB

Paper Number	Agenda Item	Action Number	Title	Presented by
IP/18	3		ICAO Inter-Regional AIDC Task Force (IRAIDCTF)	FAA
IP/19	5	CP10-14	Information of ETOPS Alternative Airports Development as of December 2013	State ATM Corporation
IP/20	5	CP10-02	Information on Peak Hour Operations for Khabarovsk	State ATM Corporation

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/enroute/oceanic/cross_polar/

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

ANSPs Meeting, 3 December 2012

5.1. Leslie informed the meeting that the ANSPs 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 7 and Appendix E.

International Civil Aviation Organization (ICAO) Communication Failure Coordination Group (CFCG)

5.2. The CPWG was reminded that at its 8th meeting (December 2009), the CPWG agreed upon a proposal to amend the North American Regional Supplementary Procedures (NAM SUPPs, Doc 7030) related to radio communication failure (RCF). At the 11th meeting, the CPWG was advised the NAM SUPPs would not be amended as proposed, as further coordination had highlighted the preference of the user community that a global procedure be developed (Summary of Discussions of CPWG/11, paragraphs 6.20 through 6.25 refer). ICAO formed the CFCG to discuss RCF provisions, with a view towards developing, if possible, revised procedures which could be globally applicable.

5.3. The CFCG has not yet reached a consensus on whether a flight, once it has recognized that it is experiencing an RCF, should conform to its last assigned level or climb in accordance with the flight plan. The lack of consensus mainly centers on enroute flights which are cruising at a level which is not the same as the flight planned level, and to step climb situations.

5.4. There has been discussion within the CFCG about how to ensure that the “current flight plan” is commonly understood between the flight crew and air traffic control. There has also been discussion about the possible use of the term EXPECT to advise a flight when or where a clearance to a specified level can be anticipated, so the flight can maneuver in accordance with the expected clearance in the event of an RCF. In considering this, it is noted that there are varying understandings and applications around the globe for EXPECT.

5.5. In the North Atlantic (NAT) and High Arctic areas, the main concern about RCF stems from propagation issues. Because they are operating outside Very High Frequency (VHF) range, a significant number of flights in this area maintain voice communications using High Frequency (HF). HF is subject to

propagation issues, meaning it is possible that voice communication might be lost with numerous aircraft operating in the same area at the same time. Since such episodes cannot be foreseen and planned for, the clearances provided to these aircraft usually provide separation assurance for much longer periods of time than would be the case in more tactical environments. Aircraft abandoning these “protected” flight profiles would create a hazardous situation.

5.6. The CFCG has not yet found an unambiguous way to ensure that aircraft experiencing an RCF will maneuver in ways which are predictable and which do not create an unacceptable level of risk.

5.7. Concerns were expressed by the CPWG that the CFCG had not been able to come to agreement on global RCF procedures that meet the needs of all regions. NAV CANADA agreed to draft material to be presented to the TRASAS/4 meeting. The CPWG will continue to monitor the outcomes of the CFCG. **New Action Item CP16-01** was opened in this regard.

Europe – Asia Trans-Regional Special Coordination Meeting, 23-25 September 2013

5.8. IATA summarized the outcome of a Special Coordination Meeting which was attended by participants from China, Mongolia, Democratic People’s Republic of Korea, Kyrgyzstan, Russian Federation, EUROCONTROL and IATA.

5.9. The ICAO Europe and North Atlantic (EUR/NAT) Office had provided information on the Terms of Reference (TOR) of the Route Development Group – East (RDGE), which reported to the European Air Navigation Planning Group (EANPG) on matters related to ATS route planning and implementation in the Eastern part of the ICAO EUR Region.

5.10. The RDGE Far East Sub Group was established in 2011 to enhance the ATS route network in the far eastern part of the ICAO EUR Region. Developments were intended to fulfil the increasing demand for enhanced regional coordination, more seamless ATS route planning (such as Trans-Asian, Trans-Eastern, Trans-Polar, Trans-Siberian, and Trans-European Routes) and faster implementation of changes to the airspace and to the ATS route network.

5.11. The meeting discussed the lack of correlation between the EUR and Asia Pacific (APAC) ATS Route Catalogues, which was further highlighted by the work undertaken by the EUROCONTROL delegate. The meeting noted that it was the intention to follow the EUR Far East naming convention for proposals that affected the EUR Region in both EUR and APAC ATS Catalogues and use the cross reference principle for tracing purposes in both catalogues.

5.12. The CPWG noted the information.

Fourth Meeting of the Trans-Regional Airspace and Supporting ATM Systems Steering Group (TRASAS/4)

5.13. The US Federal Aviation Administration (FAA) informed the meeting that the ICAO EUR/NAT Regional Office had issued an invitation to TRASAS/4. The two-day meeting is planned to take place at the ICAO Asia Pacific Regional Office in Bangkok, Thailand during the week of 24-28 March 2014 .

5.14. The meeting reviewed the action items from CPWG have been deferred to the TRASAS/4 meeting:

CP11-01: Advance communications capabilities for the Arctic area;

CP12-14: CPWG communications activities; and

CP13-07: Request that TRASAS designate an ICAO representative to attend CPWG meetings

5.15. The FAA agreed to draft a paper for TRASAS/4 addressing these items, as well as the work of the CPWG since TRASAS/3, and coordinate with CPWG members prior to submitting.

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

6.1. Blair Cowles, IATA, facilitated the PPT meeting held on 3 December 2013. A report of the meeting and updated actions items are provided at **Appendix B**.

7. Agenda Item 5: Provide Status on CPWG/15 Actions

CP01-08C: Air Traffic Flow Management (ATFM) collaboration between Federal Aviation Administration (FAA) Air Traffic Organization (ATO) and State ATM

7.1. State ATM reported on the progress of the ATFM Annex and Letter of Agreement (LOA) and proposed a working meeting between the FAA Air Traffic Control System Command Center (ATCSCC) and the Main Air Traffic Management Center (MATMC) after the agreement is signed to discuss procedures between the two facilities.

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

7.2. State ATM advised that the construction on Providenia radar had been delayed and was expected to begin in early 2015. Installation was expected to take place in 2015-2016.

CP04-35: Shorten and simplify Form "R" and filing process

7.3. United Airlines suggested a change to the current requirement by the Russian Federation as regards submission of Form R requests for the summer and winter seasons. Currently all route pairings are listed between requested entry and exit fixes along the Russian Flight Information Region (FIR) boundaries for each flight.

7.4. It was 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 Form R 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.

7.5. 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. The meeting agreed that IATA would send a letter to FATA proposing to renew the trial in winter 2014 indicating the list of airlines which are equipped with adequate SITA software.

CP06-02: Implement Ocean21 in the Arctic FIR

7.6. The FAA presented information regarding ongoing efforts to bring the Anchorage Arctic FIR, and associated domestic airspace, into the Anchorage Advanced Technologies and Oceanic Procedures (ATOP)/Ocean 21 automation system.

7.7. The programmatic issues which have delayed the incorporation of the Anchorage Arctic FIR into ATOP/Ocean21 continued to exist. Funding for additional software development was not expected to be available until 2018 or later. This notwithstanding, Anchorage ARTCC (ZAN) was undertaking an

independent review of the ATOP's existing software capabilities vis-à-vis the specific Air Traffic Management requirements of the Anchorage Arctic FIR.

7.8. This independent review entails building offline databases and running test scenarios based on actual day to day traffic to determine whether software shortfalls exist and, if they do, whether acceptable manual "work arounds" can be designed. ZAN personnel were currently creating these databases and designing the test scenarios, with the goal to complete this work by early 2014.

7.9. If the results of this testing show that implementation can be accomplished without additional software development, the next steps would be to examine existing and required air traffic controller staffing, develop and deliver appropriate controller training, examine, modify, or establish any necessary interfacility air traffic control (ATC) agreements and, finally, notify airspace users.

7.10. The airlines expressed that implementation of Ocean21 in the Anchorage Arctic FIR is a high priority for the airlines due to the efficiencies that would be improved, as well as safety benefits through the provision of conflict probe and improved situational awareness. The FAA noted that communications problems would not be resolved by Ocean21, and that communications could continue to limit the efficiency gains.

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

7.11. Isavia presented information on six new waypoints on the Reykjavik/Edmonton FIR boundary and that filing a boundary waypoint will become mandatory for aircraft entering the Reykjavik Control Area (CTA) from the Edmonton CTA.

- a. The NAT region is unique in that it issues special clearances that are termed "oceanic clearances" to aircraft entering the airspace. The norm is that the oceanic clearance starts at an oceanic entry point that is located on the NAT boundary. An exception to that has been the boundary between Edmonton and Reykjavik FIRs where aircraft have in many cases routed between waypoints within the Edmonton FIR to waypoints within the Reykjavik FIR without having to route via a boundary point. This situation could be fairly well handled in a manual coordination system, even when aircraft were routing on long direct flight legs towards the Reykjavik FIR boundary (sometimes even routing from a waypoint in the Montreal FIR direct to a waypoint in the Reykjavik FIR).
- b. There were, however, safety issues associated with this method since the oceanic clearance had been issued from a waypoint that was sometimes deep within the Canadian domestic airspace even though it was in reality only valid from the Reykjavik FIR boundary. This had implications with respect to loss of communication procedures and also with regard to when aircraft should change flight level or speed to comply with the oceanic clearance.
- c. Those issues have now been compounded with the introduction of automatic coordination between Reykjavik and Edmonton ACCs, and it was decided for safety reasons that the oceanic clearance issued by Reykjavik ACC to aircraft crossing the Edmonton/Reykjavik FIR boundary needed to be changed so as to be valid only from the Reykjavik FIR boundary in NAT airspace in the same manner as is done everywhere else in the NAT Region. The scarcity of defined waypoints on the Edmonton/Reykjavik FIR boundary however led to the clearance in many cases being issued from a 9-letter Flight Data Processing System (FDPS) calculated boundary crossing point that the pilot needed to enter into the Flight Management System (FMS). Receiving such a waypoint via a data link clearance was not optimal but probably much worse for aircraft receiving the clearance via HF voice.

- d. In coordination between Reykjavik ACC, Edmonton ACC and the International Air Transport Association (IATA), it was determined that the best solution to this problem was to add six new waypoints to the Reykjavik/Edmonton FIR boundary so as to create a series of boundary waypoints, normally spaced approximately 50 – 60 NM in latitude from 66 North to 81 North. Those waypoints will be published on AIRAC date 3 April 2014, as well as in a NOTAM as soon as practicable to speed up the implementation.
- e. From 3 April 2014 the following will be made mandatory for aircraft entering the Reykjavik CTA from the Edmonton CTA:
 - Flight plan via a five letter boundary point south of 82N (DARUB and EPMAN are considered to be boundary points).
 - Flight plan via a 60W coordinate at or north of 82N.

7.12. United Airlines was disappointed to learn that routings would have to cross one of only six fixes. Isavia responded that previous discussions with airlines revealed that the airlines did not want too many boundary fixes added. This change was implemented to improve safety and allow for proper application of existing procedures.

7.13. State ATM briefed on the implementation of five new boundary fixes with Norway, and one with Kazakhstan. In addition, they proposed two new fixes on the boundary with ZAN which will be considered.

7.14. CAA of Mongolia presented information on a new boundary fix 110 km west of NIXAL.

CP08-12: Eliminate restrictions where possible

7.15. FAA provided information on restrictions that had been cancelled since the last meeting.

CP10-02: Provide flow constraint information

7.16. State ATM presented information on hourly traffic load versus target capacity for certain sectors of several ACCs at intersections of major transit ATS routes from 1 January through 17 November 2013.

7.17. United Airlines asked if the ACCs or sectors were being overloaded, stating that they could route differently if it was needed for efficiency. State ATM commented that the peak hours occurred in the morning, however, it has not been a problem for ACC controllers to cope with the traffic load.

CP10-08: Improved contingency collaboration between State ATM and Japan Civil Aviation Bureau (JCAB)

7.18. JCAB and State ATM will continue to work on a bilateral basis and provide updates to future meetings.

CP10-13: Expand Controller-Pilot Data Link Communications (CPDLC)/Automatic Dependent Surveillance – Contract (ADS-C) capability for Magadan FIR and install CPDLC/ADS-C at Murmansk

7.19. State ATM will expand ADS-C/CPDLC services in two additional sectors at Magadan ACC in early 2014. A CPDLC/ADS workstation will also be added at Murmansk ACC in 2016.

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

7.20. State ATM presented updated information on Russian enroute alternate airports, noting that the number of international airports was increasing. United Airlines thanked State ATM for the updates and requested that 24 hour weather information be made available at Norilsk (UOOO), Salekhad (USDD) and Mirny (UERR) Airports.

7.21. IATA commented that an update to the EUR Air Navigation Plan had been drafted with additional airport information; however, State ATM did not wish to include the information because the airports were not international airports. Efforts will continue to find another solution to make information on diversion airports available to the operators.

7.22. Delta Airlines offered information about Cold Bay (Alaska) diversion capabilities and facilities as well as an airport assessment, noting that this is a strategically located Extended Range Twin Operations (ETOPS) emergency airport. All the people of Cold Bay understand their role in emergencies and have a “can do” attitude.

CP11-01 & CP12-14: Advance communications capabilities for the Arctic area

7.23. It was agreed at CPWG/12 and CPWG/13 that the CPWG membership did not have the technical expertise to progress further improvements to communications in the Polar region. The terms of reference of the Communications Task Force were revised to limit their role to monitoring communication initiatives and technologies. TRASAS/4 will be informed accordingly and a recommendation will be made to dissolve the CPWG Communications Task Force.

CP12-04: Monitor changes to Track Advisory Users Guide

7.24. The FAA informed the meeting that the only change to the Track Advisory Users Guide for Dispatchers (TAUG) since CPWG/15 was to reflect VALDA as zero minute track loading. (Action Item CP15-01 refers)

CP12-06: Coordination between State ATM and General Administration of Civil Aviation of China (CAAC) Air Traffic Management Bureau (ATMB)

7.25. During CPWG/12, it was agreed to pursue a proposal for a new entry/exit point east of SIMLI. State ATM indicated that they had not received any comments from the ATMB. United Airlines suggested that W223 westbound, which was a domestic route, be made an international route. State ATM agreed to look into this.

CP12-08: Expand Contingency Plan

7.26. Although this action item had been closed at the CPWG/15 meeting, a question was raised as to whether the Second Edition of Arctic Air Traffic Management Operational Contingency Plan had been endorsed by the CPWG.

7.27. The Summary of Discussions from CPWG/15 states that it was agreed to develop a stand-alone volcanic ash contingency plan rather than include those procedures in the ATM Operational Contingency Plan. Therefore, CPWG/15 agreed that the Second Edition of the Arctic Air Traffic Management Operational Contingency Plan was complete and would be updated as necessary. Action Item CP12-08 remained closed.

CP13-02: Justify need for route requests

7.28. United Airlines withdrew the previous route request for ORVIT-LUMEN made at CPWG/13. **Action Item CP13-02 was closed.**

CP13-07: Request that TRASAS designate an ICAO representative to attend CPWG meetings

7.29. Although this was deferred for discussion at the TRASAS/4 meeting, the ICAO EUR/NAT Office was invited to send a representative to CPWG/16. Due to schedule conflicts, they were not available to attend. FAA agreed to include the request in the CPWG paper to be presented to TRASAS/4.

CP14-02: Establish flight data exchange between facilities

7.30. State ATM reported that they would continue to work with Sapporo ACC to implement Air Traffic Services Interfacility Data Communications (AIDC) in 2015-2016. State ATM would work with FAA to implement AIDC following the implementation with Sapporo.

7.31. AIDC between Edmonton ACC and Reykjavik ACC was implemented in September 2013.

7.32. AIDC implementation between Vancouver ACC and Oakland ARTCC is contingent on the FAA upgrading software and is tentatively planned for spring 2014.

CP14-03: Add boundary entry/exit fixes at BATNI, ADLEN, LARSA, and OLTON

7.33. FAA reviewed the proposal made by State ATM and based on separation requirements, the realignment will not be possible until Magadan radar is operational. The proposal will be added to the ATS Route Catalogue to be considered at that time. **Action Item CP14-03 was closed.**

CP14-04: Reduce traffic loading at VALDA

7.34. Based on the change to track loading at VALDA (Action Item CP15-01 refers), there was no longer a need to reduce traffic loading. **Action Item CP14-04 was closed.**

CP14-07: Monitor the progress made by the Inter-Regional APAC/NAT AIDC Task Force

7.35. The FAA provided an update on the global AIDC harmonization effort. The second meeting of the Inter-Regional AIDC Task Force (IRAIDTF/2) was conducted from 22-26 July 2013 in Bangkok, Thailand.

7.36. The Meeting reviewed and updated the PAN Regional Interface Control Document (ICD) for AIDC, taking into account the written comments from contributors, resulting in version 0.8. The IRAIDTF agreed that the completed work on the document and the master comments matrix would be organized for further discussion at the next web conference using the Live meeting tool.

7.37. Determination will be made for another face-to-face meeting of the Task Force in early 2014, at a venue to be determined.

CP14-08: Improve flexibility of military airspace

7.38. NAV CANADA described the coordination underway with the Canadian Department of National Defence (DND) to work together for access to the Cold Lake military airspace. Ongoing 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. Coordination with flight planning agencies will continue.

CP14-10: Provide information on the Oakland FIR trial to merge Pacific Organized Track System (PACOTS) tracks C/E

7.39. The FAA presented information on the operational trial to merge PACOTS Tracks C and E to improve efficiencies for westbound aircraft. Tracks C and E are westbound tracks for aircraft destined to Japan from the North American west coast. Westbound PACOTS tracks are generated by the Oakland ARTCC Traffic Management Unit (TMU), with Track E being the first track generated. As a result, subsequent tracks may not be able to follow the most efficient route since they must be separated from Track E.

7.40. The development of advanced oceanic air traffic control systems has allowed for efficient control of an increased volume of traffic. As a result, an operational trial began on 15 March 2013 to merge traffic from PACOTS Tracks C and E which resulted in development of overall more efficient westbound PACOTS tracks between North America and Japan. The key component of the trial to merge Tracks C and E was the use of the Track Advisory (TA) system to manage the traffic at the merge point of PACOTS Tracks C and E.

7.41. Between 15 March and 20 April 2013, PACOTS Tracks C and E were successfully merged on 14 days. Analysis of data for 10 of the 14 days indicated an average fuel burn savings of 509 kg (1120 lbs) per flight. Between 21 and 25 April 2013 Oakland ARTCC encountered numerous traffic related difficulties with merged PACOTS Track C and E traffic. Those difficulties included increased workload and complexity due to extensive use of non-standard altitudes. On 26 April 2013 Oakland ARTCC suspended the PACOTS Track C and E merge operational trial.

7.42. Representatives from the airlines agreed that there had been a number of issues, including the fact that the TA program was advisory rather than required. In some cases there was confusion as to whether a flight had been issued a slot time or a merge time. The procedure called for the threshold for minimum fuel savings to be 200 lbs; perhaps that should be raised when the trial resumes. It was also suggested that an alert be put out on the days when tracks will be merged to raise awareness.

7.43. Final coordination and training will continue between Oakland ARTCC, Fukuoka Air Traffic Management Center (ATMC), and Anchorage ARTCC. Oakland ARTCC TMU will evaluate the westbound PACOTS during generation to determine if a merge of Tracks C and E would provide the benefits which meet the merge guidelines. Prior to resuming the operational trial, operators would be reminded of the importance and use of TA as it relates to the merged track scenario. It was anticipated that the operational trial for merging Tracks C and E would resume in the near future.

7.44. In addition to the operational trial to merge PACOTS Tracks C and E, an operational trial of User Preferred Routes (UPRs) in conjunction with Track F began. PACOTS Track F is a westbound track from North America to Japan that is generated daily by the Oakland ARTCC TMU. Oakland ARTCC conducted two seasonal paper trials of UPRs associated with Track F that showed a projected fuel savings of 880 kg (1940 lbs) during summer and 229 kg (505 lbs) during winter. Based on the results of the paper trial, an operational trial began on 25 July 2013.

7.45. It was noted that projected fuel savings may be impacted by the requirement to remain 50 NM south of PACOTS Tracks C and D. A means to address this was being explored by the Informal Pacific Air Traffic Control Coordination Group (IPACG).

7.46. The operational trial for Track F UPRs was scheduled for one year. **New Action Item CP16-02** was opened to track this activity.

CP14-11: Eliminate requirement to flight plan over named or latitude/longitude (lat/long) fixes at 141W

7.47. The FAA informed the meeting that there was a current NOTAM (A0158) which addressed communications for transit of the Anchorage Arctic CTA/FIR, which made it mandatory for all flights, regardless of CPDLC status, to make position reports, upon entering or exiting the CTA/FIR, via the appropriate HF en-route radio. All flights are required to maintain a listening watch on the current Gander HF radio frequency while transiting the CTA/FIR unless a satisfactory SELCAL check has been completed with Gander Radio upon, or prior to, CTA/FIR entry.

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

7.48. The FAA advised the meeting that operational trials for the use of the ADS-C CDP began on 15 February 2011 in the Oakland Oceanic CTA and ended 15 February 2013. During the two-year timeframe of the trials, the ADS-C CDP was successfully utilized eight times.

7.49. Due to the inherent limitations of the manual execution of the procedure, there were no plans to extend the manual trial. Alternatively, fast-time simulations were being conducted at the FAA William J. Hughes Technical Center (WJHTC). These simulations model the use of the ADS-C CDP in a more densely populated environment, thereby increasing the opportunity for use and further validating the procedure.

7.50. Implementation of the ADS-C CDP automation would benefit ADS-C equipped aircraft; non-equipped aircraft would continue to receive the current level of service. From a systems efficiency perspective, the proposed ADS-C CDP system would allow for increased efficiency and improved flow for properly equipped aircraft. The program has been presented to the ICAO Separation and Airspace Safety Panel (SASP) and is on track for global implementation.

7.51. Use of ADS-C technology will lower controller work load by automating the routine task of issuing a climb or descent clearance. Automated procedure determination, clearances, and problem prediction and resolution will allow the controller to handle more aircraft because predicted problems will be resolved strategically, reducing the number of situations that demand multiple time-critical actions.

7.52. ADS-C CDP automation, when ready as an operational capability, will be installed and employed in New York, Oakland and Anchorage oceanic airspace. Initial deployment of the ADS-C CDP in the automated platform will be conducted as an operational trial in all three oceanic FIRs where the FAA provides air traffic services. The FAA anticipated resuming the trials in January 2015 with full implementation in 2016.

7.53. Delta Airlines expressed disappointment that the trial had been terminated, saying that there had been good benefits.

CP14-13: Replacement of Bodo oceanic automation system

7.54. Avinor provided an update on the planned replacement for the automation system at Bodo ACC. Implementation was expected in May 2014.

CP14-14: Consider options for relocating the fix at BAGLI

7.55. Based on discussions between State ATM and FAA, it was agreed to remove BAGLI. **Action Item CP14-14 was closed;** however related actions to establish a route from KUNAD to OTLER were reflected in **new Action Item 16-03**.

CP15-01: Zero minute track loading at VALDA

7.56. On 31 January 2013, ZAN initiated the trial use of a zero minute track load parameter for VALDA. Aircraft successfully meeting their filed track slot requests (TKFs) regarding time and altitude directly determined the viability of the trial, which was scheduled to last six months. Due to operators' aggregate TKF compliance, ZAN was able to conclude the trial early and, effective 31 May 2013, the VALDA track load parameter was permanently set at zero.

7.57. United Airlines thanked all the ANSPs involved for successfully reducing the track load times at the RTE fixes. **Action Item CP15-01 was closed.**

CP15-02: Early intent data from Dynamic Ocean Tracking System Plus (DOTS+) On-Line (DPO)/On-Line Track Advisory (OLTA)

7.58. The FAA briefed the meeting that, while tools such as the DPO/OLTA allow operators to interface with the DOTS Track Advisory (TA) function, there were limitations on what data may be obtained. During CPWG/15, several operators expressed a desire to see additional enhancements (e.g. access to early intent data) to the DOTS+ platform. The FAA announced that DOTS+ would only be maintained in its current state with no future plans of expanding its capabilities.

7.59. The FAA is currently developing the User Trajectory Planning (UTP) in Pre-Oceanic Phase program. This new system is more in line with the spirit of collaborative decision making (CDM) and offers many of the features that airline operators have expressed a desire to see. Some of the enhancements include the following:

- a. Interactive flight plan collaboration between the FAA and aircraft operators
- b. Operator input of intended four dimension (4D) oceanic trajectory and feedback about likelihood of achieving that trajectory based on the intended trajectory of other oceanic flights. Feedback would be provided prior to entry into oceanic airspace, whether pre-flight or in-flight.
- c. Operator reservation requests would consist of a prioritized list of user preferred trajectories (UPTs) with acceptable variation for each UTP. System designed to recognize and equitably handle variations.
- d. Will support increased use of UTPs by encouraging deconfliction even in complex airspace.

7.60. The prototype is currently in development, and future operational trials and implementation are yet to be determined.

7.61. United Airlines asked about the priority of the UTP program and whether there would be an opportunity for aircraft operators to be involved in the development of the interface and offer feedback. Based on the information presented, the meeting agreed to **close Action Item CP15-02** and open a **new Action Item CP16-04** to monitor the progress of the UTP program.

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

7.62. The FAA presented traffic count data over RTE and Anchorage Arctic FIR fixes. During the Pacific Project Team meeting, IATA requested more detailed information on North Pacific (NOPAC) traffic data, specifically, an hourly breakdown of traffic and traffic count data based on day of week. ZAN has the data available, but asked that IATA provide specific details on the information detailed counts requested.

CP15-04: Develop CPWG Volcanic Ash Contingency Plan

7.63. During CPWG/15, the meeting agreed that there was a need to develop an LOA between Petropavlovsk-Kamchatsky and Fukuoka ACCs and to consider opportunities for reroute transitions.

7.64. JCAB provided information on the temporary LOA that had been developed for VOLKAM14. The LOA included temporary bi-directional routes to be used for avoidance of volcanic ash. State ATM expressed their appreciation to JCAB for their cooperation.

7.65. IATA and FAA will provide comments on temporary routes during VOLKAM14 planning meetings. In addition, the airlines requested that consideration be given to making these temporary routes available on a permanent basis, leading to **New Action Item CP16-05**.

7.66. In response to the request at CPWG/15 that routings from the Russian Far East (RFE) to NOPAC be developed, IATA was asked to provide optimal routings to State ATM and JCAB.

CP15-05: Consider amending LOAs between adjacent ACCs to introduce provisions on contingency reroutes

7.67. Discussion was deferred to the next meeting.

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

7.68. Due to other priorities, no action had been taken on this action item. State ATM agreed to prepare a draft template for review at CPWG/17.

CP15-07: Formalize teleconference format and process taking into consideration collaborative decision making (CDM)

7.69. State ATM informed the meeting that teleconference procedures will be covered in the VOLKAM14 directive.

CP15-08: Provide an update from Air Traffic Management Group (ATMG) with respect to NAT Volcanic Ash Contingency Plan

7.70. Isavia provided the requested update, advising the meeting that the NAT ATMG and NAT Implementation Management Group (IMG) had started discussions on the way forward in regard to the future of the NAT Volcanic Ash Contingency Plan and the regional volcanic ash exercises. Further discussions were expected to be held at the March 2014 meeting of the ATMG, and an update will be provided to CPWG/17.

CP15-09: Streamline the process for establishing danger areas through NOTAM process

7.71. The meeting noted that discussions were underway as part of the VOLKAM14 planning for each ANSP to ensure that they establish danger areas within their own FIRs.

7.72. The updated Action List is at **Appendix C**.

8. Agenda Item 6: ATS Route Catalogue Update

8.1. Based on ideas and proposals from IATA member airlines, State ATM Corporation developed two new route proposals that would supplement the existing cross polar routes and provide additional flexibility. The routes presented were:

- a. 7957N16858W – RODOK to join G495
- b. 7457N16858W – LUTEM – OLMIN – TURAN – ASKIB

8.2. The FAA agreed to review the routes and make an effort to limit restrictions. These routes will be added to the ATS Route Catalogue.

8.3. The meeting reviewed the updated ATS Route Catalogue presented by State ATM (**Appendix D**), which contained status and information on route proposals since CPWG/15.

8.4. During the discussions on Other Business, a request was made by IATA that more time be devoted at future meetings to reviewing the changes to the ATS Route Catalogue.

9. 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, a new Mid-Term Goal to implement further reductions to lateral separation in the Edmonton FIR was added. The following items were considered as completed and moved to the list of Completed Activities:

- a. Eliminate 10 min track loading for RTE over Anchorage/Russian Boundary
- b. Remove requirement for flight to file NOR OTS routes over Canada (NAV CANADA)
- c. Implement ADS-C periodic contract and lateral and vertical conformance monitoring (Isavia)
- d. Implement AIDC/OLDI for data exchange (Reykjavik and Edmonton FIRs)
- e. Develop Arctic ATM Operational Contingency Plan

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

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

ANSP Updates

NAV CANADA

10.1. NAV CANADA presented information on their organization and services. Key Polar highlights for 2013 included the removal of the Northern Organized Track System (NOR OTS), additional improvements to conflict prediction with the addition of medium term conflict prediction. The domestic deployment of CPDLC was almost complete with training underway for Toronto ACC. Customer improvements underway included route smoothing support, Q and T routes, new airspace structure and ATC peripheral frequencies. NAV CANADA reported that they were providing UPR support to Korean Airlines for 242 weekly flights by A380 and B747 aircraft, saving 200-1800 lbs of fuel per flight.

10.2. Future improvements planned included ADS-C in support of required navigation performance (RNP) 4, continued UPR support, continued close consultation with customers, improvement to performance based navigation, and RNP for most Canadian airports.

10.3. NAV CANADA also informed the meeting of their goal to reduce aircraft separation minima through Automatic Dependent Surveillance - Broadcast (ADS-B) (out) via global Low Earth Orbiting (LEO) satellites. The initial focus is on NAT OTS due to the number of operations and the current equipage of the fleet operating in that airspace. Benefits have been identified for safety, environment/efficiency, and predictability/reliability. Based on simulations involving over 600 flights, a conservative estimate indicated fuel savings of 450 litres per NAT flight, with Year One benefits estimated at \$127M for 2018. Overall oceanic assessment benefits totalled an estimated \$439M for 2018.

10.4. Future actions planned include continued collaboration with ANSPs, IATA, industry, ICAO and the regulator to demonstrate and validate incremental improvements; and leveraging existing technology in order to continue to improve service. Operational trials involving airlines and ANSPs will be used to demonstrate capabilities and support the safety case.

FAA/Anchorage ARTCC

10.5. ZAN provided an update on the Anchorage Arctic FIR NOTAMs, the ATOP “60’s” and Sector 64 transition and benefits, and traffic count information.

10.6. It was noted that no space launch activity was planned before CPWG/17.

10.7. FAA continued to develop procedures for the wider introduction of unmanned aircraft systems (UAS) in the United State National Airspace System. UAS activities in U.S. controlled Arctic airspace have been limited to low altitude operations, i.e., below FL180.

10.8. No large scale military exercises were planned until summer 2014.

State ATM Corporation

10.9. State ATM Corporation presented information on the improvements to the airspace infrastructure in the Russian Federation, noting the implementation of 42 international routes and new entry/exit points established in 2013. Four major projects are underway, including the preparations for the Universiade-2013 in Kazan and 2014 Winter Olympic Games in Sochi, ACC consolidation, Barometric Pressure Adjusted to Sea Level (QNH) implementation, and a new airspace structure for the Moscow area.

10.10. An overview of the Russian airspace traffic density was presented, as well as a detailed briefing on the plans for the 2014 Olympic Games in Sochi. State ATM briefed that the Olympic Headquarters will be in operation from 7 January until 21 March in support of the Olympic and Para-Olympic games. It is expected that the busiest flight operation day will be 24 February, with 470 operations expected on that day. The previous busy day involved 260 operations. Jeppesen was commissioned to confirm that 24 take offs per hour can be accommodated, and this has been confirmed.

10.11. The airport is well prepared with air traffic controllers being added from Moscow, Rostov and St. Petersburg to augment the local team. Restricted areas and prohibited areas are being set up. There are two locations for events: the Mountain Cluster in a remote location for outdoor events and the Coastal Cluster for indoor events.

10.12. In addition to the increased operations, another challenge will be the lack of parking stands at Sochi airport. Parking can only be permitted for up to two hours. Passengers will be disembarked and the aircraft will have to go elsewhere. Also, only three wide-bodies can be accommodated at a time. Slot allocations are being considered and strict compliance will be required. Medium haul flights will have a 30 minute window. Long haul flights will have a 45 minute window. Therefore, extremely accurate departure information on arriving flights will be required.

10.13. The alternative and parking airfields are within the Restricted Area. However, not all of them are international airports, so special permission will be required. Also, wide-bodies cannot be accommodated, so diversions would need to go to Ukraine or Turkey (Ankara). The MATMC is working to establish AIDC with the EUROCONTROL Central Flow Management Unit (CFMU).

Isavia

10.14. Isavia updated the meeting on the implementation of AIDC with Edmonton ACC, which took effect on 9 September 2013. Regarding oceanic clearances issued by Reykjavik Control, operators were asked to note that a NOTAM was issued stating that, because of complications associated with the adoption of automated coordination protocols between Reykjavik and Edmonton, there is a need to start eastbound routes in the oceanic clearance at the Edmonton/Reykjavik boundary. In the absence of a named boundary crossing point, Reykjavik's oceanic clearance will specify the lat/long at which the boundary should be crossed on the flight-planned route. Due to differences in algorithms, these calculated points may differ slightly from the avionics-calculated fir boundary. The system calculated lat/long boundary crossing point is identified as an entry point change in the oceanic clearance message. A position report is required.

10.15. Isavia noted that effective November 2014, the responsibility for volcanic ash avoidance will rest with the aircraft operator/aircrew. A proposed amendment to ICAO *Procedures for Air Navigation – Air Traffic Management* (PANS-ATM), paragraph 15.8 reads:

“... suggest appropriate re-routing to avoid areas of reported or forecast ash clouds when requested by the flight crew or deemed necessary by the controller...”

10.16. Isavia was of the view that this amendment is not complete or clear. When ATS has passed all available information to the crew, the decision should rest with the pilot in command.

Avinor

10.17. Avinor informed the meeting that the Air Navigation Services (ANS) division of Avinor will be established as a separate company owned by Avinor in 2014. The date will be determined by the Avinor board on 27 March 2014. All Avinor ANS employees will be transferred to the new company.

10.18. Regarding the re-organizing the Area Control Centers in Norway, a decision to operate only one ACC unit in Norway was made in 2012. In September 2013 it was decided to keep the three locations (Bodo, Stavanger and Oslo) for enroute services, and organize it as one unit. The goal is increased efficiency through standardization, centralized management, support and training to meet the Single European Sky requirements. A plan to achieve the goals is to be presented by the end of the year. After extensive analysis, Avinor management believes this will give the best solution when taking into account economic demands, risk, capacity to execute the change, and to meet external requirements.

10.19. An update on the new ATM system was presented. The new system will offer data link (CPDLC and ADS-C) service, oceanic clearances via CPDLC, AIDC/On-Line Data Interchange (OLDI) capability, and will reduce controller workload while increasing sector capacity. The new system is scheduled to be operational on AIRAC date 29 May 2014.

10.20. A project had started to replace three old HF transmitter and receiver stations with new installations, with a target date for implementation date of 30 June 2014.

10.21. Another project to add an extra VHF radio has started, which will provide improved VHF coverage in the eastern part of oceanic airspace along the border with Murmansk FIR. This is expected to be completed in summer 2014.

10.22. Information was also provided on Longyear Airport (ENSB) as a possible enroute alternate. Further information is available in the Norwegian Aeronautical Information Publication at <http://www.ippc.no>.

Air Navigation Services of Mongolia

10.23. Air Navigation Services of Mongolia briefed on their organization, services provided and airspace management. Mongolia shares nine entry/exit points with the Russian Federation, and six with China. A new entry/exit point has been established 110 km west of NIXAL to shorten flight distance and save fuel.

10.24. Longitudinal separation minima was reduced from 10 minutes to 90 km in August 2012, and plans were underway to further reduce to 30 km in 2014. New plans for 2014 were reported, including two additional monopulse secondary surveillance radars (MSSR), a new ACC facility and automation system, and five ADS-B sites.

10.25. United Airlines commented that Mongolia had provided good support to cross polar operations and appreciated their flexibility in providing new routings when needed.

Airline Updates

American Airlines

10.26. American Airlines presented a case study of events on 16 October 2013 during the eruption of the Kliuchevskoi Volcano on the Kamchatka Peninsula. Ash levels were forecasted to reach FL280. Based on subsequent advisories issued by Tokyo Volcanic Ash Advisory Center (VAAC) and volcanic ash Significant Meteorological Information (SIGMETs) issued by a contract weather information provider, there was concern of possible greater impact than originally anticipated. This caused a revision to the Pacific tracks 10 degrees south of their original location.

10.27. Following coordination with the ATCSCC, ZAN, Oakland ARTCC and other airlines, the dispatcher issued a reroute to the aircraft. Due to automation issues within the US, neither of the domestic ATC Centers had received the new flight plan. The Flight Crew was required to work out the new routing with the ATC Controller working the flight at the time. It took the Flight Crew 30-45 minutes to work out the final routing up through Canada with ATC.

10.28. ATC was able to provide clearance on some requested “shortcuts” that allowed the flight to save fuel and complete the flight all the way to Tokyo Narita Airport without further problems.

10.29. During the discussion of the events, the FAA noted that the domestic dispatchers on the ad-hoc telephone conference call did not understand the volcanic situation in Pacific airspace. The airlines agreed that international dispatchers should have been involved. Another similar event occurred during which three different agencies were issuing SIGMETs for a similar area. The FAA agreed to look into issues relating to communications between dispatchers and the ATCSCC and report to CPWG/17. **Action Item CP16-06** was opened.

United Airlines

10.30. United Airlines proposed a new route that could be used by all airlines to avoid headwinds and possibly to also avoid Pacific ring of Fire Volcanic ash. The route could be uni-directional westbound as it would join the tail-end of R220 but arrives in Japanese airspace within radar coverage.

10.31. The proposed routes would be from NETRI to NODAN, UB and/or BAMOK, UK to ERNIK, and BAMOK to ERNIK. **New Action Item CP16-07** reflects this request.

11. Agenda Item 9: Other Business

11.1. NAV CANADA requested that the CPWG carefully consider the number of days needed for future meetings. The suggestion was made to eliminate the ANSPs meetings or conduct them by phone conference, to hold the Pacific Project Team meeting on the morning of Day One, with the plenary meeting starting the afternoon of Day One and concluding at the end of Day Three. This suggestion would be taken into consideration when planning CPWG/17.

11.2. Avinor noted that a representative from INMARSAT had briefed the NAT Communications, Navigation and Surveillance Group and indicated that the new INMARSAT satellites would not provide coverage over the North Pole. It was suggested that INMARSAT be invited to send a representative to CPWG/17 to address this matter. **New Action Item CP16-08** was opened.

12. Agenda Item 10: Next Meeting

12.1. State ATM Corporation generously offered to host the CPWG/17 meeting in the Russian Federation. It was agreed that the next meeting would tentatively be held in Samara during the first week of June 2014. Further details and information on travel requirements would be made available closer to that date.

12.2. It was proposed that the CPWG/18 meeting in late 2014 be held at the ICAO EUR/NAT Office in Paris, France. Details will be discussed at the next meeting.

13. Closing of the Meeting

13.1. Leslie thanked all participants for their support and participation in the meeting. The meeting expressed appreciation to Leslie for serving as facilitator of the meeting on short notice.

State ATM Corporation (Russia)

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

Mr. Vladimir Mitin
Deputy Head of ATM Division
State ATM Corp
Tel: +7 495 6010815
Fax: +7 495 6010795
e-mail: mitin@gkovd.ru

Mr. Igor Lymar
Head Specialist, Aeronautical
Telecommunication Division
State ATM Corporation
Tel: +7 495 6010832
Fax: +7 495 6010795
e-mail: Lymar@gkovd.ru

NAV CANADA (Canada)

Jeff Dawson
Director, Operational Support
NAV CANADA
77 Metcalfe Street
Ottawa, Canada
Tel: +1 613-563-7341
e-mail: Jeff.Dawson@navcanada.ca

Heather Bell
GMFIR Vancouver
NAV CANADA
7421 135th St
Surrey, Canada
Tel: +1 604 868-4273
e-mail: bellh@navcanada.ca

Bob Fiege
Manager, ACC Operations Edmonton
NAV CANADA
4369 34 Street
Edmonton, Canada
Tel: +1 780-910-6967
e-mail: fieger@navcanada.ca

Carole Stewart
Manager, Enroute and Oceanic
Development
NAV CANADA
Tel: +1 613 563 5707
e-mail: carole.stewart@navcanada.ca

Richard Sletten
Shift Manager, Edmonton ACC
NAV CANADA
Edmonton International Airport
Tel: +1 780-890-8397
Fax: +1 780-890-8011
e-mail: sletter@navcanada.ca

Scott Loder
Arctic High Specialty Supervisor YEG ACC
NAV CANADA
Edmonton International Airport
Tel: +1 780-890-4712
Fax: +1 780-890-8011
e-mail: loders@navcanada.ca

Richard Snider
Shift Manager, Montreal ACC
NAV CANADA
1750 Ch St-Francois
Dorval, PQ H9P 2P6 Canada
e-mail: sniderr@navcanada.ca

Larry Lachance
Vice President, Operations
NAV CANADA

Rob Thurgur
Assistant Vice President, Operational
Support
NAV CANADA

Trevor Johnson
Assistant Vice President, Service Delivery
NAV CANADA

ISAVIA (Iceland)

Thordis Sigurdardottir
Manager, Reykjavik ACC
Isavia
Reykjavik Airport
Reykjavik IS101 Iceland
e-mail: thordis.sigurdardottir@isavia.is

Avinor (Norway)

Morten Tjonndal
Head of Operations
Bodo ATCC
Avinor AS
Bodo Kontrollsentral
8041 Bodo, Norway
Tel: +47 91105587
e-mail: morten.tjonndal@avinor.no

Civil Aviation Bureau of Japan

Mr. Takayuki Harada
Special Assistant to the Director
ATC Division
Civil Aviation Bureau, Japan
2-1-3 Kasumigaseki, Chiyoda-ku
Tokyo 100-8918 Japan
Tel: +81-3-5253-8749
Fax: +81-3-5253-1664
e-mail: harada-t2en@mlit.go.jp

Mr. Natsuki IBE
Special Assistant to the Director, Air
Navigation Services Planning Division,
Civil Aviation Bureau
2-1-3, Kasumigaseki, Chiyoda-Ku, Tokyo,
100-8918 Japan
Tel: +81-3-5253-8739
Fax: +81-3-5253-1664
e-mail: ibe-n24hy@mlit.go.jp

Civil Aviation Authority of Mongolia

Dorjsuren Nanzad
Director, Air Navigation Policy Division
Civil Aviation Authority of Mongolia
Ulaanbaatar Mongolia
Tel: +976-11-282020
Fax: +976 11 282111
e-mail: Dorjsuren@mcaa.gov.mn

Atartsetseg Tegshjargal
Director, Flight Planning and Traffic Flow
Management Division
Civil Aviation Authority of Mongolia
Ulaanbaatar Mongolia
Tel: +976-11-282012
e-mail: atartsetseg@mcaa.gov.mn

Federal Aviation Administration (USA)

Steve Pinkerton
FAA
En Route and Oceanic
600 Independence Avenue, SW, 6th Floor
Washington, DC 20591 USA
Tel: +1 202-385-8384
e-mail: steven.pinkerton@faa.gov

Leslie McCormick
Air Traffic Control Subject Matter Expert
CSSI Inc.
8201 Corporate Drive, Suite 750
Landover, MD 20785 USA
Tel: +1 417 365 1837
e-mail: Lmccormick@cssiinc.com

Keith Dutch
FAA National Headquarters
600 Independence Ave., SW
Washington, DC 20597 USA
Tel: +1 202-385-8459
e-mail: keith.dutch@faa.gov

Steve Kessler
Support Manager
Anchorage Air Route Traffic Control Center
700 North Boniface Parkway
Anchorage, AK 99506-1697 USA
Tel: +1 907 269 1220
Fax: +1 907 269 1186
e-mail: steve.kessler@faa.gov

Elie Nasr
FAA
5430 Moscow Place
Washington, DC 20521 USA
Tel: + (749) 572-85125
e-mail: elie.t.nasr@faa.gov

International Air Transport Association

Blair Cowles
Assistant Director – Safety and Flight
Operations
IATA
111 Somerset Road
#14-05, Triple One Somerset, Singapore
Tel: +65 9720 8443
Fax: +65 6233 9286
e-mail: cowlesb@iata.org

Dmitry Kosolapov
Assistant Director, Infrastructure
IATA
2 Block 1
Paveletskaya Square
Moscow 115054 Russia
Tel: +7 495-258-0780
Fax: +7 495 258 0780
e-mail: kosolapovd@iata.org

International Airlines/Operators

Gene Cameron
Manager, Global Support Flight Dispatch
United Airlines
P.O. Box 576
Applegate, CA 95703 USA
Tel: +1 530-878-8791
Fax: +1 530-878-8791
e-mail: gene.cameron@united.com

Edgar Vaynshteyn
Regional Manager ATC OPS
United Airlines
1374 Michelle Cir
Schaumburg, IL 60173 USA
Tel: +1(847)921-8708
Fax: +1(847)995-1770
edgar.vaynshteyn@united.com

Gregg Scott
Supervisor, International Operations Flight
Control
Delta Air Lines, Inc.
P.O. Box 20706
Atlanta, GA 30320-6001 USA
Tel: +1 678-823-2892
Fax: +1 404-773-6298
e-mail: gregg.scott@delta.com

Tom Jewett
Delta Air Lines, Inc.
P.O. Box 20706
Atlanta, GA 30320-6001 USA
Tel: +1 678-823-2892
Fax: +1 404-773-6298
e-mail: tom.jewett@delta.com

Ray Howland
Manager, SOC Systems Planning
American Airlines
P.O. Box 619617
MD875 GSWFA
Dallas Ft. Worth Airport, TX 75261 USA
Tel: +1 817-967-8343
Fax: +1 817-967-8320
e-mail: ray.howland@aa.com

Rita Fu
Professional Dispatcher
Flight Control Dept., Flight Operation Div.
Eva Airways Corporation
Tel : +886-3-351-6373
Fax : +886-3-351-0024
e-mail: ritafu@evaair.com

Fred Hsu
Professional Dispatcher
Eva Airways Corporation
Tel: +886 3 3516074
Fax: +886-3-3510024
e-mail: fredhsu@evaair.com

Peter Raw
Aeronautical Services & ATM | Flight
Operations Support
Emirates Airlines
P.O. Box 686 |
Tel: +971 4 708 4302
Dubai, United Arab Emirates
e-mail: peter.raw@emirates.com

Tobin Miller
Manager, ATC Systems International
American Airlines
Terminal B – Room 114
Washington Reagan National Airport
Washington, DC 20001 USA
Tel: +1 703-419-6533
e-mail: tobin.miller@aa.com

Greg Dale
Manager International Operations Planning
United Airlines
Fax: +1-713-324-5095
e-mail: Greg.Dale@united.com

CPWG/16 Summary of Discussions
Appendix A - Participants List

Kori Hosono
Manager, Flight Operations Standards
Nippon Cargo Airlines
NCA Line Maintenance Hangar
Narita International Airport
Narita-shi, Chiba 282-0011 Japan
Tel: +81 476 32 9840
Fax: +81 476 32 9776
e-mail: koji.hosono@nca.aero

Hiroki Norose
Route Planning Flight Operation Standards
Operations Support Center
ANA / All Nippon Airways Co Ltd
3-3-2 Haneda INTL Airport,
Ota-ku, Tokyo, Japan
phone: +81-3-5757-5692
fax: +81-3-5757-5404
e-mail: h.norose@ana.co.jp

Mei Qiang
Operation Support Manager
Air China, Ltd
Capital International Airport
Beijing, China 100621
Tel: + 86-10-64537267
Fax: + 86-10-64599187
e-mail: lionmei@airchina.com

Weston Li
Flight Operation Manager
Air China America
106 7331 ST Albans RD, Richmond, BC,
Canada, V6Y 2K4
Tel: +1-604-233-1682
Fax: +1-604-232-1684
e-mail: liwenhua@airchina.com

Jingze Liu
Air China
Operation Control Center of AIRCHINA
Capital International Airport
ChaoYang District
Beijing 100621 China
Tel: +86 10 64537267
Fax: +86 10 64599187
e-mail: liujingze@airchina.com

Kent Sharrar
Dispatch Instructor / ATC Coordinator
Hawaiian Airlines
3375 Koapaka Street, Suite C350
Honolulu, HI 96819 USA
Tel: +1 808-226-0407
Fax: +1 808-838-5569
e-mail: Kent.Sharrar@hawaiianair.com

Industry

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

**Pacific Project (PPT/6) Meeting Report
Ottawa, 3 December 2013**

1. Welcome and Introductions

- a. Blair Cowles, IATA, opened the meeting
- b. Self-introductions
- c. Reviewed proposed agenda – no comments were offered

2. Pacific Project Team Members Updates

- a. **Japan Civil Aviation Bureau (JCAB)** provided an update from the last Informal Pacific Air Traffic Control Coordination Group (IPACG):
 - Review of User Preferred Routes (UPR) :
 - Japan-North America (Track3) UPR started official operation 14th November 2013.
 - North America- Japan (Track F) UPR trial operation started 25th July 2013.
 - Japan-Koror UPR trial operation started 25th July 2013.
 - Japan-Hawaii DARP trial operation started 22th August 2013.
 - Examination of Track2 UPR will be presented at next IPACG
 - The IPACG meeting scheduled for October 2013 was postponed until 3-7 Feb 2014 and is the 25th anniversary meeting.
- b. **State ATM Corporation** reported that they are presenting two new cross-polar routes to the CPWG and are working with JCAB on new route between P-K and Fukuoka FIRs (initially only for use during VOLKAM/14 but both parties will consider something more permanent). A meeting was held in Moscow very recently and based on the meeting they will begin working on an implementation plan, including timelines, for UPRs. State ATM will aim to provide an update at PPT/7.
- c. **IATA** reported on two items:
 - A letter was received from V. M. Okulov, Deputy Minister of Transport of the Russian Federation, which provided support the Pacific Project and suggested that TRASAS/4 might be a good vehicle for pursuing some of the PPT aims.
 - In November 2013, ASPIRE demonstration flights were conducted. The aim was to demonstrate what fuel savings are achievable within the existing constraints of the ATM system. This demonstration program involved four flights which were undertaken without any priority handling. Metrics are still being reviewed, but flights to Australia saved around 6-7 minutes. The HKG-ANC flight did not fare so well with issues created right from the takeoff roll by traffic immediately behind the flight on the same route.
- d. **United Airlines (UA)** is transitioning the Continental side of their flight planning system onto the SABRE system. They are aiming to get the best route optimization possible. UA thanked Russia for their efforts and the possibility of getting UPRs as per the State ATM update. UA asked the FAA and NAV CANADA to continue work on AIDC and for FAA to continue to make progress with the full deployment of ATOP. UA would like to get rid of the restrictions at 141W. UA's B788 aircraft are not yet on the SABRE system but once they are UA is looking forward to as much flexibility as possible in accommodating different routings and the B788's climb performance.

- e. **Emirates (EK)** uses a different flight planning system. EK raised concerns about restrictions at 141W being based on potential conflicts, and they would like to be able to eliminate those when possible. EK (and IATA/all member airlines) would like to see ANSPs tailor restrictions from 24/7 to only the times when needed due to traffic density and or complexity. IATA endorsed this view that many restrictions are unnecessarily applicable 24/7 and asked ANSPs to consider identifying and removing “blanket restrictions” that are in place during low traffic periods.
- f. **American Airlines (AA)** agreed with other comments. As they are going to be merging with US Airways and creating a much larger airline it is very likely that they will be deploying new resources into the Pacific airspace. They are also looking at a new flight planning system and adding 787s, and eventually A350s, onto Pacific routes.

3. **Pacific Project Team/5 Action Items Review (WP/02)**

- a. PPT02-04: Will begin working on implementation plans for UPRs. Will update next meeting.
- b. PPT02-05: IATA will present a paper to IPACG in Feb to offer some options. JCAB continues to study restrictions on Track 2 and will introduce the study to remove some of the restrictions.
- c. PPT04-01: FAA had discussions at OWG to look at changing the track generation times, but it did not appear to be feasible to the airlines. The resolution would have been earlier in the midnight shift which would have been a workload and human resource issue for FAA. Add to action item:
 - o IATA will canvass airlines and analyze the optimum time; and
 - o ask FAA to generate tracks at a more optimum time.
- d. New Action Item: IATA would like a ZOA representative to come to the Pacific Project Team meetings.
- e. PPT04-02: Still ongoing. Restrictions are already listed by NOTAM. IATA hopes to have graphical representation and priorities of those to eliminate for the next meeting. UA asked if there had been any look at the ZAN/ZOA boundaries that might allow for reduction of restrictions.

ZAN and ZOA are looking at this and working on possible airspace changes to allow 30/30 to be used in airspace in the Kodiak area. There should be a resolution in early 2014. ZAN will provide an update at OWG and IPACG. Blair noted that IATA has raised the level of the Pacific Project from regional tracking and management to global – higher level focus. This may lead to increased resources and funding options.
- f. PPT05-01: FAA has a paper for the Plenary regarding developments of getting early intent data. DOTS+ is in a system maintenance mode, but this is under development as part of the User Trajectory Planning program.
- g. PPT05-02: ZAN has traffic count information, and will do that, but would like to know exactly what is desired (certain week or number of weeks?).

IATA agreed to canvas airlines and provide ZAN with more specific details.
- h. PPT05-03: Creation of these limited tracks would require FAA rulemaking, which would be a 3-5 year process and may not ever be approved. Can look at it and discuss further. UA said they understand the exclusionary airspace issues. Right now PACOTS get priority over UPR – why

not determine that best equipped get priority over those with lesser capabilities, i.e. *best equipped (or most capable)-best served?* The current lack of priority for RNP4 certified aircraft could also be considered an inhibitor to those operators that have invested in equipage and training and are prevented from getting the benefit of their investment. Russia is considering the impacts. JCAB advised that it takes them 2-3 years to make the changes and they would need to develop a long-term schedule.

- Note for IATA: Trent Bigler, FAA, may have the information as to who can/cannot get RNP4 approval.
- i. PPT05-04, PPT05-06: Core Team has had one telcon, but has not progressed very much. Lack of a concrete work program has been a factor and it is hoped that this alter as a result of today's meeting.
- j. PPT05-05: IATA is working on this and will have something around Feb 2014.

4. **Pacific Project 2014 Work Plan Discussion**

- a. **Shorter term initiatives** – WP/02 is a list of requested shorter term initiatives submitted for consideration with the aim of inclusion in the 2014 Pacific Project Work Plan.
 - Removal of the requirement to file slots for RFE / Polar routes or earlier access to information as an interim step. UA not in favor of eliminating GRL or slots. With DPO, it is easier for the airlines to input and have situational awareness. Delta (DL) agreed and said that ZOA was willing to get rid of it but it helps the airlines to make deconflicting decisions. ZAN would like to keep it. State ATM agreed that situational awareness is assisted by the requirement but would like ZAN to continue to work toward zeroing track load times for all routes.
 - Expansion of AIDC to facilitate seamless AIDC between NAV CANADA, the FAA, JCAB and State ATM. Updates provided:
 - Vancouver is waiting for connection with NAM ICD with ZOA;
 - FAA latest update is that they will start working on it and 1st quarter 2014 is a good estimate;
 - State ATM working on Magadan/Khabarovsk with ZAN in 2015-2016;
 - Fukuoka is looking at 2015 with State ATM.
 - Identification of areas where radar transfers may be possible in order to improve lateral/longitudinal separation requirements: IATA asked that ANSPs look at boundary coordination procedures and moving toward radar handovers where possible. Radar handovers between ZAN and Magadan are planned but are dependent upon SSR infrastructure improvements by State ATM. This work is planned with a 2015-16 timeframe.
 - The ability to UPR in/out of Russian airspace from/to Anchorage: As indicated earlier State ATM is starting work on a UPR implementation plan, and depending upon resources they may be able to provide details of the plan, including timelines, by PPT/7.
 - The ability to file a UPR from either Oakland or Anchorage FIRs to non-prescribed waypoints on the Fukuoka FIR boundary (could be a published fix or lat/long on the boundary): ZAN automation does not allow to UPR beyond Shemya radar volume at this

time, which is some distance to Fukuoka boundary. Not planned for FAA review at this time, but will look into it. Requires changes to Ocean21 which IATA will lobby for.

- Track generation times as close as practical to the time of flight in order to take advantage of the best possible wind models: IATA will liaise with the FAA to provide more specificity in terms of this request, particularly a consolidated member airline view on the optimum track generation time.
- Establish transitions from Russian airspace to R220: This has been previously discussed in terms of having Russian routes join NOPAC. JCAB will address this tomorrow in the plenary meeting. JCAB and State ATM prepared draft LOA for use during volcanic exercise VOLKAM14 and will continue dialogue to evaluate establishing something more permanent. State ATM said that they tried to establish three transition routes, and the LOA will allow the routes to support the transitions in the future.
- Review the westbound NOPAC structure and consider moving R220 further north: ZAN said there is discussion with P-K on the LOA to utilize that airspace, but no consideration of moving R220. They can take this under advisement and have discussions. Moving R220 closer to Russian boundary would require realignment of the airspace and it would also need to be classified as RNP4 airspace. ZAN need to look at a way to accomplish this task. State ATM said this is not feasible at this time.
- Start R220 and R580 further west and allow UPRs to those start points: Currently very close to Alaska – the suggestion is to start it about 500 miles farther west, closer to Shemya. State ATM said that it could be considered. Could start at NATES and ONEAL but would not want to start too far west of St Paul. ZAN will discuss internally. No impact on P-K traffic.

b. Longer term initiatives

- IATA plans to present a WP to IPACG in February proposing that the whole of ZOA airspace (excluding CENPAC routes to/from Hawaii-mainland USA) allows UPRs, starting with flights from the Fukuoka FIR boundary eastbound. The staging would then involve westbound flights and gradually move further into the Fukuoka FIR in a phased approach. IATA will suggest that the Pacific Project could monitor the project. IATA would offer simulation and modeling resources to be used in a collaborative manner with the FAA and JCAB.

c. TRASAS/4 March 24-28 2014

- Discussion regarding planned participation and papers.
- IATA will be represented by APAC Regional Director.
- ACTION ITEM: FAA and IATA to work together on a paper to go to TRASAS/4.

d. Other business

- State ATM commented that there was an agreement that China was not part of Pacific Project but as they have established relevant new routes and boundary fixes the project should consider revisiting this determination.
- IATA reported on a Special Coordination Meeting held in Beijing in September 2013 which included a Chinese delegation. The meeting was productive and the Chinese took some action items away. One of the issues raised at the SCM was the scope and coverage of the different forums. A key question is how far should the reach of the PPT and

CPWG extend? China has not been participating in the CPWG, but is involved with other forums. IATA offered to host another SCM in Beijing in Sept 2014 and continues to actively engage with China through their North Asia office. UA said issues go back to 2000 when question was raised about a Chinese entry point TULOK. Discussion ensued about how to gain their interest and participation through ICAO, IATA, etc.

- Blair will find out if China plans to attend TRASAS (through the IATA North Asia office – or ICAO). The issues could be raised there about Chinese participation.

5. **Review of Seamless Airspace Table:** work in progress

6. **Summary and Meeting Close**

- Blair will summarize for discussion on Thursday and update Action Items for PPT/6.

Pacific Project Team/6 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/7.	May 2014	Open
PP02-05	Realignment of the NOPAC	JCAB and FAA will continue to pursue options for realignment of the NOPAC in conjunction with the Pacific Project. .	JCAB/FAA/IATA	JCAB continues to study restrictions on Track 2 and will introduce a study to remove some of the restrictions IATA will provide input from airlines as and when required.	May 2014	Open

CPWG/16 Summary of Discussions
Appendix B-1 –Pacific Project Team Action Item List

Action Number	Goal	Information/Status	Responsible Organization	Action Pending	Action Due	Status
PP04-01	Eliminate constraints used for track generation	FAA/JCAB to provide details of variables and track generation rules to be reviewed collaboratively	FAA/JCAB/IATA	FAA had discussions at OWG to look at changing the track generation times, but it did not appear to be feasible to the airlines. The airline suggested resolution would have been earlier in the midnight shift which would have been a workload and human resource issue for FAA. IATA will canvass airlines and develop a consolidated airline position on the optimum track generation time for the FAA to consider.	May 2014	Open
PP04-02	Eliminate constraints for flight planning	Collect and review information on airspace constraints, justification and any plans to eliminate them.	FAA/JCAB/IATA	Restrictions are already listed by NOTAM. IATA aim to have a graphical representation and prioritization list of those to eliminate for the next PPT meeting.	May 2013	Open
PP05-01	Improve flight planning and eliminate constraints	IATA and the airline operators asked if it were possible to get early intent data from the DOTS+ system to assist with flight planning and track balancing.	FAA	DOTS+ is in a system maintenance only mode. The provision of early data is under development as part of the User Trajectory Planning program.	May 2014	Open
PP05-02	Collect NOPAC traffic count data	IATA asked if it were possible to get more detailed information on NOPAC traffic data, specifically, an hourly breakdown of traffic and traffic count data based on day of week.	FAA/IATA	ZAN has traffic count information, but would like to know exactly what is desired by IATA/the airlines. IATA agreed to provide more specific details.	May 2014	Open

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Action Number	Goal	Information/Status	Responsible Organization	Action Pending	Action Due	Status
PP05-03	Improve efficiencies	IATA and operators requested that the FAA evaluate the possibility of developing "best equipped, best served" flex tracks in the Pacific.	FAA/IATA	Creation of such limited access tracks would require FAA rulemaking, which would be a 3-5 year process and may not ever be approved. JCAB indicated a similar timeframe if a rule change is required. IATA will reconsider and formalize the request.	May 2014	Open
PP05-04	Establish Core Pacific Project Team	IATA and FAA to work with other PPT members to establish a core team to narrow the focus of the PPT and avoid duplication of efforts.	Pacific Project Core Team	First telecon has been held however the lack of a concrete work program has been a limiting factor in terms of the efficacy of the team.	May 2014	Open
PP05-05	Determine baseline capabilities	To narrow and streamline the work of the Pacific Project, a determination of current capabilities and capacities is desired.	Pacific Project Core Team	IATA is compiling the information and will present a table for consideration at PPT/7	May 2014	Open
PP05-06	Develop work program	Core team to determine a plan of action with desired goals.	Pacific Project Core Team	IATA to present a draft work program with timelines to the PPCT for consideration after IPACG in February 2014.	May 2014	Open
PP06-01	FAA Meeting Representation	IATA requests that an Oakland Center representative is added to future PPT/CPWG meetings.	FAA	FAA will assess the request.	May 2014	Open

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Appendix B-1 –Pacific Project Team Action Item List

Action Number	Goal	Information/Status	Responsible Organization	Action Pending	Action Due	Status
PP06-02	ZAN/ZOA boundaries changes that might allow for the reduction of flight planning restrictions.	ZAN and ZOA are looking at this and working on possible airspace changes to allow 30/30 to be used in airspace in the Kodiak area.	FAA	There should be a resolution in early 2014. ZAN representative to update the next OWG and PPT/7.	May 2014	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.	May 2014	Open
PP06-04	Expansion of radar transfers to improve lateral/longitudinal separation requirements.	IATA asked that ANSPs look at boundary coordination procedures and moving toward radar handovers where possible.	FAA/State ATM	Radar handovers between ZAN and Magadan are planned but are dependent upon SSR infrastructure improvements by State ATM. This work is planned with a 2015-16 timeframe.	May 2014	Open
PP06-05	Establish transitions from Russian airspace to R220.	As a result of outcomes from VOLKAM13, and requests from airlines, JCAB and State ATM have engaged in bilateral discussions regarding transitions from Russian airspace to NOPAC/R220.	JCAB/State ATM	JCAB and State ATM have prepared a draft LOA for use during volcanic exercise VOLKAM14 and will continue dialogue to evaluate establishing something more permanent.	May 2014	Open
PP06-06	Start R220 and R580 further west and allow UPRs to those start points.	Currently the routes start very close to Alaska and the suggestion is to start about 500 miles farther west, closer to Shemya.	FAA/State ATM	State ATM said that it could be considered. Could start at NATES and ONEAL but would not want to start too far west of St Paul. ZAN will discuss internally. There is no impact on P-K traffic.	May 2014	Open

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Action Number	Goal	Information/Status	Responsible Organization	Action Pending	Action Due	Status
PP06-07	Review of westbound NOPAC structure.	IATA requests that the FAA and State ATM review the westbound structure of the NOPAC and consider moving R220 further north,	FAA/State ATM	There has been discussion between ZAN and P-K on the LOA to utilize that airspace, but no consideration of moving R220. This would require realignment of the airspace and it would also need to be classified as RNP4 airspace. ZAN need to look at a way to accomplish this task. State ATM said this is not feasible at this time.	May 2014	Open
PP06-08	TRASAS4	TRASAS4 will be held in Bangkok 24-28 March 2014.	FAA/IATA	FAA and IATA will collaborate on a submission/s to TRASAS on behalf on the PPT.	<u>March</u> 2014	Open

CPWG/16 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.	FAA/State ATM	Update to be provided to CPWG/17	Jun 2014	Open
CP04-31	Improve Efficiencies	Implement use of radar procedures between Magadan ACC and Anchorage ARTCC	State ATM advised that the target date for implementation of the Providenia radar has been delayed to 2015-2016.	State ATM	State ATM will provide an update to CPWG/17	Jun 2014	Open
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	IATA will send a letter to FATA proposing to renew the trial in winter 2014 indicating the list of airlines which are equipped with adequate SITA software. Update to be provided to CPWG/17	Jun 2014	Open

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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	FAA informed the meeting that an independent review of ATOP capabilities was being undertaken. Funding for incorporation of Ocean21 in the Arctic FIR is still not expected until 2018 or later.	FAA	FAA will provide an update at the next meeting of the Oceanic Work Group and CPWG/17	Jun 2014	Open
CP07-02	Improve Efficiencies	Add additional entry/exit fixes on the FIR boundaries	Isavia reported on the establishment of six new fixes on the Reykjavik/Edmonton FIR boundary. State ATM proposed two new fixes on the boundary with ZAN. CAA of Mongolia presented information on a new boundary fix 110 km west of NIXAL.	State ATM/FAA	State ATM and ZAN will coordinate on the implementation of the two new fixes and provide an update to CPWG/17	Jun 2014	Open
CP08-12	Improve Efficiencies	Eliminate restrictions where possible	ZAN provided information on restrictions that had been cancelled since the last meeting.	FAA	ZAN will continue to provide updates at future meetings.	Jun 2014	Ongoing
CP10-02	Improve Efficiencies	Provide flow constraint information	State ATM presented information on peak hour operations for various sectors.	State ATM	State ATM will provide an update to the next meeting.	Jun 2014	Open
CP10-08	Contingency Response	Improved contingency collaboration between State ATM and JCAB	JCAB and State ATM will continue to work on a bilateral basis. State ATM to follow up with FATA regarding coordination between State ATM and JCAB.	JCAB /State ATM	An update will be presented to CPWG/17	Jun 2014	Open

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Action Number	Capacity Enhancement Goal	Supporting Goal Initiatives	Information/Status	Responsible Organization	Action Pending	Action Due	Status
CP10-13	Improve Communications	Expand CPDLC/ADS-C capability for Magadan FIR and install CPDLC/ADS-C at Murmansk.	State ATM will expand ADS-C/CPDLC services in one additional sector at Magadan ACC in early 2014. A CPDLC/ADS work station will also be added at Murmansk ACC in 2016.	State ATM	State ATM to provide an update to CPWG/17	Jun 2014	Open
CP10-14	Improve Efficiency	Provide information on minimum level of service maintained outside operational hours for emergency diversions	State ATM provided updates on Russian enroute alternate airports of interest. United Airlines requested that 24 hour weather information be made available at Norilsk (UOOO), Salekhard (USDD) and Mirny (UERR) Airports.	State ATM	State ATM to provide updates to CPWG/17	Jun 2014	Ongoing
CP11-01	Improve Communications	Advance communications capabilities for the Arctic area	It was agreed at CPWG/12 and CPWG/13 that the CPWG does not have the technical expertise to progress further improvements to communications in the Polar region.	FAA	FAA to develop recommendation to present to TRASAS/4	Mar 2014	Open
CP12-04	Improve Efficiencies	Monitor changes to Track Advisory Users Guide	ZAN reported that there had been no changes to the TAUG other than the change for VALDA to zero minute track loading.	FAA	FAA will provide updates on the TAUG as needed.	Jun 2014	Ongoing

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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	This is a bilateral issue to be discussed outside of CPWG. State ATM will provide an update to the next meeting.	Jun 2014	Open
CP12-14	Improve Communications		Based on discussions during CPWG/12, it was agreed to amend the terms of reference of the Comm TF to continue to monitor initiatives and technologies. The CPWG agreed to recommend to the next TRASAS meeting that CPWG's communications activities be limited to a monitoring role.	FAA	FAA to develop recommendation that the CPWG Communications TF be dissolved to present to TRASAS/4	Mar 2014	Open
CP13-02	Improve Efficiencies	Justify need for route requests	UAL withdrew the previous route request for ORVIT- LUMEN.				Closed
CP13-07	Administration	Request that TRASAS designate an ICAO representative to attend CPWG meetings	The meeting agreed to request that TRASAS designate a representative from ICAO to attend CPWG meetings as an advisor or observer, in order that information can be exchanged with ICAO more frequently.	FAA	FAA to include request in the CPWG working/information paper to be presented to TRASAS/4	Mar 2014	Open

Action Number	Capacity Enhancement Goal	Supporting Goal Initiatives	Information/Status	Responsible Organization	Action Pending	Action Due	Status
CP14-02	Improve communications	Establish flight data exchange between facilities	State ATM will work with Sapporo to implement AIDC in 2015-2016. State ATM will work with FAA to implement AIDC following implementation with Sapporo. AIDC between Vancouver ACC and Oakland ARTCC is contingent on FAA software and is tentatively planned for Spring 2014.	State ATM/ FAA/NAV CANADA	Updates to be provided to CPWG/17	Jun 2014	Open
CP14-03	Improve Efficiencies	Add boundary entry/exit fixes at BATNI, ADLEN, LARSA, and OLTON	FAA reviewed the proposal from State ATM and based on separation requirements, the realignment will not be possible until Magadan radar is operational. The proposal will be added to the ATS Route Catalogue.				Closed
CP14-04	Improve Efficiencies	Reduce traffic loading at VALDA	This action is no longer needed due to the implementation of zero minute track loading at VALDA.				Closed
CP14-07	Improve Communications	Monitor the progress made by the Inter-Regional APAC/NAT AIDC Task Force	FAA provided information on the process to consolidate the ICD for the North Atlantic and Asia/Pacific Regions to provide for harmonized AIDC.	FAA	FAA to provide update to CPWG/17	Jun 2014	Open

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Action Number	Capacity Enhancement Goal	Supporting Goal Initiatives	Information/Status	Responsible Organization	Action Pending	Action Due	Status
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. Meetings will continue.	NAV CANADA	NAV CANADA to provide update to CPWG/17	Jun 2014	Open
CP14-10	Improve Efficiencies	Provide information on the Oakland FIR trial to merge PACOTS tracks C/E	FAA reported that the trial to merge PACOTS tracks C and E had been terminated temporarily due to problems. The trial is expected to resume in 2014.	FAA	FAA to provide update to the Oceanic Working Group and CPWG/17	Jun 2014	Open
CP14-11	Improve Efficiencies	Eliminate requirement to flight plan over named or lat/long fixes at 141W	ZAN briefed on a new NOTAM (A0158) written to simplify/reduce FIR NOTAMs. The NOTAM includes restatement of communication requirements.	FAA	FAA to provide update at CPWG/17	Jun 2014	Open
CP14-12	Improve Efficiencies	Consider expanding trial for ADS-C CDP to ZAN airspace	FAA provided update on the status of the ADS-C CDP trial. Aiming to resume trials using automation in January 2015 with full implementation in 2016.	FAA	FAA to provide update at CPWG/17	Jun 2014	Open
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.	Avinor	Avinor to provide update to CPWG/17	Jun 2014	Open

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Action Number	Capacity Enhancement Goal	Supporting Goal Initiatives	Information/Status	Responsible Organization	Action Pending	Action Due	Status
CP14-14	Improve Efficiencies	Consider options for relocating the fix at BAGLI	Based on discussions between State ATM and FAA, it was agreed to remove BAGLI.				Completed. New Action Item 16-02 established to address establishing route from KUNAD to OTLER.
CP15-01	Improve Efficiencies	Zero minute track loading at VALDA	FAA zero minute track load trial at VALDA was successfully concluded and the procedure was implemented in May 2013.				Completed
CP15-02	Improve Efficiencies	Early intent data from DOTS+ OLTA	FAA notified the meeting that no further enhancements would be added to DOTS+ Online.				Closed. New Action Item CP16-01 established.
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.	FAA/IATA	IATA will provide ZAN with specific information on more detailed counts requested. FAA will provide update to CPWG/17	Jun 2014	Open
CP15-04	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.	JCAB State ATM FAA IATA	IATA and FAA to provide comments on temporary routes during VOLKAM14 planning meetings. IATA to provide optimal routing to State ATM and JCAB from RFE to NOPAC.	Jun 2014	Open
CP15-05	Develop CPWG Volcanic Ash Contingency Plan	Consider amending LOAs between adjacent ACCs to introduce provisions on contingency reroutes		All ANSPs	Updates to be provided to CPWG/17	Jun 2014	Open

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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 agreed to prepare a draft template for review.	State ATM	State ATM to provide update to CPWG/17	Jun 2014	Open
CP15-07	Develop CPWG Volcanic Ash Contingency Plan	Formalize teleconference format and process taking into consideration collaborative decision making (CDM).	State ATM reported that the teleconference procedures will be covered in the VOLKAM14 directive.	FAA JCAB State ATM	Update to be provided to CPWG/17	Jun 2014	Open
CP15-08	Develop CPWG Volcanic Ash Contingency Plan	Provide an update from ATMG with respect to NAT Volcanic Ash Contingency Plan.	Isavia provided the requested update. Further discussions will be held at the next meeting of the ATMG.	Isavia	Isavia to provide update to CPWG/17	Jun 2014	Open
CP15-09	Improve Safety	Streamline the process for establishing danger areas through NOTAM process	Discussions are underway as part of the VOLKAM14 planning for each ANSP to ensure that they establish danger areas within their own FIRs.	NAV CANADA FAA State ATM	Updates to be provided to CPWG/17	Jun 2014	Open
CP16-01	Improve Safety	Monitor the outcomes of the ICAO Communications Failure Coordination Group (CFCG)	NAV CANADA, Isavia and the FAA reported on the discussions of the CFCG.	NAV CANADA Isavia FAA	NAV CANADA agreed to present information on the work of the CFCG to the TRASAS/4 meeting. Updates on the progress of the CFCG will be presented to CPWG/17	Mar 2014	Open
CP16-02	Improve Efficiencies	Provide information on the Oakland FIR trial for UPRs on PACOTS Track F	FAA reported on a trial an operational trial of UPRs in conjunction with Track F	FAA	FAA to provide update to the Oceanic Working Group and CPWG/17	Jun 2014	Open
CP16-03	Improve Efficiencies	Establish route from KUNAD to OTLER.	This action was carried forward from prior Action Item CP14-14.	State ATM	State ATM to add route to ATS Route Catalogue	Jun 2014	Open

Action Number	Capacity Enhancement Goal	Supporting Goal Initiatives	Information/Status	Responsible Organization	Action Pending	Action Due	Status
CP16-04	Improve Efficiencies	Monitor activities of the User Trajectory Planning (UTP) program	FAA reported on the UTP Pre-Oceanic Phase program. Many of the features requested by operators are under consideration. This Action Item replaces Action Item CP15-02.	FAA	FAA update to be provided at CPWG/17	Jun 2014	Open
CP16-05	Improve Efficiencies	Establish routes between PK and Fukuoka FIRs	JCAB provided information on the temporary bi-directional routes which were developed for avoidance of volcanic ash, and the possibility of establishing permanent routes in the future.	JCAB State ATM FAA IATA	Operators and FAA were asked to provide comments on the routes Update to be provided to CPWG/17	Jun 2014	Open
CP16-06	Improve Safety	Review communications procedures relating to reroutes for volcanic ash	American Airlines provided an overview of a situation on 16 Oct 2013 where communications issues affected a flight rerouting to avoid volcanic ash.	FAA	FAA will look into issues relating to communications between dispatchers and the ATCSCC and report to CPWG/17	Jun 2014	Open
CP16-07	Improve Efficiencies	Establish routes from NETRI to NODAN, UB and/or BAMOK, UK to ERNIK, and BAMOK to ERNIK	United Airlines requested addition of new route segments.	State ATM JCAB	State ATM to add routes to ATS Route Catalogue JCAB to add routes to ATS Route Catalogue (for ICAO/APAC) Update to be provided to CPWG/17	Jun 2014	Open
CP16-08	Improve Communications	Consider inviting INMARSAT to attend CPWG/17 and present information on their new satellite coverage	Avinor requested that a representative from INMARSAT brief CPWG on their new satellite system and coverage	FAA	Coordination will take place between the ANSPs to gain agreement, and appropriate action will be taken	May 2014	Open

Ottawa, Canada
December 3-6, 2013

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 - 8331.1N 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 - G487 - DAKIN (5409.5N 07224.3E) (bidirectional use)	State ATM Corporation. 2009	a) Establish a new route for flying from India. Pakistan and UAE to North America East Coast; b) Approved. ready for implementation after resolution of comm. Issues between Murmansk and Mys Kamennyi; c) Will be assigned R706 designator		RUS ISL	Published as G706 (NOTAM A3432/10) on Jul 1, 2010
4	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	Emirates Air-lines	a) Open a new route; Approved and ready for implementation		RUS	Published as A947 on Nov 1, 2010

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5	6	7	8
		(5943.0N 06556.0E) (bidirectional use)					
5	CPRS/14	SORLI (6228.0N 06602.0E) - BELEG (6341.3N 06642.0E) - MASUL (6455.1N 06639.8E) - SH (Salekhard VORDME 6635.3N 06636.4E) - GOPUS (6726.1N 06639.2E) - ADERA (6851.9N 06644.3E) - TUMOK (7113.0N 06654.5E) – LUGOT (7202.3N 06649.5E) - ANODI (7730.0N 06600.0E) (unidirectional use to ANODI)	Emirates Air-lines	a) Transition from a new Crosspolar route; b) Approved and ready for implementation; c) Will be assigned G359 designator		RUS	Published as G359 (NOTAM A3429/10) on Jul 1, 2010
6	CPRS/15	PIREL (8000.0N 03500.0E) – ANODI (7730.0N 06600.0E) – then on B483 (bidirectional use)	State ATM Corporation. 14.05.2009	a) Open a new routing from China to North America; b) approved and ready for implementation. c) Will be assigned R705 designator		RUS NOR	Published as R705 (NOTAM A3427/10) on Jul 1, 2010
7	CPRS/16	ANODI (7730.0N 06600.0E) - MELAM (07610.7E 7657.0N) - TINEM (7459.4N 07610.7E) – DOSON (7331.0N 08022.9E) (bidirectional use)	State ATM Corporation. 14.05.2009	a) A new transition from Crosspolar route; b) ANODI - MELAN approved and ready for implementation			Published as R705 on Nov 1, 2010
8	CPRS/17	MX (ZHIGALOVO NDB 5448.0N 10509.0E) – GUSIN (5106.0N 10614.0E) (bidirectional use)	State ATM Corporation. 14.05.2009	a) Shorten the route by 15 km b) Approved for implementation as a route by coordination with ATC; c) Will assigned B934 designator		RUS	Implemented on March 11, 2010 (NOTAM A0404/10)
9	CPRS/18	NIBUL (5913.1N 06239.8E) – 5738.2N 06147.9E – EKB (Yekaterinburg/Koltsovo VORDME 5644.6N 06047.9E) (between 2100-7500 m unidirectional to NIBUL. between 8100-15100 m bidirectional)	State ATM Corporation. 14.05.2009	a) Shorten the route by 13 km; b) Under review		RUS	Published as G552 on May 05 2011
10	CPRS/19	RIVAS (7140.8N 08425.3E) - SIVDI (6951.1N 08736.9) – TESLA (6720.5N 09155.5E) – SAKAT (6526.6N 09432.4E) – OKASA (6225.8N 09728.3E) – KOSUM (5756.3N 10044.6E) - BRT (Bratsk VORDME) (bidirectional use)	Continental Airlines April 2008	a) Open up a route for flying from South-East Asia to North America; b) Under review		RUS	Published as R705 on Nov 1, 2010
11	CPRS/20	DAKIN (5409.5N 07224.3E) - ML (Chapayev NDB 5615.0N 07357.0E) - NJC (Nizhnevartovsk VORDME 6056.6N 07628.1E) (bidirectional use)	Emirates Air-lines 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

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5	6	7	8
12	CPRS/21	BEBIR (6355.2N 06501.8E) - GUDIR (6734.5N 07001.6E) - NIDRA (7127.5N 07708.7E) (bidirectional use)	Emirates Air-lines 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 Изменение координат нецелесообразно
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
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	7300.0N168 58.4W – 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		RUS USA	under review
22	CPRS/31	ORVIT – 7500.0N 17000.0E -6500.0N 15300.0E – BANOT - .. B223 - LUMIN	Continental Airlines	a) New York – Tokio traffic; b) distance saving- 35.8 м.м.		RUS	under review

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5	6	7	8
			April 2010	c) accepted for review			
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 M.M. c) accepted for review		RUS	under review
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	under review
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	under review
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	under review
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	under review
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 19.05. 2010	a) Accepted for review.		RUS	under review
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	under review
32	CPRS/41	LURUN (852500N 1685824W) - TUSAT (833607N 1543003E) - UNTEK (791121N 1340410E) - NIGES (750546N 1265137E) - RANEN (735405c 1252913E) -	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

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5	6	7	8
		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)					
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
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 use to WZ)	IATA	Establish parallel tracks at the border with China (G494 will be used for flying to SIMLI)		RUS CHN	Under review and coordination. Conduct consultations and meetings with China in different formats (IATA, ICAO, etc)
40	CPRS/49	RITEK – 495025N 1182854E - HAILAR	IATA	Open up an additional entry point	Reduce mileage	RUS CHN	Under review and coordination. Conduct consultations

Item	Reference	Route description	Proposed by	Objectives/Comments	Benefits	FIR	Target Dates
1	2	3	4	5	6	7	8
							and meetings with China in different formats (IATA, ICAO, etc)
41	CPRS/50	7957N 16858W – RODOK далее G495	State ATM Corporation October 2013	Open up an additional entry point		RUS FAA	Under review
42	CPRS/51	7457N 16858W – LUTEM – OLMIN – ZR (Зырянка)-ASKIB	State ATM Corporation October 2013	Open up an additional entry point		RUS FAA	Under review

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

Item	Reference	Route description	Proposed by	Objectives/Comments	Эффект внедрения	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 13726.1E to 474131N 1310900E)	State ATM Corporation. 10.07.2007	a) Open up a new Transeast route to join JMU (JIAMUSI); b) Approved and ready for implementation; c) There is no connection in China airspace from 4741.3N 13108.4E – JMU (JIAMUSI); d) ASBAT – BA (Balagannoye); e) After opening of the above route. G212 ARGUK - HAB (Khabarovsk VORDME 4832.7N 13512.6E) will be used only for eastbound flying.		RUS CHN	Published as R213 on Oct 20, 2011
2	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 (UHKM) (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

Item	Reference	Route description	Proposed by	Objectives/Comments	Эффект внедрения	States	Target Dates
1	2	3	4	5		6	7
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	unacceptable at the moment
10	TVRS/26	NYMPH - 5325.0N 167126.E– B932 (5321.6N 16218.4E) -UHPP	United Air- lines 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 Air- lines April 2010	a) Transition between R580 (A342) and B932 then to G73 (B115); b) Accepted for review		RUS USA	unacceptable at the moment

Item	Reference	Route description	Proposed by	Objectives/Comments	Эффект внедрения	States	Target Dates
1	2	3	4	5		6	7
12	TVRS/28	OGDEN – 4855.5N 15636.2E – NETRI – LATAK – G103	United Air- lines 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 Air- lines 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	A803 OSKON-UHMI UHMI - PEMID	Air Canada 14.02.2011	a) remove flight level restrictions 13100-16100		RUS	unacceptable at the moment
15	TVRS/31	a) KURAK (6247.0N 13651.0E) – ODANA б) KURAK – KUNIK	IATA декабрь 2010	a) reduce mileage b) provide transition from R819 to G494		RUS	unacceptable at the moment
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 Pa- cific 26.07.2011, RDGE/15 30.09.2011	extension R213		RUS	Published as R213 on May 31, 2012
20	TVRS/36	AMETO (N582137 E1532037)-NARIT (581534N 1525610E)- BAMUN (580808N 1522641E)-BENGA (575715N 1514437E)- BEBAT (573246N 1501419E)-GRUMA (N560501 E1453036)	Cathay Pa- cific 26.07.2011, RDGE/15 30.09.2011	extension B237		RUS	Published as B237 on May 31, 2012

Item	Reference	Route description	Proposed by	Objectives/Comments	Эффект внедрения	States	Target Dates
1	2	3	4	5		6	7
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	Consider after commissioning Ust-Khairyzovo SSR
26	TVRS/42	FA – WZ - SIMLI (Proposed alternative is FA – PARUS – SIMLI)	Pacific United Airlines	route realignment		RUS	
27	TVRS/43	SIBIR – LURED – EKVİK (remove B451 LURED – IGROD segment)	IATA	To improve north-south traffic flows between Khabarovsk FIR and Fukuoka FIR	Reduce mileage	RUS JPN	under review

Item	Reference	Route description	Proposed by	Objectives/Comments	Эффект внедрения	States	Target Dates
1	2	3	4	5		6	7
28	TVRS/44	KUNAD - OTLER	RUS 09.08.13	NOPAC transition to Transeast	Reduce mileage	2 nd quarter 2014	under review
29	TVRS/45	LUMES - RIMLI	RUS 09.08.13	NOPAC transition to Transeast	Reduce mileage	2 nd quarter 2014	under review
30	TVRS/46	Ust-Kamchatsk NDB (UK) - MIVAN (552730N 1615931E) - KEGOR (544042N 1611855E) - SIPVA (530624N 1600201E) - Khalaktyrka (HY) (530001N 1584736E) - PETIN (N531012 E1582713) – shall be used by coordination with ATC	RUS 09.08.13	To support general aviation flights from US to China		2014	under review

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)
- ANSPs to work together to develop RVSM transition procedures between each FIR
- Flex Track System
- Simplifying Russian Form R Process
- 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*

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 Russian missile launch information

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.

Mid Term Goals (2017-2022)

REDUCE AND HARMONIZE SEPARATION STANDARDS IN INTERNATIONAL AIRSPACE

Implement further reductions to lateral separation (aircraft equipage requirements)

Reykjavik FIR (25NM)
Edmonton FIR

Implement reduced longitudinal separation (aircraft equipage requirements)

Anchorage Arctic FIR (50NM)

Implement further reductions to longitudinal separation (aircraft equipage requirements)

Anchorage Arctic FIR (30NM)

IMPROVE COMMUNICATIONS IN ARCTIC/POLAR REGION

Implement AIDC/OLDI for Data Exchange

Bodo and Murmansk FIRs

Implement CPDLC

Murmansk FIR

CPWG Planning Chart

Near Term Goals (2013-2016)

	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	Early 2015
	Implement reduced longitudinal separation (aircraft equipage requirements)		
	Edmonton FIR (5 min or 50NM)	NAV CANADA	Fall 2014
	Reykjavik FIR (10 min)	Isavia	2015
	Reykjavik FIR (5 min)	Isavia	TBD
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		
	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)
	Eliminate restrictions to file entry fixes on the Anchorage/Edmonton FIR boundary	FAA/NAV CANADA	TBD
	Implement use of Radar Procedures between Magadan ACC and Anchorage ARTCC without Radar Data Sharing		
	Anchorage Arctic FIR	FAA	2016
	Magadan FIR	FATA	2016
	Improve Air Traffic Flow Management (ATFM)		
	Provide DOTS Plus Online Track Advisory to State ATM for monitoring inbound flights (State ATM to request access)	FAA/State ATM	TBD
	Establish CTA in Anchorage Arctic FIR	FAA	TBD

	Planning Goal	Action with	Status of Action and Target Date
3.	IMPROVE COMMUNICATIONS IN ARCTIC/POLAR REGION		
	Improve communications procedures		
	Change procedures to retain connection with Iridium and HF DL north of 82N	Isavia	2014
	Implement AIDC/OLDI for Data Exchange		
	Russian and Anchorage FIRs	FAA State ATM	2015-2016
	Khabarovsk ACC and Sapporo ACC	State ATM/JCAB	2015
	Reykjavik and Bodo FIRs (AIDC)	Isavia/Avinor	May 2014
	Murmansk and Reykjavik FIRs	State ATM/Isavia	2015-2016
	Implement CPDLC for All Polar Routes		
	Murmansk FIR	State ATM	2015
	Bodo	Avinor	May 2014
	Magadan FIR (North Sector)	State ATM	Early 2014
	Implement ADS-C		
	Anchorage Arctic FIR	FAA	2015
	Bodo	Avinor	May 2014
	Magadan FIR (North Sector)	State ATM	Early 2014
	Edmonton FIR	NAV CANADA	2014
	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	2014
	Formalize teleconference format and process taking into consideration collaborative decision making (CDM)	FAA, State ATM, JCAB	2014
	Streamline the process for issuing NOTAMs on volcanic ash	NAV CANADA, FAA, State ATM	2014

	Planning Goal	Action with	Status of Action and Target Date
	Implement single AFTN address for each ANSP¹		
	NAV CANADA	NAV CANADA	TBD
	State ATM	State ATM	2018
	CAAC ATMB	CAAC ATMB	Unknown
	CAA Mongolia	CAA Mongolia	2015

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

Implement AIDC/OLDI for Data Exchange

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

Implement ADS-C for All Polar Routes

Edmonton FIR (waypoints only)
Reykjavik FIR
Magadan FIR

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